Article

Acquisitions of non-controlling equity stakes: Agency conflicts and profitability

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Abstract

While past research on minority acquisitions has ignored how agency conflicts could prevent acquirers from realizing value creation opportunities, this study investigates whether principal–agent and principal–principal conflicts with the target's managers and controlling shareholder hinder acquirers' ability to capture value from acquisitions of non-controlling equity stakes. Using archival data from a global sample of 443 minority acquisitions announced between 2011 and 2019, we found that cumulative abnormal returns are positively associated to minority shareholder protection and negatively associated to the presence of a strong controlling shareholder in the target firm. We also found that acquisitions of small non-controlling equity stakes amplify the negative effect of the strong controlling shareholder, which instead weakens if acquirers purchase large non-controlling equity stakes. This study contributes to the development of our understanding of the conditions that expose acquirers to value losses from minority acquisitions by examining the intricate bundle of agency conflicts with the target's managers and controlling shareholder. In so doing, this study also provides useful insights to business practice.

Keywords

agency theory, blockholder ownership, cumulative abnormal returns, event studies, mergers and acquisitions, minority rights

Introduction

Extant literature contends that acquisitions of non-controlling equity stakes (hereafter, NCESs)—that is, minority acquisitions that *do not* transfer corporate control—allow acquiring firms to

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pursue value creation opportunities (Allen and Phillips, 2000; Fee et al., 2006; Nain and Wang, 2016; Ouimet, 2013). NCESs, in fact, provide acquirers with a certain degree of influence over targets' decisions (Barclay and Holderness, 1991; Dyck and Zingales, 2004; Holderness, 2003; Stepanov, 2019). As a result, firms that are in a trade relationship or firms that intend to develop joint products or technologies can use acquisitions of NCESs to improve information flows and encourage relationship-specific investments (Allen and Phillips, 2000; Fee et al., 2006; Ouimet, 2013). Acquisitions of NCESs can also reduce the incentive to compete aggressively (Gilo, 2000; Nain and Wang, 2016). Moreover, acquirers of NCESs may also benefit from technological spillovers, access to the targets' distribution channels, and goods or services exchanged at preferential prices (Bogert, 1996; Dushnitsky and Lenox, 2006; Hellmann, 2002). Given this potential for value creation, it is thus not surprising that corporations have increasingly been engaged with minority acquisitions over the last couple of decades (Bogert, 1996; Drees et al., 2013).

Interestingly, however, research shows that acquiring firms often fail to capture value when they acquire NCESs. Empirical studies, in fact, have found acquirers' value gains from minority acquisitions to be either negative and not significant (Allen and Phillips, 2000; Nain and Wang, 2016) or positive but much smaller than targets' and still not significant (Drees et al., 2013; Ouimet, 2013). This study aims to develop our understanding of how acquirers may be impeded from capturing value from minority acquisitions by examining the intricate bundle of agency conflicts at play in target firms. As minority shareholders of target firms, in fact, acquirers of NCESs are exposed to agency conflicts both with the target's controlling shareholder and with its managers.

A substantial body of research has shown that powerful controlling shareholders and managers often seek to and succeed at extracting private benefits at the expense of minority shareholders (e.g. Atanasov et al., 2014; Johnson et al., 2000). In 2015, for instance, the Delaware Court of Chancery found that the minority shareholders of Dole Food Company had been expropriated of US$148 million by the company's controlling shareholder and its president. In his ruling, Vice Chancellor Travis Lester found that they had pursued a long-term strategy aimed at plummeting Dole's price in order to profit at the expense of Dole's minority shareholders in the context of a going-private transaction (Meyers et al., 2015). As a result of a minority acquisition, acquirers of NCESs may face similar shareholder-oppressive practices. In 2008, for instance, eBay filed a lawsuit against the controlling shareholders and directors of craigslist Inc.—in which eBay had bought a minority equity stake in 2004—for unilaterally approving a "poisonous pill" and an agreement that essentially prevented eBay from nominating any director in craigslist's board (Toson, 2017). While the Delaware Court of Chancery ruled in favor of eBay on that matter, craigslist sued back. Eventually, after a few more years of legal disputes, all litigations ended when eBay gave up and sold its minority stake back to craigslist. A joint read of such anecdotal evidence suggests that obtaining the status of minority shareholder as a result of a minority acquisition may expose acquirers to serious agency conflicts and expropriation of their investment. Because of that, we wonder, is it possible that factors that exacerbate agency conflicts and facilitate minority shareholders' expropriation also prevent acquirers from capturing value from minority acquisitions?

This article attempts to answer this question by examining whether acquirers' gains from minority acquisitions are affected by weak minority shareholder protection (MSP) and by concentrated ownership, that is, the main factors that increase power imbalance and amplify agency conflicts among corporate constituents (Dharwadkar et al., 2000; Li and Qian, 2013; Young et al., 2008). Weak MSP, in fact, reduces minority shareholders' power (La Porta et al., 1998; Spamann, 2010), so that agency conflicts are amplified and managers and the controlling shareholder have more discretion to pursue opportunistic agendas (Boyd and Solarino, 2016; Takacs Haynes et al., 2017). Concentrated ownership, on the other hand, exacerbates principal–principal conflicts by increasing the controlling shareholder's power to extract private benefits at the expense of minority shareholders (Johnson

et al., 2000; La Porta et al., 1999). We test such theory through an event study on a global sample of 443 minority acquisitions announced between 2011 and 2019. Consistently with our arguments, we found that acquirers' cumulative abnormal returns (CAR) are positively affected by the strength of MSP and negatively affected if the target's controlling shareholder owns a significant portion of its equity. Our results also show that the presence of a strong controlling shareholder affects acquirers' CAR even more negatively if acquirers buy small NCESs. We attribute this moderation effect to the lower power to oppose potential expropriation practices (Bergh, 1995; Bergh and Sharp, 2015; Denis et al., 1999; Hill and Snell, 1988; Jara-Bertin et al., 2008).

This study contributes to minority acquisition's research (Allen and Phillips, 2000; Bogert, 1996; Contractor et al., 2014; Fee et al., 2006; Liao, 2014; Ouimet, 2013) by showing that the severity of agency conflicts with the target's controlling shareholder and managers may prevent acquirers from capturing value through minority acquisitions.

Background, theory, and hypotheses

Minority acquisitions, value capture, and agency conflicts

Over the last couple of decades, corporations have increasingly been engaged with minority acquisitions (Bogert, 1996; Drees et al., 2013): in 2015, the number of non-control minority investments was 6.5 times greater than that of 1997, and it has been growing at an average yearly rate of 13.9% during that time frame (Nichols, 2016). Minority equity ownership, in fact, encourages relationship-specific investments, reduces financial market frictions, improves efficiency, and alleviates holdup costs (Allen and Phillips, 2000; Fee et al., 2006; Ouimet, 2013). Minority acquisitions can thus be beneficial both to firms that are in a trade relationship and to firms that agree to share technologies or develop joint products (Allen and Phillips, 2000; Fee et al., 2006; Nain and Wang, 2016; Ouimet, 2013). Minority equity ownership may also improve the quality of information flows (Drees et al., 2013; Ouimet, 2013), reduce the incentives to compete aggressively in product markets (Gilo, 2000; Nain and Wang, 2016), and facilitate cooperative collusion between two rival firms (Nain and Wang, 2016). In addition, acquirers may also purchase NCESs to benefit from access to the targets' resources and capabilities (like distribution channels, technologies, market knowledge) (Bogert, 1996), from technological spillovers (Dushnitsky and Lenox, 2006; Hellmann, 2002) or from goods and services exchanged at preferential prices (Bogert, 1996). Also, since the overestimation of targets' value is considered one of the major causes of value losses from acquisitions, consistent with a Real-Options Theory perspective (Brouthers and Dikova, 2010; Tong and Li, 2011; Trigeorgis and Reuer, 2017), firms may purchase NCESs to assess a potential target's value before undertaking a takeover (Ouimet, 2013).

In spite of such potential for value creation, however, studies have shown that value effects for acquiring firms are either small and statistically non-significant (Drees et al., 2013; Ouimet, 2013) or negative and still non-significant (Allen and Phillips, 2000; Nain and Wang, 2016). Such empirical evidence suggest that acquirers struggle to appropriate value from minority acquisitions, which is instead mostly captured by targets (e.g. Allen and Phillips, 2000; Drees et al., 2013; Fee et al., 2006; Fernández and Baixauli, 2003; Nain and Wang, 2016; Park et al., 2008).

In an attempt to advance our understanding of the conditions that may impede acquirers from capturing value from minority acquisitions, this study builds on the abundant research on minority shareholders' expropriation (e.g. Atanasov et al., 2014; Johnson et al., 2000; Perkins et al., 2014) to advance the hypothesis that agency conflicts with the targets' controlling shareholders and managers may be linked with value losses from minority acquisitions. While our agency theoretical framework builds on the conventional assumption that firms acquire NCESs to pursue value creation opportunities, we argue that acquirers may struggle to achieve minority acquisitions'

objectives due to agency conflicts with targets' controlling shareholder and managers—who may steer the target's decision in favor of their personal agenda and expropriate acquirers of their investment in NCESs (Fama and Jensen, 1983; Jensen and Meckling, 1976; Johnson et al., 2000; Takacs Haynes et al., 2017).

Relative to shareholders, in fact, managers have different objectives and attitudes toward risk, which may result in a conflict of interest called principal–agent problem (Fama and Jensen, 1983; Woo et al., 1992). More specifically, whereas shareholders are assumed to be risk-neutral and potentially willing to undertake any positive net value investment that is strategically sensible (Balkin et al., 2000), managers have been shown to be risk-averse to strategic options that may result in the loss of their job and of all the private benefits that come with it, such as high pay, power, status, and prestige (Chatterjee et al., 2003; David et al., 2010; Deutsch et al., 2011; Hill et al., 1988). Due to their position and firm-specific knowledge, managers potentially have both the power and the discretion to pursue their agendas at the expense of corporate owners (Boyd and Solarino, 2016; Takacs Haynes et al., 2017). In addition, as minority shareholders of target firms, acquirers of NCESs not only must oppose the power of their managers but also that of the controlling shareholders. Shareholders, in fact, are also "vulnerable to the same forces of greed and self-interest that are widely understood to face corporate officers and directors" (Anabtawi and Stout, 2008), and controlling shareholders with enough power to be involved in the firms' strategic decisions may seek to extract private benefits at the expense of minority shareholders (Johnson et al., 2000; La Porta et al., 1999).

We argue that such conflicts may cause value losses to acquirers of NCESs because, by definition, minority equity ownership provides only limited representation on the targets' boards of directors (Porrini, 2004) and a limited ability to oversee, correct, and influence both the decisions that managers make and the implementation of those decisions (Datta et al., 2009; Fama and Jensen, 1983). As a result, acquirers of NCESs have limited power to influence the target's decisions and oppose the opportunistic conduct of its managers and controlling shareholder. Building on this argument, we contend that weak MSP and concentrated ownership—the main factors that exacerbate agency conflicts among corporate constituents (Dharwadkar et al., 2000; Li and Qian, 2013; Young et al., 2008)—constitute a serious threat to acquirers' ability to capture value from minority acquisitions.

MSP

Following the historical separation of corporate ownership and control, economic and legal theories (Berle and Means, 1991; Guillén and Capron, 2016; Hansmann and Kraakman, 2009) began to promote the adoption of institutions aimed at protecting the rights of minority shareholders through restrictions to the latitude of options that managers and large shareholders have in making strategic choices (Hambrick and Finkelstein, 1987; La Porta et al.,1998, 1999). While such institutions have been recognized to be instrumental for the development and efficient functioning of capital markets (Guillén and Capron, 2016), comparative corporate governance research has shown that the strength of MSP regulations varies systematically across countries (Johnson et al., 2000; La Porta et al., 1999). In weaker MSP environments, expropriation is more intense because minority shareholders' rights—such as the ability to vote, to call extraordinary meetings, to be proportionally represented on the board, and to challenge corporate decisions in court—are limited (La Porta et al., 1998; Spamann, 2010). Conversely, in institutional environments that more strongly protect minority shareholders' interests, self-serving behavior is less likely to occur because of tighter restrictions on insiders' strategic discretion (Shen and Cho, 2005) and because it

is more heavily penalized—so that powerful managers and large shareholders have weaker incentives to behave opportunistically (Roy, 2012).

The extent to which minority shareholders can protect their rights is prominently linked to their ability to challenge directors' decisions in court. In turn, such an ability is deeply affected by two features of a legal system: whether directors are considered fiduciaries of the shareholders only or also of other stakeholder groups; and whether the legal system puts more emphasis on the predictability of the law or on the enforcement of fairness (Johnson et al., 2000). Directors (and controlling shareholders insofar as they serve as directors) are required to put the corporate's interests above their own and to act on an informed basis, in good faith and in the best interest of the corporation. Contrary to the conventional wisdom, directors thus have duties of care and loyalty to the corporation and not to its shareholders, which implies that they have no legal obligation to maximize their wealth (Stout, 2012). In addition, in most legal systems, courts are reluctant to interfere with companies' business decisions and thus presume that directors act in good faith for the benefit of the corporation, so that it is the shareholders that have to demonstrate the lack of a business purpose and the intent of expropriation (Johnson et al., 2000).

This task can be quite challenging, even in countries with developed legal and financial institutions, such as the United States, because directors can advocate for a number of corporate goals other than the maximization of shareholder value. In 2011, for instance, Airgas' shareholders sued Airgas and its board of directors for rejecting Air Products' offer to purchase Airgas for US70$ a share (Air Prods. & Chems., Inc. v. Airgas, Inc., 2011). Although Airgas had been trading in the US$40s and US$50s, which made the tender offer quite profitable for Airgas' shareholders, Airgas' board claimed that it was inadequate and a threat to the corporation. Since most often directors and top management teams of publicly held corporations are replaced after a takeover (Chatterjee et al., 2003; David et al., 2010; Deutsch et al., 2011; Hill et al., 1988), Airgas' directors' aversion to Air Products' tender offer is not surprising. Eventually, the Delaware Court denied the shareholders' request in that no fiduciary duty was breached because the board's conclusion rested on the advice of independent financial advisors—and it was thus considered to be in good faith—and because the board was not under any obligation to maximize the shareholders' short-term wealth. In other words, even in the United States, directors of public corporations are given a wide range of autonomy in determining what is best for the corporation's long-term interests, even at the expense of the shareholders (Stout, 2012). Such autonomy is even greater in legal systems (e.g. most of Southern and Continental Europe) that impose directors to consider not just the interests of the shareholders but also those of other stakeholders such as banks, creditors, and employees (Johnson et al., 2000). Since the number of corporate goals that can legitimately serve the interests of stakeholder groups other than shareholders vastly increases in such systems, directors can justify the business purpose of their decisions even more easily. As remarked by Easterbrook and Fischel (1991), fiduciaries that are told to serve two masters (i.e. the shareholders and the community) are "freed of both and answerable to neither" (p. 38), so that they may be tempted to use their autonomy to serve themselves (Stout, 2012).

The second element that determines the extent to which a legal system allows minority shareholders to protect their rights relates to the emphasis that it puts on the predictability of the law. Legal systems that rely on the principle of legal certainty (e.g. Southern and Continental Europe) adopt statutory rules that clearly define the boundaries of what constitute lawful behavior and what does not. In such systems, judges' autonomy to evaluate the merit of a case are strictly limited to what is explicitly written in the codes, so that it is harder for the courts to penalize self-serving transactions that are creatively structured to conform to the letter of the law while contradicting its spirit (Johnson et al., 2000). Conversely, legal systems that emphasize the notion of fairness (such as those of common-law countries) allow for a greater degree of judicial discretion

and provide judges with more latitude to assess the merit and specificities of individual cases as well as to reveal cosmetic attempts to work around the law (Johnson et al., 2000). In the case of Dole Foods, for example, the controlling shareholder's purchase of Dole's remaining shares complied with the form requested by the Delaware Court of Chancery, that is, the purchase was conditional on the approval from a special committee of disinterested and independent directors and on the affirmative vote of the majority of the unaffiliated shares. Yet, the Court was still able to rule in favor of the minority shareholders because the controlling shareholder and the President of Dole Foods only mimicked the form of the law but they did not adhere to its substance in that they undermined the special committee's process through (among the other things) false financial information and deflated management projections (Meyers et al., 2015).

In sum, such differences in MSP regulations imply large cross-country variation in the extent to which minority shareholders can exert control over corporate actions, discipline managers, and challenge controlling shareholders' decisions (Barclay and Holderness, 1991; Dyck and Zingales, 2004; Holderness, 2003; Stepanov, 2019). Since acquirers become minority shareholders of target firms after the purchase of a NCES, we argue that their ability to capture value from minority acquisitions is also affected by the strength of MSP due its effect on the containment of agency conflicts and expropriation practices. Because of that, we predict that acquirers of NCESs are more likely to incur value losses in weak MSP environments due to the higher risk of expropriation, which should be reflected on minority acquisitions' expected profitability:

H1. The strength of MSP is positively associated with the expected profitability of a minority acquisition.

Concentrated ownership

As previously remarked, acquirers of NCESs also face principal–principal agency conflicts with the target's controlling shareholder, who may seek to extract private benefits at their expense (Fama and Jensen, 1983; Jensen and Meckling, 1976; Johnson et al., 2000; Takacs Haynes et al., 2017). Shareholders, in fact, are not a single, monolithic group with homogeneous interests but rather they possess differing objectives, risk preferences, and investment horizons that may result in harsh conflicts (Bergh and Sharp, 2015; Boyd and Solarino, 2016; Pinelli and Maiolini, 2017). The dispute between eBay and craigslist, for instance, stemmed to a large extent from ideologically different visions about how craigslist's business had to be run: while eBay had a strong orientation to maximize profitability and purchased the minority stake in craigslist expecting to capitalize on its untapped monetization potential, this same untapped potential was due to the disinterest to maximize financial metrics of craigslist's controlling shareholders and to their determination to preserve craigslist's public-service mission (Toson, 2017).

Perhaps more often, however, conflicts originate from controlling shareholders seeking to extract private benefits at the expense of minority shareholders (Johnson et al., 2000; La Porta et al., 1999) through the diversion of cash flows, assets, and equity out from the firm (e.g. the purchase or lease of assets, the provision of guarantees, the transfer of shares, or the borrowing of funds; see, for example, Atanasov et al., 2014 for a review). Such expropriation practices usually take place through related party transactions, that is, transactions between a firm and its controlling shareholder, branches, or affiliates, through which significant company assets and interests are transferred to the controlling shareholder (Johnson et al., 2000; La Porta et al., 1998). In the case of Dole Foods, for example, the Court found that the controlling shareholder had sold high-margin businesses and understated both future earnings and cost savings in order to plummet the company's stock price, so that he could buy

Dole's shares back at below their fair value, which resulted in an expropriation of Dole's minority shareholders of about 18% of their holdings (Meyers et al., 2015).

Corporate governance and strategy researchers have shown that such principal–principal conflicts are more severe when concentrated ownership amplifies the imbalance of power between controlling and minority shareholders (Dharwadkar et al., 2000; Li and Qian, 2013; Young et al., 2008). In fact, while controlling shareholders may prevent managerial opportunism and reduce principal–agent conflicts (Datta et al., 2009; Fama and Jensen, 1983; Jensen and Meckling, 1976), the diversion of corporate resources at minority shareholders' expense has been found to be both more likely and more intense when a strong controlling shareholder owns an equity stake large enough to be involved in the firm's operations and to impose his or her personal agenda (Johnson et al., 2000; La Porta et al., 1999). In fact, in both the Dole Food and craigslist cases, the actions that led to the expropriation of the minority shareholders had been planned and put in motion by controlling shareholders who, by virtue of their large holdings, could actively drive their firms' strategic choices. Conversely, expropriation has been found to be lower when the largest shareholder does not have an equity stake large enough to grant incontestable control (Claessens et al., 2000) because minority shareholders can more easily challenge his or her decisions (Edwards and Weichenrieder, 2004; Maury and Pajuste, 2005).

As a result, due to the more severe principal–principal conflicts, acquirers of NCESs face a higher risk of being expropriated of their investment when the target's controlling shareholder owns a large portion of its equity. Acquirers' ability to capture value from minority acquisitions is thus likely to be lower in these instances, which should also be reflected on minority acquisitions' expected profitability:

H2. The presence of a strong controlling shareholder in the target firm negatively affects the expected profitability of a minority acquisition.

Shares acquired

Our framework builds on the argument that acquirers are more likely to fail to capture value from minority acquisitions when weak MSP and concentrated ownership amplify the imbalance of power with the targets' managers and controlling shareholders, thus resulting in exacerbated agency conflicts. We also contend that such an effect is amplified if acquirers purchase small NCESs.

According to the conventional logic of research on ownership issues, in fact, power and control grow with the fraction of equity held (Bergh, 1995; Bergh and Sharp, 2015; Denis et al., 1999; Hill and Snell, 1988; Jara-Bertin et al., 2008). Because of that, the already limited voting power (La Porta et al., 1998; Spamann, 2010) and the limited representation on the targets' boards of directors (Porrini, 2004) provided by minority equity ownership are even more constrained when acquirers purchase small NCESs. In turn, this contributes to amplify the imbalance of power that leads to agency conflicts and that often results in minority shareholders' expropriation. As a consequence, we contend that the negative effects of weak MSP and concentrated ownership on acquirers' exposure to the opportunistic conducts by the target's controlling shareholders and managers are magnified when they acquire small NCESs. Conversely, we argue that such negative effects weaken as acquirers purchase larger NCESs because acquisitions of larger fractions of the target's equity reduce the imbalance of power between the minority shareholders and the target's controlling shareholder and managers, thus resulting in less severe agency conflicts. As these effects should also be reflected in minority acquisitions' expected profitability, we predict the following:

H3a. The positive relationship between MSP and the minority acquisition's expected profit-
ability is negatively moderated by the percentage of equity purchased by the acquirer.

H3b. The negative relationship between the presence of a strong controlling shareholder in the
target firm and the minority acquisition's expected profitability is negatively moderated by the
percentage of equity purchased by the acquirer increases.

Methods

To test our hypotheses, we conducted an event study (Brown and Warner, 1985), the most com-
monly used methodology to test acquisitions' performance in both finance and strategic man-
agement research (Haleblian et al., 2009; Oler et al., 2008), particularly in the presence of agency
problems (e.g. Bertrand et al., 2002; Drees et al., 2013; Faccio and Stolin, 2006; Liao, 2014). Under
the assumption of an efficient market, event studies link news of unexpected events to the excess
stock market returns in the trading days around the announcement (Cappa et al., 2019; Oler et al.,
2008). Excess market returns are considered the most effective measure of acquisition perfor-
mance, due to the presumed ability of the market to predict post-acquisition performance (Hale-
blian et al., 2009). Consequently, we test the value effects that we theorize through the abnormal
fluctuations of the acquiring firms' stock prices that minority acquisition announcements are
assumed to cause (McConnell and Muscarella, 1985; Woolridge and Snow, 1990).

   Our dataset consists of acquisitions of NCESs that were announced between 1 January 2011 and
31 August 2019, so that data were as recent as possible and not too close to the 2008 financial
crisis. We required that both acquiring and target companies were listed and non-financial. Data
were retrieved from the Thomson Reuters Eikon database. We obtained an initial list of 5559
acquisitions for which we had reliable information about the targets' ownership. We then removed
3337 of these deals because they involved more than 50% of the target's equity and other 1641 that
determined a transfer of corporate control to the acquirer although the deals involved less than 50%
of the target's equity. We thus remained with 581 acquisitions of NCESs. From these, we had to
drop 138 observations either because of missing information or because we could not reliably
calculate abnormal returns. Thus, the final sample consisted of the remaining 443 announcements.
The acquiring firms in this sample are significantly larger than target firms[1] and purchased on
average 12.61% of the targets' equity.[2] The dataset is well spread in terms of years and industries,
and the country distribution for acquisition targets is reported in Table 1.

Sample selection bias

Since the decision to undertake a minority acquisition is an endogenous choice and may be affected
in the first place by variables that we use in our analysis (such as the strength of MSP), we used
Heckman's procedure to control for endogeneity from sample selection bias. Through this pro-
cedure, before modeling the hypothesized relation between the dependent and independent vari-
ables, we first calculated the probability that an observation in the overall population appears in our
sample through a selection equation and we then used the residuals from this equation to calculate
the Heckman's lambda, a selection parameter to be included in the final model that accounts for
potential selection bias (Certo et al., 2016; Wooldridge, 2010). We then modeled a selection
equation that estimates the probability that a firm undertakes a minority acquisition through a
Probit analysis on our initial list of 5559 acquisitions that listed non-financial firms announced
between 1 January 2011 and 31 August 2019. The sample for this selection equation thus includes
minority and takeover acquisitions. In this first stage, we used multiple industry dummies as
exclusion-restriction variables, which have the function of influencing the probability that an

Table 1. Distribution of the sample by country of the acquisition targets.

Targets' nation	No. of Min. Acq.	Sample (%)	International Min. Acq.	Average NCESs (%)	Acquirers' nation										
					Japan	South Korea	Australia	Vietnam	Canada	China	United States	Germany	India	Russia	Other countries
Japan	94	21	2	11.9	92					1	1				2
South Korea	92	21	6	11.1	3	87				2	3				0
Australia	36	8	19	11.2	3	17				2	3				10
Vietnam	32	7	7	15.2	5	2		25							0
Canada	30	7	13	15.9	1		3		17	5	1				4
China	21	5	3	11.6						18					2
United States	17	4	9	10.0	1	2			1	1	8				4
Germany	14	3	10	16.9	2	2				3	1	4			4
India	14	3	5	8.9	4								9		0
Russia	12	3	1	19.4										11	1
Hong Kong	9	2	5	16.4	2					3					4
Singapore	9	2	5	12.5	2		1								6
Thailand	9	2	4	14.8	1										8
Malaysia	8	2	1	14.9	1										7
Taiwan	8	2	0	9.4											8
France	7	2	4	11.4						1	1				5
Sweden	5	1	3	10.4							1				4
United Kingdom	5	1	1	15.0											5
Brazil	4	1	3	5.7							1				3
Indonesia	4	1	3	11.8	3										1
Poland	4	1	1	10.1											4
Norway	3	1	1	23.2											3
South Africa	3	1	1	15.3											3
Spain	3	1	0	9.9											3

NCESs: non-controlling equity stakes.

observation appears in our sample, but—since they are not included in our final ordinary least squares (OLS) model—they do not influence the dependent variable (Certo et al., 2016). After running the selection equation, we estimated the residuals and used them to compute the Heckman's lambda for each acquiring firm. As a final step, we included the Heckman's lambda in our OLS model as an additional regressor (Certo et al., 2016; Wooldridge, 2010). Results from the first stage of the Heckman's procedure are reported in Table 2.

Table 2. Probit estimates for the first stage of the Heckman's procedure.

Number of obs			5559
Wald chi-square (43)			492.060
Prob > chi-square			0.000
Pseudo R^2			0.474
Log pseudolikelihood			−845.253
	Coeff.	Std. Err.	P < Z
Telecommunications	1.356	0.461	0.003
Retail	1.656	0.450	0.000
Media & entertainment	1.490	0.449	0.001
Materials	1.579	0.433	0.000
Industrials	1.484	0.432	0.001
High technology	1.386	0.433	0.001
Healthcare	1.246	0.443	0.005
Energy & power	1.575	0.445	0.000
Consumer staples	1.621	0.447	0.000
Consumer products	1.196	0.445	0.007
Shareholder protection	−0.722	0.120	0.000
Shares acquired (ratio)	−0.041	0.003	0.000
Tier level	−0.066	0.058	0.257
Institutional quality	−0.224	0.040	0.000
Crossborder	0.053	0.090	0.554
Previous stake	−0.061	0.006	0.000
Acquisition experience	−0.081	0.037	0.031
Industrial relatedness	0.127	0.088	0.146
Financial synergies	0.035	0.035	0.310
Premium	0.110	0.039	0.005
Acquiror cash	0.109	0.046	0.019
Acquiror ROA	2.625	0.877	0.003
Acquiror size	0.196	0.069	0.005
Target ROA	−0.361	0.218	0.098
Target size	−0.167	0.055	0.002
2012	0.016	0.141	0.912
2013	0.097	0.149	0.516
2014	0.089	0.153	0.563
2015	0.300	0.141	0.033
2016	0.353	0.142	0.013
2017	0.149	0.144	0.300

(continued)

Table 2. (continued)

Number of obs			5559
2018	0.409	0.132	0.002
2019	−0.200	0.193	0.300
South Korea	0.037	0.110	0.737
Japan	0.363	0.114	0.001
Australia	−0.055	0.179	0.760
Vietnam	−0.139	0.183	0.448
Canada	−0.077	0.194	0.690
China	0.104	0.151	0.493
United States	0.039	0.198	0.846
India	−0.020	0.213	0.925
Germany	0.377	0.374	0.314
Russia	0.279	0.225	0.215
Constant	4.306	1.272	0.001

ROA: return on assets.

Variables

Dependent variable. To assess the stock market reaction to the announcement of minority acquisitions, we relied on abnormal returns, that is, the difference between expected and effective stock market price that is referable to that particular event. In order to avoid potential confounding effects due to other events (Haleblian et al., 2009), we calculated CAR, that is, the sum of daily abnormal returns, on two commonly used short event windows, the (–3, +3) and (–1, 0), that is, a 7-day and a 2-day event windows. To compute the abnormal returns, we adopted the Fama–French-Carhart four-factor model (Carhart, 1997). Financial information on firms' closing price was retrieved from TR Eikon,[3] whereas data for the benchmark markets was obtained from Kenneth French's website.[4] Finally, CAR were obtained as the sum of daily abnormal returns.

Independent and moderating variables. The strength of MSP was measured through the Minority Shareholder Protection Index made available by Guillén and Capron (2016).[5] With respect to the measure constructed by La Porta et al. (1998), on which most previous literature has relied but which has been heavily criticized for its time-invariant character as well as for its inconsistencies and inaccuracies (Aguilera and Williams, 2009), we opted for the MSP Index because of its higher comprehensiveness and recentness.[6] Such index—computed for 78 developing, emerging, and developed countries—reflects information about the legal provisions that are relevant for the protection of minority shareholders against controlling shareholders and managers (a higher value of the index means stronger protection).

In line with research on ownership issues (Bennedsen and Wolfenzon, 2000; Chapelle and Szafarz, 2005; Hauswald and Hege, 2006; Zwiebel, 1995) and with research on takeovers that most commonly investigates acquisitions of more than 50% of the target's equity (e.g. Bae et al., 2002; Chatterjee et al., 2003; Faccio and Stolin, 2006), we use a 50% threshold to identify companies where the controlling shareholder has full and incontestable control. The presence of a strong controlling shareholder in the target was thus measured with a dummy variable that equals 1 if the controlling shareholder owned at least 50% of the target's equity at the time the acquisition was announced and 0 otherwise. Such 50% dummy has also the advantage of mechanically avoiding counterintuitive results, such as the identification of multiple controlling shareholders for the same

firm (Chapelle and Szafarz, 2005), and—in our case—that might occur when other ownership dummies interact with moderating variables. In fact, the percentage of the targets' equity purchased by acquiring firms that we use as moderating variable may lead to counterintuitive results in its interaction with smaller controlling ownership thresholds. Since our sample includes NCESs of up to 46.1%, it would not make sense to examine the effect of a controlling shareholder with, for example, 20% equity ownership at values of minority equity ownership larger than 20% because they would not exist.

Control variables. We included several control variables that have been shown to be related to acquisitions' performance in previous research (Bauer and Matzler, 2014; Bertrand et al., 2002; Cartwright, 2005; Cartwright and Schoenberg, 2006; Faccio and Stolin, 2006; Haleblian et al., 2009; King et al., 2004). Previous minority acquisition experience of the acquirer is an ordinal variable that reflects the number of minority acquisitions that the acquirer undertook before the year of the minority acquisition's announcement in our sample. We controlled for the target's position in its group hierarchy (an ordinal variable from 1 to 6 where 1 means closer to the apex of pyramidal chain) because expropriation of minority shareholders is more likely in firms that are closer to the base of a pyramidal group. We controlled for product-level synergies between acquirers and targets through an industrial relatedness measure that we computed through the Thomson Reuters Business Classification (TRBC) 10-digit codes. This measure equals: 1 if the acquirer's and target's 10-digit TRBC codes are the same (same business activity); 0.8 if the acquirer's and target's TRBC codes have the same first eight digits (same business); 0.6 if the acquirer's and target's TRBC codes have the same first six digits (same business sector); and so on until 0 if the acquirer's and target's TRBC codes start with two different digits (different economic sector). To control for the acquirer's capacity transfer capital to the target, we used a measure of financial-level synergies computed as the debt/equity ratio of the target less the same ratio of the acquirer in the year prior the acquisition (Slusky and Caves, 1991). We also controlled for the acquisition premium, calculated as the ratio of the per share price paid by the acquirer and the target's closing price 4 weeks before the acquisition announcement (Bertrand et al., 2016; Hayward and Hambrick, 1997). To control for the effect of inside information on the target (Ouimet, 2013), we added a variable that reflects the percentage of the target's equity that acquirers owned prior the minority acquisition announcement. In addition, since the effectiveness of any legal prescription depends on the overall institutional environment, we also control for the target's country institutional quality. As proxy for this variable, we use an index obtained from the principal component analysis of the World Bank's Governance indicators, which provide information on six dimensions of a country's institutional environment (Voice and Accountability, Political Stability, Regulatory quality, Governmental Effectiveness, Rule of Law, and Control of Corruption). Finally, in addition to 8 year- and 10 country-dummies, we also controlled for targets' profitability (Return on Assets) and size (natural logarithm of assets) as well as acquirers' profitability (Return on Assets), size (ratio of the natural logarithm of the acquirer's assets over the same measure for the target), and slack resources (natural logarithm of the acquirer's cash and short-term investments).

Results

Descriptive statistics and correlations of the variables are presented in Table 3. We established the absence of multicollinearity problems through the tests of tolerance value (TV > 0.10) and variable inflation factor (VIF < 10). We used clustered standard errors (at the acquirer level) to control for probable correlation among minority acquisitions undertaken by the same acquirer (Muehlfeld

Table 3. Descriptive statistics and correlation matrix (year and country dummies are omitted).

Variable	Obs	Mean	Std. Dev.	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	38
1 CAR (−1, 0)	443	0.21	4.48	−16.90	31.50	1.00																			
2 CAR (−3, +3)	443	−0.38	7.51	−24.51	29.17	0.46	1.00																		
3 Strong controller	443	0.14	0.35	0.00	1.00	−0.08	−0.13	1.00																	
4 Shareholder protection	443	6.61	0.65	3.50	8.25	0.03	0.05	0.00	1.00																
5 Shares acquired	443	12.58	7.74	2.34	46.10	−0.02	−0.02	0.20	0.02	1.00															
6 Shares acquired (ratio)	443	48.01	24.84	4.77	97.48	0.04	0.04	−0.34	−0.03	0.50	1.00														
7 Tier level	443	1.80	0.63	1.00	4.00	0.06	0.13	0.12	−0.09	0.05	−0.02	1.00													
8 Institutional quality	443	0.31	2.08	−3.95	2.95	0.02	−0.05	−0.09	0.00	−0.05	0.12	0.00	1.00												
9 Crossborder	443	0.25	0.43	0.00	1.00	0.00	0.02	0.02	−0.06	0.07	0.09	0.11	0.14	1.00											
10 Previous stake	443	1.45	4.08	0.00	30.00	−0.06	−0.07	0.16	0.00	0.41	0.18	0.05	−0.11	0.05	1.00										
11 Acquisition experience	443	0.38	2.22	0.00	26.00	−0.04	−0.04	0.03	0.14	0.01	−0.07	−0.03	−0.05	0.07	−0.04	1.00									
12 Industrial relatedness	443	0.39	0.41	0.00	1.00	−0.04	0.03	−0.10	0.01	0.04	0.11	−0.04	0.04	0.19	0.07	0.04	1.00								
13 Financial synergies	443	0.11	2.60	−15.73	36.86	−0.02	0.00	−0.04	0.02	−0.04	−0.05	−0.01	0.04	−0.08	0.01	−0.01	−0.07	1.00							
14 Premium	443	1.40	10.94	−19.99	144.26	0.00	−0.02	0.23	−0.01	0.00	−0.10	0.07	0.07	0.11	0.10	0.06	−0.08	0.03	1.00						
15 Acquiror cash	443	18.83	2.68	10.18	25.01	−0.04	−0.02	−0.07	0.13	0.00	0.03	−0.01	0.15	0.23	0.07	0.05	0.02	−0.05	−0.01	1.00					
16 Acquiror ROA	443	0.04	0.12	−0.86	0.45	−0.19	−0.14	−0.02	0.11	0.07	0.05	−0.10	−0.10	−0.07	−0.03	0.04	−0.01	0.04	0.01	0.23	1.00				
17 Acquiror size	443	0.76	2.08	0.00	29.48	−0.01	−0.01	0.05	0.01	−0.07	−0.06	0.00	−0.12	−0.09	0.04	0.00	−0.08	0.12	−0.01	−0.27	−0.04	1.00			
18 Target ROA	443	−0.04	0.43	−4.64	1.37	0.02	0.03	0.08	−0.02	0.02	−0.08	0.06	−0.23	−0.11	0.08	0.04	−0.10	0.03	0.04	0.00	0.02	0.05	1.00		
19 Target size	443	18.85	2.27	8.67	25.40	−0.02	−0.01	−0.02	0.05	−0.02	−0.01	0.16	−0.16	0.14	0.17	0.09	0.00	0.10	0.04	0.50	0.11	0.16	0.37	1.00	
38 invmills	443	0.99	0.59	0.00	3.86	0.10	0.06	0.00	0.36	0.36	0.24	0.07	0.36	0.10	0.14	0.30	0.05	−0.11	−0.22	−0.02	−0.40	−0.19	0.10	0.10	1.00

CAR: cumulative abnormal returns; ROA: return on assets.

Table 4. OLS regression of acquirers' CAR on independent, moderating, and control variables.

	Model 1			Model 2			Model 3			Model 4			Model 5			Model 6			Model 7			Model 8		
Number of obs	443			443			443			443			443			443			443			443		
F	1.330			1.340			1.500			1.430			1.660			1.460			1.730			1.770		
Prob > F	0.115			0.106			0.041			0.063			0.013			0.050			0.008			0.005		
R-squared	0.078			0.080			0.099			0.113			0.124			0.103			0.133			0.138		
Root MSE	7.378			7.327			7.431			7.338			7.329			7.432			7.289			7.386		
Clusters	366			366			366			366			366			366			366			366		
CAR (-3, +3)	Coeff.	Clus. Std. Err.	P	Coeff.	Clus. Std. Err.	P	Coeff.	Clus. Std. Err.	P	Coeff.	Clus. Std. Err.	P	Coeff.	Clus. Std. Err.	P	Coeff.	Clus. Std. Err.	P	Coeff.	Clus. Std. Err.	P	Coeff.	Clus. Std. Err.	P
Shareholder Protection							1.410	0.856	0.100*				1.829	0.960	0.058*	1.318	1.244	0.29				2.401	1.233	0.052*
Shareholder protection X Shares Acquired																-0.002	0.068	0.971				-0.049	0.065	0.447
Strong Controller										-3.493	1.313	0.008***	-3.628	1.342	0.007***				-8.861	2.295	0.000***	-9.415	2.218	0.000***
Strong Controller X Shares Acquired																			0.380	0.110	0.001***	0.379	0.106	0.000***
Shares Acquired				-0.060	0.053	0.258							0.043	0.065	0.508	0.003	0.452	0.994	-0.081	0.060	0.173	0.310	0.435	0.477
Tier Level	1.428	0.584	0.015**	1.445	0.581	0.013**	1.739	0.605	0.004***	1.872	0.606	0.002***	1.862	0.600	0.002***	1.708	0.605	0.005***	1.707	0.604	0.005***	1.606	0.592	0.007***
Institutional Quality	-0.602	0.383	0.117	-0.502	0.318	0.115	-0.627	0.396	0.114	-0.708	0.379	0.063*	-0.550	0.375	0.143	-0.446	0.363	0.22	-0.870	0.354	0.014**	-0.346	0.366	0.345
Crossborder	-0.291	0.820	0.723	-0.153	0.826	0.853	-0.185	0.846	0.827	0.084	0.829	0.919	-0.218	0.830	0.793	-0.152	0.854	0.859	0.219	0.852	0.798	0.328	0.846	0.699
Previous Stake	-0.181	0.083	0.029**	-0.153	0.088	0.084*	-0.144	0.083	0.084*	-0.145	0.078	0.064*	-0.125	0.086	0.147	-0.132	0.088	0.135	-0.167	0.081	0.039**	-0.137	0.081	0.090*
Acquisition Experience	-0.321	0.159	0.044**	-0.372	0.155	0.017**	-0.274	0.162	0.092*	-0.288	0.140	0.041**	-0.174	0.164	0.29	-0.290	0.171	0.092*	-0.366	0.140	0.009***	-0.139	0.165	0.401
Industrial relatedness	1.407	1.145	0.22	1.644	1.132	0.147	1.322	1.148	0.250	1.069	1.126	0.343	0.947	1.138	0.406	1.666	1.144	0.146	1.205	1.118	0.282	1.044	1.145	0.363
Financial Synergies	0.027	0.053	0.607	0.040	0.053	0.447	0.067	0.095	0.479	0.023	0.052	0.660	0.027	0.100	0.786	0.076	0.099	0.442	0.049	0.055	0.372	0.027	0.097	0.781
Premium	0.042	0.024	0.081*	0.050	0.025	0.048**	0.022	0.028	0.428	0.063	0.027	0.019**	0.034	0.032	0.289	0.028	0.031	0.375	0.087	0.027	0.001***	0.043	0.031	0.164

(continued)

Table 4. (continued)

CAR (-3, +3)	Coeff.	Clus. Std. Err.	P	Coeff.	Clus. Std. Err.	P	Coeff.	Clus. Std. Err.	P	Coeff.	Clus. Std. Err.	P	Coeff.	Clus. Std. Err.	P	Coeff.	Clus. Std. Err.	P	Coeff.	Clus. Std. Err.	P
Acquiror Cash	0.473	0.206	0.022**	0.526	0.208	0.012**	0.374	0.214	0.082*	0.421	0.207	0.043**	0.288	0.231	0.213	0.419	0.231	0.07*	0.183	0.236	0.438
Acquiror ROA	-2.310	4.225	0.585	-1.022	4.254	0.810	-7.325	4.741	0.123	-5.448	4.214	0.197	-10.140	5.117	0.048**	-7.119	5.311	0.181	-11.105	5.105	0.03**
Acquiror size	0.254	0.154	0.100	0.300	0.158	0.059*	0.103	0.165	0.534	0.254	0.144	0.079*	0.080	0.180	0.655	0.142	0.193	0.462	0.045	0.191	0.815
Target ROA	0.511	0.909	0.574	0.476	0.912	0.602	0.786	0.936	0.402	0.694	0.905	0.444	1.061	0.928	0.254	0.738	0.953	0.439	1.219	0.950	0.200
Target Size	-0.534	0.247	0.031**	-0.616	0.251	0.015**	-0.525	0.254	0.040**	-0.634	0.257	0.014**	-0.455	0.274	0.097*	-0.563	0.281	0.046**	-0.381	0.296	0.199
y2012	2.817	1.460	0.054*	2.378	1.409	0.092*	2.909	1.472	0.049**	3.140	1.440	0.030**	3.350	1.457	0.022**	2.344	1.431	0.102	3.677	1.556	0.019**
y2013	1.588	1.283	0.217	1.721	1.301	0.187	1.626	1.309	0.215	1.934	1.295	0.136	2.128	1.299	0.102	1.622	1.356	0.233	1.274	1.264	0.314
y2014	0.172	1.238	0.89	0.113	1.227	0.926	0.108	1.242	0.931	0.193	1.282	0.881	0.238	1.281	0.853	-0.103	1.247	0.934	0.499	1.288	0.698
y2015	0.832	1.538	0.589	0.827	1.540	0.592	0.858	1.550	0.580	1.643	1.551	0.290	1.574	1.574	0.318	0.376	1.595	0.814	0.821	1.594	0.607
y2016	1.261	1.305	0.335	1.434	1.292	0.268	1.441	1.345	0.285	1.557	1.346	0.248	1.014	1.346	0.452	1.457	1.331	0.274	0.949	1.345	0.481
y2017	3.069	1.204	0.011**	3.164	1.211	0.009***	3.203	1.220	0.009***	3.362	1.237	0.007***	3.662	1.263	0.004***	3.183	1.221	0.009***	3.162	1.230	0.011**
y2018	1.131	1.418	0.426	1.228	1.417	0.387	0.850	1.442	0.556	1.400	1.392	0.315	1.383	1.440	0.338	0.795	1.467	0.588	0.702	1.425	0.623
y2019	2.293	1.653	0.166	2.338	1.695	0.169	2.432	1.670	0.146	1.878	1.665	0.260	2.443	1.684	0.148	2.346	1.691	0.166	2.177	1.621	0.18
SouthKorea	0.592	1.446	0.683	0.802	1.417	0.572	-0.471	1.572	0.765	0.076	1.437	0.958	-0.931	1.539	0.545	-0.073	1.541	0.962	-0.172	1.467	0.907
Japan	-0.470	1.094	0.668	-0.581	1.097	0.597	-1.694	1.315	0.199	-0.379	1.091	0.728	-1.918	1.324	0.148	-1.612	1.350	0.233	-0.743	1.378	0.59
Australia	-0.932	1.676	0.578	-1.474	1.701	0.387	-1.749	1.787	0.328	-1.187	1.661	0.475	-1.774	1.741	0.309	-2.151	1.778	0.227	-1.823	1.706	0.286
Vietnam	-1.040	2.122	0.624	-0.261	1.870	0.889	-2.893	2.263	0.202	-1.249	2.197	0.570	-2.554	2.324	0.272	-1.818	2.117	0.391	-1.632	2.111	0.44
Canada	-1.966	2.132	0.357	-2.237	2.166	0.302	-2.706	2.218	0.223	-2.186	2.095	0.297	-2.681	2.161	0.215	-3.013	2.222	0.176	-1.734	2.193	0.43
China	-0.418	1.857	0.822	0.241	1.649	0.884	-1.875	1.962	0.340	-0.744	1.857	0.689	-2.182	1.962	0.267	-0.967	1.835	0.599	-1.136	1.820	0.533
UnitedStates	4.066	1.930	0.036**	3.891	1.936	0.045**	3.729	1.938	0.055*	4.054	1.845	0.029**	3.518	1.902	0.065*	3.644	1.975	0.066*	3.740	1.880	0.047**
India	1.839	1.717	0.285	2.202	1.544	0.155	0.067	1.899	0.972	1.300	1.826	0.477	-0.154	1.932	0.936	0.934	1.767	0.598	0.451	1.830	0.805
Germany	-0.601	1.724	0.728	-0.807	1.698	0.635	-1.170	1.767	0.508	-0.183	1.816	0.920	-1.673	1.755	0.341	-2.718	2.089	0.194	-1.095	1.798	0.543
Russia	-2.005	2.820	0.478	-1.070	2.624	0.684	-4.525	3.065	0.141	-1.469	3.064	0.632	-2.842	3.241	0.381	-3.255	3.036	0.284	-1.205	2.892	0.677
invmills	2.472	1.008	0.015**	3.140	1.079	0.004***	1.217	1.372	0.376	2.367	0.970	0.015**	0.246	1.745	0.888	1.546	1.799	0.391	-0.178	1.853	0.923
_cons	-5.560	3.775	0.142	-5.380	3.759	0.153	-11.225	5.495	0.042**	-2.904	3.809	0.446	-12.945	5.980	0.031**	-11.242	7.663	0.143	-15.051	7.612	0.049**

CAR: cumulative abnormal returns; RMSE: root-mean-square error; ROA: return on assets.

*, **, *** are just to comply with traditional conventions. Statistical significance is reported in numbers.

et al., 2012). The estimates from the event study are shown in Table 4 and refer to the (–3, +3) time window (due to space constraints, we do not report the full results for the (–1, 0) event window).[7]

Model 1 includes control variables only: Models 2 through 4 include also the independent and moderating variables, one at a time; Model 5 includes the independent and moderating variables together; Models 6 and 7 include also the two interaction terms, one at a time; Model 8 is the complete model with all the variables. As reported in Table 3, average CAR for the (–3, +3) event window are 0.04% and 0.25% for the (–1, 0) event window. Besides being quite small, t-tests also reveal that they are not statistically significant. This first information is consistent with prior research on minority acquisitions (Allen and Phillips, 2000; Drees et al., 2013; Nain and Wang, 2016; Ouimet, 2013). We thus proceed to comment on the results of our analysis. Hypothesis 1 predicted that stronger MSP positively affected the expected performance of the acquirer. Average CAR for minority acquisitions in weak versus strong MSP countries are –0.52% and –0.19% for the (–3, +3) event window and –0.20% and 0.63% for the (–1, 0) event window. The effect size for the two event windows are 0.05 and 0.21, respectively, which implies that the magnitude of abnormal fluctuations of acquirers' stock price following minority acquisitions are quite small, both in weak and strong MSP environments. Looking at Models 3 and 5 of Table 4, we can see that the coefficients of the variable *Shareholder protection* are positive and significant, indicating that MSP positively affects expectations about the future performance of the acquiring firm. This result thus supports Hypothesis 1.

Hypothesis 2 predicted that the presence of a strong controlling shareholder in the target firm negatively affects the expected performance of the acquirer. Average CAR for minority acquisitions of targets with and without a strong controlling shareholder are –2.31% and –0.02% for the (–3, +3) event window and –0.9% and 0.18% for the (–1, 0) event window. The effect size, respectively, 0.31 and 0.34 for the two event windows, although stronger in absolute terms, is still small. The coefficients of *Strong controller* in Models 4 and 5 are negative and strongly significant. This result indicates that the presence of a controlling shareholder with a large portion of the target's equity negatively affects expectations about the performance of the minority acquisitions. Thus, Hypothesis 2 is also supported. These results are consistent with our general argument that factors exacerbating agency conflicts with the target's controlling shareholder and managers prevent acquirers from capturing value from minority acquisitions.

Hypotheses 3a and 3b predicted that acquisitions of small NCESs increases the power imbalance between minority shareholders and the targets' controlling shareholders and managers, thus amplifying the negative effects of agency conflicts on minority acquisitions' expected performance. The joint read of the coefficients of *Shareholder protection* and of the interaction term *Shareholder protection* × *shares acquired* in Models 6 and 7 suggest that the negative effect of MSP is weaker when acquirers purchase small NCESs. While this is consistent with our theory, the coefficients of the interaction term are not statistically significant, preventing us from deriving conclusions on our prediction. The same analysis with a relative measure of NCESs' size (the ratio of the percentage of shares acquired over the majority equity stake of the controlling shareholder) provides similar results. Regarding Hypothesis 3b, instead, the joint read of the coefficients of *Strong controller* and of the interaction term *Strong controller* × *shares acquired* in Models 7 and 8 indicate that the negative effect of concentrated ownership varies depending on whether acquirers purchase a small or a large NCES. As represented in Figure 1, which shows the effect of *Strong controller* at one standard deviation above and below the mean of *Shares acquired* at the 90% confidence interval level, the analysis of the conditional effect indicates that a strong controlling shareholder has an even more negative value effect on acquirers' expected performance when small NCESs are purchased. Conversely, such an effect loses statistical significance when acquirers purchase large NCESs. Such evidence provides support for Hypothesis 3b.
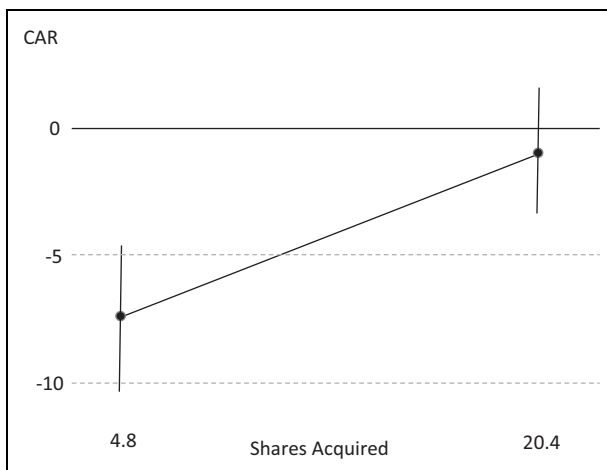
Figure 1. Conditional effect of *Strong controller* on acquiring firms' CAR at different levels of the moderator *Shares acquired*. The effect is measured at one standard deviation above and below the moderator's mean.

To further explore the possibility that the effects of weak MSP and concentrated ownership vary depending on the size of the NCESs that acquirers purchase, we tested the effect of *Shareholder protection* and of *Strong controller* in two subsamples of acquisitions of small and large NCESs. To do that, we marked acquisitions of less than 12.6% of the target's equity (our sample average) as acquisitions of small NCESs and the rest as acquisitions of large NCESs. We then re-performed the Heckman procedure for each of the two subsamples and generated two different inverse Mills ratio. Instead of an interaction, we then tested the effect of *Shareholder protection* and of *Strong controller* in the two subsamples. This methodology has the benefit of better accounting for sample selection bias because, while the full-sample Heckman procedure corrects for the endogeneity of undertaking a minority acquisition, it does not account for selection into buying small or large NCESs. In so doing, this split-sample procedure addresses biases deriving from less experienced or less informed acquirers that obtain more negative returns because they acquire small NCESs that provide them with less influence over the targets' decisions. The results of this analysis are reported in Table 5. In Models 1, 3, 5, 7, 9, and 11, we report the effects of *Shareholder protection* and of *Strong controller* for both our CAR measures in the small-NCESs subsample. In Models 2, 4, 6, 8, 10, and 12, we do the same for the large-NCESs subsample. Overall, the results are similar to those that we previously obtained. In fact, in none of the models of Table 5, the coefficient of *Shareholder protection*, while positive, is statistically significant. This result prevents us from confirming our hypothesis that the negative effect of weak MSP is stronger for acquirers that purchase small NCESs. Conversely, the negative and statistically significant coefficients of *Strong controller* in Models 3, 5, 9, and 11 confirm that a strong controlling shareholder has an even more negative effect when acquirers purchase small NCESs. Since the coefficient decreases in magnitude and loses statistical significance in Models 4, 6, 10, and 12, we derive that the effect weakens when acquirers purchase large NCESs. This evidence is consistent with our arguments and provides further support for Hypothesis 3b.

Discussion and conclusion

This work makes several contributions to minority acquisitions' research. First, we advance our theoretical understanding of why acquiring firms may struggle to capture value from these

Table 5. OLS regression of acquirers' CAR in the two subsamples of minority acquisitions of small and large NCESs (year and country dummies are omitted).

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Number of obs	266	177	266	177	266	177
F	1.650	8.310	1.900	3.000	1.850	2.630
Prob > F	0.019	0.000	0.004	0.000	0.005	0.000
R-squared	0.149	0.241	0.176	0.247	0.175	0.258
Root MSE	7.672	7.305	7.568	7.273	7.558	7.230
Clusters	236	151	236	151	236	151
DV	CAR (-3, 3)	CAR (-3, 3)	CAR (-3, 3)	CAR (-3, 3)	CAR (-3, 3)	CAR (-3, 3)
NCES size	Small	Large	Small	Large	Small	Large

	Model 1			Model 2			Model 3			Model 4			Model 5			Model 6		
	Coeff.	Clus. Std. Err.	P	Coeff.	Clus. Std. Err.	P	Coeff.	Clus. Std. Err.	P	Coeff.	Clus. Std. Err.	P	Coeff.	Clus. Std. Err.	P	Coeff.	Clus. Std. Err.	P
Shareholder Protection	1.134	1.092	0.300	0.919	1.607	0.568							1.223	1.041	0.241	0.039	1.673	0.982
Strong Controller							-4.996	1.559	0.002***	-1.975	1.975	0.319	-5.048	1.555	0.001***	-2.232	2.039	0.275
Tier Level	0.836	0.831	0.315	2.792	0.878	0.002***	1.066	0.812	0.191	2.980	0.884	0.001***	1.168	0.792	0.142	2.785	0.867	0.002***
Institutional Quality	-0.441	0.540	0.416	-0.545	0.672	0.419	-0.594	0.520	0.254	-0.619	0.614	0.315	-0.649	0.516	0.210	-0.687	0.659	0.299
Crossborder	-0.322	1.099	0.770	-0.002	1.430	0.999	-0.015	1.099	0.989	-0.028	1.389	0.984	-0.280	1.052	0.790	-0.268	1.439	0.853
Previous Stake	-0.464	0.325	0.155	-0.075	0.101	0.461	-0.680	0.326	0.038**	-0.088	0.094	0.348	-0.635	0.324	0.051*	-0.097	0.099	0.330
Acquisition Experience	-0.391	0.235	0.098*	-0.250	0.363	0.492	-0.424	0.204	0.039**	-0.341	0.330	0.303	-0.396	0.210	0.061*	-0.408	0.363	0.263
Industrial relatedness	3.229	1.377	0.020**	0.728	1.892	0.701	2.827	1.335	0.035**	0.775	1.917	0.687	2.479	1.362	0.070*	0.364	1.904	0.849
Financial Synergies	0.173	0.194	0.374	0.008	0.139	0.952	0.223	0.184	0.228	-0.008	0.138	0.954	0.196	0.190	0.304	-0.082	0.055	0.136
Premium	0.033	0.031	0.287	0.024	0.103	0.813	0.076	0.032	0.019**	0.042	0.098	0.671	0.065	0.033	0.051*	0.068	0.102	0.506
Acquiror Cash	0.076	0.289	0.793	0.642	0.371	0.086*	0.096	0.278	0.730	0.694	0.351	0.050*	0.092	0.280	0.743	0.589	0.371	0.115
Acquiror ROA	-8.985	5.144	0.082*	-1.652	8.563	0.847	-7.327	4.775	0.126	1.581	7.305	0.829	-8.633	4.851	0.076*	1.051	8.532	0.902
Acquiror size	0.066	0.301	0.828	0.733	0.641	0.254	0.128	0.297	0.667	0.724	0.629	0.252	-0.012	0.289	0.967	0.675	0.644	0.296
Target ROA	-1.014	1.103	0.359	2.661	1.421	0.063*	0.205	2.015	0.919	2.391	1.306	0.069*	-0.799	1.058	0.451	2.375	1.404	0.093*
Target Size	0.082	0.352	0.816	-1.292	0.528	0.016**	-0.022	0.349	0.950	-1.450	0.498	0.004***	-0.071	0.345	0.837	-1.416	0.545	0.010**
imrsmall	2.065	1.882	0.274				3.000	1.591	0.061*				2.158	1.824	0.238			
imrlarge				2.396	4.233	0.572				4.547	2.944	0.125				5.395	4.369	0.219
_cons	-15.924	6.625	0.017**	-4.375	10.598	0.680	-8.404	4.657	0.072*	-0.652	8.602	0.940	-13.413	6.300	0.034**	-0.244	10.945	0.982

(continued)

Table 5. (continued)

	Model 7			Model 8			Model 9			Model 10			Model 11			Model 12		
	Coeff.	Clus. Std. Err.	P	Coeff.	Clus. Std. Err.	P	Coeff.	Clus. Std. Err.	P	Coeff.	Clus. Std. Err.	P	Coeff.	Clus. Std. Err.	P	Coeff.	Clus. Std. Err.	P
Number of obs	266			177			266			177			266			177		
F	2.740			1.670			13.010			1.510			9.350			1.590		
Prob > F	0.000			0.021			0.000			0.052			0.000			0.031		
R-squared	0.177			0.191			0.182			0.188			0.187			0.196		
Root MSE	0.031			3.440			0.031			3.360			0.030			3.443		
Clusters	236			151			236			151			236			151		
DV	CAR (-1, 0)			CAR (-1, 0)			CAR (-1, 0)			CAR (-1, 0)			CAR (-1, 0)			CAR (-1, 0)		
NCES size	Small			Large			Small			Large			Small			Large		
Shareholder Protection	0.312	0.456	0.495	0.794	0.734	0.281							0.421	0.445	0.345	0.689	0.753	0.362
Strong Controller							-1.306	0.638	0.042**	-0.735	0.862	0.395	-1.326	0.637	0.038**	-0.655	0.883	0.459
Tier Level	0.145	0.333	0.663	0.435	0.350	0.216	-0.061	0.303	0.840	0.492	0.349	0.161	-0.019	0.302	0.951	0.487	0.351	0.167
Institutional Quality	-0.247	0.238	0.300	-0.090	0.294	0.760	-0.185	0.229	0.419	-0.205	0.256	0.425	-0.192	0.225	0.393	-0.091	0.289	0.752
Crossborder	-0.308	0.484	0.525	0.065	0.677	0.923	-0.285	0.480	0.553	0.022	0.651	0.973	-0.285	0.475	0.549	0.036	0.677	0.957
Previous Stake	-0.048	0.165	0.771	-0.050	0.054	0.360	-0.069	0.168	0.679	-0.069	0.050	0.164	-0.049	0.166	0.769	-0.050	0.054	0.357
Acquisition Experience	-0.142	0.104	0.176	-0.010	0.171	0.955	-0.127	0.155	0.415	-0.111	0.134	0.410	-0.107	0.093	0.249	-0.011	0.171	0.946
Industrial relatedness	0.089	0.562	0.875	-0.552	0.782	0.481	-0.064	0.534	0.905	-0.573	0.768	0.457	-0.138	0.553	0.803	-0.561	0.776	0.470
Financial Synergies	0.178	0.097	0.069*	0.004	0.028	0.881	0.181	0.095	0.057*	0.019	0.031	0.535	0.163	0.096	0.090*	0.002	0.027	0.945
Premium	0.023	0.015	0.140	-0.019	0.029	0.522	0.032	0.016	0.039**	0.006	0.026	0.810	0.029	0.016	0.071*	-0.012	0.033	0.721
Acquiror Cash	0.186	0.122	0.129	-0.099	0.173	0.566	0.150	0.118	0.204	-0.015	0.156	0.921	0.144	0.119	0.227	-0.101	0.175	0.566
Acquiror ROA	-3.013	2.211	0.174	-5.885	4.412	0.184	-2.821	2.135	0.188	-3.068	3.881	0.430	-3.294	2.150	0.127	-5.593	4.537	0.220
Acquiror size	-0.109	0.083	0.190	-0.336	0.255	0.189	-0.115	0.080	0.152	-0.320	0.251	0.205	-0.135	0.084	0.108	-0.358	0.256	0.164
Target ROA	0.244	0.515	0.637	0.386	0.469	0.412	0.202	0.511	0.692	0.070	0.410	0.866	0.240	0.514	0.641	0.363	0.478	0.449
Target Size	-0.133	0.130	0.309	0.083	0.234	0.723	-0.111	0.130	0.395	-0.093	0.202	0.646	-0.125	0.130	0.335	0.055	0.244	0.822
imrsmall	0.350	0.728	0.631				0.426	0.595	0.475				0.127	0.692	0.855			
imrnlarge				-0.632	1.972	0.749				1.305	1.134	0.252				-0.375	2.055	0.856
_cons	-3.739	2.930	0.203	-4.749	4.774	0.321	-1.142	2.383	0.632	-1.201	3.539	0.735	-2.984	2.820	0.291	-4.033	4.715	0.394

CAR: cumulative abnormal returns; DV: dependent variable; NCES: non-controlling equity stakes; RMSE: root-mean-square error; ROA: return on assets.
*, **, *** are just to comply with traditional conventions. Statistical significance is reported in numbers.

transactions. More specifically, we argued (and shown) that weak MSP and the presence of a strong controlling shareholder—factors that are renown for exacerbating agency conflicts (Dharwadkar et al., 2000; Johnson et al., 2000; Li and Qian, 2013; Young et al., 2008)—expose acquirers to expropriation practices, thus negatively affecting their ability to capture value from minority acquisitions. In addition, we also argued that the negative effect of agency conflicts is amplified when acquisitions of small NCESs increase the power imbalance between the acquirers and the targets' controlling shareholder and managers. While we could not find evidence that the negative effect of weak MSP varies depending on the size of the NCESs that acquirers purchase, our results indicate that concentrated ownership in the target has an even more negative value effect on acquirers' expected performance when they buy small NCESs.

The identification of agency conflicts as factors that can prevent NCESs' acquirers from capturing value is thus an important contribution of this article. In so doing, this work answers the calls for research that examines the influence of governance mechanisms on acquisitions' outcomes (Anabtawi, 2006; Haleblian et al., 2009) and for research on the identity of those who have the power to influence corporate goals and actions (Hoskisson et al., 2017). In addition, our theoretical framework advances our knowledge of the complex association between acquirers' performance and minority acquisitions (Bogert, 1996) through an understanding that is richer than that offered by the simpler direct-effect models used in the vast majority of ownership studies (Boyd and Solarino, 2016).

Relatedly, our results are also relevant for the academic conversation on minority shareholders' willingness and ability to exercise control over corporate actions and correct opportunistic behaviors. Theoretical perspectives on this matter vary significantly. One view advances that minority equity ownership, while not bringing as much control as a majority stake, still provides substantial control and allows to initiate changes in the composition of the board and in the top management (Barclay and Holderness, 1991; Dyck and Zingales, 2004; Stepanov, 2019). Another view is that such power in reality is quite limited (e.g. Porrini, 2004; Stout, 2012). Arguments diverge also on minority shareholders' incentives to enforce practices of good governance. On the one hand, the corporate-raider perspective (Croci, 2007; Holderness and Sheehan, 1985) suggests that minority shareholders have strong incentives to monitor and influence the management of their firms (Bergh and Sharp, 2015; Shleifer and Vishny, 1986). On the other hand, the free-riding perspective (Grossman and Hart, 1980) argues that minority shareholders have no incentive to do so because they would sustain all the costs of monitoring but would capture a fraction of its benefits, which would mostly accrue to the majority shareholder. Our results contribute to this literature by showing that minority equity ownership is associated to some monitoring ability because acquisitions of larger NCESs reduce the negative effect of a large controlling shareholder in the target. In this sense, the acquisition of large NCESs may be intended as an effective strategy to prevent, or at least mitigate, value losses from minority acquisitions. However, the negative value effects that we attribute to expropriation practices also imply that acquirers are subject to this risk, indicating that the monitoring power of minority shareholders is limited.

Our theory and results are also valuable for their implications for business practice. It has been suggested that poor acquisition performance is partially due to scholarship that offers poor guidance to practitioners, either because of the limitedness of the academic understanding of mergers and acquisitions (M&As) (King et al., 2004) or because scholarly insights are too costly and unfeasible to execute in practice (Haleblian et al., 2009). If such concerns are well-founded when it comes to takeover acquisitions, they are likely to apply even more strongly to minority acquisition research, which is significantly less theoretically developed and thus less capable of offering guidance to practitioners. As a result, our finding that agency problems may explain failures at capturing minority acquisitions' value is an important contribution to business practice. It may be, in fact, that companies are generally unaware of the damaging effects of agency conflicts, which

would explain why empirical research has not been able to find evidence of positive value effects for acquiring firms (e.g. Allen and Phillips, 2000; Fee et al., 2006; Nain and Wang, 2016).

In addition, we would also like to underline that the strict procedure that we used to identify minority acquisitions was instrumental to ensure the methodological rigor that constitutes a strength of this article. In past studies, in fact, researchers seem to have often failed, both conceptually and empirically, to properly discriminate between minority acquisitions and takeovers. As Boyd and Solarino (2016), Contractor et al. (2014) and Park et al. (2008) had remarked, researchers have clearly failed to identify a common unit of analysis in minority acquisitions' studies: they have focused on a spectrum of transactions ranging from small minority shareholding to nearly full ownership. Most commonly, studies have focused on transactions involving the purchase of more than 5% and less than 50% of the target's equity (Akhigbe et al., 2001; Chen et al., 2014 Contractor et al., 2014; Drees et al., 2013; Kang and Kim, 2008; Liao, 2014). Less commonly, other cutoff thresholds have been used: more than 5% (Allen and Phillips, 2000), less than 25% (Fernández and Baixauli, 2003), less than 80% (Chen and Hennart, 2004), and less than 100% equity-purchase (Duarte and García-Canal, 2004; Zhu et al., 2011). Such variance indicates that scholars have not reached an agreement on how to select minority acquisitions. In this respect, we contend that the term "minority" suggests an interest in the acquisition of "not the largest" part of a company's equity. Minority acquisitions would thus differ from takeover M&As in that corporate control does not pass on to the acquirer[8] following the transaction. Consistently, checking whether another shareholder owns a larger stake in the company seems a more adequate selection procedure. Since sampling differences have contributed to the accumulation of mixed findings in research on acquisitions' performance (Franks et al., 1991) and limited the generalizability of results (Haleblian et al., 2009), the complex and rigorous methodology that we followed to ensure that acquisitions of less than 50% did not transfer corporate control, thus, constitutes an important methodological improvement.

Finally, we would like to acknowledge that this study is not without its limitations, which however may offer fruitful opportunities for future research. First, one unavoidable limitation of our empirical approach relates to the methodology that we adopted. Although CAR are the most used measure of acquisition performance due to their ability to reduce the noise produced by other potentially confounding variables, event studies rely on the assumption of market efficiency—that is, that "prices are right" (Oler et al., 2008). Yet, market observers are not really omniscient and current prices cannot conceivably incorporate future information, so that CAR's sensitivity to events' value effects may be reduced or delayed. As acquisition performance is a very complex construct (Cording et al., 2010), minority acquisition research could benefit from studies that attempt to further validate our findings with ex-post accounting performance metrics. Although such measures are not perfect either (being subject to noise, they only have a limited ability to incorporate the impact of acquisitions on firm performance (Haleblian et al., 2009)), in combination with evidence from studies that analyze short-time market responses, they could help scholarship trace a clearer picture of minority acquisitions' outcomes. Second, while the investigation of the performance effects of minority acquisitions is a topic of sure interest for the strategic management field, we think that an exploration of their antecedents is not less relevant. Although extant research has outlined that minority and majority acquisitions have different motivations, objectives, advantages, and shortcoming, it is less clear why and when firms may opt for majority acquisitions that involve less than 50% of the target's equity. These transactions, in fact, have largely been ignored by research on takeovers (that most commonly investigates acquisitions of more than 50% of the target's equity), although both these two kinds of transactions transfer corporate control. On the other hand, as we previously remarked, empirical research on minority acquisitions has most commonly neglected to discriminate between acquisitions that

transfer control and those that do not. Consequently, takeover acquisitions of less than 50% are a kind of transaction about which we are likely to have a limited understanding. We think that it would be especially informative to explore how and to what extent agency conflicts affect these transactions that have commonalities with both minority and majority acquisitions.

Future research may also find inspiration from our empirical results. For instance, we found some evidence of possibly counterintuitive associations, such as positive value effects for acquisitions of targets that are lower in their group hierarchy and negative value effects for both acquirers that have more minority acquisitions experience and for those that already had a portion of the target's equity before acquiring a NCES. First, agency theoretical arguments would suggest that targets that are lower in their group hierarchy are more likely to be subject to expropriation practices, as the ultimate owner of the business group may have incentives to transfer value out of these firms and into others where (s)he has higher cash-flow rights (Bertrand et al., 2002). Yet, our empirical results seem to support the opposing "propping-up" hypothesis (e.g. Bae et al., 2002), which argues that low group-hierarchy firms benefit more from the internal capital market of the business groups. Second, we see that acquirers who have more often undertaken minority acquisitions tend to have more negative CAR. In light of the conventional wisdom that practice improves with experience, this result may seem counterintuitive. Yet, since minority acquisitions most often tend not to lead to value capture, this result may reflect a reasonable skepticism of market observers toward acquirers that more often have engaged in transactions that did not produce value. While a similar logic might also explain negative value effects for firms that increase their minority equity position, a real-option perspective might suggest the opposite relationship: as an inside knowledge of the targets should provide these firms with better information (Ouimet, 2013), acquirers with minority equity holdings should increase their position only if they expect to capture value by doing so. We thus invite future research to shed further light on these possibilities.

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Notes

1. This is also consistent with prior studies (e.g. Allen and Phillips, 2000; Ouimet, 2013).
2. Similar size distributions have been found in other studies on minority acquisitions (Liao, 2014; Ouimet, 2013).
3. Since efficient estimations require a significant time span, we used daily returns over a period starting 250 days and ending 30 days prior to the acquisition and required at least 100 non-zero observations (Liu et al., 2014).
4. https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/
5. Country-level governance measures are preferable for the purpose of this study because they have been found to influence governance scores considerably more than firm-level measures (Doidge et al., 2007).
6. Many countries, over recent decades, have improved their MSP to favor the development of their stock markets (La Porta et al., 1998; O'Sullivan, 2003).

7. We also checked the robustness of these results on the (–1, 0) time window.
8. Akhigbe et al. (2001) claim, consistently with this argument, that since they "wish to assess partial ownership but not complete control, the total ownership of the partial acquirer cannot exceed 49.90 percent of the target's shares" (p. 101). Similarly, Zhu et al. (2011), identified acquirers that obtained the target's control by distinguishing partial acquisitions of more than 50% from the others.

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