On the Origins of the Multinational Premium

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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 to 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. Second, firm-level stock returns decline when a firm undertakes M&A activity and with merger deepening. Third, future multinational acquirers already have higher stock returns compared with domestic non-acquirers prior to entering 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 in which management attitudes shape the relationship between firm characteristics, selection into FDI, and risk premia.

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1 Introduction

How do foreign direct investment dynamics relate to a firm's risk premium? 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 from 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 existence 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 acquirers 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 regularities. First, there is a cross-sectional risk premium associated with both multinational activity and mergers and acquisitions. Firms with foreign affiliates have systematically higher returns compared with firms that operate only in their domestic market, consistent with the existing literature. Additionally, firms that make acquisitions have systematically higher returns compared with non-acquirers, 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 and acquisitions (*merger deepening*). To reconcile our cross-sectional and within-firm findings, we examine the returns of future multinational acquirers. Our third and most intriguing finding is that future multinationals have higher stock returns compared with non-multinational firms even before entering 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 acquirer 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 open foreign affiliates and make 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 for studying 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 data set derived from a combination of sources. We combine firm-level data from Compustat and from the Center for Research on Security Prices (CRSP) with deal-level data from the Thomson Reuters Mergers & Acquisitions database. CRSP contains data on our dependent variable of interest, the stock returns of the firm, our measure of risk premium. Compustat has accounting data that allow us to control for many firm characteristics. We recover information about the multinational status of the firm from the SEC 10-K filings using a textual analysis algorithm that identifies the existence and location of each firm's foreign subsidiaries. We then match these data to the Thomson Reuters Mergers and Acquisitions data so that we can observe accounting and financial characteristics of the acquirers in the sample of mergers and their changes after international acquisitions. We complement the firm-level data sets with data from Execucomp, which tracks the CEOs of S&P 1500 firms, and results from the World Management Survey (WMS), which contains indicators of management quality for a small subset of our sample.

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

This paper contributes to the literature at the intersection of international economics, asset pricing, and corporate finance. There is a growing literature studying the relationship between risk, stock returns, and firms' international activities. De Sousa et al. (2020), Esposito (2020), and Heiland (2020) study export decisions in risky environments. Barrot et al. (2019) and Bianconi et al. (2020) link measures of globalization and trade policy to asset prices. The analysis of the decisions of MNEs under conditions of risk is inherently more complex, as it involves decisions about the location of production. International macro analyses of the risk implications of multinational production are featured in Rowland and Tesar (2004) and Ghironi and Wolfe (2018). Ramondo and Rappoport (2010) study MNEs' location decisions in a risky en-

vironment. By exploiting cross-sectional variation across firms, Fillat and Garetto (2015) document stock return differentials among multinationals, exporters, and domestic firms. Using detailed data on the distribution of MNE sales across countries, Fillat et al. (2015) show that MNEs operating in countries that are costlier to enter and whose GDP growth covaries more with the GDP growth of the origin country have higher stock returns compared with MNEs operating in countries that are easier to access and have less correlated GDP growth. This paper contributes to this line of work by investigating the relationship of management, FDI, and M&A activity with stock returns.

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

Consistent with a large literature on 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 focus on the responses of "abnormal" stock returns at the time of disruptive events such as acquisitions. 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 acquisition 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 contain information about long-term changes in the characteristics of the firm, such as risk exposure. An extensive literature on corporate finance examines 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 acquirers continue acquiring more targets.[1] This body of work focuses on the announcement effects of an acquisition on firm value, and not on the long-term effects that

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[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 acquisitions and short-term realized returns, see Andrade et al. (2001).

mergers and acquisitions have on firms' risk premium, which is the focus of our paper. Another feature distinguishing our paper from the existing literature is that, due to data availability, the vast majority of papers studying the relationship between acquisitions and returns confine themselves to an analysis of domestic acquisitions.[2] Our work contributes to this literature by studying both domestic and international acquisitions, 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 acquisitions within a firm.

Our emphasis on management as an important characteristic 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 examine the relationship between management and firm performance using the World Managements Survey (WMS).[3]

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

2 Data

Our data set derives from combining three main sources: the Thomson Reuters Mergers & Acquisitions database, linked CRSP-Compustat data, and the 10-K files, which are the primary text source behind Compustat. Our sample period spans 25 years, from 1993 through 2017.[4] We complement these three data sets with information about firm management from Execucomp and from the World Management Survey.

The Thomson-Reuters data provide information about acquisitions originating from US firms. In particular, the data include firm identifiers (historical CUSIP) for both the acquirer and target at the time of the acquisition, the target's country of incorporation and industry classification, and the type of acquisition that occurred. Throughout our paper we refer to all type of deals as acquisitions. However, the data set contains different types of deals: We observe acquisition of assets, acquisitions of interest, mergers, and also buybacks and recapitalizations. We disregard buybacks and recapitalizations. Our analysis considers mergers and all types of acquisitions. In the data, both types of deals, mergers and acquisitions, have an acquirer and a

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[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 are far more populated toward the end of the sample. Only 1 percent of the observations are from before June 1982, and half of the observations are from 2000 onward.

target reported. In a merger, a new company is created and stockholders retain their equity—but obtain new stocks—and are exposed to the risks to which the merged company was exposed. In an acquisition, a new company is not created. The stockholders retain the same stocks and are exposed to the risks of the acquired company as well. Thus, from the point of view of the investor, both mergers and acquisitions have the same effect. Friendly mergers of equals are rare. In addition, the data contain the dates of the announcement and completion of the acquisition and the acquisition deal value. This information is available for 89,678 acquisitions originating from 18,900 acquiring firms. Out of those, 16,938 (19 percent) involve foreign targets collectively located in 146 different countries.[5]

Using the historical firm CUSIP, we merge the Thomson-Reuters data with CRSP-Compustat, which contains quarterly accounting data and monthly stock returns of publicly listed firms in the United States. Compustat data provide a complete picture of the acquiring firm's accounting data before and after each acquisition or change in international exposure it undertakes.

Lastly, we recover information about each firm's exposure to international markets from the firm's SEC 10-K filings. More precisely, we extract data from the text of each firm's Exhibit 21, a document that lists the firm's set of subsidiaries and the countries where they are located.[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 acquirers* those firms that enter the sample as domestic and gain exposure to foreign markets via a merger with or an acquisition of a foreign firm. We infer that the firms entering the sample as domestic and later reporting the existence of foreign affiliates, without an acquisition, must have established that affiliate afresh. We call these firms *new greenfield MNEs* to indicate their type of MNE entry. We use the term *other firms* to refer to firms that enter the sample as MNEs but stop reporting the existence of foreign affiliates later in their life. Table 1 reports firm counts for these different groups.

In our sample, foreign affiliates are located in 169 countries. The resulting geographic distribution of FDI activity is comparable to those of other data sets, including the Bureau of Economic Analysis data on the operations of multinational enterprises.[9] Moreover, there is a large overlap between the most common FDI

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[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.

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

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

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

[9]See Appendix Figures B.2 and B.3. Garetto et al. (2021) report the same sorting properties of FDI destinations for US

Table 1: Firm Count by International Status

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

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

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 engage in a given number of domestic and foreign deals.

While 32.2 percent of firms in our sample don't engage in any acquisition, it is not uncommon for a firm to go through many acquisitions during its time in the sample. Only about 15 percent of the firms undertake only one acquisition during the sample period, and there is a sizeable right tail of firms that experience very large numbers of acquisitions. While foreign acquisitions are on average less common than domestic acquisitions within a firm, many firms in the sample experience multiple acquisitions of both types. The zeros on the upper-right corner of the table indicate that merger waves within a firm typically involve more domestic than foreign mergers: The maximum number of foreign mergers experienced by a firm is 15, while there are firms in the sample that experience more than 40 domestic mergers. On average, an acquirer undertakes eight mergers during the sample period, and 1.5 of them involve foreign targets.

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

We supplement our firm-level data with management information by merging in CEO-firm pairs from

MNEs using the BEA data.

[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 it does not allow us to observe these firms *before* their entry into multinationality.

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 10-K filings.

the S&P 1500 firms obtained from Execucomp. This data set tracks several levels of executive-firm pairs. However, we focus on the CEO as an important driver of the decisions that are relevant to our paper: M&A engagement and firm expansion into foreign countries.

Finally, the WMS 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 United States and are publicly traded. The management score is an aggregation of practices related to 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

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[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.

and median returns across groups shows that i) conditional on acquisition status, MNEs have on average higher returns than domestic firms (consistent with Fillat and Garetto, 2015); ii) conditional on MNE status, acquirers have on average higher returns than non-acquirers; and iii) new MNEs (either through M&A or greenfield investment) have higher returns than always MNEs. Interestingly, the groups that present higher mean and median returns also tend to have lower standard deviations of returns: The returns of new MNEs tend to be higher *and* less volatile than the returns of other firms. Appendix Table C.1 shows that the return differentials shown in Table 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 10-K filings.

Table 4: Firm Characteristics by Firm Type.

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

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

Table 4 reports summary statistics of size measures of the firms in our sample together with firm and acquisition counts. The table confirms the well-known fact that MNEs are larger than domestic firms in terms of sales, employment, and market capitalization. Acquisitions are also associated with a size advantage, especially when targets are foreign.

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 acquirer premia.

3.1 Multinational and acquirer 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 premia of multinationals and acquiring firms. This analysis takes the form of portfolio regressions in which the construction of the portfolios is based on multinational and acquisition status.

3.1.1 Characteristics Regressions

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

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

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

where the dependent variable ret_{it} denotes the stock returns of firm i in quarter t. X_{it} is a set of firm-level controls including capital/labor ratio, sales per employee (our measure of productivity), measures of size (such as total revenues and market capitalization), leverage, and the firm market $beta$.[13] δ_{NAICSt} denotes four-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

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[12]We identify the time of an acquisition based on the date when it is announced, rather than completed, to reflect investor expectations, which may change between the acquisition and completion times. Appendix Table B.1 illustrates that the time elapsed between the announcement and the completion of a merger is within three months for more than 80 percent of the mergers in our sample. Since we use quarterly data in our analysis, this implies that using mergers data based on completion dates produces very similar results.

[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 three-month US Treasury Bill. The purpose of adding the market *betas* is to control for each firm's individual exposure to aggregate market risk.

Table 5: Multinational Premium and Acquirer Premium

VARIABLES	(1)	(2)	(3)	(4)
Multinational	1.348***	0.557***	0.848***	0.180
	(0.078)	(0.139)	(0.224)	(0.348)
Post-Acquisition		0.664***	1.075***	0.055
		(0.098)	(0.175)	(0.306)
Multinational $\times$ Acquirer		0.909***	0.210	-0.705*
		(0.160)	(0.256)	(0.376)
Market Capitalization			0.029***	0.037***
			(0.002)	(0.005)
Leverage Ratio			-0.489***	-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***	0.746***
			(0.110)	(0.146)
Constant	2.558***	2.160***	0.264*	2.595***
	(0.052)	(0.078)	(0.157)	(0.272)
Observations	417,314	417,314	199,758	199,348
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 are in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. Source: CRSP/Compustat, Thomson Reuters M&A, and SEC 10-K filings.

cross-sectional differential stock returns of multinational firms compared with domestic firms within an industry-quarter bin. Similarly, the coefficient β_A identifies the cross-sectional differential stock returns of acquirers compared with non-acquirers within an industry-quarter bin.

Table 5 shows the results. In the first two columns, we show that multinational firms exhibit significantly higher returns compared with domestic firms, consistent with what Fillat and Garetto (2015) show for the manufacturing sector. In addition, firms that engage in acquisitions exhibit systematically higher returns compared with non-acquirers. These results are robust to the inclusion of controls related to firm size, profitability, and leverage (column 3).

The cross-sectional premia associated with multinational and acquisition activities require an explanation. Why do 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_M (β_A)

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

3.1.2 Portfolio Regressions

As first introduced by Fama and French (1993), firm characteristics may be proxies for non-diversifiable 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 acquirer premia by estimating the portfolio loadings on non-diversifiable factor risks. Higher average returns in the cross section do not constitute a puzzle per se; they simply indicate that MNE acquirers are riskier than domestic non-acquirers. We adopt a classic asset pricing interpretation and view the riskiness of a stock as reflecting a higher covariance with financial market factors.

We build time-invariant portfolios based on the MNE- and acquirer-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* compared with the portfolios of domestic firms. Also, always-MNEs have 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 acquirers' portfolios are systematically lower compared with the *alphas* of non-acquirers' portfolios.

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

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

These results suggest that multinational and acquiring firms' stock returns covary 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, in which 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 acquirer premia are not fully explained by higher risk-factor loadings, which motivates the additional empirical investigation in the next section.

3.2 The Origins of the MNE and Acquirer 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 acquirer 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 method to examine the behavior of stock returns before and after acquisitions and changes in MNE status. We run the following specification:

$$ret_{ijt} = \sum_{\tau_j \in \{-10,\ldots-1,1,\ldots10\}} D_{ijt}^{\tau_j} + \gamma X_{it} + \delta_{NAICS} + \delta_i + \varepsilon_{ijt}, \tag{2}$$

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 returns at the time of acquisition or 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 making foreign acquisitions are more likely to undertake multiple acquisitions, confounding the results. Decomposing firm-level stock returns into the sum of earnings-to-price ratio and stock price growth reveals that both components decline after an acquisition, but the decline in the stock price growth 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 acquirer's assets is above the median, and for acquisitions of targets located in Organisation for Economic Co-operation and Development (OECD) countries. The evolution of returns is not statistically different for deals in which the acquirer and target operate in the same industry compared with deals where the acquirer and target industries differ.[18]

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

[17]Figure 1 treats all acquisitions equally. We performed the same exercise while restricting the sample to first acquisitions only to measure changes in stock returns as a firm's acquirer status changes. The results were 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 acquisitions that a firm undertakes. The results suggest that the evolution of returns around an acquisition does not depend on whether such an acquisition happens earlier or later in a firm's lifetime. These robustness checks are shown in Appendix Figure C.1.

[18]When studying the consequences of mergers and acquisitions for returns, it may be important to differentiate "horizontal" acquisitions, where the acquirer buys a competitor, and "vertical" acquisitions, where the acquirer 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 acquisitions for stock returns.

Figure 1: Changes in Stock Returns after an Acquisition
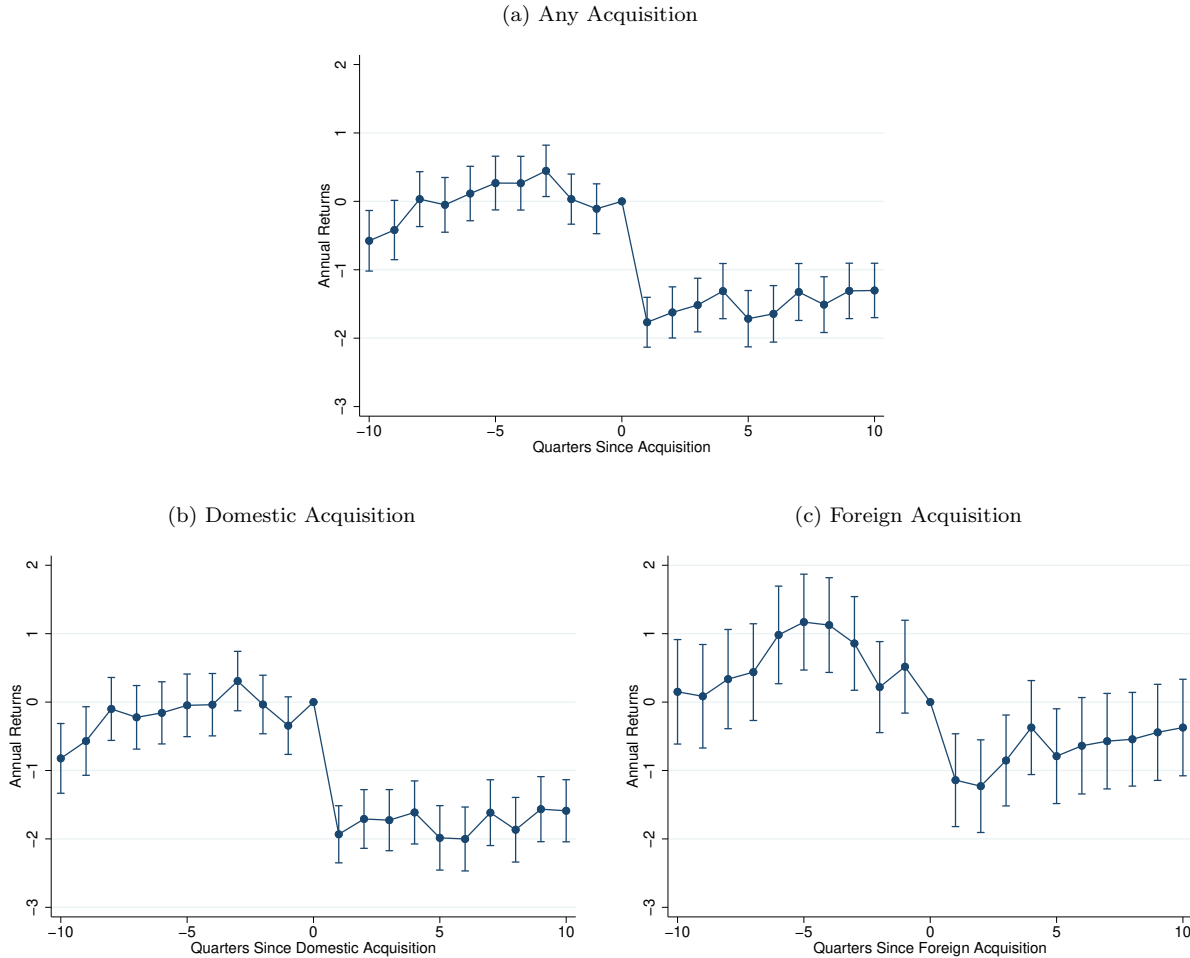
(a) Any Acquisition

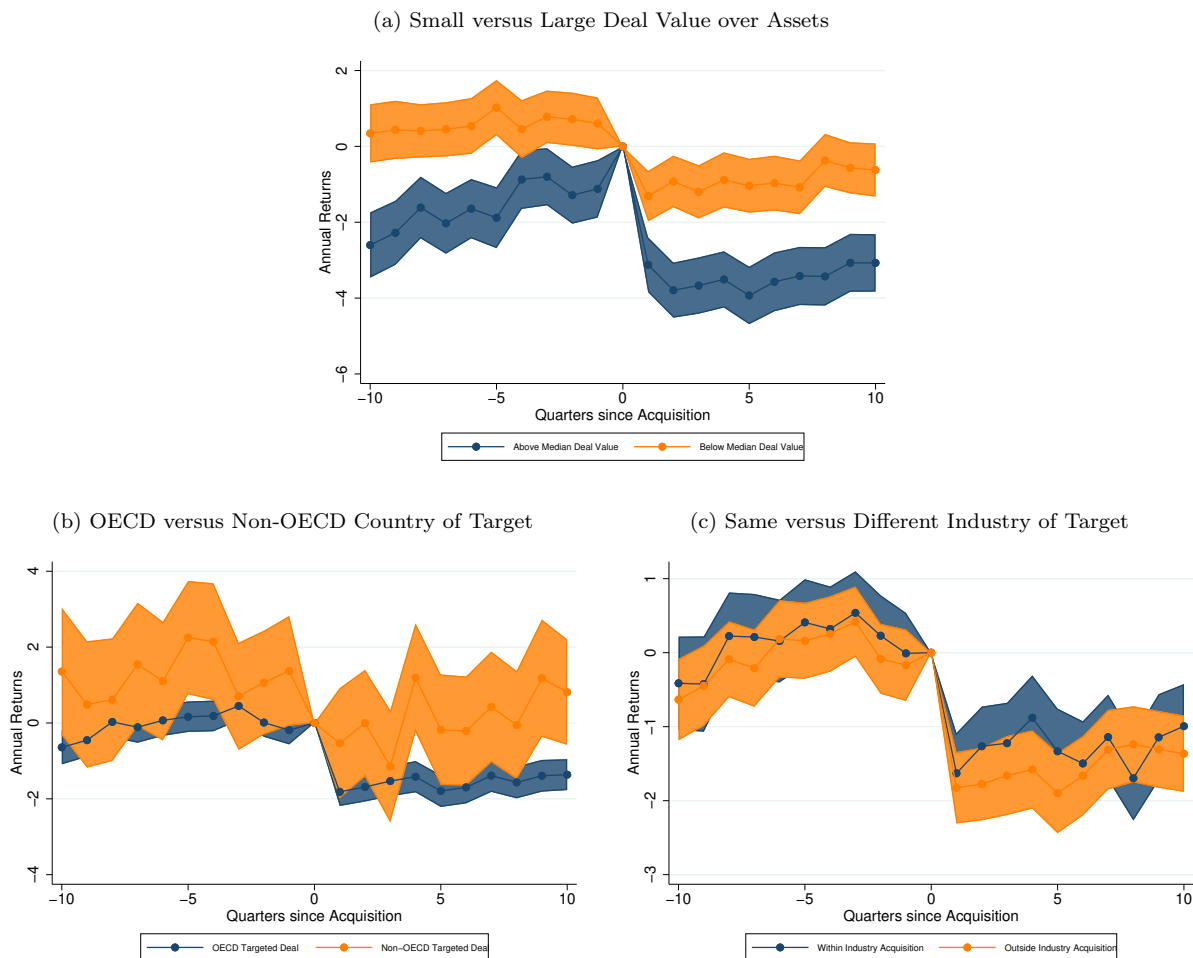(b) Domestic Acquisition

(c) Foreign Acquisition

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

Figure 3 shows the results for specifications where the event of interest is the start of multinational activity. The left panel shows the results for MNE entry associated with a foreign acquisition (*new MNE acquirers*), and the right panel shows the results for MNE entry associated with a greenfield investment (*new greenfield MNEs*). In both cases, changes in firms' 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 margins of acquisitions within the firm. We have shown in Table 2 that many firms in the sample experience multiple acquisitions 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 that measure the deepening of a firm's involvement in mergers

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 since the event. Controls include market capitalization, leverage ratio, sales per employee, capital per employee, and the firm beta. Industry-quarter fixed effects and firm fixed effects are also included. Standard errors are clustered at the firm level. 95% confidence intervals shown. Source: CRSP/Compustat, Thomson Reuters M&A, and SEC 10-K filings.

and acquisitions. We regress:

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

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 acquirer 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-

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

Figure 3: Changes in Stock Returns after MNE Entry
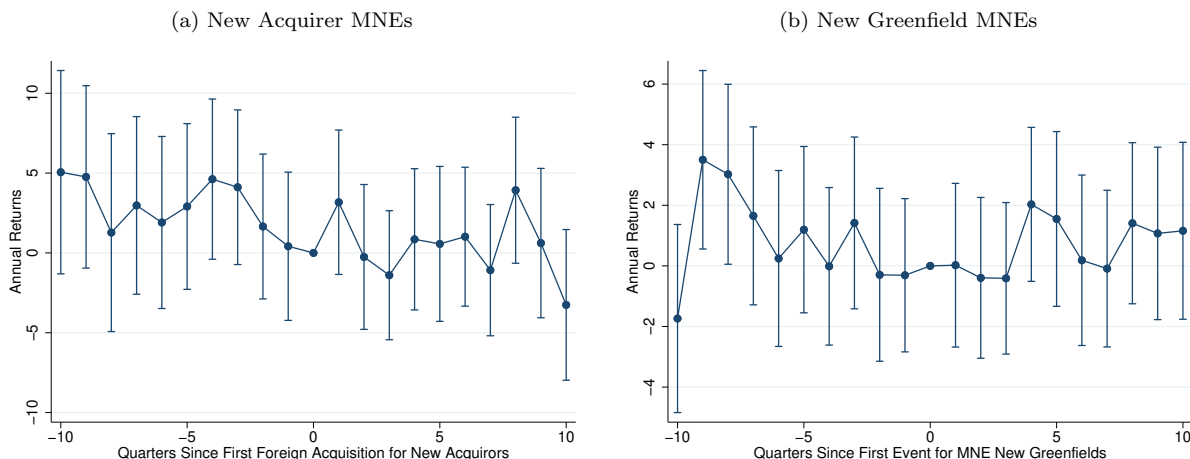
(a) New Acquirer MNEs

(b) New Greenfield MNEs

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

firm stock returns decline as acquisition activity increases. Columns 3 and 4 show the results using as a control the cumulative *value* of the acquisitions a firm undertakes, as a share of total acquirer 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 acquisition 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 acquirer premia are not explained by transitions into multinational and acquirer 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 acquirer status dynamics, in this section we examine the stock returns of *future MNEs*, *that is* firms that are domestic at a point in time but will become MNEs in future periods, and compare them with the stock returns 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 that assumes a value of 1 if firm i is an 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 toward 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

VARIABLES	(1)	(2)
Current Multinationals	-3.721	1.727
	(4.558)	(2.825)
Future Multinationals	-2.436	3.134
	(4.548)	(2.834)
Market Capitalization	5.444***	5.860***
	(0.325)	(0.311)
Leverage Ratio	-4.461***	-5.355***
	(1.472)	(1.327)
Sales/Employee	0.000	0.001
	(0.003)	(0.003)
Capital/Employee	-0.000	0.000
	(0.000)	(0.000)
Beta (Annual)	-0.282	-0.326
	(0.598)	(0.556)
Constant	1.994	-3.494
	(3.921)	(2.160)
Observations	24,679	29,560
R-squared	0.304	0.361
Current Minus Future MNE P-Val	.071	.047

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

The results in Table 8 indicate that prior to MNE entry, future MNEs already had higher returns compared with domestic firms. In our baseline specification (column 1), the premia for current and future MNEs are both sizeable, and they are statistically different from each other. Interestingly, the premium associated with future MNEs is even higher than the one associated with current MNEs. The specification in column 2 uses a propensity-score-matching procedure to restrict the sample by using a subset of domestic (untreated) firms that are comparable to the current and future MNEs.[19] The results are analogous to the

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[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 used in the second stage, which is regression (4), except that it includes 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).

baseline specification. We run a similar specification for future acquirers' risk premia. The results, which are shown in Appendix Table C.2, are analogous to the ones for future MNEs.[20]

To summarize, our empirical analysis so far has shown three regularities. First, there is a cross-sectional premium associated with multinational activity, and M&A: MNE acquirers have higher returns than domestic non-acquirers. Second, the cross-sectional differences in returns are not driven by returns increasing with MNE entry or acquisitions. Instead, firm-level returns decline when a firm undertakes M&A activity and with merger deepening. Third, multinational acquirers already have higher stock returns than domestic non-acquirers 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 MNE and acquirer status and stock returns.

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

There is a large empirical literature documenting the role of managers and managerial practices for firm performance. Inspired by those papers, we explore in this section 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 is pointed out by Bloom et al. (2013), who show that multinational corporations achieve consistently higher management scores in the WMS compared with domestic firms, regardless of their location or country of incorporation.

Table 9 shows the results of a linear probability model in which the left-hand side variable is the multinational status dummy M_{it}. The explanatory variables include the vector of firm-level controls X_{it}, 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 explaining 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 explaining a firm's multinational status, as shown in Appendix Table C.3.

Management and acquirer Status. We examine the role of managers in promoting acquisition activity. Table 10 shows the results of a linear probability model in which the left-hand side variable is the acquirer 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

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[20]The results for future acquirers 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

VARIABLES	(1) Multinational	(2) Multinational	(3) Multinational	(4) Multinational
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 a value of 1 if a firm is a multinational in quarter-year t, scaled to 100 for interpretation purposes. Controls include market capitalization, leverage ratio, sales per employee, capital per employee, and the firm *beta*. All specifications include industry-quarter fixed effects. Robust standard errors are in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Source: CRSP/Compustat, Thomson Reuters M&A, SEC 10-K filings, Execucomp.

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

of the manager significantly contributes to explaining 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 explaining a firm's acquirer status, as shown in Appendix Table C.4.

Management and Stock Returns. Finally, we examine how much of the variation in the multinational and acquirer risk premia is explained by 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 we exploit the variation within CEO, regardless of whether the control group is propensity-score matched (column 2) or not (column 1). At the same time, the R^2 increase doubles. Appendix Table C.5 shows analogous results for the regressions with current and future acquirer premia.

Table 11: Returns of Future MNEs: Management Matters

VARIABLES	(1)	(2)
Current Multinationals	-3.721	1.727
	(4.558)	(2.825)
Future Multinationals	-2.436	3.134
	(4.548)	(2.834)
Market Capitalization	5.444***	5.860***
	(0.325)	(0.311)
Leverage Ratio	-4.461***	-5.355***
	(1.472)	(1.327)
Sales/Employee	0.000	0.001
	(0.003)	(0.003)
Capital/Employee	-0.000	0.000
	(0.000)	(0.000)
Beta (Annual)	-0.282	-0.326
	(0.598)	(0.556)
Constant	1.994	-3.494
	(3.921)	(2.160)
Observations	24,679	29,560
R-squared	0.304	0.361
Current Minus Future MNE P-Val	.071	.047
Executive FE	Yes	Yes
Firm FE	No	No

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

$$E(r) - r_f = -r_f \cdot Cov\left(\frac{dM}{M}, \frac{dV}{V}\right),$$
(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 show 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 acquirers compared with domestic non-acquirers, is lower for future MNEs acquirers compared with domestic non-acquirers, increases as acquisition 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:

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

$$C(t) = \left[\int c_i(t)^{\frac{\eta-1}{\eta}} di\right]^{\frac{\eta}{\eta-1}},$$
(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 those of the projects conservative managers engage in. As a result, a manager's attitude determines the variability of the firm's profits. This assumption, together with the preferences and technology specified above, implies that the profits of a firm run by a manager 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 compared with firms run by "conservative" managers ($m = L$), all else being 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 an acquisition that increases firm capital from k to k' is $\kappa(k' - k)$. All firms operate in their domestic market, where they grow via acquisitions. By paying a sunk cost $F > 0$, a firm becomes an MNE and has access to the foreign market as well. The FDI production technology is identical to the one in the domestic country, but it is subject to a fixed operating cost $f > 0$. Once it's a multinational, the firm can grow in the foreign market by undertaking acquisitions with foreign targets, at cost $\kappa^* > \kappa$.

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:

$$\frac{dM}{M} = -rdt - \gamma \sigma dz, \tag{11}$$

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 a 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 acquisitions 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 makes 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 that doesn't currently operate in the foreign market.

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

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

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

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

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

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

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 acquisitions:

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

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 an 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 acquisitions:

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

As is standard practice with this class of models, value functions are given by the sum of the present discounted value of profits plus the option value of additional activities that the firm can undertake: acquisitions in equations (16) and (20) and greenfield FDI in equation (18). Examining the dependence of the option values (17), (19), and (21) on φ reveals that more productive firms have higher option values, indicating the higher value they can obtain from acquisitions and multinational activity compared with less

productive firms. Moreover, the option value of FDI is increasing in the option value of foreign acquisitions, indicating that the higher the possibilities of growth through foreign acquisitions are, the more profitable the foreign market is. Notice that, since the model is written in continuous time, firms that become MNEs may immediately engage in foreign acquisitions or wait some time before doing so. In this way, the model generates both new MNE acquirers and new greenfield MNEs.

Policy Functions. Becoming an 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 an 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 acquisitions during their lifetime. In particular, they undertake an acquisition any time there is a demand shock that implies that their current capital level is too low. More precisely, a firm undertakes a domestic acquisition when $Y_m \geq \bar{Y}_m(k; \varphi)$, where $\bar{Y}_m(k; \varphi)$ is determined by value matching and smooth pasting conditions between the marginal revenue of an acquisition ($\partial V_D(\varphi, k, Y_m)/\partial k$) 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 acquisitions 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 acquisition decisions of the firm. When positive shocks to C bring capital below the level implied by the barrier control $\bar{Y}_m(k; \varphi)$, the firm undertakes an acquisition to increase its capital level. In contrast, negative shocks to C don't affect investment.

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

Figure 4: Barrier Control for Firm-level Investment.
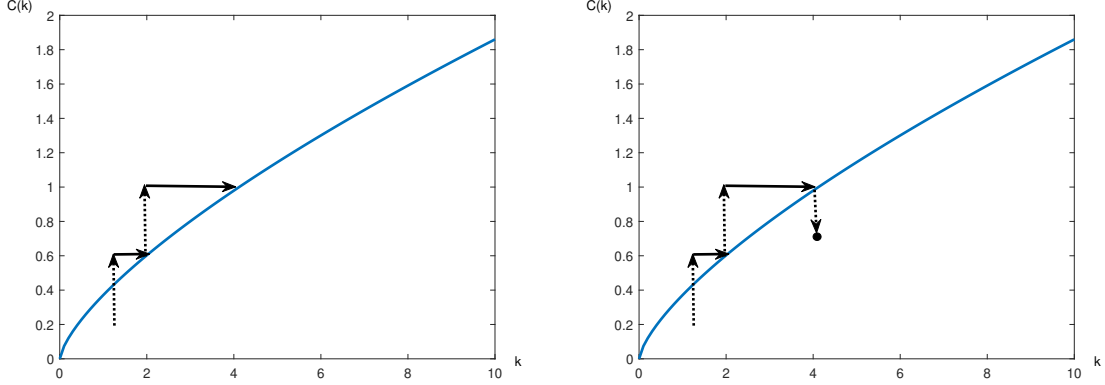
Note: The horizontal arrows represent acquisitions. The length of each arrow is equal to the increase in capital, which is the outcome of that acquisition. The left panel illustrates acquisitions in the active region, where k is above the investment barrier control. The right panel illustrates the inaction region, where no acquisitions take place.

4.3 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 several implications that are qualitatively consistent with the data. First, 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 that has been documented by a large literature (see, most notably, Helpman et al., 2004).

Second, since the barrier controls for acquisitions $\bar{Y}_m(k; \varphi)$ and $\bar{Y}_m^*(k^*; \varphi)$ are also decreasing in firm productivity φ, more productive firms undertake more acquisitions, 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

Figure 5: More Productive Firms Undertake More Acquisitions.
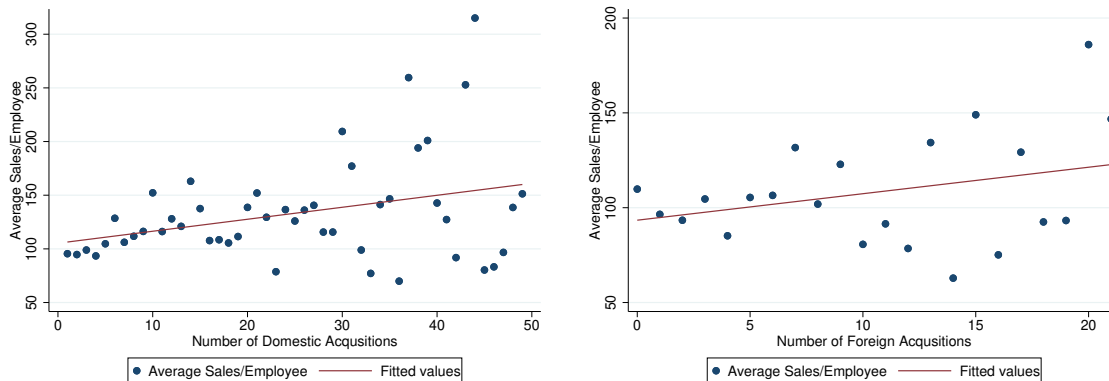
Note: In the left (right) panel, the variable on the vertical axis is the mean sales per employee of all firms in the sample that experience N domestic (foreign) acquisitions during the sample period.

domestic (foreign) acquisitions. Both panels of the figure clearly show an increasing relationship, indicating that more productive firms engage—on average—in a larger number of acquisitions, both domestic and foreign.

Third, the monotonicity of the barrier control for acquisitions $\bar{Y}_m(k; \varphi)$ as a function of the cost of investment κ, together with the assumption that foreign acquisitions are more costly than domestic acquisitions, implies that the number of domestic acquisitions per firm is higher than the number of foreign acquisitions, consistent with the distribution of acquisitions per firm shown in Table 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 acquirer 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 being 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 covary 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 compared with 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. *Acquirers have higher expected returns than non-acquirers.*

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 for why acquirers have higher expected returns than non-acquirers is similar to the one for MNEs. Since the thresholds that induce a firm to undertake acquisitions, 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 compared with firms that are run by conservative managers ($m = L$). Hence, managers matter for selection into acquisitions, 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 acquirers, acquirers have higher expected returns than non-acquirers. This is true for both domestic and global acquirers.

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 $m = H, L$, and 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 also become smaller, which results in expected returns declining as firms undertake acquisitions, consistent 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 shows that management matters for firms' selection into FDI and M&A activity and for risk exposure. Therefore, the role of management is important in rationalizing observations that can seem puzzling and at odds with the cross-sectional premia: First, after acquisitions and as firms deepen their acquisition activity, expected returns decline. Second, future MNE acquirers experience higher premia compared, at a given point in time, with similar firms that remain domestic for the entire sample period.

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 firms'

decisions and highlights how managerial decisions play a fundamental role in the origins and dynamics of MNE and acquirers' risk premia.

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Appendix

A Data Assembly and 10-K Parsing Procedure

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

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

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

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

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

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

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

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

Exhibit 21. Subsidiaries of the Registrant

Name of Subsidiary [State or Country of Incorporation]

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

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

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

B   Additional Data Description

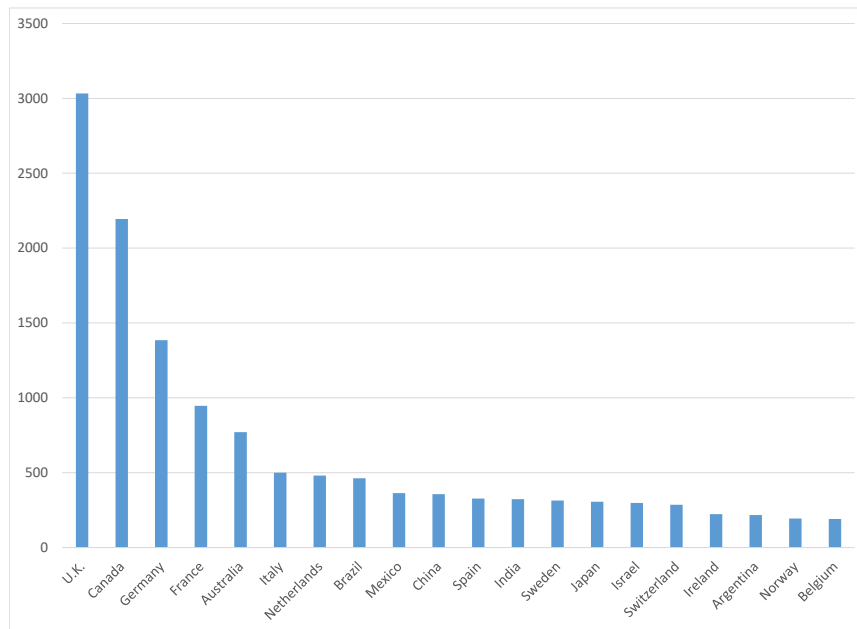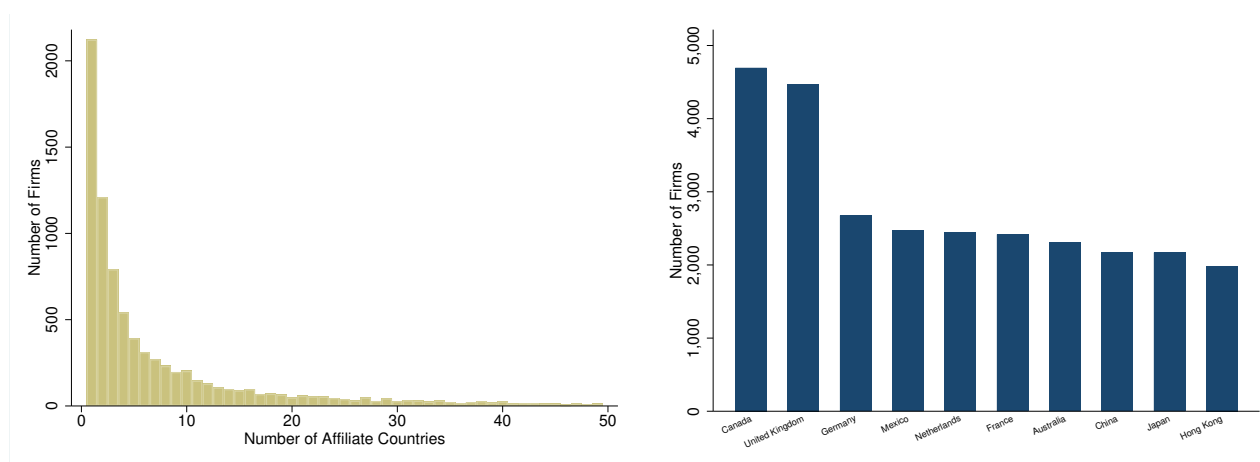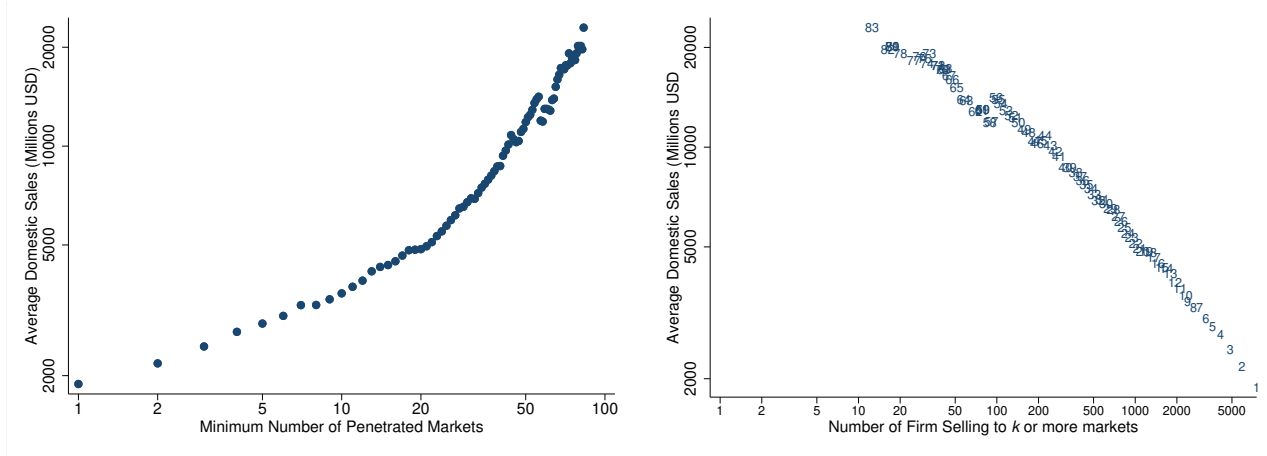Figure B.1: Distribution of Mergers by Target Country.

Figure B.2: MNE Affiliates' Host Countries

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

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

Note: The left panel shows an increasing relationship between parent sales and the number of countries in which the firm has affiliates: Firms that are larger in the United States enter more markets. The right panel also shows that larger firms sell to less popular markets.
Source: SEC 10-K filings.

Table B.1: Time Elapsed between When a Merger Is Announced and Its Completion. Domestic and International Mergers.

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

C Empirical Analysis: Robustness

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

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

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 a 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 such as total revenues and market capitalization, leverage, and the firm market *beta*.[1] δ_{NAICSt} denotes four-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 acquisitions appear to be associated with higher stock returns.

Figure C.1: Changes in Stock Returns after an Acquisition
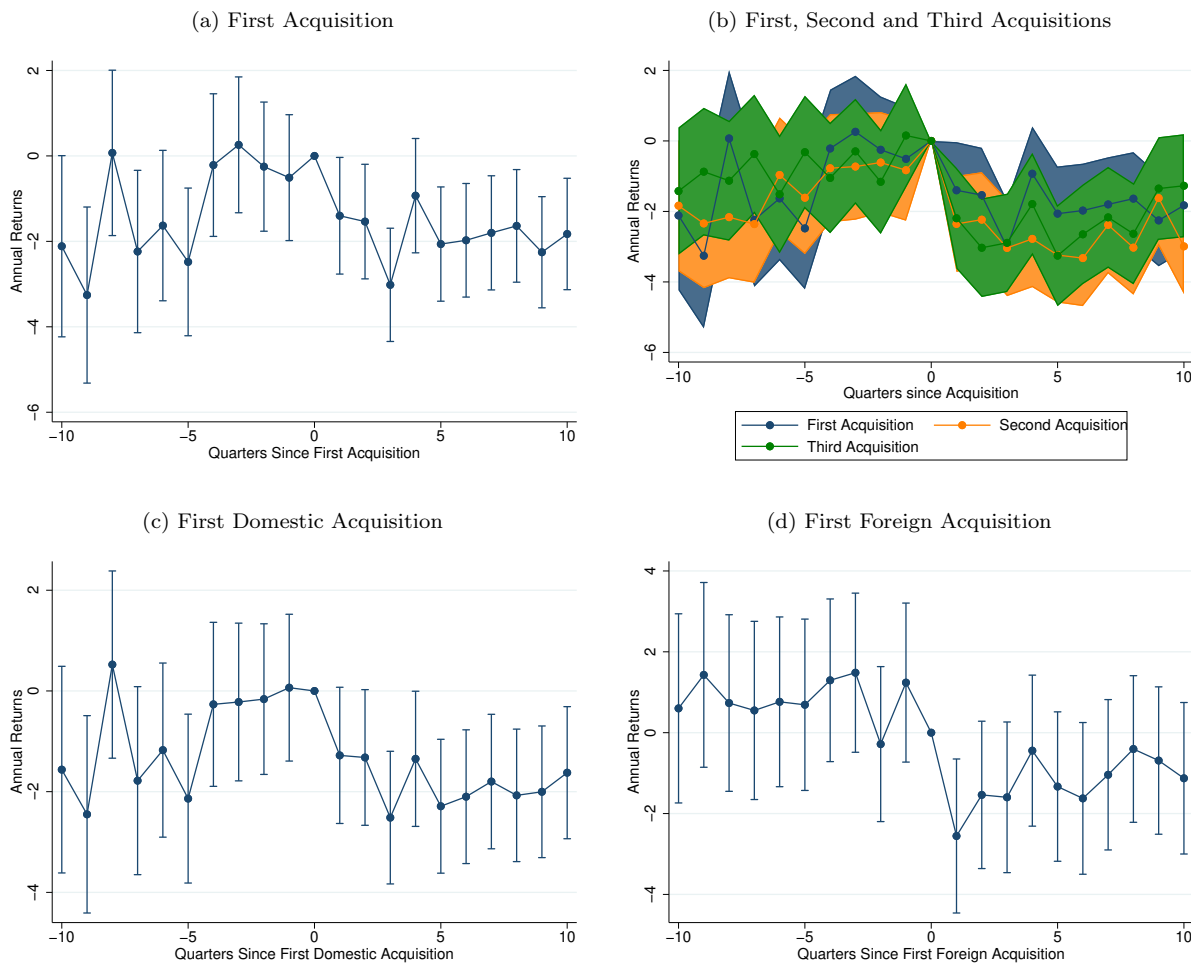
(a) First Acquisition

(b) First, Second and Third Acquisitions

(c) First Domestic Acquisition

(d) First 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 10-K 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 three-month US Treasury Bill. The purpose of adding the market *betas* is to control for each firm's individual exposure to aggregate market risk.

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

VARIABLES	(1)	(2)
Always Domestic; Only Domestic Acquisitions	0.700***	1.203***
	(0.122)	(0.243)
Always Multinational; No Acquisitions	0.295	0.816**
	(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 Acquirers	2.599***	2.765***
	(0.176)	(0.281)
New Greenfield Multinationals	1.708***	2.244***
	(0.130)	(0.232)
Other Multinationals	1.677***	2.092***
	(0.144)	(0.243)
Market Capitalization		0.024***
		(0.002)
Leverage Ratio		-0.369**
		(0.160)
Sales/Employee		0.000
		(0.000)
Capital/Employee		-0.000
		(0.000)
Beta (Annual)		1.412***
		(0.110)
Constant	1.641***	-0.418*
	(0.107)	(0.215)
Observations	413,962	197,927
R-squared	0.149	0.151
Firm FE	No	No

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

Table C.2: Returns of Future Acquirers

VARIABLES	(1)	(2)
Current Acquirers	3.720***	3.144***
	(0.343)	(0.276)
Future Acquirers	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 are in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. Source: CRSP/Compustat, Thomson Reuters M&A, SEC 10-K 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 when controlling for firms' current and future acquisition status.

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

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

VARIABLES	(1) Multinational	(2) Multinational
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)
Bad Management Score		-0.095***
		(0.020)
Good Management Score		0.068***
		(0.011)
Average Management Score (Filled)	0.034***	
	(0.006)	
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 a value of 1 if a firm is a multinational in quarter-year t, scaled to 100 for interpretation purposes. Controls include market capitalization, leverage ratio, sales per employee, capital per employee, and the firm *beta*. All specifications include industry-quarter fixed effects. Robust standard errors are in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Source: CRSP/Compustat, Thomson Reuters M&A, SEC 10-K filings, Execucomp.

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

	(1)	(2)
Leverage Ratio	0.118***	0.108***
	(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

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

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

VARIABLES	(1)	(2)
Current Acquirers	-7.897	0.326
	(9.982)	(6.938)
Future Acquirers	-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 are in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. Source: CRSP/Compustat, Thomson Reuters M&A, SEC 10-K filings, Execucomp.

D   Proofs

[TBA]