On the Origins of the Multinational Premium*

Jose Fillat
Federal Reserve Bank of Boston

Stefania Garetto
Boston University, CEPR and NBER

October 15, 2021

Abstract

How do foreign direct investment (FDI) dynamics relate to the risk premium of a firm? To answer this question, we compare the stock returns of US firms with different FDI and mergers and acquisitions (M&A) exposure, and study the evolution of stock returns as firms expand into foreign markets. We document three empirical regularities. First, there are cross-sectional risk premia associated with both multinational activity and mergers and acquisitions (M&A). Second, firm-level stock returns decline when a firm undertakes M&A activity, and with merger deepening. Third, future multinational acquirors have higher stock returns than domestic non-acquirors already prior to entry into foreign markets, indicating that cross-sectional returns differentials are driven by selection based on common unobserved firm characteristics. We find that CEOs play a role in explaining the relationship between firms' risk premia and foreign expansion. To rationalize these facts, we develop a dynamic model where management attitudes shape the relationship between firm characteristics, selection into FDI, and risk premia.

Keywords: multinational firms, mergers, management, stock returns.
JEL Classification: F12, F23, F36.

*Frankie Lin provided outstanding research assistance. The paper reflects the authors' views and not those of the Federal Reserve Bank of Boston or the Federal Reserve System. We are thankful for comments and feedback received from seminar participants at Brown, the LSE, Rochester, and conference attendees at the AEA 2021 Annual Meeting, SED 2021 Annual Meeting, and 2021 World Finance Association Conference.

1 Introduction

How do foreign direct investment dynamics relate to the risk premium of a firm? Exposure to foreign markets may be a source of risk or a vehicle of diversification for globally engaged firms. On the one hand, geographic diversification may act as a hedge against country-specific risks. On the other hand, establishing foreign operations may expose the firm to additional risks, which may be different than the ones in the domestic market.

In this paper, we examine the risk premia of firms that expand their operations into foreign markets, considering both mergers and acquisitions (M&A) and greenfield foreign direct investments (FDI). After establishing the existend of a sizeable risk premium associated with FDI and M&A, we investigate its origins, both theoretically and empirically. Specifically, we ask the question of whether firms that become multinational acquirors become riskier as they expand abroad, or whether other factors explain both risk premia and foreign expansion. Our analysis identifies a key role of management practices in shaping the relationship between a firm's international involvement and its stock returns.

Our empirical analysis unveils three empirical regularities. First, there is a cross-sectional risk premium associated with both multinational activity and mergers and acquisitions. Firms that have foreign affiliates have systematically higher returns than firms that operate only in their domestic market, consistent with the existing literature. Additionally, firms that experience acquisitions have systematically higher returns than non-acquirors, a novel empirical finding. Second, long-run firm-level stock returns *decline* when a firm first undertakes M&A activity, and as the firm engages in repeated mergers (*merger deepening*). To reconcile our cross-sectional and within-firm findings, we examine the returns of future multinational acquirors. Our third and most intriguing finding is that future multinationals have higher stock returns than non-multinational firms even prior to entry into foreign markets, indicating that cross-sectional returns differentials are driven by selection on the basis of common unobserved firm characteristics driving both multinational status and stock returns. To help explain this puzzle, we explore the role of managers in determining simultaneously the FDI and M&A activity, and the risk premium. Our findings indicate that a substantial amount of variation in risk premia across firms is explained by the presence of different CEOs. The multinational and acquiror premia disappear when we exploit within-CEO variation. In addition, we find that CEOs play a substantial role in predicting the likelihood of a firm becoming multinational and engaging in acquisitions.

To rationalize these empirical patterns, we nest a dynamic model of foreign direct investment (FDI) 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 attitude of their manager. Productivity and management style drive selection into FDI and M&A. Moreover, heterogeneity in managerial style drives heterogeneity in firm exposure to aggregate risk, and hence heterogeneity in expected returns.

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 stockholders require to bear the risk associated with holding shares of a firm, also in excess of the risk free interest rate. We examine the stock returns of a large sample of US publicly listed firms that undergo foreign affiliate opening and foreign acquisitions. Our analysis focuses on the comparison of risk premia across US firms with different FDI and M&A exposure, and on the evolution of firm-level risk premia as firms expand into foreign markets.

Multinational enterprises are a natural population to study the relationship between geographic expansion and risk exposure. Their complex structure encompasses different forms of geographic expansion: mergers and acquisitions and greenfield foreign direct investment. Moreover, geographic expansion can happen on the intensive margin within a country, and on the extensive margin across countries.

Our analysis is made possible by a novel dataset that results from the combination of different sources. We combine firm-level data from Compustat and from the Center for Research on Secuirity 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 contains 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 to be able to observe accounting and financial characteristics of the acquirers in the sample of mergers, and their changes after international acquisitions. We complement the firm-level datasets with Execucomp, which tracks the Chief Executive Officers (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 is unique in that it allows 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 that 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 productions 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 returns 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 co-varies more with the one of the origin country have higher stock returns than 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 between management, FDI and M&A activity, and stock returns.

Our analysis is related to a large empirical literature in finance, which has focused 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 found that market *betas* –the slope of a regression of stock returns on the aggregate market return— are not sufficient to describe the cross section of returns. This suggests that there are more than one sources 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 firm's exposure to a single systematic source of risk does explain the cross sectional differences, 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 option, 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 have lower returns the higher their capital investment, consistent with the empirical finding that stock returns are inversely related to merger deepening.

Consistent with a large literature in asset pricing, we use a firm's long-run average realized stock returns as our proxy for expected returns. This long-run emphasis distinguishes our work from other contributions that have focused on the responses of "abnormal" stock returns at the time of disruptive events like mergers. Short-run returns signal the response of the stock market to an event in terms of market value. Stock returns of acquiring firms during a short window around the merger signal whether a deal is perceived as profitable by investors and, thus, whether it adds value to the firm. However, such short-term realized returns may not embed information about long-term changes in the characteristics of the firm, like risk exposure. An extensive literature in corporate finance has examined the effects of mergers and acquisitions on the announcement period returns. This literature documents that acquirers experience declining returns after acquisitions and the decline is larger as acquirors continue acquiring more targets.[1] This body of work focuses on the announcement effects of the merger on firm value, and not on the long term effects that

[1]See Schipper and Thompson (1983), Malatesta and Thompson (1985), Doukas and Petmezas (2007), Ismail (2008), Gorton et al. (2009), Ahern (2012), Karolyi et al. (2015), and Phalippou et al. (2015), among others. For a survey of the literature on the relationship between mergers and short-term realized returns, see Andrade et al. (2001).

mergers and acquisitions have on the firms' risk premium, which is the objective in our paper. Another feature distinguishing our paper from the existing literature is that the vast majority of papers studying the relationship between mergers and returns have confined themselves to the analysis of domestic mergers, because of data availability.[2] Our work contributes to this literature by studying both domestic and international mergers, and by moving the focus of the analysis from the deal level to the firm level, exploiting both the location of target firms and the existence of repeated mergers within a firm.

Our emphasis on management as an important characteristics driving firm status and stock returns links this paper to the management literature. Importantly, Bertrand and Schoar (2003) investigate how individual managers affect corporate behavior and performance. 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. Relatedly, several papers have examined the relationship between management and firm performance using the WMS.[3]

Lastly, the international economics literature has examined mergers with international targets as the events that change firms' country of ownership. Due to data availability, most of this literature has focused on targets' characteristics and implications of mergers 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 dataset is the result of combining three main sources: the Thomson Reuters Mergers & Acquisitions database, linked CRSP-Compustat data, and the 10K files, which are the primary text source behind Compustat. Our sample period spans 17 years, from 1993 to 2017.[4] We complement these three datasets 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 acquirer and target at the time of acquisition, the country of incorporation and industry classification of the target, as well as the type of acquisition that occurred. In addition, the data contain the dates of announcement and completion of the merger and the merger 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, located in 146 different countries.[5]

[2] A notable exception is Chari et al. (2009), which focuses on acquisitions in emerging markets.

[3] See most notably Bloom and Van Reenen (2007), and Bloom et al. (2013).

[4] The sample period of the Thomson Reuters Mergers & Acquisitions database ranges from January 1976 through July 2017, though the data is far more populated towards the later end of the sample. Only 1% of the observations are prior to June 1982, and half of the observations are from 2000 onward.

[5] We drop any observation that is classified as a stock buyback or a recapitalization. Figure B.1 shows the distribution of foreign mergers in the top target countries.

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 US. Compustat data allow us to have 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 10k filings. More precisely, we extract data from the text of each firm's Exhibit 21, a document that lists the set of subsidiaries of the firm and the countries where they are located.[6] 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.[7] 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*).[8] The remaining firms exhibit changes in international status during their life: we define as *new MNE acquirors* 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 that enter the sample as domestic and later report 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 refer to *other firms* to indicate 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 other datasets, like the Bureau of Economic Analysis data on the operations of multinational enterprises.[9] 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 merger data show that firm expansion often happens through repeated mergers, both with domestic and foreign targets, within a firm. Table 2 shows the frequency with which firms in our sample have a given number of domestic and foreign deals.

While 32.2 percent of firms in our sample don't experience any mergers or acquisitions, 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 merger during the sample period, and there is a sizeable right tail of firms that

[6] Appendix A contains details of the textual analysis procedure and examples of the information contained in Exhibit 21.

[7] Non-multinational firms could be exposed to foreign markets also through exports. In a robustness exercise, we have performed all the empirical analysis contained in this paper dropping from the sample all firms that report exports but not foreign affiliates at any point in time. The results are qualitatively unchanged compared to the baseline specification.

[8] These numbers reveal the selection of firms populating the Compustat sample: since the dataset 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.

[9] 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 Acquirors* are firms that enter in the sample as domestic firms, later acquire a foreign firm and the 10K filings simultaneously start reporting a foreign subsidiary. *New Greenfield MNE* are firms that change their multinational status according to the 10K 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 10K filings. Source: CRSP/Compustat, Thomson Reuters M&A, and SEC 10K filings.

Table 2: Distribution of the number of firms accounting for (n, m) Foreign (columns) and Domestic (rows) acquisitions.

N. For. Mergers N. Dom. 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 10K filings.

experience very large numbers of mergers. While foreign acquisitions are on average less common than domestic acquisitions within a firm, many firms in the sample experience both types of acquisitions, and many of them. The zeros on the upper-right corner of the table indicate that merger waves within a firm typically entail more domestic than foreign mergers: the maximum number of foreign mergers experienced by a firm is 15, while there are firms in the sample which experience more than 40 domestic mergers. On average, an acquiror undertakes 8 mergers during the sample period, and 1.5 of them involve foreign targets.

It is worth to notice that our merged dataset is unique in its capacity of identifying entry into multinationality for US firms.[10] The information contained in the 10K affiliate reporting informs us about the extensive margin of multinationality, on aggregate and by foreign country. The mergers data inform us on the intensive margin of foreign exposure, and provide more details on multinational entry events.

We supplement our firm-level dataset with management information by merging in CEO-firm pairs from the S&P 1500 firms obtained from Execucomp. This dataset tracks several levels of executive-firm pairs, however we focus on the CEO as an important driver of the decisions that are relevant in our paper: M&A engagement and firm expansion into foreign countries.

Finally, the World Management Survey data offers additional data on management practices. 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. We use the aggregate score of management practices for the subset of surveyed firms that are headquartered in the U.S. and are publicly traded. The management score is an aggregation of practices regarding operations management, performance monitoring, target setting, leadership management and talent management. We successfully match 238 firms to our Compustat sample.

2.1 Summary Statistics

We measure firm-level risk premia with long-run average stock returns.[11] 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 3 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, acquirors have on average higher returns than non-acquirors; and iii) new MNEs (either through M&A or

[10] 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 does not allow to observe these firms *before* their entry into multinationality.

[11] 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.

greenfield investment) have higher returns than always MNEs. Interestingly, the groups which 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 3 are robust to the inclusion of size controls and industry-quarter fixed effects.

Table 3: 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 10K filings.

Table 4: Firm characteristics by firm type.

	Revenue (USD Million)	Employees (Thousands)	Mkt. Cap. USD Million	Nr. of Firms	Acquisitions Dom.	Acquisitions For.
Always Dom.; No Acq.	61.01	1.19	363.54	2,155	0	0
Always Dom.; Only Dom. Acq.	105.79	1.90	550.79	2,743	12,317	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	2,312	0
Always MNE; Has Foreign Acq.	1228.89	15.77	7752.24	1,356	11,798	7,129
New Acquirors	387.64	5.92	1818.51	643	5,533	1,934
New Greenfield MNEs	287.13	4.79	1297.28	2,089	12,341	886
Other MNEs	333.30	5.65	1511.55	1,381	7,087	2,201

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

Table 4 reports summary statistics of size measures of the firms in our sample, together with firm and acquisitions 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.

3 Empirical Analysis

We start our empirical analysis by establishing a robust cross-sectional fact: the existence of a risk premium associated with multinational activity and acquisition activity. We then exploit the time dimension of the data to investigate the origin of the multinational and acquiror premia.

3.1 Multinational and Acquiror Premia

We follow two complementary approaches to establish the relationship between expected returns, multinational status, and acquisition experience. First, we establish a relationship between expected returns and firm characteristics, which 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 prema of multinationals and acquiring firms. This analysis takes the form of portfolio regressions where the construction of the portfolios is based on multinational and acquisition status,

3.1.1 Characteristics Regressions

To identify a cross-sectional correlation between a firm's multinational status and it stock returns, we define an "MNE dummy", M_{it}, taking value 1 if firm i reports to have foreign affiliates in quarter-year t. To identify firms with acquisition experience, we define an "acquiror dummy" A_{it}, taking value 1 if firm i acquired any target at any time $\tau \leq t$.[12]

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

$$ret_{it} = \alpha + \beta_M M_{it} + \beta_A A_{it} + \beta_{MA} M_{it} \cdot A_{it} + \gamma X_{it} + \delta_{NAICSt} + \delta_i + \varepsilon_{it} \quad (1)$$

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 like total revenues and market capitalization, leverage, and the firm market *beta*.[13] δ_{NAICSt} denotes 4-digit industry-quarter fixed effects, and δ_i denotes firm fixed effects. We start by running the regression with fixed effects exclusively at the industry-quarter level. In this case, the coefficient β_M identifies the cross-sectional

[12] We identify the time of an acquisition based on the date in which it is announced, rather than completed, to reflect investor expectations which may change between the acquisition and completion time. Appendix Table B.1 illustrates that the time elapsed between the announcement and the completion of a merger is within three months for more than 80% 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.

[13] 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 3-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 5: Multinational Premium and Acquiror Premium

	(1)	(2)	(3)	(4)
Multinational	1.348***	0.558***	0.849***	0.180
	(0.078)	(0.139)	(0.224)	(0.348)
Post-Acquisition		0.664***	1.075***	0.053
		(0.098)	(0.175)	(0.306)
Multinational × Acquiror		0.908***	0.210	-0.704*
		(0.160)	(0.256)	(0.376)
Market Capitalization			0.029***	0.037***
			(0.002)	(0.005)
Leverage Ratio			-0.488***	-3.239***
			(0.163)	(0.563)
Sales/Employee			0.000	0.000**
			(0.000)	(0.000)
Capital/Employee			-0.000	-0.000**
			(0.000)	(0.000)
Beta (Annual)			1.481***	0.747***
			(0.110)	(0.146)
Constant	2.557***	2.159***	0.263*	2.595***
	(0.052)	(0.078)	(0.157)	(0.272)
Observations	417,315	417,315	199,763	199,352
R-squared	0.147	0.148	0.150	0.212
Firm FE	No	No	No	Yes

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 in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Source: CRSP/Compustat, Thomson Reuters M&A, and SEC 10K filings.

differential stock returns of multinational firms compared to domestic firms within an industry-quarter bin. Similarly, the coefficient β_A identifies the cross-sectional differential stock returns of acquirors compared to non-acquirors 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 to domestic firms, consistent with what Fillat and Garetto (2015) have shown for the manufacturing sector. In addition, firms that engage in acquisitions exhibit systematically higher returns than non acquirors. These results are robust to the inclusion of controls related to firm size, profitability, and leverage (column 3).

The cross sectional premia associated with multinational and acquisition activity require an explanation. What is the reason why firms with international exposure and acquisition experience exhibit higher stock returns? We can shed light on this question by exploring the panel structure of the data.

Column 4 reports the results of the specification including firm fixed effects. In this specification, β_1 (β_2)

identifies the change in the firm's stock returns that is associated with within-firm changes in multinational (aquiror) status. As the numbers illustrate, such change is not significant for either indicator, suggesting that the higher stock returns of MNEs and acquirors are not driven by within-firm changes in status.

3.1.2 Portfolio Regressions

As first introduced by Fama and French (1993), firm characteristics may be proxies for nondiversifiable factor risk.[14] We follow a simple approach in which we form portfolios based on multinational status 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 acquiror premia by estimating the portfolio loadings on nondiversifiable factor risks. Higher average returns in the cross section do not constitute a puzzle per se: they simply indicate that MNE acquirors are riskier than domestic non acquirors. We adopt a classic asset pricing interpretation and view the riskiness of a stock as a higher covariance with financial market factors.

We build time-invariant portfolios based on the MNE and aquiror status categories listed in Table 3. 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.[15] The results are displayed in Table 6.

The risk to which multinationals and exporters 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* than the portfolios of domestic firms. Always MNEs have also a higher loading on the international market portfolio, while the loadings on the SMB and HML factors don't show systematic patterns across groups. Importantly, differences in returns across portfolios are not fully explained by the four factors, and are hence reflected in the pricing errors (the *alphas*). In particular, conditional on MNE status, the *alphas* of the portfolios of acquirors are systematically lower compared to the *alphas* of the portfolios of non-acquirors.

[14] In Fama and French (1993), the firm characteristics are related to size and value relative to fundamentals (book value divided by market value).

[15] The CAPM model explains higher returns of certain assets as being generated by a larger covariance with systematic risk, represented by the returns on the aggregate market portfolio. Fama and French (1993) introduced a multi-factor extension of the original CAPM, which 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 upon 6 portfolios formed on size and book-to-market. The portfolios are the intersection of 2 portfolios formed on size (small and big) and 3 portfolios formed on book equity to market equity (from higher to lower: value, neutral, and growth.) This generates 6 portfolios: small-value, small-neutral, small-growth, big-value, big-neutral, and big-growth. SMB is the average returns on the three small portfolios minus the average returns on the three big portfolios. HML is the average return on the two value portfolios minus the average return 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.

Table 6: Fama-French Portfolio Regressions.

	(1) Always Dom.; No Acq.	(2) Always Dom.; Only Dom. Acq.	(3) Always MNE; No Acq.	(4) Always MNE; For. Acq.	(5) New Acquirors	(6) New Greenfield MNEs	(7) Other MNEs
R^{mkt}	0.780***	0.831***	1.104***	0.988***	0.957***	0.970***	0.923***
	(0.044)	(0.039)	(0.076)	(0.024)	(0.037)	(0.038)	(0.035)
SMB	0.657***	0.322***	0.637***	-0.129***	0.344***	0.299***	0.293***
	(0.073)	(0.027)	(0.102)	(0.033)	(0.052)	(0.063)	(0.071)
HML	-0.007	0.383***	-0.191*	-0.071**	-0.011	0.120***	-0.033
	(0.050)	(0.035)	(0.103)	(0.030)	(0.049)	(0.044)	(0.046)
INT	-0.083**	-0.047	0.146**	0.008	-0.002	-0.049	0.043*
	(0.041)	(0.031)	(0.067)	(0.020)	(0.033)	(0.030)	(0.026)
Constant	1.253***	0.806***	1.107***	0.704***	0.892***	0.935***	0.848***
	(0.110)	(0.080)	(0.201)	(0.050)	(0.090)	(0.084)	(0.080)
Obs.	300	300	300	300	300	300	300
R-squared	0.826	0.880	0.754	0.962	0.887	0.890	0.913
GRS Test Stat.	57.23	-	-	-	-	-	-
GRS p-value	0	-	-	-	-	-	-

Note: The dependent variable is the market capitalization-weighted average of the stock returns of firms in each portfolio, at a monthly frequency. Portfolios are built based on multinational and acquiror status, and are invariant over time. *SMB* refers to the small-minus-big factor. *HML* refers to the high-minus-low factor. *INT* refers to the returns on the international market portfolio from Kenneth French's data library on international indexes. The GRS statistic tests the hypothesis of all constant terms being significantly different from zero. 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.

These results suggest that multinational and acquiring firms' stock returns co-vary more with systematic risk factors, especially with the aggregate US stock market and the international stock market. This evidence motivates the structure of the model in Section 4, where firms' cash flows are exposed to an aggregate source of risk. However, the results on the *alphas* of the regressions also highlight that the multinational and acquiror premia are not fully explained by higher risk factor loadings, which motivates additional empirical investigation in the next section.

3.2 The Origins of the MNE and Acquiror Premia: in Search of the Smoking Gun

In this section, we exploit further the time dimension of the data to investigate within-firm changes in firm-level stock returns associated with changes in MNE and acquiror status.

3.2.1 Stock Returns Decline after Acquisitions, but Don't Change after MN Entry

Event Studies. We follow a vast empirical literature[16] and use an event study methodology to examine the behavior of stock returns before and after acquisitions and changes in MNE status. We run the following specification:

$$ret_{ijt} = \sum_{\tau_j \in \{-10,...-1,1,...10\}} D_{ijt}^{\tau_j} + \gamma X_{it} + \delta_{NAICS} + \delta_i + \varepsilon_{ijt} \quad (2)$$

where ret_{ijt} denotes the quarterly annualized stock returns of firm i at time t when analyzing event j, and $D_{ijt}^{\tau_j}$ takes value 1 if quarter-year t is τ_j quarters away (before or after) the time of event j for firm i. Controls and fixed effects are the same as in regression (1).

Figure 1 shows the results for specifications where the event of interest is an acquisition. The top panel pools the observations related to all acquisitions, and shows that returns decline significantly in the 10 quarters after an acquisition, while they are not significantly higher than at the time of acquisition in the 10 quarters prior. The bottom panels of the figure distinguish between domestic and foreign acquisitions. Returns decline after acquisitions of both domestic and foreign targets, but the results for foreign targets appear to be noisier and quantitatively smaller than the ones for domestic targets. This may be due to the smaller size of the foreign acquisitions sample, or to the fact that firms experiencing foreign acquisitions are more likely to undertake multiple acquisitions, confounding the results. Decomposing firm-level stock returns into the sum of earnings-to-price ratios and changes in stock prices reveals that both components decline after an acquisitions, but the decline in stock price changes is quantitatively larger.[17]

We also examine whether other deal characteristics are correlated with the evolution of returns after an acquisition. Figure 2 exploits information about the value of the deal and the country and industry of the target. The decline in returns is more pronounced for large acquisitions, where the ratio of deal value over acquiror's assets is above the median, and for acquisitions of targets located in OECD countries. The evolution of returns is not statistically different for deals in which acquiror and target operate in the same industry compared to deals where acquiror and target industries differ.[18]

Figure 3 shows the results for specifications where the event of interest is the start of multinational

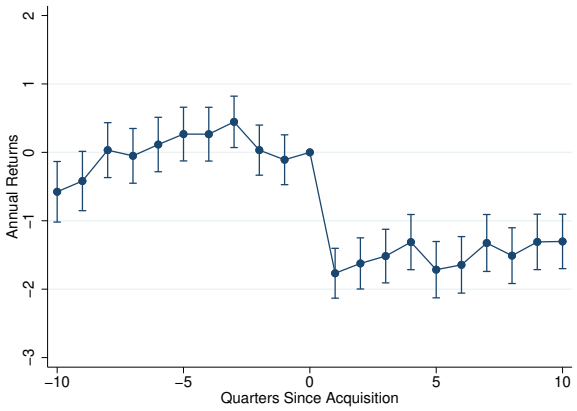
[16] See Khotari and Warner (2006) for a survey.

[17] Figure 1 treats all acquisitions equally. We performed the same exercise restricting the sample to first acquisitions only, to measure changes in stock returns as a firm's acquiror status changes. The results are qualitatively similar, but much noisier, likely due to the smaller number of observations involved. We also examined separately the evolution of stock returns around the first, second, and third acquisition that a firm undertakes. The results suggest that the evolution of returns around an acquisition does not depend on whether such acquisition happens earlier or later in a firm's life time. These robustness checks are shown in Appendix Figure C.1.

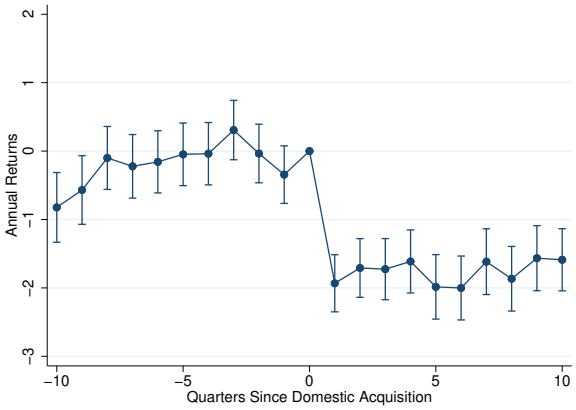
[18] When studying the consequences of mergers for returns, it may be important to differentiate "horizontal" acquisitions, where the acquiror buys a competitor, and "vertical" acquisitions, where the acquiror buys a supplier or a buyer, integrating parts of a value chain. While our data don't allow us to disentangle these two cases perfectly, we can argue that within- versus across-industry acquisitions may carry information about this distinction, as horizontal (vertical) acquisitions are more likely to be within- (across) industries. Hence the results of the last panel of Figure 2 illustrate that there aren't any significant differences between the effect of horizontal versus vertical mergers for stock returns.

Figure 1: Changes in Stock Returns after an Acquisition

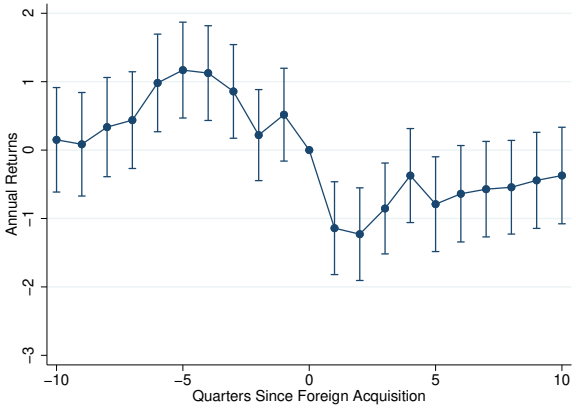
(a) Any Acquisition



(b) Domestic Acquisitions



(c) Foreign Acquisition



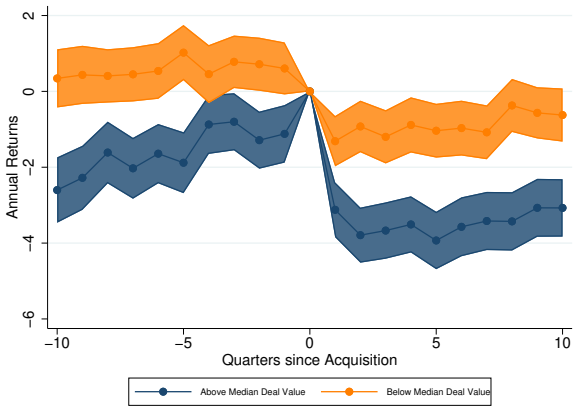
Note: Coefficients from regressing quarterly annualized returns on a set of dummies indicating quarters from the event. Controls include market capitalization, leverage ratio, sales per employee, capital per employee, and the firm beta. Industry-quarter fixed effects and firm fixed effects are also included.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

activity. The left panel shows the results for MNE entry associated with a foreign acquisition (*new MNE Acquirors*), and the right panel shows the results for MNE entry associated with a greenfield investment (*new greenfield MNEs*). In both cases, changes in the firm multinational status are not associated with significant changes in returns.

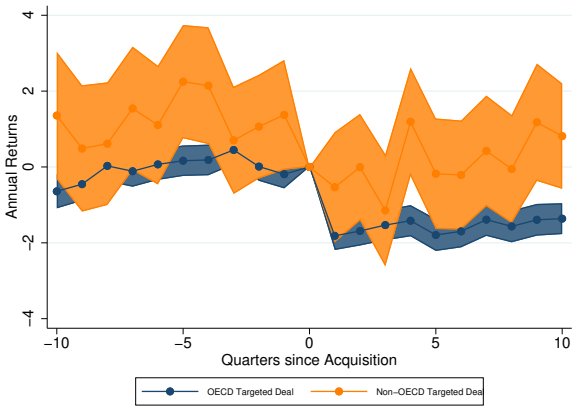
Returns from Repeated Acquisitions. Lastly, we examine the correlation of stock returns with the extensive and intensive margin of mergers within the firm. We have shown in Table 2 that many firms in the sample experience multiple mergers during their lifetime, possibly with very heterogeneous targets. We investigate the correlation between stock returns and repeated M&A activity by augmenting our characteristics regressions with variables which measure the deepening of a firm's involvement in mergers and acquisitions. We regress:

Figure 2: Changes in Stock Returns after an Acquisition, by Deal Value and Country and Industry of Target

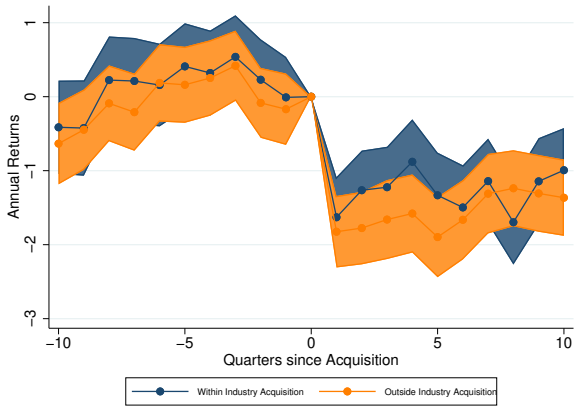
(a) Small versus Large Deal Value over Assets



(b) OECD versus non-OECD Country of Target



(c) Same versus Different Industry of Target



Note: Coefficients from regressing quarterly annualized returns on a set of dummies indicating quarters from 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 10K filings.

$$ret_{it} = \alpha + \beta_1 M_{it} + \beta_2 N_{it}^D + \beta_3 N_{it}^F + \gamma X_{it} + \delta_{NAICSt} + \delta_i + \varepsilon_{it} \tag{3}$$

where N_{it}^D (N_{it}^F) denotes either the cumulative number of acquisitions of domestic (foreign) targets that firm i has experienced up to quarter-year t, or the cumulative deal value as a share of acquiror assets from acquisitions of domestic (foreign) targets that firm i has experienced up to quarter-year t. Other controls and fixed effects are the same as in regression (1).

Columns 1 and 2 of Table 7 show the results using the *number* of acquisitions as a control. The coefficients on the number of acquisitions, both domestic and foreign, are negative and significant, indicating that within-firm stock returns decline as merger activity increases. Columns 3 and 4 show the results using as a control

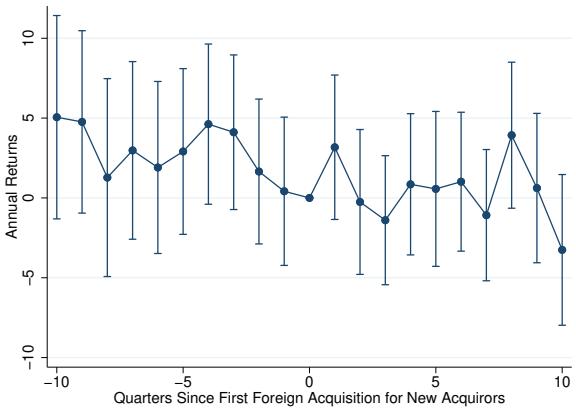
Table 7: Returns from Repeated Acquisitions.

	(1)	(2)	(3)	(4)
Cumulative Domestic Acquisitions	-0.082***	-0.093***	-0.001**	-0.141*
	(0.008)	(0.015)	(0.000)	(0.082)
Cumulative Foreign Acquisitions	-0.088***	-0.173***	-0.501*	-0.143
	(0.018)	(0.028)	(0.263)	(0.416)
Multinational	-0.296**	-0.317	-0.302**	-0.236
	(0.139)	(0.206)	(0.142)	(0.212)
Market Capitalization		0.048***		0.047***
		(0.005)		(0.006)
Leverage Ratio		-3.184***		-3.202***
		(0.553)		(0.575)
Sales/Employee		0.000**		0.000**
		(0.000)		(0.000)
Capital/Employee		-0.000**		-0.000**
		(0.000)		(0.000)
Beta (Annual)		0.724***		0.702***
		(0.146)		(0.149)
Constant	3.797***	3.264***	3.288***	2.518***
	(0.081)	(0.187)	(0.076)	(0.183)
Observations	417,001	199,257	396,894	189,085
R-squared	0.189	0.212	0.189	0.213

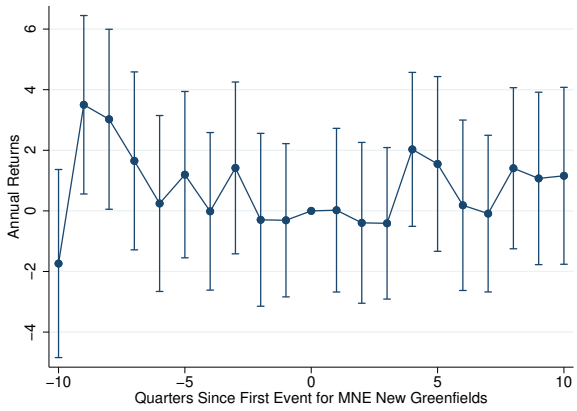
Note: The dependent variable is quarterly annualized firm-level stock returns. The variables *cumulative acquisitions* refer to the number (deal value) of acquisitions the firm has experienced up to quarter-year t. Controls include market capitalization, leverage ratio, sales per employee, capital per employee, and the firm *beta*. All specifications include industry-quarter fixed effects and firm fixed effects. 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.

Figure 3: Changes in Stock Returns after MNE Entry

(a) New Acquiror MNEs



(b) New Greenfield MNEs



Note: Coefficients from regressing quarterly annualized returns on a set of dummies indicating quarters from 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 10K filings.

the cumulative *value* of the acquisitions a firm undertakes, as a share of total acquiror assets. The same pattern persists when merger deepening is measured using the intensive margin of deal value over assets: within-firm stock returns decline as the total value of merger activity increases, even if the coefficients are less precisely estimated.

Taken together, the evidence reported in this section shows that firm-level stock returns decline with acquisitions, and do not significantly change after multinational entry. The MNE and acquiror premia are not explained by transitions into multinational and acquiror status. On the contrary, the data display declines in stock returns associated with acquisitions.

3.2.2 Future MNE Premia

To shed more light on the relationship between firm-level risk premia and MNE and acquiror status dynamics, in this section we examine the stock returns of *future MNEs*, *i.e.* firms which are domestic at a point in time, but will become MNEs in future periods, and compare them with the ones of always domestic firms. To do so, we regress:

$$ret_{it} = \alpha + \beta_c M_{it} + \beta_f [1 - M_{it}] \cdot \max_{\tau > t} M_{i\tau} + \gamma X_{i,t} + \delta_{NAICSt} + \varepsilon_{it} \tag{4}$$

where $M_{i\tau}$ is a dummy variable which assumes value 1 if firm i is a MNE at any future time $\tau > t$. The coefficient β_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 towards the end of our sample period, we run the regression using data for the first half of the sample only: $t = 1993, ...2005$, so that τ can go up to 12 years after t.

Table 8: Returns of Future MNEs.

	(1)	(2)
Current Multinationals	0.637***	0.471***
	(0.223)	(0.168)
Future Multinationals	1.395***	1.184***
	(0.255)	(0.229)
Market Capitalization	1.937***	2.009***
	(0.081)	(0.059)
Leverage Ratio	-1.110***	-1.156***
	(0.255)	(0.225)
Sales/Employee	0.001	0.002**
	(0.000)	(0.001)
Capital/Employee	-0.000**	-0.000***
	(0.000)	(0.000)
Beta (Annual)	-0.024	-0.177
	(0.189)	(0.149)
Constant	1.068***	1.150***
	(0.187)	(0.161)
Observations	78,297	104,534
R-squared	0.149	0.176
$H_0 : \hat{\beta}_c = \hat{\beta}_f$	.002	.003

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 switch to only domestic operations later. Column (2) features a propensity score-weighted control group. 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.

The results in Table 8 indicate that future MNEs had already higher returns than domestic firms prior to MNE entry. In our baseline specification (column 1), the premia for current and future MNEs are both sizeable, and 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 which are comparable to the current and future MNEs.[19] The results are analogous to the baseline specification. We

[19]For the propensity score matching regression we first compute a logistic regression for the treatment (current MNE) as a function of firm characteristics. The regression generates the odds ratio that is transformed into frequency weights. These frequency weights are using in the second stage, which is regression (4) but using the frequency weights estimated in the propensity score matching logit. These frequency weights duplicate observations in the control group (domestic firms) depending on how close the observations are to the treatment group (MNEs).

run a similar specification for future acquirors' risk premia. The results are shown in Appendix Table C.2 and they are analogous to the ones for future MNEs.[20]

To summarize, our empirical analysis so far has shown three empirical regularities. First, there a cross-sectional premium associated with multinational activity and M&A: MNE acquirors have higher returns than domestic non-acquirors. Second, the cross-sectional differences in returns are not driven by returns increasing with MNE entry or acquisitions. At the contrary, firm-level returns decline when a firm undertakes M&A activity, and with merger deepening. Third, multinational acquirors have higher stock returns than domestic non-acquirors already prior to engaging in FDI and M&A activity, indicating that cross-sectional returns differentials are driven by selection on the basis of a common unobserved firm characteristic driving both MNE and acquiror status and stock returns.

3.3 Are Firm Managers Driving MNEs' and Acquirors' Risk Premia?

There is a large empirical literature documenting the role of managers and managerial practices for firm performance. Inspired by those papers, in this section we explore the role of managers in determining simultaneously both firms' expansion strategies and their risk premia. To this end, we investigate the relationship between management and firm status, and between management and stock returns.

Management and Multinational Status. The relationship between good managerial practices and multinational activity has been previously pointed out by Bloom et al. (2013), who show that multinational corporations achieve consistently higher management scores in the WMS than domestic firms, regardless of their location or country of incorporation.

Table 9 shows the results of a linear probability model where the left-hand side variable is the multinational status dummy M_{it}. The explanatory variables include the vector of firm-level controls X_{it}, industry-quarter fixed effects, firm fixed effects, and CEO fixed effects from Execucomp. Comparing the adjusted R^2 in column (2) versus column (1) and in column (4) versus column (3) shows that the identity of the manager significantly contributes to explain a firm's choice to engage in multinational activity.

The role of managerial practices for multinational status is also confirmed by a probit regression run on the smaller WMS sample: managerial practices are positively correlated with and contribute to explain a firm's multinational status, as shown in Appendix Table C.3.

Management and Acquiror Status. We examine the role of managers in promoting acquisition activity. Table 10 shows the results of a linear probability model where the left-hand side variable is the acquiror dummy A_{it}. Controls and fixed effects are the same as in Table 9. Also in this case, comparing the adjusted R^2 in column (2) versus column (1) and in column (4) versus column (3) shows that the identity

[20]The results for for future acquirors may be biased. 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.

Table 9: Becoming a Multinational: Management Matters

	(1)	(2)	(3)	(4)
Market Capitalization	0.213***	-0.012**	-0.024***	-0.018***
	(0.006)	(0.005)	(0.005)	(0.005)
Leverage Ratio	13.427***	9.443***	12.260***	10.351***
	(0.579)	(0.818)	(0.734)	(0.836)
Sales/Employee	-0.001***	-0.002***	-0.002***	-0.003***
	(0.000)	(0.001)	(0.001)	(0.001)
Capital/Employee	-0.001***	-0.001***	-0.000***	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)
Beta (Annual)	6.247***	1.241***	1.725***	1.257***
	(0.327)	(0.301)	(0.277)	(0.301)
Constant	62.218***	69.146***	68.399***	69.051***
	(0.391)	(0.340)	(0.316)	(0.340)
Observations	76,384	76,054	76,340	76,045
R-squared	0.213	0.763	0.693	0.771
Adj R-squared	.193	.742	.676	.75
Industry-Quarter FE	Yes	Yes	Yes	Yes
Firm FE	No	No	Yes	Yes
Executive FE	No	Yes	No	Yes
p-value Executive FE		< 0.0001		< 0.0001

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Note: Linear probability model. The dependent variable is a dummy taking value 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 in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Source: CRSP/Compustat, Thomson Reuters M&A, SEC 10K filings, Execucomp.

Table 10: Becoming an Acquiror: Management Matters

	(1)	(2)	(3)	(4)
Market Capitalization	0.207***	0.030*	0.042***	0.022
	(0.008)	(0.018)	(0.015)	(0.018)
Leverage Ratio	6.146***	-7.075***	-5.098***	-7.768***
	(0.418)	(0.961)	(0.777)	(0.992)
Sales/Employee	-0.000	-0.001**	-0.000	-0.001**
	(0.000)	(0.001)	(0.000)	(0.001)
Capital/Employee	-0.000***	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Beta (Annual)	2.050***	0.337	0.913***	0.384
	(0.279)	(0.369)	(0.330)	(0.374)
Constant	11.828***	16.444***	15.439***	16.545***
	(0.311)	(0.431)	(0.388)	(0.436)
Observations	76,384	76,054	76,340	76,045
R-squared	0.074	0.239	0.198	0.244
Adj R-squared	.05	.172	.152	.175
Industry-Quarter FE	Yes	Yes	Yes	Yes
Firm FE	No	No	Yes	Yes
Executive FE	No	Yes	No	Yes
p-value Executive FE		< 0.0001		< 0.0001

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Note: Linear probability model. The dependent variable is a dummy taking value 1 if a firm is an acquiror 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 in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Source: CRSP/Compustat, Thomson Reuters M&A, SEC 10K filings, Execucomp.

of the manager significantly contributes to explain a firm's choice to engage in acquisitions.

The role of managerial practices for acquisitions is also confirmed by a probit regression run using the WMS sample: managerial practices are positively correlated with and contribute to explain a firm's acquiror status, as shown in Appendix Table C.4.

Management and Stock Returns. Finally, we examine how much of the variation in the multinational and acquiror risk premia is explained with CEO tenure and management practices.

Table 11 shows the results of estimating regression (4) with CEO fixed effects. The significance of the current multinational and future multinational dummies vanishes when exploiting the variation within CEO, regardless of the control group being propensity-score matched (column 2) or not (column 1). At the same time, the R^2 increases doubles. Appendix Table C.5 shows analogous results for the regressions with current and future acquiror premia.

Table 11: Returns of Future MNEs: Management Matters

	(1)	(2)
Current Multinationals	-4.576	-0.752
	(5.799)	(3.324)
Future Multinationals	-4.090	-0.532
	(5.819)	(3.347)
Market Capitalization	1.132***	1.283***
	(0.109)	(0.099)
Leverage Ratio	-4.096***	-6.217***
	(1.477)	(1.167)
Sales/Employee	0.001	0.006**
	(0.003)	(0.003)
Capital/Employee	-0.000	-0.000
	(0.000)	(0.000)
Beta (Annual)	0.022	-0.261
	(0.583)	(0.453)
Constant	7.149	2.099
	(5.031)	(1.773)
Observations	26,209	42,297
R-squared	0.299	0.380
Current Minus Future MNE P-Val	.478	.756
Executive FE	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. The sample excludes "Other MNEs" or firms that enter the sample period as MNEs and switch to only domestic operations later. Column (2) features a propensity score-weighted control group. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Source: CRSP/Compustat, Thomson Reuters M&A, SEC 10K filings, Execucomp.

Finally, for the smaller WMS sample, we find that firm-level stock returns are positively correlated with the firm average management score (the correlation coefficient is 0.094).

The results of this section suggest that manager characteristics are strongly correlated with both the risk premium of a firm and its expansion strategies, measured as multinational and acquisition activity. Simply put, there are types of managers that investors see as more likely to take risky decisions, which has an impact on expected returns, and simultaneously increase the likelihood of the firm becoming multinational and engaging in acquisitions (which are risky decisions too).

In the next section, we formalize the role of management in firm-level decision making, and analyze the theoretical link between management, multinational and acquiror status, and stock returns.

4 Model

The results of our Fama-French regressions in Table 6 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):

$$E(r) - r_f = -r_f \cdot Cov\left(\frac{dM}{M}, \frac{dV}{V}\right) \tag{5}$$

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

For a model to be able to replicate the facts we have shown in Section 3, we need a mechanism such that the covariance between the agents' stochastic discount factor and changes in the value of the firm is lower for MNE acquirors compared to domestic non-acquirors; is lower for future MNEs acquirors compared to domestic non-acquirors; increases as merger activity increases, and depends on firm management.

4.1 Preferences, Technology, and Shock Structure

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

$$U = \int_0^\infty e^{-\rho t} \frac{C(t)^{1-\gamma}}{1-\gamma} dt \tag{6}$$

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:

$$C(t) = \left[\int c_i(t)^{\frac{\eta-1}{\eta}} di\right]^{\frac{\eta}{\eta-1}} \tag{7}$$

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 φ, 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 is $p(\varphi; k) = \frac{\eta}{\eta-1}\frac{w}{\varphi k^{\vartheta}}$, where w denotes the wage.

Management. Each firm is run by a manager. There are two types of managers: "aggressive", and "conservative". An aggressive manager runs the firm by undertaking projects whose outcomes are more uncertain than the projects conservative managers engage in. As a result, a manager's attitude determines the variability of firm's profits. This assumption, together with the preferences and technology specified above, implies that the profits of a firm run by a amanager of type m can be written as:

$$\pi_m(\varphi; k) \equiv A_m \pi(\varphi; k) = \frac{1}{\eta - 1}\left(\frac{\eta}{\eta - 1}\right)^{-\eta}\left(\frac{\varphi k^{\vartheta}}{w}\right)^{\eta-1} P^{\eta} A_m C \tag{8}$$

where $\frac{dA_m}{A_m} = \sigma_m dz$, for $m = H, L$ and $\sigma_H > \sigma_L$. Firms run by "aggressive" managers ($m = H$) exhibit more volatile profits than firms run by "conservative" managers ($m = L$), all else equal. Lastly, P denotes the ideal price index: $P = \left[\int p(\varphi; k)^{1-\eta} d\varphi\right]^{\frac{1}{1-\eta}}$.

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 κ, hence the cost of a merger which 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 a MNE and has access to the foreign market as well. The FDI production technology is identical to the one in the domestic country, but is subject to a fixed operating cost $f > 0$. Once a multinational, the firm can grow in the foreign market by undertaking mergers with foreign targets, at cost $\kappa^* > \kappa$.

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:

$$\frac{dC}{C} = \mu dt + \sigma dz \tag{9}$$

$$\frac{dC^*}{C^*} = \mu^* dt + \sigma^* dz^* \tag{10}$$

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

$$\frac{dM}{M} = -r dt - \gamma \sigma dz \tag{11}$$

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

Since firm-level profits are linear in the product of the shocks, it is convenient to define the "composite" shock $Y_m = A_m C$ ($Y_m^* = A_m C^*$), which denotes the effective size of the market for a firm managed by a CEO of type m. The process for Y_m is also a geometric Brownian motion with drift $\mu_m = \mu + \sigma\sigma_m$ ($\mu_m^* = \mu^* + \chi\sigma^*\sigma_m$) and standard deviation equal to the sum of the standard deviations of the processes for C and A_m.

4.2 The Firm's Intertemporal Problem

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

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

$$\mathcal{V}_m(\varphi, k, k^*, Y_m, Y_m^*) = V_D(\varphi, k, Y_m) + \max\{V_F^o(\varphi, k^*, Y_m^*), V_F(\varphi, k^*, Y_m^*)\} \tag{12}$$

where $V_D(\varphi, k, Y_m)$ denotes the value of domestic activities, $V_F(\varphi, k^*, Y_m^*)$ denotes the value of foreign activities for a firm which is currently a multinational, and $V_F^o(\varphi, k^*, Y_m^*)$ denotes the option value of foreign activities for a firm which 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:

$$V_D(\varphi, k, Y_m) = \max_{k'} \pi(\varphi, k, Y_m) + e^{-\rho dt}\left\{E[V_D(\varphi, k', Y_m')] - \kappa(k' - k)\right\} \tag{13}$$

where $k' \geq k$. In addition, a firm which 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, $V_F(\cdot)$:

$$V_F^o(\varphi, k^*, Y_m^*) = \max\left\{e^{-\rho dt} E[V_F^o(\varphi, k^{*\prime}, Y_m^{*\prime})], V_F(\varphi, k^*, Y_m^*) - F\right\}. \tag{14}$$

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

$$V_F(\varphi, k^*, Y_m^*) = \max_{k^{*\prime}} \pi^*(\varphi, k^*, Y_m^*) + e^{-\rho dt}\left\{E[V_F(\varphi, k^{*\prime}, Y_m^{*\prime})] - \kappa^*(k^{*\prime} - k^*)\right\} \tag{15}$$

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

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:

$$V_D(\varphi, k, Y_m) = B_m(\varphi, k) Y_m^{\beta} + \frac{\pi_m(\varphi, k, Y_m)}{\rho - \mu_m} \tag{16}$$

where $\beta > 1$ is the positive root of the fundamental quadratic, $\frac{(\sigma+\sigma_m)^2}{2}\beta^2 + \left(\mu_m - \frac{(\sigma+\sigma_m)^2}{2}\right)\beta - \rho = 0$, and $B_m(\varphi, k)$ is the option value of domestic mergers:

$$B_m(\varphi, k) = \left(\frac{\beta - 1}{\kappa}\right)^{\beta-1} \left[\frac{H(\eta)\left(\frac{\varphi}{w}\right)^{\eta-1} P^{\eta}}{\beta(\rho - \mu_m)}\right]^{\beta} \frac{k^{1+\beta[\vartheta(\eta-1)-1]}}{1 + \beta[\vartheta(\eta-1) - 1]} \tag{17}$$

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

The option value of foreign activities is given by:

$$V_F^o(\varphi, k^*, Y_m^*) = B_m^F(\varphi, k^*) {Y_m^*}^{\beta^*} \tag{18}$$

where $\beta^* > 1$ (analogous to β but for the foreign market), and $B_m^F(\varphi, k^*)$ is the option value of becoming a MNE:

$$B_m^F(\varphi, k^*) = B_m^*(\varphi, k^*) + \frac{1}{\beta^*}\left[\left(\frac{\beta^*}{\beta^* - 1}\right)\left(\frac{f + \rho F}{\rho}\right)\right]^{1-\beta^*} \left(\frac{H(\eta)\left(\frac{\varphi}{w^*}\right)^{\eta-1} P^{*\eta}}{\beta^*(\rho - \mu_m^*)}\right)^{\beta^*}. \tag{19}$$

Lastly, the value of existing foreign activities is:

$$V_F(\varphi, k^*, Y_m^*) = B_m^*(\varphi, k^*) {Y_m^*}^{\beta^*} + \frac{\pi_m^*(\varphi, k^*, Y_m^*)}{\rho - \mu_m^*} - \frac{f}{\rho} \tag{20}$$

where $B_m^*(\varphi, k^*)$ is the option value of foreign mergers:

$$B^*(\varphi, k^*) = \left(\frac{\beta^* - 1}{\kappa^*}\right)^{\beta^*-1} \left[\frac{H(\eta)\left(\frac{\varphi}{w^*}\right)^{\eta-1} P^{*\eta}}{\beta^*(\rho - \mu_m^*)}\right]^{\beta^*} \frac{{k^*}^{1+\beta^*[\vartheta(\eta-1)-1]}}{1 + \beta^*[\vartheta(\eta-1) - 1]}. \tag{21}$$

As it is standard in 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: mergers in equations (16) and (20), and greenfield FDI in equation (18). Examining the dependence of the option values (17), (19), and (21) on φ it is evident that more productive firms have higher option values, indicating the higher value they can obtain from mergers and multinational activity compared to less productive firms. Moreover, the option value of FDI is increasing in the option value of foreign mergers, indicating that the foreign

market is more profitable the higher the possibilities of growth through foreign acquisitions. Notice that, since the model is written in continuous time, firms which become MNEs may immediately engage in foreign acquisitions, or wait some time before doing so. In this way, the model generates both new MNE acquirors and new greenfield MNEs.

Policy Functions. Becoming a MNE is a discrete choice, hence the policy function is a firm-specific threshold in the realization of the aggregate foreign composite shock that induces the firm to enter the foreign market. More precisely, a firm becomes a MNE when $Y_m^* \geq \bar{Y}_m^F(\varphi; k^*)$, where $\bar{Y}_m^F(\varphi; k^*)$ is determined by value matching and smooth pasting conditions between $V_F^o(\cdot)$ and $V_F(\cdot)$:

$$\bar{Y}_m^F(\varphi; k^*) = \left(\frac{\beta^*}{\beta^* - 1}\right)^{\frac{1}{\beta^* - 1}} \left(\frac{f + \rho F}{\rho}\right) \left(\frac{\rho - \mu_m^*}{H(\eta)\,(w^*)^{1-\eta}\,P^{*\eta}}\right) (\varphi k^{*\vartheta})^{1-\eta}. \tag{22}$$

The MNE entry threshold is decreasing in firm productivity φ and capital level k^*, indicating that more productive and more capitalized firms need smaller positive demand shocks to enter foreign markets.

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

$$\bar{Y}_m(k; \varphi) = \left(\frac{\beta}{\beta - 1}\right) \left(\frac{\kappa(\rho - \mu_m) w^{\eta-1}}{H(\eta) P^{\eta} \vartheta(\eta - 1)}\right) \varphi^{1-\eta} k^{1-\vartheta(\eta-1)}. \tag{23}$$

The policy function for foreign mergers is analogous:

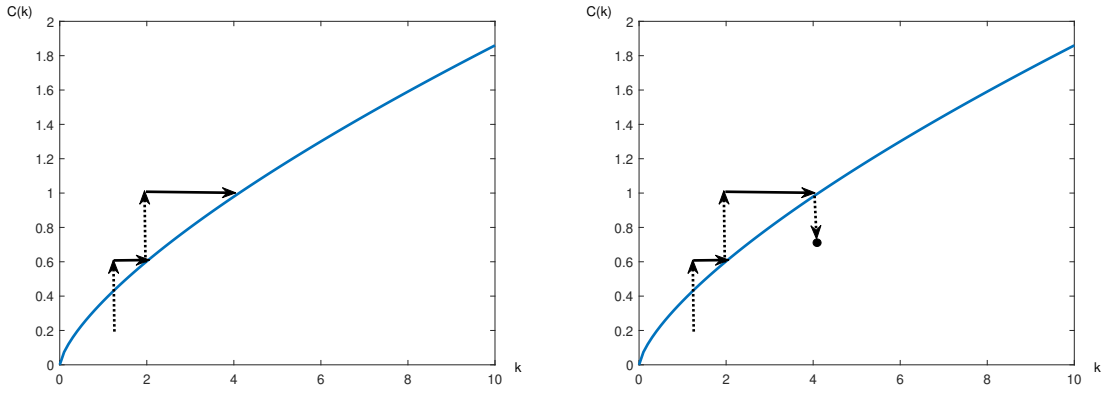
$$\bar{Y}_m^*(k^*; \varphi) = \left(\frac{\beta^*}{\beta^* - 1}\right) \left(\frac{\kappa^*(\rho - \mu_m^*) w^{*\eta-1}}{H(\eta) P^{*\eta} \vartheta(\eta - 1)}\right) \varphi^{1-\eta} k^{*1-\vartheta(\eta-1)}. \tag{24}$$

The investment barrier controls $\bar{Y}_m(k; \varphi)$ and $\bar{Y}_m^*(k^*; \varphi)$ 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 4 illustrates graphically the merger 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 a merger to increase its capital level. At the contrary, 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 4: Barrier Control for Firm-level Investment.



Note: 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 merger take place.

4.3 Firm-level Stock Returns in the Model

In the model, the expected excess returns of a firm with manager of type m, productivity φ, and capital stock (k, k^*) are given by:

$$E(r) - r_f = -r_f \cdot Cov\left(\frac{dM}{M}, \frac{d\mathcal{V}_m(\varphi, k, k^*, Y_m, Y_m^*)}{\mathcal{V}_m(\varphi, k, k^*, Y_m, Y_m^*)}\right). \tag{25}$$

4.4 Implications of the Model

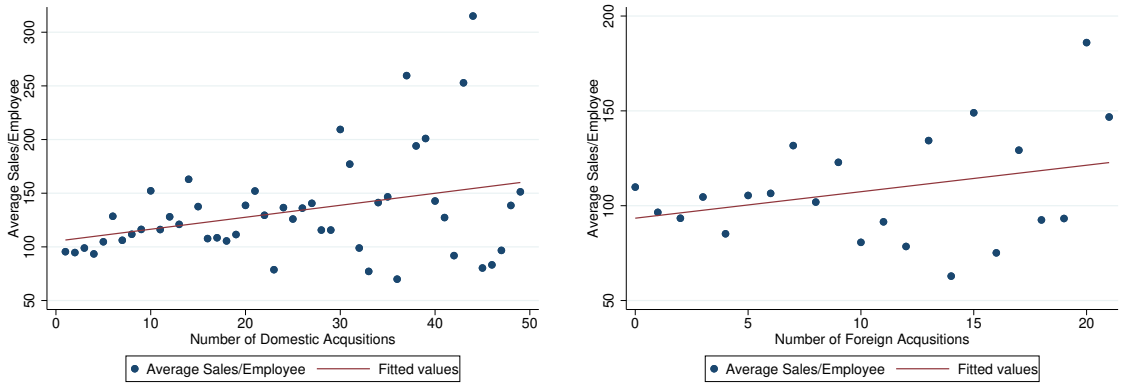
In this section, we examine the predictions of the model, and assess its ability to reproduce and explain our motivating empirical facts.

4.4.1 Testable Implications: Selection into FDI and M&A

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

Second, since the barrier controls for mergers $\bar{Y}_m(k; \varphi)$ and $\bar{Y}_m^*(k^*; \varphi)$ are also decreasing in firm productivity φ, more productive firms undertake more mergers, both domestically and abroad. This prediction is novel in the literature, and consistent with the data. Figure 5 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

Figure 5: More productive firms undertake more mergers.



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

productive firms engage –on average– in a larger number of acquisitions, both domestic and foreign.

Third, the monotonicity of the barrier control for mergers $\bar{Y}_m(k;\varphi)$ as a function of the cost of investment κ, together with the assumption that foreign mergers are most costly than domestic mergers, implies that the number of domestic mergers per firm is higher than the number of foreign mergers, consistent with the distribution of mergers per firm shown in Table 2.

4.4.2 Management, Firm Status, and Stock Returns

We now use the lens of the model to interpret the findings of our empirical analysis. The model establishes a strong link between management style, firm selection into multinational and acquiror status, and stock returns. This link can be described with the help of three propositions.

Proposition 1. *Current and future MNEs have higher expected returns than domestic firms.*

Proof. $\partial \bar{Y}_m^F(\varphi;k^*)/\partial \mu_m^* < 0$ and $-Cov\left(\frac{dM}{M}, \frac{d\mathcal{V}_H}{\mathcal{V}_H}\right) > -Cov\left(\frac{dM}{M}, \frac{d\mathcal{V}_L}{\mathcal{V}_L}\right)$.

Since the threshold that induces a firm to undertake FDI is decreasing in the drift of the composite shock process, firms that are run by aggressive managers ($m = H$) are more likely to engage in FDI than firms that are run by conservative managers ($m = L$), everything else equal. Hence managers matter for selection into FDI, as the regressions in Table (9) show. At the same time, changes in the value of the firm co-vary more (in absolute terms) with the stochastic discount factor for firms that are run by aggressive managers. Hence, firms that are run by aggressive managers have higher returns than firms run by conservative managers, and they are more likely to become multinational. For this reason, MNEs have higher returns than domestic firms, and this is true also prior to the start of their international exposure.

Proposition 2. *Acquirors have higher expected returns than non-acquirors.*

Proof. $\partial \bar{Y}_m(\varphi;k)/\partial \mu_m < 0$, $\partial \bar{Y}^*_m(\varphi;k^*)/\partial \mu^*_m < 0$ and $-Cov\left(\frac{dM}{M}, \frac{d\mathcal{V}_H}{\mathcal{V}_H}\right) > -Cov\left(\frac{dM}{M}, \frac{d\mathcal{V}_L}{\mathcal{V}_L}\right)$ and similarly for foreign acquisitions.

The explanation of why acquirors have higher expected returns than non-acquirors is similar to the one for MNEs. Since the thresholds that induce a firm to undertake mergers, both domestic and foreign, are decreasing in the drift of the composite shock process, firms that are run by aggressive managers ($m = H$) are more likely to engage in acquisitions than firms that are run by conservative managers ($m = L$). Hence managers matter for selection into mergers, as the regressions in Table (10) show.

Since firms that are run by aggressive managers have higher returns than firms run by conservative managers, and they are more likely to be acquirors, acquirors have higher expected returns than non-acquirors. This is true for both domestic and global acquirors.

Proposition 3. *Expected returns decline as firms undertake acquisitions.*

Proof. $\partial \left[-Cov\left(\frac{dM}{M}, \frac{d\mathcal{V}_m}{\mathcal{V}_m}\right)\right]/\partial k < 0$, for $m = H, L$. Similarly for foreign acquisitions.

It is easy to show that the derivative of the covariance of changes in the value of the firm with the stochastic discount factor is increasing in the capital stock of the firm, k. This is due to the fact that, since $\vartheta < 1$, profits and firm value are concave in k: as capital increases, changes in the value function become smaller. Hence, the covariance between the stochastic discount factor and changes in the value function become also smaller, which results in expected returns declining as firms undertake acquisitions, consistently with our empirical findings.

5 Conclusions

A growing literature studies the risk premia of firms that are exposed to foreign markets. In this paper we contribute to this literature by documenting the existence of a risk premium associated with multinational and acquisition activity, and by exploring its origins. Our empirical analysis has shown that management matters for firms' selection into FDI and M&A activity, and for risk exposure. As such, the role of management is important in rationalizing observations which can seem puzzling and at odds with the cross sectional premia: first, after acquisitions, and as firms deepen their merger activity, expected returns decline. Second future MNE acquirors experience higher premia compared to similar firms that remain domestic in the sample.

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

References

Ahern, K. R. (2012). Bargaining power and industry dependence in mergers. *Journal of Financial Economics 103*(3), 530–550.

Andrade, G., M. Mitchell, and E. Stafford (2001). New evidence and perspectives on mergers. *Journal of Economic Perspectives 15*(2), 103–120.

Arnold, J. M. and B. S. Javorcik (2009). Gifted kids or pushy parents? foreign direct investment and plant productivity in indonesia. *Journal of International Economics 96*(1), 37–54.

Barrot, J.-N., E. Loualiche, and J. Sauvagnat (2019). The globalization risk premium. *Journal of Finance 74*(5), 2391–2439.

Berk, J. B., R. C. Green, and V. Naik (1999). Optimal investment, growth options, and security returns. *The Journal of Finance 54*(5), 1553–1607.

Bertrand, M. and A. Schoar (2003, 11). Managing with Style: The Effect of Managers on Firm Policies*. *The Quarterly Journal of Economics 118*(4), 1169–1208.

Bianconi, M., F. Esposito, and M. Sammon (2020). Trade policy uncertainty and stock returns. Mimeo, Tufts University.

Blonigen, B. A., L. Fontagné, N. Sly, and F. Toubal (2014). Cherries for sale: The incidence and timing of cross-border m&a. *Journal of International Economics 94*(1), 341–357.

Bloom, N., R. Lemos, R. Sadun, D. Scur, and J. V. Reenen (2013). The new empirical economics of management. *Journal of the European Economic Association 12*(4), 835–876.

Bloom, N. and J. Van Reenen (2007, 11). Measuring and Explaining Management Practices Across Firms and Countries*. *The Quarterly Journal of Economics 122*(4), 1351–1408.

Chari, A., P. P. Ouimet, and L. L. Tesar (2009). The value of control in emerging markets. *Review of Financial Studies 23*(4), 1741–1770.

De Sousa, J., A.-C. Disdier, and C. Gaigné (2020). Export decision under risk. *European Economic Review 121*, 1033–1042.

Doukas, J. A. and D. Petmezas (2007). Acquisitions, overconfident managers and self-attribution bias. *European Financial Management 13*(3), 531–577.

Esposito, F. (2020). Demand risk and diversification through international trade. Mimeo, Tufts University.

Fama, E. F. and K. R. French (1993). Common risk factors in the returns on stocks and bonds. *Journal of Financial Economics 33*(3), 3–56.

Fillat, J. L. and S. Garetto (2015). Risk, returns, and multinational production. *Quarterly Journal of Economics 130*(4), 2027–2073.

Fillat, J. L., S. Garetto, and L. Oldenski (2015). Diversification, cost structure, and the risk premium of multinational corporations. *Journal of International Economics 96*(1), 37–54.

Garetto, S., N. Ramondo, and L. Oldenski (2021). Multinational expansion in time and space. NBER Working Paper 25804.

Ghironi, F. and M. H. Wolfe (2018). Multinational production, risk sharing, and home equity bias. Mimeo, University of Washington.

Gomes, J., L. Kogan, and L. Zhang (2003). Equilibrium cross section of returns. *Journal of Political Economy 111*(4), 693–732.

Gorton, G., M. Kahl, and R. J. Rosen (2009). Eat or be eaten: A theory of mergers and firm size. *The Journal of Finance 64*(3), 1291–1344.

Guadalupe, M., O. Kuzmina, and C. Thomas (2012). Innovation and foreign ownership. *American Economic Review 102*(7), 3594–3627.

Heiland, I. (2020). Global risk sharing through trade in goods and assets: Theory and evidence. CEPR DP 14230.

Helpman, E., M. J. Melitz, and S. R. Yeaple (2004). Exports versus fdi with heterogeneous firms. *American Economic Review 94*(1), 300–316.

Ismail, A. (2008). Which acquirers gain more, single or multiple? recent evidence from the usa market. *Global Finance Journal 19*(1), 72–84.

K. Dixit, A. and R. S. Pindyck (1994, 01). Investment under uncertainty / a.k. dixit, r.s. pindyck. *New Jersey: Princeton University Press*.

Karolyi, G. A., R. Liao, and G. Loureiro (2015). The decreasing returns of serial acquirers around the world.

Khotari, S. P. and J. B. Warner (2006). *Econometrics of Event Studies*, Volume A, Chapter Handbook of Corporate Finance: Empirical Corporate Finance. Elsevier/North-Holland.

Malatesta, P. and R. Thompson (1985). Partially anticipated events: A model of stock price reactions with an application to corporate acquisitions. *Journal of Financial Economics 14*(2), 237–250.

Melitz, M. J. (2003). The impact of trade on intra-industry reallocations and aggregate industry productivity. *Econometrica 71*(6), 1695–1725.

Phalippou, L., F. Xu, and H. Zhao (2015). Acquiring Acquirers. *Review of Finance 19*(4), 1489–1541.

Ramondo, N. and V. Rappoport (2010). The role of multinational production in a risky environment. *Journal of International Economics 81*(2), 240–252.

Rowland, P. F. and L. L. Tesar (2004). Multinationals and the gains from international diversification. *Review of Economic Dynamics 7*(4), 789–826.

Schipper, K. and R. Thompson (1983). Evidence on the capitalized value of merger activity for acquiring firms. *Journal of Financial Economics 11*(1), 85–119.

Appendix

A Data Assembly and 10K Parsing Procedure

We download from the SEC Edgar's website all the 10K filings for the universe of firms with publicly-traded equity from 1993 to 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 submit all the information in a unique 10-K file which 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 to classify 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 from a dictionary. If no country 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 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", "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 between 1993 and 2017. The data we utilize ranges 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 10K filings are merged onto the quarterly CRSP/Compustat dataset based on the Central Index Key (CIK) to provide annual information on the multinational status of Compustat firms. Firms with missing 10K filings at the start or end sample are imputed using the first or latest non-missing filing, respectively. For firms that contain short 10K filing gaps (i.e. 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 4 quarters, we parse through the 10K exhibit 21s manually, imputing values that supersede the algorithm's output. For gaps less than 4 quarters, we leave as is and the missing status will be 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 hand collected at prior point in time. We compute the firm-level betas by

running rolling 1-year window regressions of monthly firm returns on the CRSP Total Market Index.

Thomson Reuters Mergers and Acquisition Data provides deal-level M&A data for domestic firms from 1993 to 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 is then merged back onto the quarterly fundamentals utilizing 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 acquiror 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 7 unique classifications based off characteristics the year of, the year before, and the year after the first 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, in the entire sample, with no foreign acquisitions or change of status in the entire sample. 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 10K filings showing the existence of a foreign subsidiary. Additionally, we impute the status New MNE Acquirers following the first foreign acquisition as multinational if the foreign acquisition occurs prior to the indicated status change. New Greenfield MNE are firms that change their multinational status according to the 10K 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 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 in Compustat for which we are not able to parse 10-K information.

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

B Additional Data Description

Figure B.1: Distribution of mergers by target country.

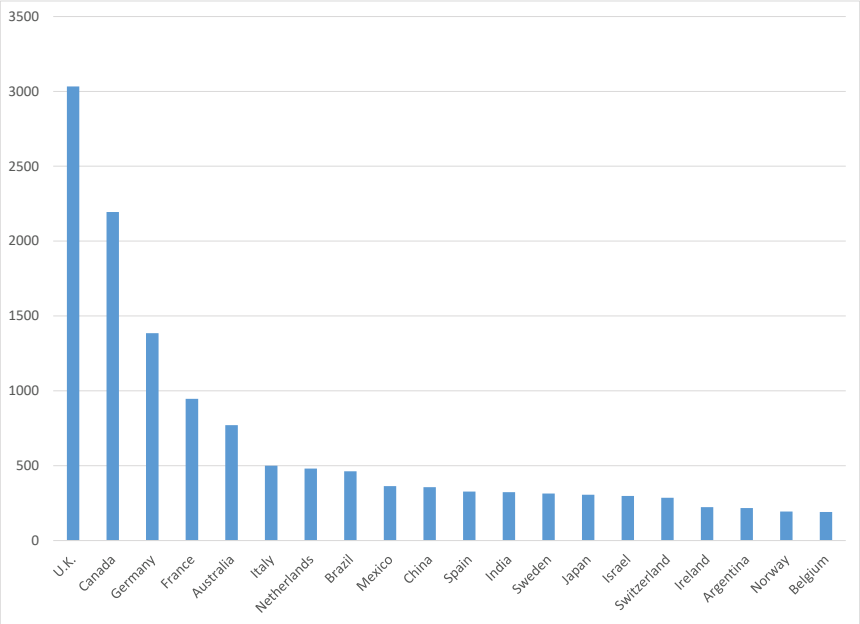
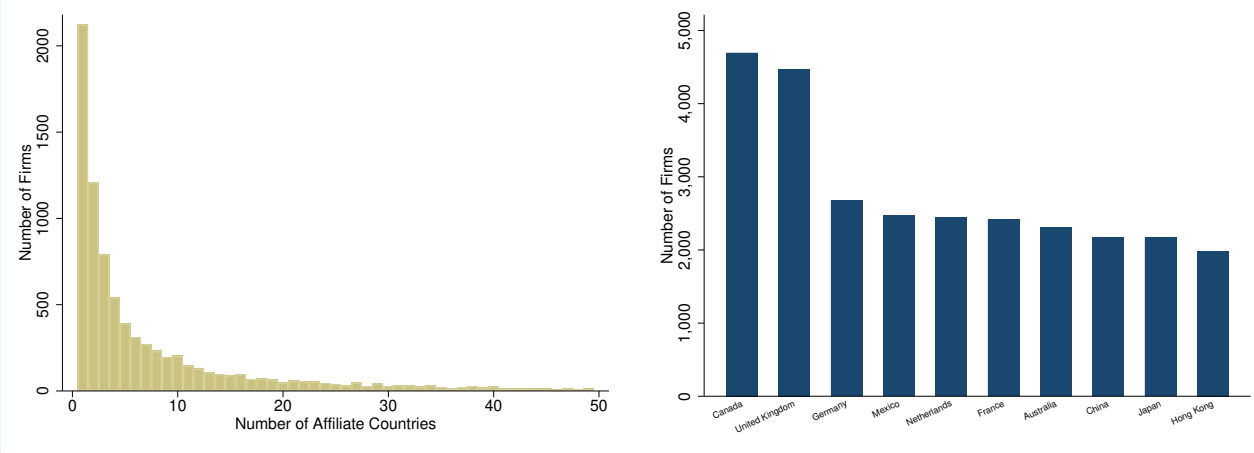
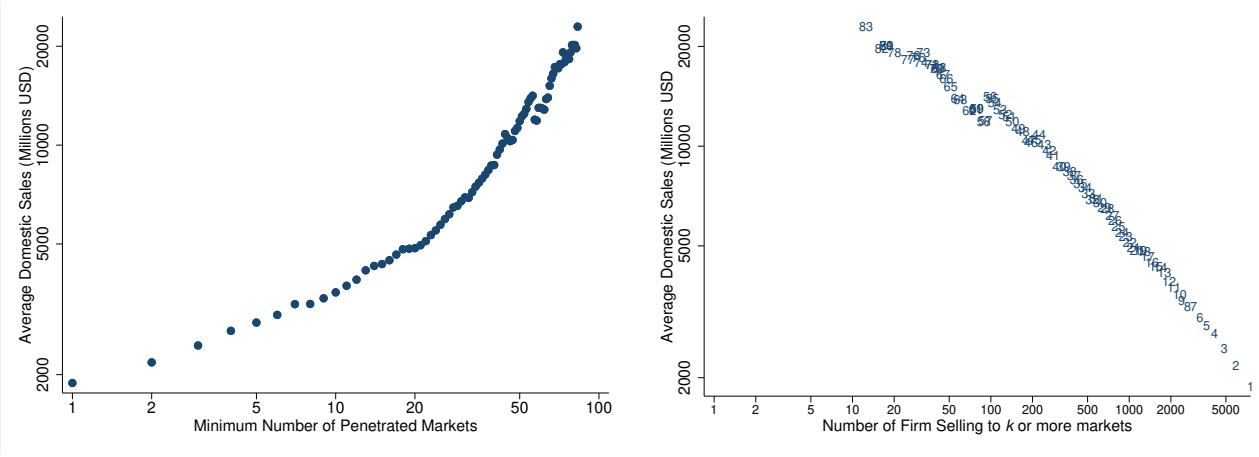


Figure B.2: MNE Affiliates' Host Countries



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: SEC10K 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 which are larger in the US enter more markets. The right panel also shows that larger firms sell to less popular markets.
Source: SEC10K filings.

Table B.1: Time elapsed between 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:

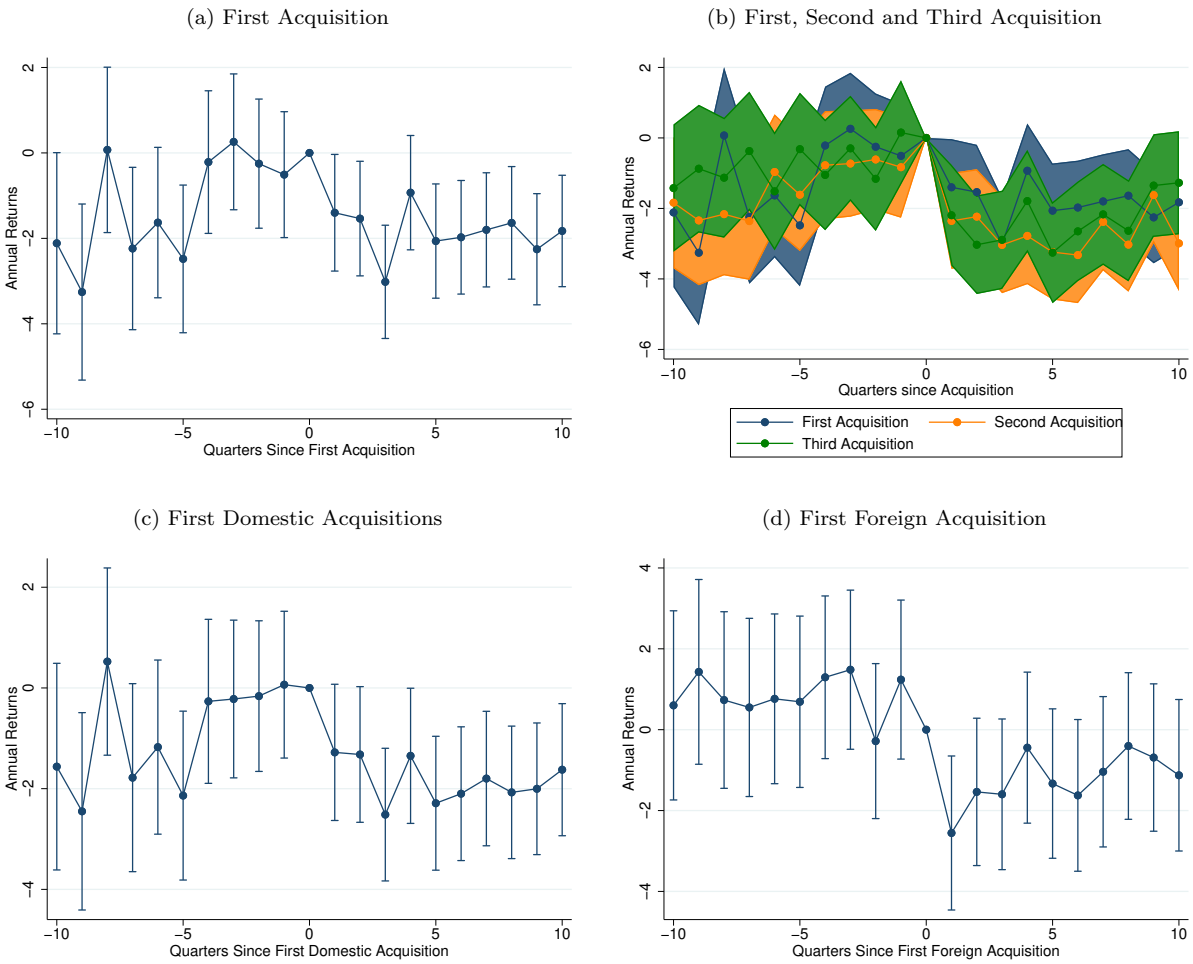
$$ret_{it} = \alpha + \sum_{j=1}^{7} \beta^j type_i^j + \gamma X_{it} + \delta_{NAICSt}\varepsilon_{it}. \tag{C.1}$$

The dependent variable ret_{it} denotes the stock returns of firm i in quarter t. $type_i^j$, for $j = 1, ...7$ is a dummy variable taking value of 1 when firm i belongs to group j, where the firm groupings are the same ones as in Table 3. 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 like total revenues and market capitalization, leverage, and the firm market *beta*.[1] δ_{NAICSt} denotes 4-digit industry-quarter fixed effects.

Table C.1 shows that the differences in returns reported in the summary statistics in Table 3 are robust to the inclusion of controls and fixed effects. Multinational status and the presence of and acquisitions appear to be associated with higher stock returns.

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



Note: Coefficients from regressing quarterly annualized returns on a set of dummies indicating quarters from 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 10K filings.

[1]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 3-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

	(1)	(2)
Always Domestic; Only Domestic Acquisitions	0.699***	1.202***
	(0.122)	(0.243)
Always Multinational; No Acquisitions	0.295	0.815**
	(0.248)	(0.383)
Always Multinational; Only Domestic Acquisitions	1.359***	1.670***
	(0.217)	(0.336)
Always Multinational; Has Foreign Acquisitions	3.477***	3.575***
	(0.143)	(0.246)
New Acquirors	2.597***	2.761***
	(0.176)	(0.281)
New Greenfield Multinationals	1.708***	2.243***
	(0.130)	(0.232)
Other Multinationals	1.677***	2.091***
	(0.144)	(0.243)
Market Capitalization		0.024***
		(0.002)
Leverage Ratio		-0.368**
		(0.160)
Sales/Employee		0.000
		(0.000)
Capital/Employee		-0.000
		(0.000)
Beta (Annual)		1.413***
		(0.110)
Constant	1.641***	-0.417*
	(0.107)	(0.215)
Observations	413,963	197,932
R-squared	0.149	0.151

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 in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Source: CRSP/Compustat, Thomson Reuters M&A, and SEC 10K filings.

Table C.2: Returns of Future Acquirors

	(1)	(2)
Current Acquirors	3.720***	3.144***
	(0.343)	(0.276)
Future Acquirors	2.165***	1.759***
	(0.251)	(0.161)
Market Capitalization	1.431***	1.500***
	(0.075)	(0.058)
Leverage Ratio	-1.019***	-0.957***
	(0.297)	(0.213)
Sales/Employee	0.001**	0.003***
	(0.001)	(0.000)
Capital/Employee	-0.000***	-0.000***
	(0.000)	(0.000)
Beta (Annual)	-0.001	-0.367**
	(0.205)	(0.161)
Constant	0.364	1.015***
	(0.246)	(0.163)
Observations	66,493	103,236
R-squared	0.154	0.182
Current Minus Future Acquiror P-Val	0	0

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. Column (2) features a propensity score-weighted control group. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Source: CRSP/Compustat, Thomson Reuters M&A, SEC 10K filings, Execucomp.

Figure C.1 shows that the decline in returns after an acquisition doesn't depend on the *order* of the acquisition in a firm's experience.

Table C.2 shows the results of the characteristics regressions controlling for firms' current and future acquisition status.

Table C.5 estimates the characteristics regressions on the returns of current and future acquirors, adding CEO fixed effects.

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

	(1)	(2)
Leverage Ratio	0.033***	0.119***
	(0.010)	(0.017)
Beta (Annual)	0.025***	0.072***
	(0.006)	(0.010)
Sales/Employee	-0.000***	-0.001***
	(0.000)	(0.000)
Capital/Employee	-0.000***	-0.000***
	(0.000)	(0.000)
Market Capitalization	0.033***	0.084***
	(0.004)	(0.005)
Average Management Score	0.034***	
	(0.006)	
Bad Management Score		-0.095***
		(0.020)
Good Management Score		0.068***
		(0.011)
Observations	2,210	4,700

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

Note: Probit regression. The dependent variable is a dummy taking value 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 in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Source: CRSP/Compustat, Thomson Reuters M&A, SEC 10K filings, Execucomp.

Table C.4: Becoming am Acquiror: Good Management Matters

	(1)	(2)
Leverage Ratio	0.118***	0.108***
	(0.029)	(0.019)
Beta (Annual)	0.035**	0.026**
	(0.015)	(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***	0.012***
	(0.002)	(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

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

Note: Probit regression. The dependent variable is a dummy taking value 1 if a firm is an acquiror 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 in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Source: CRSP/Compustat, Thomson Reuters M&A, SEC 10K filings, Execucomp.

Table C.5: Returns of Future Acquirors: Management Matters

	(1)	(2)
Current Acquirors	-7.897	0.326
	(9.982)	(6.938)
Future Acquirors	-8.302	0.012
	(9.992)	(6.942)
Market Capitalization	4.830***	4.976***
	(0.299)	(0.274)
Leverage Ratio	-3.737**	-4.470***
	(1.511)	(1.396)
Sales/Employee	0.008**	0.006*
	(0.003)	(0.003)
Capital/Employee	-0.001*	-0.001*
	(0.001)	(0.000)
Beta (Annual)	-0.136	-0.140
	(0.613)	(0.561)
Constant	6.805	-1.782
	(9.281)	(4.901)
Observations	23,819	31,382
R-squared	0.303	0.370
Current Minus Future Acquiror P-Val	.352	.47
Executive FE	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. Column (2) features a propensity score-weighted control group. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Source: CRSP/Compustat, Thomson Reuters M&A, SEC 10K filings, Execucomp.

D Proofs

[TBA]