The University Of Sheffield.

Department Of Economics.

Sheffield Economic Research Paper Series.

Foreign vs Domestic Acquisitions on Financial Risk Reduction

Vassiliki Bamiatzi, Georgios Efthyvoulou and Liza Jabbour

ISSN 1749-8368

SERPS no. 2016003

February 2016

Foreign vs Domestic Acquisitions on Financial Risk Reduction[1]

Vassiliki Bamiatzi[2]
University of Leeds

Georgios Efthyvoulou[3]
University of Sheffield

Liza Jabbour[4]
University of Birmingham

February 2016

Abstract

This paper examines the role of foreign versus domestic ownership in improving the financial health of acquired firms. In particular, it explores the impact of foreign and domestic acquisitions on financial risk reduction of acquired firms in Italy and Spain over the period 2002-2010. To estimate causal relationships, we control for selection bias by applying propensity score matching techniques. Our results indicate that foreign acquisition leads to a significant and steady reduction in financial risk. In contrast, the relationship between domestic acquisition and financial risk appears to be smaller and statistically less robust.

JEL classification: F23; O33; D24

Keywords: financial risk; capital structure; acquisitions; foreign investment

[1] This paper was developed as part of the SERVICEGAP project, which was funded by the European Commission, Research Directorate General as part of the 7th Framework Programme, Theme 8: Socio-Economic Sciences and Humanities, Grant Agreement no: 244 552. The authors wish to thank Ian Gregory-Smith, Maria Gil Molto and the participants of a seminar at the University of Birmingham and the SERVICEGAP meeting in Dublin for useful comments and suggestions. The usual disclaimer applies.

[2] Address: Leeds University Business School, Maurice Keyworth Building, University of Leeds, Leeds, LS2 9JT, United Kingdom; Tel.: +44 (0)113 343 8292; Email: vb@lubs.leeds.ac.uk

[3] Address: Department of Economics, University of Sheffield, 9 Mappin Street, Sheffield, S1 4DT, United Kingdom; Tel: +44 (0) 114 222 3412; Email: g.efthyvoulou@sheffield.ac.uk

[4] Address: Birmingham Business School, University of Birmingham, Edgbaston Park Road, Birmingham B15 2TT, United Kingdom; Tel.: +44 (0) 121 414 8302; Email: l.jabbour@bham.ac.uk

1. Introduction

In the current paper, we examine the influence of foreign ownership on the financial risk of acquisition targets. We revert to different strands in international business and finance literature to decipher the impact of cross border acquisitions on financial risk reduction, an element that is underexplored.

The impact of foreign ownership on performance has been in the forefront of international business and finance literature for several decades. Yet, findings remain inconclusive. There is an abundance of evidence supporting the superiority of foreign owned firms over their domestic counterparts (Boardman et al., 1997, Douma et al., 2006, Gedajlovic, 1993). From a resource based view, firms owned by foreign firms, typically large ones, can benefit from firm-specific advantages of the parent company, -- i.e. technological expertise, networking, access to capital etc. -- which can positively influence firm performance (Aybar and Ficici, 2009, Douma et al., 2006, Dunning, 1998). From an agency point of view, foreign firms are assumed to be better monitored and controlled, presenting an overall more robust financial performance (Jensen and Meckling, 1976, Thomsen and Pedersen, 2000), particularly in institutional settings with weaker governance (Heugens et al., 2009). Nevertheless, industry and country specific factors (Barbosa and Louri, 2005, Globerman et al., 1994), agency costs (Demsetz and Villalonga, 2001) and/or information asymmetries (Aybar and Ficici, 2009, Abdioglu et al., 2015) have been reported to offset the benefits of foreign ownership.

Empirical studies on cross-border acquisitions have also offered insights to the debate, with several studies supporting a positive impact on performance (Li et al., 2015, Markides and Ittner, 1994, Ning et al., 2014). Yet, this strand has mainly focused on standard performance variables, and specifically profitability, sales growth, or market power (Aybar and Ficici, 2009, Doukas and Travlos, 1988, Markides and Ittner, 1994, von Eije and Wiegerinck, 2010). The few studies that have explored the impact of cross border acquisitions on wider performance measures, such as productivity, operational profitability or market value (Boardman et al., 1997, Ning et al., 2014), have presented, in most cases, contrasting results. Additionally, very few have explicitly compared foreign versus domestic acquisitions to help establish the dominance of either group (Arnold and Javorcik, 2009), and even fewer have looked at the impact on the target rather than the acquirer (Haleblian et al., 2009).

With the 7th global Merger Wave[5] well under way, and acknowledging the importance of cross border acquisition as an internationalization strategy (Dunning, 1998, Li et al., 2015), we believe that it is imperative to better understand the impact of foreign acquisitions on the performance of both acquirer and target firms. Additionally, and while most major economies seem to be recovering from another global economic crisis, it is clear that financial risk management is key to sustainable firm performance. So far foreign ownership has been associated with lower financial risk[6] and thus better performance (Fatemi, 1984, Michel and Shaked, 1986). Meanwhile, foreign owned entities can overcome financial restrictions in their environments more easily than their domestic counterparts (Alfaro and Chen, 2012, Desai et al., 2008, Harrison and McMillan, 2003, Varum et al., 2014). Yet, what we do not know is *whether foreign ownership can in fact reduce leverage and financial risk*. To our knowledge, none of the former studies have explicitly factored in the impact of cross-border acquisitions on financial risk reduction.

Our study contributes to the international business literature in three distinct ways. First, we explore the relationship between changes associated with foreign ownership and the financial health of the target firms. We particularly examine the causal effect of acquisitions on two measures of firm-level financial risk: 'Gearing' (short and long term debt to shareholders funds ratio) and 'Leverage' (short term debt to total assets ratio). Second, we particularly compare matching samples of both domestic and foreign acquired firms. This research design allows us to isolate and measure the effect of foreign ownership with a high degree of confidence. Third, we focus on two economies, namely Italy and Spain, which have received limited attention in the relevant literature. Extant research has placed a particular emphasis on large market-based economies, such as the USA and the UK. Nevertheless, Italy and Spain, are two of the largest bank-based economies in the world. As such, they are less efficient at allocating capital, managing risks and encouraging governance compared to market-based financial systems (see Levin, 2002; Holmstrom & Tirole, 1993; Hillier et al., 2011). The absence of more developed stock and private equity markets, introduce additional difficulties for domestic firms in raising new capital. Hence, in economies like Italy and Spain, the presence of foreign investors -- acting as market substitutes -- may be central to the overall market growth. Consequently, a better understanding of the effects of foreign investment,

[5] …starting in 2011, as a consequence of the rise of the big emerging countries (BRICs).

[6] Michel & Shaked (1986) have reported that domestic corporations are significantly less capitalized, have higher systematic and total risk relative to multinationals. Fatemi (1984) claimed that foreign owners would provide shareholders with risk-return opportunities, superior to those provided by domestic firms.

especially in less market-oriented economies, is of crucial importance with managerial and policy implications.

The paper proceeds as follows. Section 2 discusses in more detail how our contribution is related to previous studies; Section 3 outlines the empirical model specification and describes the data; Section 4 reports the empirical results and investigates their robustness; Sections 5 and 6 provide discussion, conclusions and further implications.

2. Literature Review and Hypotheses Development

An extensive number of scholars from different strands of the literature have been involved in deciphering the impact of foreign vs domestic ownership and performance. Despite the voluminous studies, findings remain still inconclusive, with empirical studies depicting both positive and negative relationships.

2.1. Foreign vs Domestic Ownership and Performance

Three main theories have been put forward in deciphering the ownership – performance relationship: the resource based view, the agency and the institutional theory.

From a resource based view, firm heterogeneity is attributed to firm-specific resources and capabilities which are both valuable and difficult to imitate within a certain domain. The international business literature has advocated that one of the drivers for internationalization is the possession of ownership-specific advantages, not available to domestic firms in the host countries (Aybar and Ficici, 2009, Barbosa and Louri, 2005). Technological expertise and specialized production processes, superior management and marketing capabilities, trusting relationships with distributors and customers, as well as access to financial and human capital are only some of the key advantages identified (Caves, 1996, Douma et al., 2006, Dunning, 1998, Heugens et al., 2009). When effectively deployed in a foreign market, these advantages help their proprietors exploit host market imperfections, can offer them efficiency and market power advantages, while help them overcome transaction costs, the liability of foreignness and other barriers of internationalization (Barbosa and Louri, 2005, Buckley, 1988, Dunning, 1998, Harris and Robinson, 2003, Markides and Ittner, 1994).

On these grounds, foreign ownership has been associated with positive performance and several scholars have provided evidence for the superiority of foreign firms over their domestic counterparts (Boardman et al., 1997, Caves, 1996, Douma et al., 2006, Gedajlovic, 1993, Heugens et al., 2009). For example, Boardman et al. (1997) argued that foreign subsidiaries display superior performance than their domestic counterparts, mainly due to the formers' possession of unique tangible and intangible assets. Studying the 500 largest non-financial Canadian businesses, they indeed revealed a clear performance dominance of multinational firms over the domestic ones, corroborating earlier Canadian studies by Shapiro (1980) and Gedajlovic (1993). Moreover, foreign ownership has been associated with higher overall productivity (Harris and Robinson, 2003), and greater firm resistance to domestic demand contractions (Varum et al., 2014).

From an agency point of view, agency problems within a corporation have been attributed to conflicting desires between the principals (shareholders) and the agents (managers), particularly when the former are too disperse (Douma et al., 2006, Jensen and Meckling, 1976). Foreign corporate ownership has been associated with both positive and negative effects on performance: the costs and benefits associated with higher control (monitoring). On one hand, foreign ownership has been known to enhance managerial control and hence shareholder protection, especially in the presence of institutional voids (Heugens et al., 2009). By exhibiting higher concentration of share ownership, corporate foreign owners, such as large multinationals, can "set and effectively impose control mechanisms that maximize performance and minimize managerial opportunism" (Jensen and Meckling, 1976; 17), leading to the dominance of foreign over domestically owned companies (Boardman et al., 1997, Boardman and Vining, 1989, Thomsen and Pedersen, 2000). On the other hand, agency costs associated with the imposition of control mechanisms, along with tunneling effects and minority shareholder expropriation, are negative influences of foreign ownership, which could cancel out the positive effects on performance (Demsetz and Villalonga, 2001, Heugens et al., 2009).

From an institutional perspective, it has also been firmly suggested that firm, industry and country factors affect significantly the ownership-performance relationship. In fact, industry characteristics such as industry concentration, size, growth, intensity and dynamism, the country level of development, as well as firm size and age, have been ascribed to significantly influence multinational spillover effects, performance and efficiency levels. In

some cases, these factors have even been reported to offset any positive effects of foreign ownership. Indeed, Globerman et al. (1994), in contrast to Shapiro (1980) and Gedajlovic (1993), reported no significant differences between Canadian domestic and foreign firms, once controlling for the effects of capital intensity and size. Similarly, Barbosa and Louri (2005) revealed that foreign firms in Greece and Portugal are not exhibiting higher performance evidence when controlling for size and industry dominance. Meanwhile, Heugens et al. (2009) showed that although ownership concentrated is generally positively related to performance in Asia, it varies across different contexts and level of concentration.[7]

2.2. Cross-Border Acquisition and Performance

Acknowledging that cross-border acquisition is an important entry strategy for internationalization (Dunning, 1998, Li et al., 2015), this body of literature has contributed significantly to the foreign ownership – performance relationship debate.

Cross-border deals are accredited a higher impact on performance than domestic ones due to expectations of synergistic gains associated with the firm-specific advantages brought in the host-market by the foreign acquirers (Aybar and Ficici, 2009, Doukas and Travlos, 1988, Douma et al., 2006, Li et al., 2015, Markides and Ittner, 1994). Therefore, it has been long argued that a firm's foreign-acquisition announcement should be viewed positively by the market, as a signal "to transfer or expand a firm's resources internationally that will enable the firm to exploit uniquely international distortions in capital markets or production" (Doukas & Travlos, 1988: 1162); this should be manifested in the acquirer's increased market value after the announcement of the deal.

Indeed, Markides and Ittner (1994) revealed that acquirers with higher intangible firm-specific advantages typically enjoy higher returns and higher market acceptance (positive reactions to C-B announcement) than their domestic counterparts. These findings are corroborated by Chari et al. (2009) and Kohli and Mann (2012), who showed that firms with intangible firm-specific assets enjoy heightened post-merger performance, and higher post-market reaction to the announcement of the deal. Similar evidence can also be found in emerging market studies. For example, Ning et al. (2014) and Li et al. (2015) explored 335

[7] Concentrated ownership exhibit a strong and positive influence to firm performance in Japan, S. Korea, India and Taiwan, but insignificant in China, Malaysia, Singapore and Thailand.

and 367 cross-border acquisitions from Chinese MNEs respectively. Both studies showed a strong positive market reaction to the announcement deals, despite the cultural barriers associated with these deals.

Nevertheless, a consensus is yet to be reached regarding the overall cross border acquisition - performance relationship (Martynova and Renneboog, 2008). Not only some empirical studies have provided evidence suggesting a negative relationship between cross border activities and performance (Aybar and Ficici, 2009), but the existence of factors moderating the above relationship has raised further concerns. For example, Bertrand and Betschinger (2012), after examining 120 cross-border deals among Russian medium and large firms, discovered a consistent negative impact on the acquirer's profitability, which was neutralized only for the industry related (horizontal) deals. Li et al. (2015) also reported that although industry similarity doesn't guarantee a positive outcome, it can significantly mitigate the post-merger acquisition performance relationship. Finally, several studies have emphasized the time horizon of the performance effects, denoting that a positive effect of a cross-border deal might be present only during the first couple of days of the announcement, but not in the longer run (Barbopoulos et al., 2014, Ning et al., 2014).

The negative-diversification discount hypothesis,[8] agency costs, liability of foreignness, lack of experience in acquisitions, and information asymmetries are some of the key explanations provided to justify the negative performance effects (Aybar and Ficici, 2009, Doukas and Travlos, 1988). Differences among measures of performance have also been highlighted as an explanation for the lack of convergence among the empirical findings. Whereas most of the relevant studies have used profitability measures to examine performance effects, like the return on assets (ROA), other performance measures, such as sales, market value, operational profitability and productivity, have offered different insights (Boardman et al., 1997, Ning et al., 2014, Thomsen and Pedersen, 2000). For example, both studies by Boardman, et al. (1997) and Thomsen and Pedersen (2000) showed that while ownership concentration was positively related to ROA, it was insignificant for sales growth or other productivity measures, and negative for market-to-book value. More recently, Ning, et al. (2014) found that although short term (2 and 3-day event windows) outcomes were generally positive for

[8] In efficient market conditions, the announcement of a foreign acquisition should have a negative signal, denoting the inability of the firm to further utilize its resources internally. This coupled with the high agency costs of monitoring cross border activities, should have an overall negative effect on performance.

the acquirer, in the longer term they remained positive only for operational profit margins but turned negative for both ROA and Tobin's q measures.

It is noteworthy that although in all relevant studies the superiority of foreign acquisitions have been implied, most of the existing studies do not make a distinction between foreign and domestic acquisitions. Few notable exceptions provide however indication for distinct differences among the groups. For example, Arnold and Javorcik (2009), distinguished between foreign and domestic privatization cases in Indonesia, and revealed positive effects for foreign ownership alone. Hijzen et al. (2013) considered changes of ownership from foreign to domestic and from domestic to foreign in five countries; they showed that only the latter is associated with a large positive wage premium, driven by the creation of high-skilled jobs. Furthermore, the majority of the empirical studies have concentrated on acquirer's performance rather than the performance of target firms (Haleblian et al., 2009). Yet, the few that have focused on the latter have showed target returns to be higher than those achieved by the bidders (acquirers), particularly for the longer term.

The above discussion suggests that it is rather precarious to make assumptions for the foreign ownership – target performance relationship based on past findings, since they majorly ignored the distinct differences between acquirer vs target firms, and any discrete superior effects of foreign over domestic deals (if any).

2.3. The Role of Leverage on Risk and Performance

As noted above, performance measures might have been a reason for the inconsistencies in the foreign ownership - performance relationship. While the majority of relevant studies have focused mainly on a few profitability, market or sales measures,[9] the link between foreign ownership and risk has never been properly explored.

A substantial literature within international business and finance has long explored the relationship between capital structure -- and leverage in particular -- and firm performance.

[9] A notable exception is the study by Arnold and Javorcik (2009), which considered a wide range of outcomes that can potentially be influenced by foreign owners. Using data from Indonesia, they found that foreign acquisition contributed to significant improvement of a firm's productivity, leading to an expansion of the firm in terms of output, scale, average wage, investment and participation in foreign markets.

The complexity of the linkages between the levels of debt and performance has been highlighted, whereas arguments suggesting a bi-directional causality relationship have been put forward (Berger and Di Patti, 2006).

It is well acknowledged that optimal capital structure is the result of a trade-off between benefits and costs associated with debt (Modigliani and Miller, 1958). Debt financing may lead to tax savings and a reduction of agency costs. However, debt also increases the risk of financial distress and raises the direct and indirect costs associated with bankruptcy. According to agency theory (Harris and Raviv, 1991, Jensen and Meckling, 1976), higher levels of leverage have a positive impact on performance. Higher levels of debt, compared to equity, are expected to reduce agency costs by aligning the interests of managers with those of shareholders. Greater leverage increases the threat of liquidation which causes personal losses to managers in terms of salaries and reputation (Grossman and Hart, 1982), whilst increases pressure on managers to generate the cash flow required to pay interest expenses (Jensen, 1986). Nevertheless, at higher levels of leverage, additional debt can result into precarious increases in agency costs. In such cases, overall interest expenses may further escalate, in an attempt to compensate debt holders for facing a higher risk of financial distress and bankruptcy (Berger and Di Patti, 2006). Moreover, high level of leverage may further limit the capacity of a firm to engage with valuable investment opportunities that could have a potential positive effect on its value, specifically for firm facing higher growth opportunities (Myers, 1977).

The stakeholder theory developed by Titman (1984) provides additional insight on the implications of bankruptcy risks, associated with high levels of leverage, and their impact on firm performance. This theory highlights that financial distress and bankruptcy risk affect not only a firm's financial stakeholders, but a wide range of stakeholders like suppliers, customers, and employees. This is particularly relevant for firms that have unique products (Kale and Shahrur, 2007, Titman and Wessels, 1988) and engage in relation specific investments with their customers, suppliers, and employees. A firm's bankruptcy risks impose costs (e.g. switching costs) on its stakeholders in case of liquidation. Customers and suppliers will be unwilling to engage in relation specific investments with a firm facing significant bankruptcy risks, whereas reduction in human capital investment (Jaggia and Thakor, 1994) could lead to negative impact on total firm value given the importance of human capital for competitiveness (Pfeffer, 1994).

All the above suggests a non-monotonic relationship between leverage and performance, and highlights that in situations where financial risk is exasperated, higher levels of leverage may reduce the value of the firm and negatively impact its performance. In addition, many exogenous factors might be impacting on the relationship. For example, environmental factors and macroeconomic shocks play an important role in determining the optimal capital structure of a firm. The presence of asymmetric information reduces the capacity of lenders to accurately assess the credit worthiness of firms. When macroeconomic risks increase, lenders will require higher premium risks which is expected to reduce the capacity of firms to raise external funds (Caglayan and Rashid, 2014). Increased risk reduces cash flow and imposes higher costs on the firms, including input costs, production costs, management costs and sales costs (Amit and Wernerfelt, 1990).

2.4. Foreign vs Domestic Ownership and Financial Risk

The extant literature of foreign ownership on firm behavior and performance is rather restricted to the implications on profitability. There has been limited attempt to explicitly link the role of foreign ownership with financial risk implications of the target (domestic) firms.

Early studies in finance have already suggested that foreign ownership can lead to lower financial risk and as such offer higher performance (Fatemi, 1984, Michel and Shaked, 1986). In addition, studies that have concentrated on firm behavior during financial crises are in support of a positive contribution of foreign ownership. For example, Harrison and McMillan (2003) investigated the impact of foreign direct investment on domestic firms' credit constraints in the Ivory Coast. Their results showed that domestic firms experienced credit constraints while foreign-owned firms did not. Blalock et al. (2008), examined firm performance in Indonesia in the aftermath of the 1997 East-Asian financial crisis, and revealed that foreign ownership limited the extent of credit constraints through easier access to capital from the international market or from the parent firm. Similarly, Desai et al. (2008) found the affiliates of US multinationals in emerging markets to exhibit superior performance than local firms by relying on internal capital flows within the multinational firm. Finally, Alfaro and Chen (2012) provided evidence that affiliates of multinationals were more resilient to the financial crisis of 2007-2008, particularly those with strong production and financial linkages with the parent company.

In the aftermath of the global economic crisis, it is clear that financial risk management is key to sustainable firm performance. Especially in bank-based economies like Spain and Italy, which are less efficient at managing risks and encouraging governance (Levin, 2002; Holmstrom & Tirole, 1993; Hillier et al., 2011), improving financial risk management could be detrimental for the economy. From the above discussion, it can be inferred that foreign ownership may, among others, act as a buffer against challenging economic contexts. But *how will this manifest in the case of changing ownership from domestic to international*? In other words, *will the acquisition of a firm's control by a foreign entity be beneficial particularly in contexts, where liquidity and capital constraints are present*?

To our knowledge, no study has explicitly tested this empirical question. We expect that firms acquired by foreign investors, by enjoying greater availability and stability of internal funds, lower dependence on short-term borrowing and long-term debt, will result in lower levels of leverage, as also showcased by Greenaway et al. (2014). We test our hypothesis by particularly comparing matching samples of both domestic and foreign acquired firms for Italy and Spain, two southern European economies that were severely affected by the 2007-2008 global financial crisis.

3. Research Design

In this section we present the empirical methodology, data sources, and preliminary descriptive statistics relating to acquisitions in Italy and Spain and to the main variables that we use.

3.1. Data Sources

We base our analysis on financial account data (unconsolidated) extracted from the Amadeus data set for firms in Italy and Spain for the period between 2002 and 2010. We limit our sample to firms that are classified as public or private limited firms and that operate in manufacturing and services industries. To be included in our sample, firms must also have employment data for at least one year. Financial institutions and insurance companies are excluded from the analysis due to compatibility issues with the format of financial accounts. Information on acquisitions is retrieved from the Zephyr database and matched to Amadeus

data using firm identifiers of acquired firms.[10] This matching process allows us to identify Italian and Spanish firms that were acquired during the period of study, as well as the nationality of the acquiring firm.

The extracted (monetary) variables for manufacturing firms are deflated using industry producer price indices at the 2-digit NACE code level, whereas those for services firms are deflated using the GDP deflator with base year 2005. Data on price indices and employment size classes at the country-industry level are collected from Eurostat. The final sample is an unbalanced panel with more than 500,000 firm-year observations for each country.

3.2. Empirical Methodology

The key objective of our empirical analysis is to evaluate the causal effect of both foreign and domestic acquisition on firm's leverage and gearing. To do that, we compare leverage and gearing measures for foreign and domestically acquired firms with the performance of non-acquired firms.

To control for endogenous factors affecting the acquisition decision process,[11] we follow recent empirical work on international investment and foreign ownership (Arnold and Javorcik, 2009; Alfaro and Chen, 2012) and compute the acquisition effect using propensity score matching, as suggested by Heckman et al. (1997). Formally, the effect of acquisition in a given time period can be expressed as:

$$E\big((Y_1 - Y_0)\big|Acq = 1\big) = E(Y_1|Acq = 1) - E(Y_0|Acq = 1) \qquad (1)$$

where Y denotes the outcome of interest and the subscript of Y represents the hypothetical circumstances under which the outcome is evaluated, taking the value one for foreign (domestic) acquisition and zero for non-acquisition. In particular, we focus on two outcome variables measuring the firm's capital structure; namely 'Leverage' (ratio of short term debt to total assets) and 'Gearing' (short and long term debt to shareholders funds ratio). In other words, Eq. (1) represents the difference between the outcome measure for an acquired firm and the analogous measure for the same firm had it not been acquired. The latter, however, is

[10] The availability of acquisition deals in Zephyr at the time of extraction was relatively lower in 2010 (see Table 1). However, excluding the year 2010 does not change our results.

[11] Such as self-selection of large and more productive firms (Helpman et al., 2004) and/or "cherry-picking" of the best performing ones (Harris & Robinson, 2003).

an unobserved counterfactual, and hence we need to construct it using the matching procedure; that is, by identifying a non-acquired match with similar observable characteristics for each acquired firm. The underlying assumption for the validity of this approach is that, conditional on observable characteristics, the treated (acquired firms) and the matched non-treated (non-acquired domestically owned forms) would perform similarly under the same circumstances. To this end, we can re-write Eq. (1) as:

$$[E(Y_1|Acq = 1, X) - E(Y_{10}|Acq = 0, X)] - [E(Y_{01}|Acq = 1, X) - E(Y_{10}|Acq = 0, X)] \quad (2)$$

where the first term captures the causal effect of acquisition (the difference between the outcome of acquired firms and a group of non-acquired domestically owned firms with similar observable characteristics) and the second term captures the selection bias (the difference between the outcome of acquired firms, under the hypothetical circumstances that they had not been acquired, and the outcome of non-acquired domestically owned firms). X is a vector of observable characteristics. Our aim is to minimize the selection bias by applying propensity score matching techniques and thus estimate the causal effect of acquisition as the difference in the sample average of the outcome for treated and non-treated firms.

As shown by Rosenbaum and Rubin (1983), conditioning on all variables in the treatment model is equivalent to conditioning on the propensity score (the predicted probability of treatment), which in our case is the conditional probability of acquisition given firm characteristics and past firm performance. We thus proceed in two stages. In the first stage, we estimate the propensity score, separately for each country, using the following probit model:

$$'Acquisition'_{inry} = \Phi\{\beta \boldsymbol{Z}_{inry-1} + \lambda_n + \eta_r + \psi_y + \epsilon\} \quad (3)$$

where 'Acquisition' is a dummy variable that equals one in the year of a foreign (domestic) acquisition, and zero if the firm is not foreign-owned or a multinational and has not been acquired during the sampled period. Ownership is captured by any ownership stake over a threshold of 50% of total shareholding. Φ denotes the cumulative distribution function of a standard normally distributed random variable, $\boldsymbol{Z}$ is a vector of control variables, expressed in natural logarithms and lagged by one year to account for pre-acquisition characteristics; i, n, r, y index firm, industry (at 2-digit NACE code level), region (at NUTS 2 code level), and time, respectively. We follow the existing literature on acquisitions and include the following control variables in vector $\boldsymbol{Z}$:

Productivity: measured as turnover per employee. Turnover corresponds to total operating revenues measured as net sales plus stock variations and other operating revenues.

Scale: measured by the number of employees.

Age: measured by the number of years since establishment.

Capital to labour ratio ('K/L'): measured as tangible assets by employee.

We also include the outcome variable and its squared term:

Leverage: measured as the ratio of short term debt to total assets, where total assets is the sum of current assets and fixed assets and short term debt corresponds to the sum of short term financial debts to credit institutions (loans and credits) and part of long term financial debts payable within the year.

Gearing: measured as the ratio of short and long term debt to shareholders funds.

The addition of the outcome variable and its square term ensure that matches assigned on the propensity score will be homogeneous in terms of their previous capital structure. To capture unobserved heterogeneity, we also include industry (λ_n), region (η_r) and year (ψ_y) fixed effects. Finally, to ensure that the sample is representative of the relevant population of firms in each industry, all regressions are weighted by size classes at the industry level. More specifically, firms are divided in five size classes based on the median number of employees; with categories being: less than 10, between 10 and 19, between 20 and 49, between 50 and 249 and 250 or more.

In the second stage, we employ five-nearest neighbors matching[12] and compare the outcome variables within observations matched by the propensity score. More precisely, each treated firm t is matched with $N_t^c = 5$ controls that are closest in terms of the propensity score. The outcome variable of each of the controls c matched to treated firm t is weighted by $W_{tc} = 1/N_t^c$. We also impose the restriction that the matched control observations must come from

[12] In the five-nearest neighbors matching, the counterfactual outcome is made up of the average of the five control group observations closest in their propensity score to the treated observation. To reduce the likelihood of poor matches, the matching is carried out with replacement (each control can serve as the counterfactual for more than one treated observation) using a 0.005 caliper (the difference in the propensity score between treated and control observations). In addition, we exclude observations outside the common support, bound by the lowest propensity score of a treated observation and the highest propensity score of a matched control observation.

the same industry, size class, and productivity group[13] as the acquired firm. This eliminates the probability that different levels of capital structure across industry, size, and productivity combinations exert influence on our estimated results. To examine whether the model for the propensity score is misspecified, we perform tests of the balancing property; that is, we test the significance of differences between acquired and matched firms for each variable entering the propensity score estimation. Formally, the average treatment effect ('ATT') of acquisition in the year of acquisition (when $j = 0$) and the subsequent three years (when $j = 1,2,3$) is calculated as:

$$ATT_j = \frac{1}{N}\sum_{1}^{N}(lnY^{t}_{acquisition\ year+j}) - \frac{1}{N}\sum_{1}^{N}(W_c lnY^{c}_{acquisition\ year+j})\ \ j = \ 0,1,2,3 \quad (4)$$

where $W_c = \sum_t W_{tc}$.

3.3. Descriptive Statistics

Table 1 summarizes the number of foreign and domestic acquisitions and the number of pre-matched control observations by country and year. It shows a steady increase of domestic and foreign acquisitions in both countries up to 2008, followed by a drop of acquisitions in 2009. Table 1 also shows a larger number of domestic acquisitions compared to foreign acquisitions, in both countries and all years.

---- Insert Table 1 here ----

Table 2 lists the top ten home countries of foreign acquirers, separately for Italy and Spain. These top 10 countries account for almost 80% of all acquisition deals. As we can see from this table, most acquirers originate from other European countries. More precisely, 70% of foreign acquisitions of Spanish firms and 60% of foreign acquisitions of Italian firms are made by acquirers originating from other European economies. Outside Europe, firms from the United States hold a significant share of the foreign acquisitions (18.45% in the case of Italy, and 12.5% in the case of Spain). Furthermore, most acquirers originate from developed economies, and only India appears in the top 10 of home countries for acquisitions made in Italy.

[13] We divide firms into five productivity groups based on the median value of the turnover per employee.

---- Insert Table 2 here ----

Table 3 presents descriptive statistics of the main variables, while distinguishing between three categories of firms; firms acquired by foreign companies, firms acquired by domestic companies, and domestic non-acquired firms. We can observe here that, on average,[14] target firms are more productive, larger and older than non-acquired domestic firms; they are also less capital intensive, have a lower gearing ratio but a higher leverage ratio in comparison to domestic non-acquired firms. When comparing between foreign and domestic acquisitions, we can see that firms acquired by foreign companies are larger, more productive, less capital intensive and have a lower gearing ratio than firms acquired by domestic investors.

---- Insert Table 3 here ----

4. Findings

4.1. Determinants of Foreign and Domestic Acquisition

Table 4 presents the results of the estimation of Eq. (3) for each country, exploring some of the most prevalent factors influencing the decision of a foreign or domestic investor to acquire a firm in Italy or Spain.

---- Insert Table 4 here ----

As a first point, we can notice that, as expected, highly productive firms are more attractive to foreign acquirers than to domestic acquirers: the estimated coefficient on 'Productivity' appears to be positive and statistically significant only in the equations estimating the probability of foreign acquisition. Past studies have already suggested that foreign investors tend to prefer well-performing firms to invest in (Harris & Robinson, 2003; Helpman et al., 2004). On the contrary, domestic investors who have better knowledge of the local market, customers, and business networks, rely less heavily on observable information (i.e. productivity) to select their potential targets.

[14] ... and before controlling for industry, time and region specific effects.

Furthermore, we find a positive and statistically significant relationship between acquisition and size (measured in terms of the number of employees) for both countries, and a negative relationship between acquisition and age for Italy. On one hand, large, established firms, having considerable market experience and assets to offer, can be seen as more reliable investment options, particularly in less efficient markets, like Italy and Spain (Healy, et al. 1992; Barbosa and Louri, 2005). On the other hand, younger firms can potentially offer higher growth opportunities for their acquirers, able to offset the liabilities of experience and size.

Capital intensity is also found to significantly affect acquisitiveness, as also shown in the studies of Shapiro (1980) and Gedajlovic (1993). Yet, the impact of capital intensity is different across the two countries: foreign acquirers of Italian firms tend to favor higher capital-labour ratios, whereas those of Spanish firms tend to favor lower capital-labour ratios. Finally, acquisitiveness is significantly influenced by industry, year and region specific effects (coefficients not reported).

It is noteworthy to add, that in the case of Italy prior capital structure does not seem to be a determinant factor of acquisitions, foreign or domestic. Nevertheless, Spain seems to be a different case altogether; we do find that in Spain higher levels of leverage do increase the probability of foreign acquisitions, while reducing the probability of domestic acquisitions.

4.2. The Impact of Acquisitions on the Capital Structure of Acquired firms

The predicted probabilities (or propensity scores) of acquisition, calculated using the estimates presented in Table 4, form the basis of the matching procedure. We thus proceed by considering the results from the five-nearest neighbors matching.

Panel (a) of Table 5 shows the ATT of foreign acquisition on ‘Gearing’. The evidence obtained suggests that foreign acquisition leads to a significant and steady reduction in long term debt ratio: while the treated and control groups start with very similar levels of ‘Gearing’ in the pre-acquisition period, the former exhibit lower levels of debt in the subsequent years. Specifically, during the year of acquisition, foreign-acquired Italian (Spanish) firms have 49% (40%) lower gearing ratio compared to their matched control observations. The reduction in the ‘Gearing’ ratio progresses to 62% (54%) in the first year

following the acquisition, reaches its peak at 67% (81%) in the second year, and declines moderately to 57% (78%) in the third year.[15] The relatively small impact of foreign acquisition in Year 0 suggests the presence of restructuring costs that increase the gearing ratio in the year of completion.

Panel (b) of Table 5 shows the ATT of domestic acquisition on 'Gearing'. The results indicate that, when firms are acquired by domestic investors, changes to the capital structure are smaller and statistically less robust. More precisely, for Italian firms, the ATT of domestic acquisition is negative and statistically significant in all four years, but appears to be substantially lower in absolute value compared to that of foreign acquisition. For instance, in the three post-acquisition years, reduction in the gearing ratio of acquired firms amounts to 24%-32% compared to the control group. However, for Spanish firms, the ATT of domestic acquisition is positive (acquired firms have higher gearing ratio than their non-acquired local matches) and marginally statistically significant in the year of completion, but fails to reach statistical significance in the three years thereafter. Formal paired t-tests between acquired and matched control firms fail to reject the balancing hypothesis for all variables entering the propensity score estimation, confirming that our matching procedure has grouped together relatively homogeneous firms (see Table A.1 in the Appendix).

The decrease in debt associated with foreign acquisition is verified when we use 'Leverage' as the outcome variable (see panel (c) of Table 5). The results indicate that foreign-acquired firms exhibit on average lower leverage ratios than their matched control observations: the reduction in leverage ratio of treated firms is both statistically and economically significant, starting from 60% and 24% in the acquisition year (for Italy and Spain respectively) and reaching a peak at 89% and 84% in the second year after acquisition. In contrast, the effect of domestic acquisition on 'Leverage' is either small or statistically insignificant or of the opposite sign (see panel (d) of Table 5). For instance, in the case of Spain, we detect a positive and statistically significant rise in short term indebtedness during the completion year and the two post-acquisition years.

---- Insert Table 5 here ----

[15] Since the ATT is calculated for the log of the gearing ratio, the reported percentages are obtained by taking the exponential of the ATT and subtracting one.

4.3. Robustness Tests

We perform a number of tests to assess the robustness of the above findings (results available upon request).

First, we implement changes to the propensity score equation, such as adding profitability ratios and square terms of scale and age among the regressors. Second, we consider alternative matching methodologies, including the one-to-one nearest neighbor matching and Epanechnikov kernel matching. The results obtained from these tests provide evidence that supports the findings of the previous section: foreign acquisition leads to a significant and steady reduction in 'Gearing' and 'Leverage', whereas domestic acquisition is associated with smaller and statistically less robust (or of the opposite direction) effects.

Third, we check whether the observed differences between foreign acquired, domestically acquired and non-acquired firms are uniquely associated with the crisis and post-crisis years. To investigate this issue, we restrict the sample to include the pre-2008 period and carry out the same analysis as before. Despite the obvious comparability problems with this approach (due to the smaller number of matched cases), the matching estimates for the pre-crisis period are similar to those for the full sample period and lead to the same inferences. This suggests that the capital structure effects of foreign acquisitions in Italy and Spain are not driven by the fact that the acquiring firms are originating from countries that were less severely affected by the crisis.

5. Discussion and Conclusions

In this paper, we investigate the role of foreign versus domestic ownership in improving the financial health of acquired (target) firms. We particularly investigate the impact of foreign and domestic acquisitions on financial risk reduction of acquired firms in Italy and Spain.

The empirical literature has been predominately concentrated on the post-acquisition performance relationship of acquiring firms, while measuring performance mainly in productivity and profitability terms (Li et al., 2015, Markides and Ittner, 1994, Ning et al., 2014). Our study contributes to this body of literature in two distinct ways. First, we provide clear evidence of the impact of foreign and domestic acquisitions on the performance of the

target firms and offer an appreciation of how the change in ownership affects the counterparty instead. Second, we examine measures of financial risk (namely, gearing and leverage), which have never been explicitly examined in the past, to further augment our understanding regarding the overall performance impact of a change in ownership.

In order to estimate the causal impact of ownership changes, we control for selection bias by applying propensity score matching techniques. Our results confirm our expectations that the change from domestic to foreign ownership leads to a significant reduction in the financial risk faced by target firms and a lower reliance on short and long term debt. The reduction in financial risk is not associated with a change of ownership per se, but only when the ownership is transferred to foreign investors. As such, whereas foreign ownership is positively related to risk reduction for the target firms, domestic ownership offers no significant improvement in the financial risk faced by these firms. In fact, in the case of Spain, our findings suggest a contrary effect, with domestic acquisition actually resulting in an increase of the leverage ratio of target firms and an overall deterioration of a firm's financial health.

The above findings clearly denote the overall performance prevalence of foreign owned firms over their domestic counterparts. We can see that foreign ownership not only yields higher profitability and productivity for the target firms (i.e. Arnold and Javorcik, 2009; Hijzen et al., 2013), but can further act as a deterrent against financial over-exposure and risk, leading as such to more financially healthy target firms. The 'agency theory' proponents have long supported that the presence of foreign investors has the power to enhance managerial control, (Heugens, et al. 2009), minimize managerial opportunism (Jensen and Meckling, 1976), and increase overall shareholder protection. We offer strong support to the above.

Furthermore, our findings provide support to the notion that foreign ownership can shield firms from financial constraints. Whereas past research has showed that in periods of capital illiquidity, foreign owned firms are typically better performing, literature has always attributed these achievements to the role of the extra financial help and support received by their foreign investors (Alfaro and Chen, 2012; Blalock et al., 2008; Desai et al., 2008). Nevertheless, our study clearly shows that the changes imposed to the financial structure of the target firms via the acquisition process, are equally responsible for any performance improvements. This is a very important finding particularly for foreign investors targeting

opportunities in countries that have been badly hit by recession, such as the recent examples of Italy and Spain.

Finally, the above findings have important policy implications that may contradict the old conservative European agendas in encouraging the emergence of "national champions" (Monti, 2006; Soares, 2008). It is clearly showcased here that foreign acquisitions can benefit significantly acquired (domestic) firms, offering consequently important overall contributions to the economy in which they operate. Therefore, foreign investment opportunities should be welcomed and supported by national governments, especially in bank-based economies or even during times of recession and adversity. Implementing policies aimed at attracting foreign investment can also be particularly beneficial for countries like Italy and Spain, which have engaged, so far, in low cross-border acquisition activities [16] and are typically characterized by underdeveloped private equity markets and thus restricted financing availability for domestic firms.

6. Limitations and Future Research

As outlined in the previous section, our study offers important and novel contributions to the foreign acquisition – performance relationship debate. However, it also has some limitations, which can be used as the starting point for future research work in this area. First, while we can identify the nationality of the acquiring firms, we are not able to collect data on other characteristics of these firms, such as size, age and financial performance, in a consistent fashion. Our analysis thus cannot explain whether the observed acquisition effects vary across targets acquired by different types of acquiring firms (e.g. large business groups vs small firms). Second, due to data availability and the complexity of the research design, our study focuses only on two economies. Extending the sample to include more countries could enable scholars to examine whether the positive relationship between foreign acquisitions and financial risk reduction is actually a universal phenomenon, and to explore the conditionality of effects upon host country characteristics, such as the level of financial development and the type of financial system. Likewise, by constructing a multi-national panel dataset and employing a large number of propensity score matched cases, one could investigate which

[16] According to Morresi and Pezzi (2014), Italy and Spain had significantly lower levels of cross-border acquisitions as target countries during the period 2002-2010 (in terms of value in dollars and number of deals), compared to the United Kingdom, Germany and France.

industries can benefit the most from foreign acquisitions, in terms of changes in their capital structure. Finally, a fruitful avenue for future research would be to assess whether the enhanced financial health in the first years following a change to foreign ownership (as documented in this study) can lead to better survival prospects and increased engagement in innovation and exporting activities for target firms.

References

ABDIOGLU, N., BAMIATZI, V., CAVUSGIL, S. T., KHURSHED, A. & STATHOPOULOS, K. 2015. Information asymmetry, disclosure and foreign institutional investment: An empirical investigation of the impact of the Sarbanes-Oxley Act. *International Business Review,* 24, 902-915.

ALFARO, L. & CHEN, M. 2012. Surviving the global financial crisis: Foreign ownership and establishment performance. *American Economic Journal: Economic Policy,* 4, 30-55.

AMIT, R. & WERNERFELT, B. 1990. Why do firms reduce business risk? *Academy of Management Journal,* 33, 520-533.

ARNOLD, J. M. & JAVORCIK, B. S. 2009. Gifted kids or pushy parents? Foreign direct investment and plant productivity in Indonesia. *Journal of International Economics,* 79, 42-53.

AYBAR, B. & FICICI, A. 2009. Cross-border acquisitions and firm value: An analysis of emerging-market multinationals. *Journal of International Business Studies,* 40, 1317-1338.

BARBOPOULOS, L., MARSHALL, A., MACINNES, C. & MCCOLGAN, P. 2014. Foreign direct investment in emerging markets and acquirers' value gains. *International Business Review,* 23, 604-619.

BARBOSA, N. & LOURI, H. 2005. Corporate performance: Does ownership matter? A comparison of foreign- and domestic-owned firms in Greece and Portugal. *Review of Industrial Organization,* 27, 73-102.

BERGER, A. N. & DI PATTI, E. B. 2006. Capital structure and firm performance: A new approach to testing agency theory and an application to the banking industry. *Journal of Banking & Finance,* 30, 1065-1102.

BERTRAND, O. & BETSCHINGER, M.-A. 2012. Performance of domestic and cross-border acquisitions: Empirical evidence from Russian acquirers. *Journal of Comparative Economics,* 40, 413-437.

BLALOCK, G., GERTLER, P. J. & LEVINE, D. I. 2008. Financial constraints on investment in an emerging market crisis. *Journal of Monetary Economics,* 55, 568-591.

BOARDMAN, A. E., SHAPIRO, D. M. & VINING, A. R. 1997. The role of agency costs in explaining the superior performance of foreign MNE subsidiaries. *International Business Review,* 6, 295-317.

BOARDMAN, A. E. & VINING, A. R. 1989. Ownership and performance in competitive environments: A comparison of the performance of private, mixed, and state-owned enterprises. *Journal of Law and Economics,* 32, 1-33.

BUCKLEY, P. J. 1988. The limits of explanation: Testing the internalization theory of the multinationial enterprise. *Journal of International Business Studies*, 19, 181-193.

CAGLAYAN, M. & RASHID, A. 2014. The response of firms' leverage to risk: Evidence from UK public versus nonpublic manufacturing firms. *Economic Inquiry,* 52, 341-363.

CAVES, R. E. 1996. *Multinational enterprise and economic analysis*, Cambridge University Press.

CHARI, A., OUIMET, P. P. & TESAR, L. L. 2009. The value of control in emerging markets. *Review of Financial Studies*, 23, 1741-1770.

DEMSETZ, H. & VILLALONGA, B. 2001. Ownership structure and corporate performance. *Journal of Corporate Finance,* 7, 209-233.

DESAI, M. A., FOLEY, C. F. & FORBES, K. J. 2008. Financial constraints and growth: Multinational and local firm responses to currency depreciations. *Review of Financial Studies,* 21, 2857-2888.

DOUKAS, J. & TRAVLOS, N. G. 1988. The effect of corporate multinationalism on shareholders' wealth: Evidence from international acquisitions. *The Journal of Finance,* 43, 1161-1175.

DOUMA, S., GEORGE, R. & KABIR, R. 2006. Foreign and domestic ownership, business groups, and firm performance: Evidence from a large emerging market. *Strategic Management Journal,* 27, 637-657.

DUNNING, J. H. 1998. Location and the multinational enterprise: A neglected factor? *Journal of International Business Studies*, 29, 45-66.

FATEMI, A. M. 1984. Shareholder benefits from corporate international diversification. *The Journal of Finance,* 39, 1325-1344.

GEDAJLOVIC, E. 1993. Ownership, strategy and performance: Is the dichotomy sufficient? *Organization studies,* 14, 731-752.

GLOBERMAN, S., RIES, J. C. & VERTINSKY, I. 1994. The economic performance of foreign affiliates in Canada. *Canadian Journal of Economics*, 27, 143-156.

GREENAWAY, D., GUARIGLIA, A. & YU, Z. 2014. The more the better? Foreign ownership and corporate performance in China. *The European Journal of Finance,* 20, 681-702.

GROSSMAN, S. J. & HART, O. D. 1982. *Corporate financial structure and managerial incentives. The economics of information and uncertainty.* University of Chicago Press.

HALEBLIAN, J., DEVERS, C. E., MCNAMARA, G., CARPENTER, M. A. & DAVISON, R. B. 2009. Taking stock of what we know about mergers and acquisitions: A review and research agenda. *Journal of Management*, 35, 469-450.

HARRIS, M. & RAVIV, A. 1991. The theory of capital structure. *The Journal of Finance,* 46, 297-355.

HARRIS, R. & ROBINSON, C. 2003. Foreign ownership and productivity in the United Kingdom estimates for U.K. manufacturing using the ARD. *Review of Industrial Organization,* 22, 207-223.

HARRISON, A. E. & MCMILLAN, M. S. 2003. Does direct foreign investment affect domestic credit constraints? *Journal of International Economics,* 61, 73-100.

HECKMAN, J., ICHIMURA, H. & TODD, P. E. 1997. Matching as an econometric evaluation estimator: Evidence from evaluating a job training programme. *Review of Economic Studies*, 64, 605-654.

HELPMAN, E., MELITZ, M. J. & YEAPLE, S. R. 2004. Export versus FDI with heterogeneous firms. *American Economic Review*, 94, 300-316.

HEUGENS, P. P., VAN ESSEN, M. & VAN OOSTERHOUT, J. H. 2009. Meta-analyzing ownership concentration and firm performance in Asia: Towards a more fine-grained understanding. *Asia Pacific Journal of Management,* 26, 481-512.

HIJZEN, A., MARTINS, P. S., SCHANK, T. & UPWARD, R. 2013. Foreign-owned firms around the world: A comparative analysis of wages and employment at the micro-level. *European Economic Review,* 60, 170-188.

HILLIER, D., CLACHER, I., ROSS, S., WESTERFIELD, R. & JORDAN, B. 2011. *Fundamentals of corporate finance: European edition*, McGraw Hill.

HOLMSTRÖM, B. AND TIROLE, J., 1993. Market liquidity and performance monitoring. *Journal of Political Economy*, 101, 678-709.

JAGGIA, P. B. & THAKOR, A. V. 1994. Firm-specific human capital and optimal capital structure. *International Economic Review*, 35, 283-308.
JENSEN, M. C. 1986. Agency cost of free cash flow, corporate finance, and takeovers. *American Economic Review,* 76, 323-329.
JENSEN, M. C. & MECKLING, W. H. 1976. Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics,* 3, 305-360.
KALE, J. R. & SHAHRUR, H. 2007. Corporate capital structure and the characteristics of suppliers and customers. *Journal of Financial Economics,* 83, 321-365.
KOHLI, R. & MANN, B. J. S. 2012. Analyzing determinants of value creation in domestic and cross border acquisitions in India. *International Business Review,* 21, 998-1016.
LEVINE, R., 2002. Bank-based or market-based financial systems: which is better?. *Journal of financial intermediation*, 11, 398-428.
LI, J., LI, P. & WANG, B. 2015. Do cross-border acquisitions create value? Evidence from overseas acquisitions by Chinese firms. *International Business Review*, doi:10.1016/j.ibusrev.2015.08.003.
MARKIDES, C. C. & ITTNER, C. D. 1994. Shareholder benefits from corporate international diversification: Evidence from U.S. international acquisitions. *Journal of International Business Studies,* 25, 343-366.
MARTYNOVA, M. & RENNEBOOG, L. 2008. A century of corporate takeovers: What have we learned and where do we stand? *Journal of Banking & Finance,* 32, 2148-2177.
MICHEL, A. & SHAKED, I. 1986. Multinational corporations vs domestic corporations: Financial performance and characteristics. *Journal of International Business Studies*, 17, 89-100.
MODIGLIANI, F. & MILLER, M. H. 1958. The cost of capital, corporation finance and the theory of investment. *The American Economic Review*, 48, 261-297.
MONTI, M. 2006. Damage at heart of the single market. *The Financial Times*.
MORRESI, O. & PEZZI, A. 2014. *Cross-border mergers and acquisitions: Theory and empirical evidence*, Palgrave Macmillan.
MYERS, S. C. 1977. Determinants of corporate borrowing. *Journal of Financial Economics,* 5, 147-175.
NING, L., KUO, J.-M., STRANGE, R. & WANG, B. 2014. International investors' reactions to cross-border acquisitions by emerging market multinationals. *International Business Review,* 23, 811-823.
PFEFFER, J. 1994. Competitive advantage through people. *California Management Review,* 36, 9-28.
ROSENBAUM, P. & RUBIN, D. 1983. The central role of propensity score in observational studies for causal effects. *Biometrika*, 70, 41–55.
SHAPIRO, D. M. 1980. *Foreign and domestic firms in Canada: A comparative study of financial structure and performance*, Butterworths.
SOARES, G. A., 2008. "National Champions" Rhetoric in European Law—Or the many faces of protectionism. World Competition, 31(3), pp.353-368.
THOMSEN, S. & PEDERSEN, T. 2000. Ownership structure and economic performance in the largest European companies. *Strategic Management Journal,* 21, 689-705.
TITMAN, S. 1984. The effect of capital structure on a firm's liquidation decision. *Journal of Financial Economics,* 13, 137-151.
TITMAN, S. & WESSELS, R. 1988. The determinants of capital structure choice. *The Journal of Finance,* 43, 1-19.

VARUM, C., ROCHA, V. C. & VALENTE DA SILVA, H. 2014. Economic slowdowns, hazard rates and foreign ownership. *International Business Review,* 23, 761-773.
VON EIJE, H. & WIEGERINCK, H. 2010. Shareholders' reactions to announcements of acquisitions of private firms: Do target and bidder markets make a difference? *International Business Review,* 19, 360-377.

Tables

Table 1: Counts of acquisitions and controls by year

	Italy			Spain		
Year	Foreign Acquisitions	Domestic Acquisitions	Controls	Foreign Acquisitions	Domestic Acquisitions	Controls
2002	108	315	118204	117	315	112264
2003	108	234	123488	117	495	117783
2004	126	342	129424	198	306	123000
2005	279	342	135380	297	369	127805
2006	297	351	141238	234	666	131990
2007	324	468	146106	423	810	134802
2008	378	567	149368	567	1260	136249
2009	180	342	149388	216	837	136551
2010	54	90	149395	54	198	136553

Table 2: Top 10 countries of foreign acquirers

	Italy			Spain	
Country	Number of Acquisitions	% of Total	Country	Number of Acquisitions	% of Total
United States	342	18.45	France	351	15.79
Germany	225	12.14	United Kingdom	342	15.38
France	207	11.17	United States	279	12.55
United Kingdom	180	9.71	Germany	180	8.10
Spain	108	5.83	Italy	171	7.69
Switzerland	81	4.37	Portugal	135	6.07
Belgium	72	3.88	Belgium	99	4.45
Sweden	72	3.88	Sweden	99	4.45
India	54	2.91	Netherlands	72	3.24
Netherlands	54	2.91	Switzerland	45	2.02

Table 3: Descriptive statistics of the main variables

	Italy			Spain		
	Foreign Acquisitions	Domestic Acquisitions	Controls	Foreign Acquisitions	Domestic Acquisitions	Controls
Productivity	634.82	481.52	481.16	380.08	313.33	289.04
	(1352.89)	(1405.62)	(1092.77)	(888.27)	(632.71)	(575.42)
Scale	174.13	148.12	26.40	140.27	99.36	25.76
	(385.1)	(296.55)	(85.78)	(239.2)	(227.56)	(79.23)
Age	20.77	19.93	15.87	20.99	18.57	13.82
	(15.77)	(14.28)	(12.97)	(15.7)	(14.72)	(10.48)
K/L	103.95	120.78	144.98	117.64	148.41	224.88
	(516.92)	(590.7)	(806.27)	(598.39)	(808.51)	(878.09)
Gearing	149.94	169.36	196.91	98.12	126.34	103.38
	(196.61)	(195.57)	(226.09)	(147.28)	(179.73)	(165.09)
Leverage	12.24	13.08	11.18	7.44	7.22	3.14
	(17.33)	(18.05)	(16.13)	(11.32)	(12.36)	(9.02)

Note: Columns report mean values. Standard deviations in parenthesis.

Table 4: Propensity score estimation

	Italy		Spain	
	Foreign Acquisition	Domestic Acquisition	Foreign Acquisition	Domestic Acquisition
Control for Gearing Ratio				
ln(Productivity)	0.276***	-0.004	0.253**	0.022
	(0.045)	(0.111)	(0.103)	(0.052)
ln(Scale)	0.325***	0.221***	0.255***	0.274***
	(0.025)	(0.063)	(0.055)	(0.03)
ln(Age)	-0.045***	-0.055***	0.074	-0.012
	(0.018)	(0.014)	(0.090)	(0.015)
ln(K/L)	0.067**	0.028	-0.114*	0.071*
	(0.027)	(0.032)	(0.060)	(0.036)
ln(Gearing)	0.258	0.320*	-0.010	-0.005
	(0.241)	(0.183)	(0.015)	(0.01)
$\ln(\text{Gearing})^2$	-0.032	-0.039*	-0.012***	-0.003
	(0.028)	(0.023)	(0.003)	(0.002)
Constant	-12.412***	-5.861***	-8.591***	-4.458***
	(1.094)	(1.452)	(1.593)	(0.723)
Industry, time, region dummies	yes	yes	yes	yes
Number of observations	573171	636119	607160	694528
Pseudo-R^2	0.231	0.182	0.306	0.164
Control for Leverage Ratio				
ln(Productivity)	0.267***	-0.012	0.208**	0.046
	(0.044)	(0.096)	(0.101)	(0.046)
ln(Scale)	0.344***	0.222***	0.248***	0.237***
	(0.02)	(0.061)	(0.056)	(0.039)
ln(Age)	-0.038**	-0.046***	0.112	-0.030
	(0.016)	(0.013)	(0.080)	(0.020)
ln(K/L)	0.064***	0.026	-0.089*	0.044
	(0.024)	(0.030)	(0.049)	(0.034)
ln(Leverage)	-0.019	0.018	0.042***	-0.064*
	(0.026)	(0.018)	(0.016)	(0.036)
$\ln(\text{Leverage})^2$	-0.003	-0.001	0.005**	-0.014**
	(0.004)	(0.003)	(0.002)	(0.006)
Constant	-9.230***	-5.194***	-8.417***	-4.462***
	(0.757)	(1.32)	(1.501)	(0.727)
Industry, time, region dummies	yes	yes	yes	yes
Number of observations	640313	697837	715897	791181
Pseudo-R^2	0.227	0.179	0.271	0.185

Note: Foreign (domestic) acquisition is a dummy variable that equals one in the year of a foreign (domestic) acquisition. Explanatory variables lagged by one year. Columns report estimated coefficients. Robust p-values in parentheses. Regressions are weighted by country-industry sampling weights. ***,**,* Statistically significant at the 1%, 5% and 10% confidence level, respectively.

Table 5: The impact of acquisitions on acquired firms' capital structure

Panel (a): Foreign acquisition/ Gearing ratio						
	Italy			Spain		
Year	ATT		N	ATT		N
0	-0.683***	(0.170)	137	-0.516*	(0.270)	155
1	-0.980***	(0.226)	123	-0.767**	(0.308)	135
2	-1.121***	(0.246)	110	-1.644***	(0.341)	110
3	-0.855***	(0.240)	84	-1.525***	(0.425)	76
Panel (b): Domestic acquisition/ Gearing ratio						
	Italy			Spain		
Year	ATT		N	ATT		N
0	-0.552***	(0.120)	208	0.284*	(0.171)	323
1	-0.274**	(0.113)	183	0.224	(0.190)	281
2	-0.268**	(0.106)	151	-0.142	(0.247)	208
3	-0.393**	(0.198)	112	-0.348	(0.329)	136
Panel (c): Foreign acquisition/ Leverage ratio						
	Italy			Spain		
Year	ATT		N	ATT		N
0	-0.904**	(0.398)	147	-0.269	(0.309)	168
1	-1.743***	(0.485)	123	-0.940***	(0.303)	139
2	-2.199***	(0.546)	99	-1.857***	(0.430)	97
3	-1.814**	(0.747)	75	-1.720***	(0.574)	62
Panel (d): Domestic acquisition/ Leverage ratio						
	Italy			Spain		
Year	ATT		N	ATT		N
0	-0.467	(0.345)	219	0.939***	(0.199)	391
1	-0.423	(0.339)	177	1.192***	(0.269)	300
2	-0.418	(0.442)	134	0.676**	(0.335)	197
3	-0.266	(0.484)	94	-0.611	(0.406)	135

Note: five-nearest neighbor matching. ATT denotes average treatment effect on the treated. N denotes the number of matched targets. Bootstrap standard errors in parenthesis. ***,**,* Statistically significant at the 1%, 5% and 10% confidence level, respectively.

Appendix

Table A.1: Balancing tests for matched sample

			Italy				Spain			
			Mean		t-test		Mean		t-test	
	Sample		Treated	Control	|t|	p>|t|	Treated	Control	|t|	p>|t|
Foreign acquisition/	Year 0	ln(Productivity)	12.775	12.708	0.57	0.567	12.254	12.231	0.19	0.848
Gearing ratio		ln(Scale)	3.933	3.796	0.93	0.351	4.098	3.997	0.71	0.480
		ln(Age)	2.710	2.713	0.03	0.980	2.832	2.759	0.73	0.467
		Ln(K/L)	3.050	3.231	0.92	0.360	2.754	2.648	0.51	0.610
		Ln (Gearing)	4.352	4.534	1.12	0.266	2.294	2.804	1.21	0.226
		Ln(Gearing)^2	20.782	22.351	1.14	0.253	21.641	18.654	1.30	0.194
	Year 1`	ln(Productivity)	12.760	12.685	0.63	0.532	12.282	12.270	0.09	0.926
		ln(Scale)	3.929	3.791	0.93	0.355	4.134	4.013	0.80	0.423
		ln(Age)	2.686	2.725	0.29	0.771	2.864	2.749	0.99	0.322
		Ln(K/L)	2.994	3.195	0.96	0.339	2.798	2.760	0.17	0.866
		Ln (Gearing)	4.298	4.504	1.19	0.237	2.282	2.732	0.94	0.346
		Ln(Gearing)^2	20.375	22.075	1.17	0.242	23.308	19.832	1.35	0.179
Domestic acquisition/	Year 0	ln(Productivity)	12.466	12.390	0.81	0.416	11.984	11.998	0.14	0.888
Gearing ratio		ln(Scale)	3.913	3.821	0.69	0.491	3.641	3.584	0.57	0.567
		ln(Age)	2.663	2.695	0.33	0.745	2.603	2.585	0.18	0.854
		Ln(K/L)	2.863	2.938	0.43	0.670	3.110	3.167	0.40	0.690
		Ln (Gearing)	4.565	4.600	0.27	0.784	2.933	2.616	1.07	0.285
		Ln(Gearing)^2	22.548	22.815	0.25	0.805	22.055	21.739	0.19	0.846
	Year 1	ln(Productivity)	12.462	12.415	0.48	0.632	11.958	11.980	0.20	0.844
		ln(Scale)	3.927	3.816	0.81	0.420	3.655	3.605	0.49	0.621
		ln(Age)	2.702	2.754	0.53	0.595	2.599	2.574	0.23	0.815
		Ln(K/L)	2.881	2.981	0.54	0.591	3.165	3.165	0.00	0.999
		Ln (Gearing)	4.558	4.570	0.09	0.927	2.785	2.629	0.49	0.627

		Ln(Gearing)^2	22.447	22.569	0.11	0.915	22.074	21.473	0.34	0.732
Foreign acquisition/ Leverage ratio	Year 0	ln(Productivity)	12.809	12.708	0.89	0.376	12.206	12.185	0.18	0.855
		ln(Scale)	3.907	3.771	0.95	0.341	4.138	4.012	0.94	0.346
		ln(Age)	2.653	2.640	0.10	0.924	2.792	2.715	0.81	0.418
		Ln(K/L)	3.070	3.265	1.00	0.316	2.721	2.633	0.41	0.683
		Ln (Leverage)	-0.488	-0.671	0.31	0.758	-2.368	-2.760	0.63	0.527
		Ln(Leverage)^2	24.787	27.779	0.79	0.431	37.409	39.933	0.60	0.547
	Year 1	ln(Productivity)	12.789	12.665	0.99	0.322	12.245	12.233	0.10	0.918
		ln(Scale)	3.987	3.852	0.90	0.371	4.123	4.018	0.74	0.463
		ln(Age)	2.640	2.581	0.36	0.720	2.820	2.684	1.31	0.190
		Ln(K/L)	3.032	3.272	1.12	0.265	2.790	2.665	0.55	0.585
		Ln (Leverage)	-0.635	-0.773	0.21	0.836	-2.733	-3.133	0.59	0.559
		Ln(Leverage)^2	25.733	28.857	0.74	0.461	38.989	42.629	0.78	0.435
Domestic acquisition/ Leverage ratio	Year 0	ln(Productivity)	12.453	12.363	0.98	0.327	11.964	11.959	0.05	0.958
		ln(Scale)	3.967	3.825	1.11	0.266	3.666	3.609	0.62	0.538
		ln(Age)	2.663	2.663	0.00	0.999	2.515	2.482	0.32	0.749
		Ln(K/L)	2.804	2.961	-0.96	0.339	3.022	2.993	0.22	0.826
		Ln (Leverage)	-0.123	-0.629	1.06	0.289	-3.230	-3.578	0.85	0.396
		Ln(Leverage)^2	22.885	27.128	-1.38	0.170	43.299	45.394	-0.75	0.456
	Year 1	ln(Productivity)	12.445	12.387	0.58	0.564	11.956	11.982	-0.24	0.808
		ln(Scale)	3.981	3.855	0.91	0.361	3.692	3.604	0.84	0.400
		ln(Age)	2.670	2.680	-0.09	0.925	2.442	2.474	-0.27	0.790
		Ln(K/L)	2.776	2.992	-1.23	0.219	3.053	3.007	0.31	0.754
		Ln (Leverage)	-0.291	-0.557	0.50	0.619	-3.859	-4.092	0.50	0.618
		Ln(Leverage)^2	24.067	26.666	-0.75	0.454	47.829	49.067	-0.39	0.699

Note: The test examines the balancing hypothesis for all variables included in the propensity score, based on their pre-acquisition values. Year 0 refers to the sample of matched targets included in the calculation of the ATT in the year of acquisition, whereas Year 1 refers to the sample of matched targets included in the calculations of the ATT in the first year following the acquisition.