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INBOUND CROSS-BORDER M&AS IN ITALY: ARE FAMILY BUSINESSES BETTER OFF WHEN ACQUIRED BY FOREIGN INVESTORS?

AN EMPIRICAL INVESTIGATION USING THE DIFFERENCE-IN-DIFFERENCE APPROACH

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EXECUTIVE SUMMARY

THE REASON OF MY DISSERTATION – The purpose of this dissertation is to investigate the effect of foreign ownership on Italian firms economic performance. This work contributes to the existing literature on cross-border acquisition effects on acquired companies and provides some new elements to the wide public debate on foreign investments in Italy. Indeed, worries about Italy's low attractiveness for foreign capitals go hand in hand with the rise of "economic nationalism" which is nourished by the fear of foreign dependence and loss of domestic excellences. The acquisition of some well-known brands fuelled the debate. It is the case of several brands in the fashion industry, e.g. the acquisitions of Loro Piana, Bulgari, Fendi and Acqua di Parma by the French multinational luxury goods conglomerate LVMH. These transactions are often illustrated as a loss of national identity and a failure of domestic entrepreneurs and politicians to retain valuable know-how. Nevertheless, another considerable part of the public opinion highlights the value recognized to Italian companies and the opportunities for modernization and internationalization that may result. In this work, we aim at investigating the issue with particular reference to family businesses. Family firms are a relevant part of the Italian entrepreneurship system and are intrinsically linked with our cultural background. Their peculiar characteristic, e.g. non-financial goals, stronger unity and cohesion around the central role of the family, lead us to expect that the entry of a foreign owner may have a differential impact on family firms structures.

In the attempt to solve these doubts, we built a custom-made database of 152 majority, cross-border acquisitions occurred between 2011 and 2014. Confirming the wide spread of familiar ownership, 70 firms out of 152 are family businesses. The 3-years post-acquisition performance of acquired companies has been under debate. Specifically, we evaluated cross-border acquisitions effects on the size and profitability of acquired companies, using as outcomes of

interests Sales, ROA and EBITDA Margin. In order to build on our knowledge of post-acquisition results, we controlled for some factors, e.g. the acquirers' type (industrial or financial buyers) and country of origin, targets' size, industry and post-acquisition CEO change.

A common issue raised by precedent works is the evidence of ex ante selection bias, meaning that acquired companies are unlikely a random sample of the population of companies, foreign investors may "cherry pick" best companies or "lemons grab" low performing ones. Evidences for cherry picking in Italy have been provided by Barbaresco et al. (2018) and Benfratello and Sembenelli (2006), while Piscitello and Rabbiosi (2005) find that foreign MNEs do not seem to systematically select lower or higher productive local target companies. To account for the possibility that performance differences arise from the selection of best-performing firms rather than by the change in ownership *per se*, we adopted a Difference-in-Difference methodology combined with a sophisticated matching method recently introduced by Iacus, King and Porro (2009), Coarsened Exact Matching. The combination of these two methodologies allows us to single out casual foreign ownership effects by comparing the post-acquisition performance of acquired companies (i.e. the *treated* group) with a sample of domestic companies with similar ex-ante observable characteristics (i.e. the *control* group). Considering this latter group of companies as a proper counterfactual of what the performance of treated units would have liked in the absence of the acquisition, we are able to extrapolate the effect of foreign acquisition on companies performance. Our results suggest that foreign owners are not better than domestic ones in driving companies profitability. Indeed, we find that foreign acquired companies underperform domestic ones in terms of EBITDA margin, while the effects on sales and ROA are not significant.

FIRST CHAPTER - Cross-border M&As have long been a popular strategy for growth and internationalization. Data presented by Zephyr-Bureau van Dijk (2019) on the size of the Italian M&A market indicate that 65% of deals involving Italian companies are cross-border. However, 2019 first quarter data reveal a declining trend of the aggregate Italian M&As market and of inbound investments as well. Does this mean that Italian companies are becoming less attractive? A qualitative investigation on factors affecting the likelihood of M&As and their motives complements on market datas. Nevertheless, whether or not foreign ownership is beneficial for acquired companies performance is still under debate. Past empirical works provide mixed results, however the literature seems to support the existence of a multinational advantage, meaning that thanks to the transfer of superior skills, resources and management

capabilities, foreign ownership enhances subsidiaries performance. Evidences on Italian firms data confirm this hypothesis, showing an improvement of acquired companies performance in our country (Barbaresco et al., 2018; Bentivogli & Mirenda, 2017; ICE & Prometeia, 2014; Piscitello & Rabbiosi, 2005).

SECOND CHAPTER – Family firms represent 85% of Italian companies and generate 70% of total employment in the country. Chapter 2 investigates the current state of the art in the literature on family firms and M&As. 32 papers from the leading business sources have been reviewed. In particular, 17 papers allowed us to provide a preliminary overview on family firms characteristics, performance and valuation, while 15 papers specifically deals with family firms and M&As. Their analysis led us to observe a significant disproportion on how family firms have been investigated in the context of mergers and acquisitions. While their position as acquirers has received significant attention (13 papers), their role as target of acquisitions has been scarcely investigated (6 papers). Concerning acquisitions initiated by family firms, scholars agree that such companies are less likely to acquire, prefer lower scale acquisitions (Bauguess & Stegemoller, 2008; Caprio, Croci & Del Giudice, 2011; Miller, Le Breton-Miller & Lester, 2010; Shim & Okamuro, 2011) and are on average recognized by the market as value creating acquirers (André, BenAmar & Saadi, 2014; Basu, Dimitrova & Peglis, 2008). The literature on target family firms is less conclusive. It is observed that family businesses are less likely to accept an acquisition proposal (Bauguess & Stegemoller, 2008; Caprio, Croci & Del Giudice, 2011) and that acquirers' market returns are lower when they acquire a family controlled target (Basu, Dimitrova & Peglis, 2008; Gonenc, Hermes & Van Sinderen, 2013). However, a broad literature vacuum exists when it comes to post-acquisition operating performance of acquired family firms, as well as on family firms in the context of cross-border acquisitions. This lack of theoretical and empirical support is what motivates the present work.

THIRD CHAPTER – Our analysis is based on firm-level data from Italy over the period 2008-2017. The combination of two data sources, Thomson Reuters EIKON and AIDA by Bureau van Dijk allowed us to identify 152 cross-border and majority acquisitions of Italian companies operating in the manufacturing and service industries. Since our goal is to measure the performance of acquired companies three years before and three years after the deal, we focused on acquisitions occurred in the period 2011-2014. Companies were checked one by one to identify the ownership composition at the acquisition time. 70 family firms have been identified and further classified according to the family's future in the post-acquisition setting.

Interestingly, we observed that in 43% of cases the owning family decided to remain involved in the business even after having sold the control of the company itself.

Before moving to a more sophisticated statistical technique, we investigated how our outcomes of interests change by simply comparing the 3-years average outcome for target firms before and after the takeover. Such comparison allows us to observe a 5.7% improvement in sales for aggregate data. The change is larger for family businesses, service companies, SME, when the CEO changes and for companies acquired by non-European and industrial buyers. The same analysis led us to note that return on assets (ROA) slightly improves by 0.36% and EBITDA margin increases by 1.66%. These improvements are more pronounced for family firms, manufacturing and SME companies whose CEO changed, and for companies acquired by European and industrial acquirers. Nevertheless, the previous results are not useful if not analysed in comparison to what would have happened in case the acquired company had remained under domestic ownership.

FOURTH CHAPTER – The literature on acquired firms post-acquisition performance often claims the need of controlling for ex ante "selection bias", which could affect the estimates of the impact of acquisitions. It is argued that firms acquired by foreign investors show better performance not because of the managerial ability of the new investor *per se*, but simply because it "cherry picks" the best performing local firms. If this is the case, a simple comparison between foreign-acquired and domestically-owned companies would overestimate the effect of the acquisition and return a biased measure of the takeover success. To single out the causal effect of foreign acquisition, we combine difference-in-difference with a matching technique, which allows to identify firms that were not acquired but had similar characteristics to firms that were acquired by foreigners. Conversely to Bentivogli and Mirenda (2017) and ICE and Prometeia (2014) that combined DID with propensity score matching, we adopt coarsened exact matching, a recent and intuitive method introduced by Iacus, King and Porro (2009) to improve the estimation of causal effects by reducing the differences in observable ex-ante characteristics (in our case, industry, sales, ROA and EBITDA margin) between treated and control groups. After we matched treated with control units, we ran a first-difference regression on the matched sample to investigate the effects of foreign acquisitions on sales, ROA and EBITDA margin. We find that foreign-owned firms exhibit a negative effect on EBITDA margin, while no significant effects on sales and ROA are registered. Conversely, Bentivogli and Mirenda (2017) and ICE and Prometeia (2014) had shown a positive effect on sales growth after the M&A, while no previous literature in Italy has analysed ROA and EBITDA margin. Supporting our

initial hypothesis, we find that family firms perform better than non-family firms and cultural distance is negatively associated with post-acquisition performance. However, differently from what we expected, when the family remains in the business following the acquisition, the company's performance is deteriorated. Finally, we show that when the CEO of the acquired company changes, the negative effect on corporate performance is more pronounced.

ACKNOWLEDGEMENTS – I would like to thank Prof. Diego Campagnolo for his availability and teachings. His extraordinary passion for his work inspired me in this path and will always accompany me in my future challenges. I would also thank Giampiero Vincenti for his generous help and support in the methodological part. Finally, I would thank my family and friends for their love, support, constant inspiration and for always being by my side.

1. CHAPTER

CROSS-BORDER M&AS: TRENDS, MOTIVATIONS AND EFFECTS ON CORPORATE PERFORMANCE

1.1 Introduction

Mergers and acquisitions (M&As) have long been a popular strategy and represent an important opportunity for corporate growth. Recent data confirm the popularity and significance of the phenomenon: in 2018, 97.709 deals were concluded, generating a global market value of $5.304 billion (Zephyr published by Bureau van Dijk, 2019a). In this wide and well-known environment, the last decades saw the rising of cross-border acquisitions. Globalization and economic integration pushed firms to expand their horizons across their domestic borders to target companies headquartered in other countries. According to the 2018 World Investment Report published by the United Nations Commission on Trade and Development (UNCTAD), the total world value of cross-border M&A peaked at $816 billion in 2018, rising by 18% from previous year and representing 62% of total Foreign Direct Investments (FDI) (UNCTAD, 2019).

In this context, Italy is not left behind. With a total M&A value created close to $2 billion, last year Italy ranked fifteenth in the world in M&A value, seventh1 in Europe. More than half of deals concluded in our country (53% of value, 65% in number of deals) were cross-border deals, involving either an Italian target or an Italian acquirer (Zephyr published by Bureau van Dijk, 2019b). However, some worrying signals emerged about a slow-down in M&A deals in the latest months. Despite 2018 closed with an increase by 28% in value traded, the latest months

[1]*Western European countries (value in billion) preceding Italy are Germany ($6.364), UK ($6.218), France ($3.781), Spain ($2.737), Netherlands ($2.385) and Sweden ($2.257).*

of the year signed a stall in the number of deals concluded, which is perpetuating in the first quarter of 2019. This inverting trend fuels the debate around cross-border investments and their impact on the economic welfare. Indeed, traditionally Italy has always been the target of foreign investments, more than the exporter of investments abroad. Will the decrease in M&A activity perpetuate? What are the factors that affect the level of cross-border acquisitions? What are the consequences for target companies?

Given the relevance of these concerns, a better understanding of the opportunities and challenges for firms following this strategy is fundamental. Cross border M&As are largely similar to domestic M&As. However, due to their international nature, they also involve unique challenges as targets and acquirers have different economic, institutional and cultural backgrounds, which can pose tremendous challenges both in the pre-deal negotiation and in the post-deal integration and performance. Therefore, an investigation on cross-border M&As' determinants and effects is of interests for a wide range of decision makers, including policy makers, entrepreneurs and managers.

The following chapter proceeds as follows. The first part will provide an overview on recent trends, facts and figures on Italian M&As market to understand the size and dynamics of the phenomenon under review. The second part will deep into the determinants of cross-border investments, i.e. the factors that affect the likelihood that they occur. Main motives of why decision makers undertake such initiatives will follow. Lastly, the chapter will conclude presenting the main effects on the corporate performance of acquired target companies.

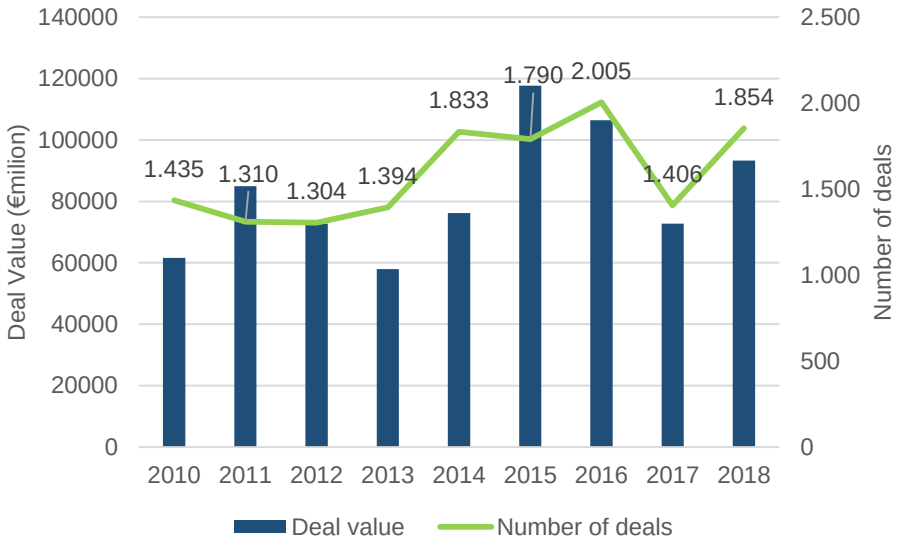
1.2 Trends, facts and figures on the global and Italian M&As market

1.2.1 Italian Mergers and Acquisitions

2018 was a positive and growing year for the Italian mergers and acquisitions market. 1,854 deals were completed, a 32% increase compared to 1.406 deals recorded in 2017 and recovering the previous year decline by 30% (Figure 1). Market value supported growth as well. The Italian M&As market concluded 2018 generating €93.342 billion value, 28 %improvement from 72.727 billion in 2017, containing two value-declining years in a row. The positive value trend is largely determined by two deals announced in 2017. Luxottica-Essilor deal and Abertis'

acquisition by Atalantia and Acs[2] accounted for 37% of the total market value. Discarding these two deals, Italian M&As would have worth €59 billion, declining with respect to precedent years values (Zephyr published by Bureau van Dijk, 2019b).

Figure 1 Italian M&A deals by value and volume



Indeed, the 2018 Italian M&A market developed at two-speeds, with a boosting first semester and a declining second semester. Several factors contributed to the market downturn. Among all, the uncertainty climate resulting from the new political scenario and financial markets volatility due to slowdowns in growth prospects. This negative trend seems to follow on in the first quarter of 2019, which opened with a drop in total M&As deals value. Despite a total number of deals (421) higher than 2018 (382), the value traded is far below, €8 billion compared to €17 billion in the first quarter of 2018 (Zephyr published by Bureau van Dijk, 2019c).

Deeping into the characteristics of 2018 Italian deals, the first element it is worth noticing is a clear increase in valuation multiples. The average multiple for a target company acquired by strategic or private equity investors was 10 times the EBITDA, the highest value in the last decade (Table 1). Minimum multiples were paid by private equity investors acquiring minority

[2] *The Luxottica-Essilor deal was completed in two steps. On October 1th, 2018 Essilor acquired 62.42% of Luxottica shares from Delfin, the holding company owned by Del Vecchio's family for a total value of €17.826 billion. On March 5th, 2019 a tender offer of 11 billion completed the transaction, followed by the deslisting of Luxottica from Piazza Affari and the merger between the two companies.*

The Abertis-Atlantia deal was completed on October 29th, 2018 for a total value of €16.5 billion.

shares, which recognized an average 9.5 times the EBITDA, still higher than the precedent years (9.1 times in 2017) (KPMG and Fineurop, 2019).

Table 1 Average transaction multiples 2010-2018

EV/EBITDA	**PE + Strategic buyers**	**PE - MBO Majority**	**PE Minority**	**Strategic buyers**
Average 2010	7.0x	7.0x	5.7x	6.6x
Average 2011	7.6x	6.9x	6.9x	7.2x
Average 2012	7.3x	6.7x	6.1x	6.8x
Average 2013	8.4x	7.5x	7.7x	6.7x
Average 2014	9.2x	8.0x	8.5x	8.1x
Average 2015	8.3x	7.9x	7.0x	9.6x
Average 2016	9.1x	8.5x	7.9x	8.9x
Average 2017	8.7x	9.4x	9.1x	9.4x
Average 2018	10.0x	9.8x	9.5x	10.0x

Source: Elaborations on data from Fineurop Soditic – Target Italia

Regarding targets sectors, it is worth noticing that 2018 marked a decline in financial services acquisitions. The industry related M&A value halved compared to previous year, reaching just €8.4 billion. Insurances were the most dynamic segment and the only growing one in the industry. On the other side, looking at acquirers' typology, private equities substantially supported the Italian M&As market. Total deals completed by private equity investors grew by 14%, from 206 in 2017 to 235 in 2018, for a total value of €18.355 billion. Half of them were foreign funds investing in Italian targets. Main deals were CvC Capital (Luxembourg) acquisition of Recordati from the founding family for €3 billion and the acquisition of Ntv by the US fund Global Infrastructure Partners for €2 billion (KPMG, 2019).

1.2.2 Italian Cross-Borders M&As[3]

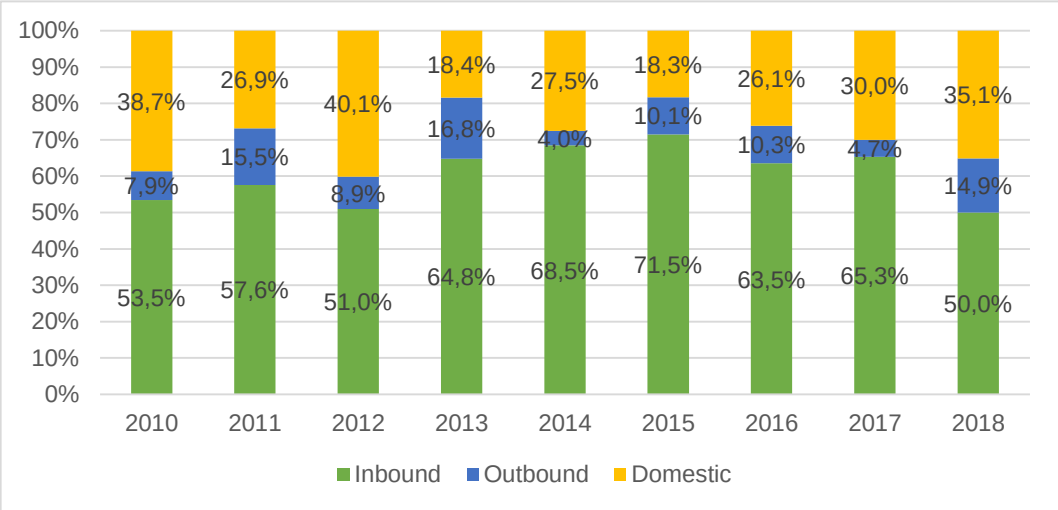
Traditionally, Italy has always been a target of foreign investments more than an investor abroad, i.e. cross-border transactions are driven by inbound deals more than outbound deals (Figure 2). Interestingly, 2018 saw a deep increase in the value of outbound acquisitions, which grew by almost 10% as percentage of total number of deals. Still, they represent one third of

[3] *If not differently specified, all following data are elaboration of the author from Zephyr published by Bureau van Dijk.*

inbound acquisitions. On the contrary, the latter decreased both in absolute value and as percentage of total deals, reaching the lowest record of 50% of total M&As.

Inbound and outbound deals together represent 64.9% of the total market (Zephyr published by Bureau van Dijk, 2019b).

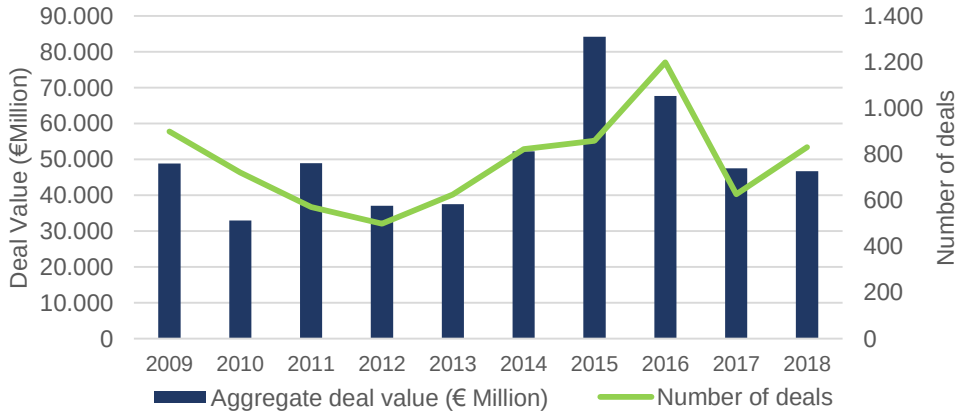
Figure 2 Italian M&A Market Breakdown by value: Inbound, Outbound and Domestic deals as percentages



1.2.2.1 Inbound M&As

The value of inbound mergers and acquisitions declined for the third consecutive year in 2018 as the market worthed an aggregate value of €46.67 billion, a 1.7% decline compared to 2017 value (€47.514 billion). The decrease in value comes despite six deals being worth €1 billion, or more, and one exceeding €15 billion. In spite of that, volume improved by 32%, from 627 deals in 2017 to 830 deals in 2018 (Inbound Italian Deals by volume and value) (Zephyr published by Bureau van Dijk, 2019b).

Figure 3 Inbound Italian Deals by volume and value



Looking at the sectors targeted by foreign investors, "Machinery, equipment, furniture and recycling" rank first, representing nearly half of total inbound value (€20.96 billion). "Other services" rank second (€5.8 billion), followed by "banks" (€5.4 billion). Table 2 shows how the top three ranking sectors completely reversed compared to the previous year. In 2017, the bank sector covered the lion's share, representing half of total inbound value (€21.1 billion), while machineries targets were third with a total €4.9 billion.

In volume terms, the ranking slightly changes. "Other services" are the more active industry with 198 deals completed, followed by "banks" with 174 deals and "machinery, equipment, furniture, recycling" with 119 deals. While value resulting from banks target felt down, volume on the opposite increased moving from 52 deals in 2017 to 174 in 2018. Machineries targets deals remained almost stable, with a slight increase from 105 deals to 119 (Table 3)

. Regarding acquirers' countries of origin (Table 4), the largest share of investors come from France (€18.6 billion), confirming 2017 position. The acquisition of a 62% stake by the French Essilor Interantional in Luxottica Group heavily contributed in boosting French acquirers' value. The country's nearest competitor is the United States, with €9.4 billion-worth of deals completed, followed by United Kingdom (€3 billion).

In volume terms (Table 5), United Kingdom ranks first with 125 deals, a large increase compared to 45 deals in 2017. The United States are not far with 120 deals, followed by Luxembourg (48 deals).

Table 2 Inbound Italian target sector by value, top 10 sectors

Target sector	**2016**	**2017**	**2018**
Machinery, equipment, furniture, recycling	4.283	4.912	20.957
Other services	7.728	7.674	5.831
Banks	8.736	21.113	5.409
Textiles, wearing apparel, leather	2.049	1.954	2.974
Chemicals, rubber, plastics, non-metallic products	8.797	1.494	2.288
Gas, Water, Electricity	1.234	1.229	1.723
Construction	1.760	3.689	1.561
Post and telecommunications	24.659	1.087	1.544
Food, beverages, tobacco	3.158	894	745

Table 3 Inbound Italian target sector by volume, top 10 sectors

Target sector	**2016**	**2017**	**2018**
Other services	234	174	198
Banks	339	52	174
Machinery, equipment, furniture, recycling	150	105	119
Gas, Water, Electricity	55	47	42
Primary Sector (agriculture, mining, etc.)	28	5	42
Textiles, wearing apparel, leather	66	40	41
Chemicals, rubber, plastics, non-metallic products	58	35	37
Post and telecommunications	81	27	34
Insurance companies	32	5	29
Wholesale & retail trade	45	36	28

Table 4 Inbound Italian acquirer countries by value, top 10 countries

Country (acquirer)	**2016**	**2017**	**2018**
France	9.474	6.605	18.648
United States of America	8.336	5.983	9.452
United Kingdom	5.996	1.719	2.984
Virgin Islands (British)	0	0	1.830
Switzerland	420	165	1.280
Luxembourg	22.710	1.376	1.125
China	230	3.478	808
Norway	1.226	2.992	410
Bermuda	887	282	358
Germany	74	3.253	298

Table 5 Inbound Italian acquirer countries by volume, top 10 countries

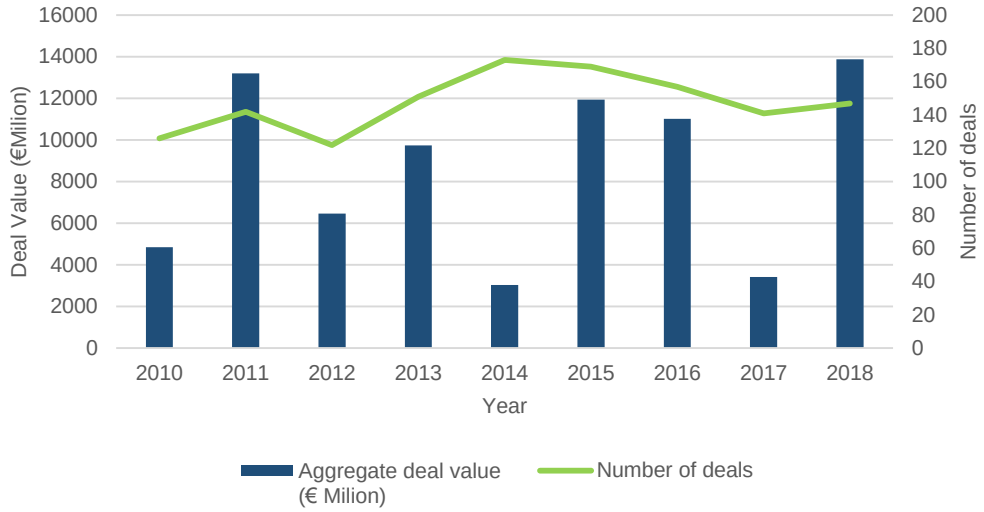
Country (acquirer)	**2016**	**2017**	**2018**
United Kingdom	208	43	125
United States of America	238	75	120
Luxembourg	29	16	48
Germany	23	32	46
France	66	31	31
Switzerland	30	14	17
China	9	18	16
Norway	45	42	10
Netherlands	15	10	10
Bermuda	13	4	9

1.2.2.2 Outbound M&As

2018 was a positive year for outbound M&As which reached the highest recorded value in almost a decade, peaking at €14 billion, but still one third of inbound deals. The total value of Italian companies investing abroad quadrupled from the previous year (€3.4 billion in 2017), despite a nearly constant number of deals (Figure 4). The year-on-year growth was backed by individual deals with high valuations: five deals completed in 2018, each worth €1 billion or more, together accounted for 70% of the year total value. Atlantia accounted for two of these deals as the Italian toll road and airport holding company bought a 24% stake in Hochtief of Germany for €2.400 billion and acquired Aero 1 Global & International, a Luxembourg-based

entity with a 16% stake in Groupe Eurotunnel for €1 billion. Beside these five large deals, only 16 outbound deals were worth more than 100 million.

Figure 4 Outbound Italian Deals by volume and value



Regarding targets sectors, "Machinery, equipment, furniture, recycling" confirms its first position with €3.2 billion-worth value, followed by "Construction" (€2.4 billion) and "Food, beverages, tobacco" (€2.3 billion). The overall increase in the outbound M&As segment reflected proportionally in all sectors which all boosted the value traded. Looking at the number of acquisitions, "other services" rank first with 42 deals, followed by "Machinery, equipment, furniture, recycling" (27) and "Chemicals, rubber, plastics, non-metallic products" (18).

Table 6 Outbound Italian target sector by value, top 10 sectors

Target sector	**2016**	**2017**	**2018**
Machinery, equipment, furniture, recycling	840	400	3.281
Construction	509	0	2.403
Food, beverages, tobacco	918	55	2.328
Post and telecommunications	0	100	1.639
Other services	608	847	1.336
Transport	1.412	79	1.057
Primary Sector (agriculture, mining, etc.)	26	344	708
Wood, cork, paper	106	0	335
Chemicals, rubber, plastics, non-metallic products	173	90	161
Publishing, printing	53	35	141

Table 7 Outbound Italian target sector by volume, top 10 sectors

Target sector	**2016**	**2017**	**2018**
Other services	43	34	42
Machinery, equipment, furniture, recycling	26	27	27
Chemicals, rubber, plastics, non-metallic products	9	11	18
Wholesale & retail trade	19	18	14
Publishing, printing	11	12	11
Food, beverages, tobacco	3	3	7
Construction	3	1	6
Banks	2	0	3
Transport	4	7	3
Education, Health	0	2	3

United States are the main target country of outbound Italian deals by value in 2018 due to Prysmian taking over General Cable for €2.56 billion and Ferrero snapping up the US confectionery arm of Nestle for €2.27 billion. These two deals represent 87% of the total €5.55 billion-worth of outbound US-targeted deals completed in 2018, which is double the aggregate €2.5 billion recorded for Germany, ranking second. Spain follows with a total value equal to €2.38 billion and 23 deals, the highest number of deals completed.

Table 8 Outbound Italian target countries by value, top 10 countries

Country (target)	**2016**	**2017**	**2018**
United States of America	948	880	5.551
Germany	264	147	2.501
Spain	204	589	2.378
Luxembourg	0	0	1.056
Switzerland	228	3	369
Russian Federation	0	7	343
France	1.737	815	246
United Kingdom	278	83	94
Brazil	58	110	93
Ukraine	351	0	34

Table 9 Outbound Italian target countries by volume, top 10 countries

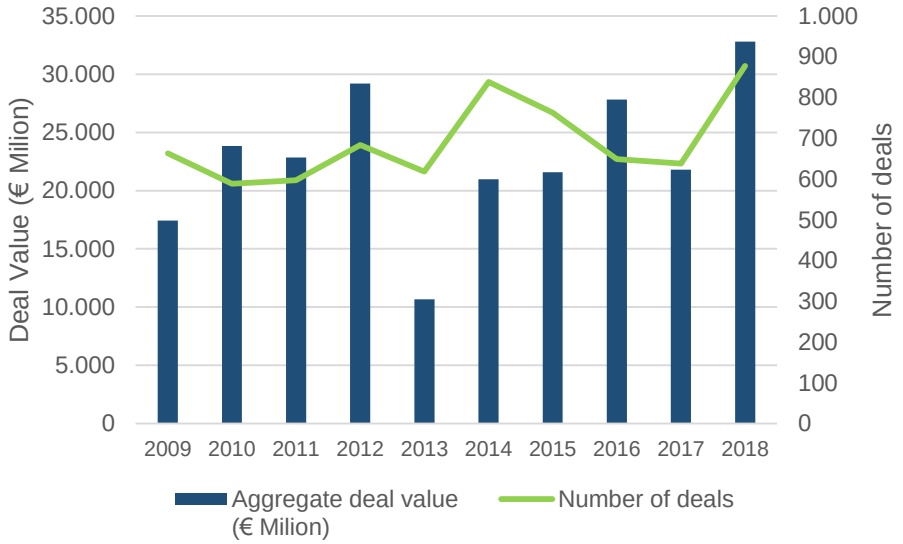
Country (target)	**2016**	**2017**	**2018**
Spain	15	15	23
United Kingdom	18	19	21
United States of America	15	17	17
France	13	12	12
Germany	20	10	11
Switzerland	10	5	9
China	2	2	4
Croatia	0	0	4
Brazil	2	2	4
Netherlands	3	7	3

1.2.2.3 Domestic M&As

Both volume and value of domestic M&A deals increased significantly, making 2018 the most active year in a decade (Figure 5). Mergers and acquisitions between Italian companies reached 877 deals worth combined €32.79 billion. In terms of volume, this represents a 37% increase on the 638 deals closed in 2017, while value was up 50%, from €21.79 billion.

Domestic value was boosted by eight deals worth more than €1 billion, alone counting for 50% of total domestic deals value. The largest one was the acquisition of the pharmaceutical developer Fimei by Rossini Investimenti, which worthed €3 billion.

Figure 5 Domestic Italian Deals by volume and value



Looking at the sectors targeted by domestic deals, "other services" confirm their appeal not only for foreign investors but also for domestic ones, with a total value of € 7.8 billion and 328 deals. In value terms, "transport" target companies acquisitions involved the second largest value, marking a large increase with respect to 2017 (from €1 billion to €5 billion). The acquisition of motorway operator Anas International Enterprise by Ferrovie dello Stato Italiane (€2.86 billion) explains this growth. "Wholesale & retail trade" ranks third with a total value of €4 billion. "Machinery, equipment, furniture, recycling" (103 deals) and "Gas, Water, Electricity" (65) represent the second and third most dynamic sectors for number of deals completed.

Table 10 Domestic Italian target sector by value, top 10 sectors

Major sector (target)	**2016**	**2017**	**2018**
Other services	7.509	5.207	7.838
Transport	1.648	1.003	5.041
Wholesale & retail trade	33	322	4.050
Gas, Water, Electricity	5.900	1.644	3.663
Metals & metal products	798	97	2.798
Construction	620	595	2.422
Machinery, equipment, furniture, recycling	455	1.092	1.831
Food, beverages, tobacco	265	34	1.586
Insurance companies	778	1.443	1.077
Post and telecommunications	923	164	599

Table 11 Domestic Italian target sector by volume, top 10 sectors

Major sector (target)	**2016**	**2017**	**2018**
Other services	249	215	328
Machinery, equipment, furniture, recycling	73	72	103
Gas, Water, Electricity	43	59	65
Wholesale & retail trade	26	34	49
Chemicals, rubber, plastics, non-metallic products	29	38	44
Publishing, printing	46	39	42
Food, beverages, tobacco	29	26	42
Insurance companies	24	13	34
Textiles, wearing apparel, leather	20	17	31
Transport	17	21	25

1.3 Determinants of Cross-Border Mergers and Acquisitions

The great extent to which cross-border M&As developed and the value traded in these transactions made the literature on the topic flourishing in the last years. However, a review of the existing academic research suggests that the investigation on cross-border M&As is highly fragmented across various disciplines, e.g. strategic management, international business, finance, economics, industrial organization, human resources management (Erel, Liao & Weisbach, 2012; Shimizu, Hitt, Vaidyanath, & Pisano, 2004; Reddy, 2015; Reddy & Liang, 2017) . Existing literature focuses on two key points of view on cross-border M&As. On one side, a large share of studies does not recognize cross-border deals as warranting distinctive examination separate from domestic M&As in general (Shimizu, Hitt, Vaidyanath & Pisano, 2004). On the other side, researchers have focused on the comparison among cross-border M&As and other types of Foreign Direct Investments, looking for the factors that affect managers' strategy in entering new markets. (Chen, 2008; Nocke &Yeaple, 2007).

In this section, we will attempt to isolate cross-borders M&As findings to investigate the actual state of the art on the topic. We will start our examination outlining what researchers

have identified as the main determinants of cross-border M&As, e.g. the factors that affect the likelihood that firms whose head-quarters are located in different countries merge. Deepening our knowledge on the point will allow to better understand the peculiarities of the phenomenon, isolating it from domestic M&As and other FDIs strategies. In fact, the analysis focuses on factors that affect the realization of cross-border deals but are not present to the same extent in domestic mergers, such as cultural differences, geographic differences, country level governance differences, tax and financial effects (Erel, Liao & Weisbach, 2012). The relative importance of these factors justifies the choice between greenfield and brownfield investments (cross-borders acquisitions).

The most common determinants of cross-borders M&As can be clustered in three different groups. First, a large part of the literature focuses on country-level factors which summarize the macroeconomic conditions that favour or hinder international deals – market growth in the host country, cultural and geographical distance, exchange rate, GDP change, political uncertainty, institutional laws, taxation, accounting and valuation issues. Second, other key elements reside in the industry organization – industry booms or shocks, technological changes, market growth, competition. Finally, firms' specific characteristics can affect managers' decision of undertaking a cross-border deal – firm size, financial resources, multinational experience, local experience, international strategy, firm productivity (Reddy, 2015).

1.3.1 Country level factors

Country level factors have received the largest attention by business literature. There are two branches of studies on the macroeconomic causes of international deals and capital flows in general. The first focuses on obstacles to capital flows, external push factors as financial market failures and asymmetric information; the second emphasizes specific countries features, pull factors as GDP growth, quality of institutions, openness to trade and technological differences, which are considered to be especially significant in the long run (Hyun & Kim, 2010). The level and the interaction of these factors both in the home and host country affect deals completion; in fact, the analysis of the host country alone is not sufficient to explain the occurrence of an international deal (Reddy, 2015).

The most important aspect in international business research is culture and the impact differences in national culture have on acquisitions' negotiation and performance. Past research has produced ambiguous results, some finding a negative effect on M&As volume and success,

others supporting for positive outcomes when different cultures interact (Reddy & Liang, 2017).

First, several researchers focused on the effect of cultural distance on the deal process. Differences in national culture are found to have significant impact on both deal completion and post-acquisition integration success (Ahern, Daminelli & Fracassi2015; Chakrabarti, Gupta-Mukherjee & Jayaraman, 2009). In particular, Ahammad et al. (2016) argue that the effectiveness of the negotiation phase is negatively affected by the home-host national culture difference. The set of values, norms and principles founding the country's believes affect the negotiation style and tactics, the level of trust in negotiation counterparts, governance and decision making processes and the acquirers' perception of target companies. All these elements contribute to increase the contracting costs of the acquisition (Ahammad, Tarba, Liu, Glaister & Cooper, 2016). Consequently, researchers find that national cultural distance is likely to reduce the number of cross-borders acquisitions. Analysing cross-border deals involving 52 countries, Ahern et al. (2015) find strong evidence that the volume of deals is lower when countries are more culturally distant. Moreover, a greater cultural distance reduces the likelihood of completing a deal that has been already publicly announced (Ahern, Daminelli & Fracassi, 2015).

Many studies supporting a negative impact of cultural distance on cross-border investments observe that this relationship is mitigated by different factors, as previous acquisition experience of acquiring firm (Dikova & Sahib, 2013), top management team's international orientation (Piaskowska & Trojanowski, 2014), target country experience (Ragozzino, 2009) and bidder's country-level familiarity with the host country in terms of student and traveller flows (Lim, Makhija & Shenkar, 2016). These moderators motivate acquirers to undertake high equity stakes in culturally distant locations.

A second stream of literature has focused on the relationship between cultural distance and the level of equity participation acquired through the M&A deal. Results regarding the issue are ambiguous. Several studies have found empirical evidence supporting low equity entry mode when the host country is more culturally distant (Chari & Chang, 2009), others assert that acquiring firms tend to take full equity in culturally distant countries. More interestingly, and partially solving the controversy, Malhotra et al. (2011) observe a curvilinear U-shaped relationship between cultural distance and equity participation. Acquiring firms tend to choose majority equity acquisitions at high and low levels of cultural distance, while at moderate distances small equity participations are preferred. The theoretical justification of this empirical

result is backed by a cost-benefits analysis. When home and host countries are culturally similar, uncertainty is lower and it is easier to deal with acquisition differences in the ex-ante target valuation and ex-post integration. Thus, having full control is considered to be beneficial as it will make easier to the acquiring firm to exert its influence and get full benefits from the target performance. However, as cultural distance increases, so do uncertainty, risks and costs. Therefore, the risk mitigation allowed by shared ownership becomes more appealing. Partial ownership avoids large commitments and guarantees a flexible strategy to deal with uncertainty. However, at high levels of cultural distance, day-to-day conflicts are likely to be more frequent, thus shared ownership will be more costly. The cost of integrating the two firms will outweigh the benefits of shared ownership, therefore favouring full ownership (Malhotra, Sivakumar & Zhu 2011). This U-shaped relationship is even stronger when geographic distance is higher; low geographic distance can compensate for the difficulties in integrating firms from distant national cultures, thus favouring investments. On the opposite, for firms located in similar national culture, higher geographic distance might result in lower monitoring and higher likelihood of opportunistic behaviours (Malhotra, 2012).

Besides the interaction effect between geographical and cultural distance, researchers agree on the importance of geography *per se*. *Ceteris paribus*, the shorter the distance between companies, the higher the likelihood of observing a dynamic market of mergers and acquisitions between the two (Erel, Liao & Weisbach, 2012; Hyun & Kim, 2010). In addition, mergers are likely to occur between firms of countries that trade more commonly with one another, since they share a past background that reduces uncertainty. Actually, the effect of openness to trade and regional trade agreement on M&As has been analysed obtaining different results. A current of thought supports a positive impact on FDI flows, especially for smaller firms, whereas others observe a negative effect of trade regulations, even though the type matters: custom unions and free trade agreements work against cross-border M&A, while service agreements have a positive effect (Di Giovanni, 2005; Erel, Liao & Weisbach, 2012).

The level of financial market development has also received the attention of researchers in investigating the determinants of cross-borders acquisitions. Di Giovanni (2005) argues that the size of the financial market, measured by the stock market capitalization to GDP ratio, affects firms' decisions of investing abroad. In particular, a 1% increase of the stock market to GDP ratio is associated with a 0.955% increase in cross-border M&As activity (Di Giovanni, 2005). Interestingly, Chen et al. (2009) observe that developed stocks and bonds markets have different effects. Firms operating in better-developed stock markets are likely to prefer cross-border

M&As over domestic ones; however, the volume of cross-border M&As is lower for firms operating in highly developed bond markets because their more extensive use of leverage imposes additional constraints when financing their investments (Chen, Huang & Chen, 2009). Connected to that, another potentially important factor in international mergers is valuation. Firms in countries whose stock market has increased in value, whose currency has recently appreciated (e.g. effect of exchange rates) and that have relatively high market to book value tend to be purchasers, while firms from weaker performing economies tend to be well appealing as targets. However, differences in valuation or valuation advantages do not explain the occurrence of cross-border acquisitions alone. Indeed, changes in valuation have a great impact on country pairs that are more disposed towards M&As for other macroeconomic reasons (Erel, Liao & Weisbach, 2012).

Finally, literature on FDIs has emphasised the role of institutions, legal and regulatory frameworks in driving international investments. The value and volume of M&As is affected by the institutional quality of the host country, in terms of low corruption levels, less risk of opportunism and well-observed laws (Hyun & Kim, 2010). Additionally, differences in laws and enforcement explain both the patterns and intensity of cross-border M&As. Countries with higher accounting standards and stronger shareholders protection have more M&As, while targets are typically from countries with poorer investors protection compared to their acquirers (Rossi & Volpin, 2004). These findings are consistent with the governance argument, which predicts that firms in countries promoting better governance systems through developed legal and accounting standards will tend to acquire firms in lower-quality governance. Merging will allow to improve the governance of the target company by aligning target shareholders rights with the superior ones of acquirer's shareholders, thus promoting a convergence in corporate governance standards. Moreover, better governance environments facilitate foreign investments because they reduce the financing constraints caused by information asymmetry (Chen, Huang & Chen, 2009).

1.3.2 Industry level factors

While the existing analysis on the determinants of cross-border M&As has largely targeted macroeconomic-country level factors and secondly firms' specific characteristics, few attention has been devoted to the role of industry characteristics in determining cross-border investments. Indeed, some researchers claimed the need of further investigating the issue, arguing that the

conditions where companies operate and compete may have a significant impact on their decisions to merge or acquire foreign companies (Zou & Simpson, 2008; Kang & Johansson, 2000).

Traditional industrial organization studies address the role of market power and market growth as the main determinants of foreign direct investments and so of cross-border M&As. In particular, Kang and Johansson (2000) observe that industry characteristics as market growth, market structure and the degree of competition significantly affect the decision of foreign acquisitions. Firms operating in slow growth, excess capacity and competitive markets attempt to reduce the pressing effects coming from these forces by industrial restructuring, which often involve M&As as preferred means to greenfield investments (Kang & Johansson, 2000). Similarly, in the Chinese context, Zou and Simpson identified industry size, profitability, technology intensity and economic policy reforms as main drivers of acquisition activity (Zou & Simpson, 2008).

A following stream of literature focuses on the role of industrial shocks, which vary from one industry to another. Mitchell and Mulherin (1996) argue that rather than broad-based economic factors *per se*, it is the occurrence of industry shocks that determines the flow of mergers activity across industries. Industrial shocks are defined as any factor which alters industry structure, as deregulation, changes in input costs or innovation in existing technologies. In these contexts, corporate takeovers as mergers and acquisitions are often the least-cost means to face the economic shock (Mitchell & Mulherin, 1996).

Following this stream of thoughts, the role of technological changes has been investigated. In general terms, technological intensity is positively associated with the level of acquisition activity. Great presence of intangible resources and intellectual capability favour more acquisitions into the market (Zou & Simpson, 2008), while on the other side, firms try to expand their business into other growth markets to hedge the risk and enhance market share (Hitt, Franklin & Zhu, 2006). When a technological change occurs, the level of international deals is stimulated in many ways. Firstly, technological innovation often results in falling communication and transport costs, which favours firms' international expansion seeking to exploit and consolidate their competitive advantage. Second, technological change brings with it higher uncertainty, that coupled with soaring research and development costs, induces firms to seek for new partners to share risks and enjoy cooperation advantages in generating intangible assets (Kang & Johansson, 2000).

Finally, concluding the investigation on industry shocks, great importance is given to the role of deregulation in pushing corporate acquisitions. Ovtchinnikov (2013) observes how following deregulation, companies choose more frequently an M&A strategy. However, merger activity following deregulation is related to poor pre-deregulation industry performance. Therefore, post-deregulation mergers are often a form of exit from the industry by companies that were operating with excess capacity. The frequency of cash and bankruptcy mergers is significantly higher, while bid premiums are lower (Ovtchinnikov, 2013).

1.3.3 Firm level factors

The third group of factors affecting the occurrence of cross-border M&As are those related to single firms' specificities. Few studies analysed these aspects and obviously the results are linked to the institutional and cultural settings in which companies operate.

A large share of the literature on the topic focuses on the role of financial performance and particularly financial constraints. Looking at European non-financial acquisitions, Forssbæck and Oxelheim (2008) empirically demonstrate that a firm is more likely to engage in foreign investments when it has access to competitively priced equity, when it has cross-listed its stocks in a larger, more liquid equity market, when it enjoys a strong investment grade credit rating and when it is able to negotiate reduced taxation and/or attract subsidies (Forssbæck & Oxelheim, 2008). These financial advantages are even more important in predicting international investments in knowledge-intensive industries and in relatively illiquid and segmented capital markets as they help in reducing information asymmetries (Forssbæck & Oxelheim, 2011). A similar study has been developed by Gonzales et al. (1997) in the US. Their empirical analysis enables them to observe how the probability of a merger or acquisition is significantly explained by a number of financial variables. In particular, price/earnings, leverage, size (proxied by the market value of equity) and dividend payout ratio are negatively related to the probability of an M&A, while investments in fixed assets and current ratio (defined as current assets/current liabilities) have a positive effect (Gonzalez, Vasconcellos, Kish & Kramer, 1997).

The greater uncertainty of cross-border M&As makes finance-specific factors more important than for domestic deals. International deals suffer of lower information transparency and longer distance, thus placing higher financial burdens on acquiring firms. As a consequence, two factors facilitate the preference for cross-border M&As to domestic ones; first, the availability of internal funds, e.g. cash liquidity, which avoids further transactions costs. Second, cross-

listing on foreign exchange market that reinforce the company's finance (Chen, Huang & Chen, 2009).

A second group of firm-specific factors studies focuses on the acquiring company past experience in M&As and internationalization (Dikova & Sahib, 2013; Lim, Makhija & Shenkar, 2016; Piaskowska & Trojanowski, 2014; Ragozzino, 2009; Stroup 2017). In particular, researchers observe that director's experience with cross-border transactions positively influences the decision to undertake the first such transaction and will lead to a target selection in countries where directors had prior deal experience. This knowledge-advantage is recognized also by the market, which evaluates these deals more favourably than those announced by firms' directors with no prior experience (Stroup, 2017). As mentioned above, the relevance of this effect is even stronger for target firms located in culturally and institutionally foreign countries (Piaskowska & Trojanowski, 2014). Besides directors' experience with cross-border deals in general, local knowledge about a target country is also significant. Local experience facilitates further investments in a particular country and increases the chances of success for new acquisitions. In other words, a first-time market entry is likely to suffer of more complicated negotiation, information gathering, valuation and integration. These findings are in line with the interpretation of M&A transactions as a learning process, whereby the experiential human capital and past knowledge are relevant in creating and extracting value (Very & Schweiger, 2001).

Lastly, some studies have deepen into the impact of firms' size and productivity in their M&A strategy. Compared to domestic M&As, firms' size plays a more important role in driving cross-border M&As. Larger firms face fewer financial constraints and might easily collect the resources needed to conclude an international transaction (Chen, Huang & Chen, 2009). On the opposite, the smaller the company, the higher the possibility of its acquisition (Gonzalez, Vasconcellos, Kish & Kramer, 1997). Additionally, firms with relatively high productivity are more likely to invest abroad and to choose countries for which foreign investments are relatively more difficult (Stroup, 2017). However, the greater the levels of productivity, the more firms will prefer greenfield FDIs investments over acquisitions, as they do not want to jeopardize the efficiency of their processes with post-deal integration (Raff, Ryan & Stähler, 2012).

1.4 Motives of Cross-Border Mergers and Acquisitions

The precedent paragraph diagnosed the factors identified by the literature as affecting the likelihood of mergers and acquisitions. A complete examination on the nature of cross-border M&As might not abstain from going forward into the motives of such transactions, i.e. why companies engage in cross-border M&As.

Existing literature devoted large attention to the motives of mergers and acquisitions in general, namely search for synergies, market value misvaluation, hubris, managerialism (agency problems) and improving market power (DePamphilis, 2018; Tripathi & Lamba, 2015). However, fewer studies focused on the specific motives for cross-border deals. Since the latter present unique characteristics, different benefits, costs and complexities, there may be systematic differences in the relative importance of motives for domestic versus cross-border acquisitions. The following paragraph will point out the specific motives for cross-border M&As; then, an overview on how the aforementioned general motives take place in the context of international transactions will follow.

1.4.1 Cross-Border M&As Motives

Analysing the existing literature, we can distinguish two main reasons why firms engage in cross-border M&As: first, as an entry mode to a new market in a faster way and avoiding trading costs. In this context, the International Business literature assumes M&As as substitutes for greenfield FDIs or export strategy. Second, to get access to the target's specific countries capabilities, skills and know-how. This second view is backed by the Resource Based View of firms' competitive advantage (Barney, 1991; Lee, 2017; Anand & Delios, 2002).

1.4.1.2 Market entry motive

All researchers investigating the topic all agreed in naming market entry motive as the main driver for cross-border M&As. Firms look for companies headquartered in foreign countries, instead of home market ones, to establish their presence in the targeted country and facilitate international expansion (Ahammad & Glaister, 2010).

The main advantage of cross-border transactions over other alternative strategies for international expansion is speed. Despite an M&A process might take months to be concluded, acquiring an existing firm is quicker than establishing a new venture from the ground. In this sense, the appeal of acquisitions is even more relevant in fast-growing markets where the opportunity cost of delaying entry is higher. Brownfield investments allow immediate access

to local networks of suppliers, marketing and distribution channels and clients, which would be time-costly to establish (Ahammad & Glaister, 2010; Chen, 2008; Hopkins, 1999; Shimizu, Hitt, Vaidyanath, & Pisano, 2004). Furthermore, foreign buyers are more likely to use acquisitions rather than establish a wholly owned subsidiary when they do not have clear advantages over rivals and when they plan to manufacture a product that they do not produce at home (Hopkins, 1999). In this latter case, the market entry motive overlaps with the know-how acquisition motive. Indeed, the acquisition of a local company is ultimately finalized at acquiring market specific expertise, e.g. knowledge on local marketing strategies or distribution channels, which makes the acquirer's offer more desirable and closed to local customers (Lee, 2017).

In addition to being fast, cross-border acquisitions are advantageous to greenfield investments because 1) they allow to establish quick critical mass; 2) they do not imply the setting up of additional capacity, thus worsening rivalry with incumbents; 3) they force the management at the headquarter level to wisely consider local constraints and adjust to local practices (Whitaker, 2016).

1.4.1.3 Resources and capabilities seeking motive

The second considerable motive driving cross-border M&As is the desire to acquire new capabilities and strategic assets which are specifically located in the target's country. Companies decide to engage in an M&A transaction to bring under their control a more diverse stock of specific assets which enable them to seize new opportunities and are complementary to the assets they developed in their home country. Technology assets, know-how, intellectual property, reputable brand name, human resources, managerial and marketing skills are all superior gains resulting from an acquisitions, which might be long or impractical to build domestically (Ahammad & Glaister, 2010; Anand & Delios, 2002; Chen, 2008; Nocke & Yeaple, 2007; Shimizu, Hitt, Vaidyanath, & Pisano, 2004). These resources may not only favour the company performance in the host market, but also realize gains in the home country from reverse internationalization.

Interestingly, Nocke and Yeaple (2007) distinguish between mobile and non-mobile capabilities; mobile capabilities are those that travel around the world and are internationally available. Non-mobile capabilities travel less by their very nature and are therefore country-specific. In these terms, firms engage in FDIs to obtain non-mobile capabilities that they cannot

find elsewhere. The less a capability is mobile, the more cross-border M&As are appealing to get access to them (Nocke & Yeaple, 2007).

The resources and capabilities seeking motive is theoretically backed by the Resource Based View and Resource Dependence Theory (Barney, 1991). In this context, M&As are a tool to reduce the buyer's environmental interdependence and uncertainties by acquiring missing capabilities and enhancing existing resources (Wang & Moini, 2012).

Acquirers tend to focus particularly on three sets of resources:

1. Downstream capabilities, as salesforce, brand and distribution networks. These inputs can be more cheaply and conveniently acquired bundled in a company, rather than built from the ground. In this case, the resources and capabilities seeking motive is functional to market entry or enhancement.

   Downstream assets are characterized by low mobility, since they are strictly related to local customers and often developed through path-dependence (Nocke & Yeaple, 2007; Anand & Delios, 2002)
2. Technology. Companies use M&As as a tool to improve operational efficiency and gain a synergy effect with the target existing technology (Lee, 2017; Wang & Moini, 2012). Despite technology is a mobile and fungible resources across borders, local relative competitive advantages still exist and motivate the movements of companies in lower costs/technologically developed countries. Indeed, different factors explain technology-seeking behaviours. Lee (2017) shows how the country size difference matters in this choice. The bigger the home country relative to the host country, the more firms engage in technology-seeking cross-border M&As into the smaller country (Lee, 2017). Moreover, investors tend to acquire foreign firms when the sector in which they are investing is technically superior to the same sector in their home country; if no differences in technological level holds, greenfield investments are preferred (Anand & Delios, 2002).
3. Intellectual property rights. Gaining access to intellectual property is often cited as a considerable reason to acquire a company. In particular, it allows to reduce the risk of imitation, increase market power and reinforce the brand advantage. As intellectual property protection systems are determined by the regulatory system of each country, differences in home-host countries provisions may justify foreign investments to access to new knowledge or enforce the proprietary one in a new country. More than for the other capabilities, the effect depends on the sector considered. In sectors characterized

by high R&D expenditure, M&A activities is more frequent, showing how companies may use M&As to substitute internally-produced knowledge (Campi, Dueñas, Barigozzi & Fagiolo,2018).

1.4.2 General M&As motives in the context of international deals

Synergies. The synergies hypothesis is the main explanation many decision makers provide when interviewed about why they undertook an M&A transaction. Synergies occur when the total value of the combined entity is higher than the sum of the target and acquirer's value as stand-alone entities. Synergies may emerge from different sources, i.e. operational synergies due to economies of scale and scope, financial synergies due to reduction in the cost of capital, organizational synergies due to improved managerial operating practices (Ferreira, Santos, Reis & Almeida, 2012). In the context of international acquisitions, acquiring an existing foreign facility allows to rapidly exploit the potential for synergistic gains compared to greenfield investments. Another important source of synergies comes from the potential transfer of valuable intangible assets, as know-how, capabilities and routines which are country-specific to the target country. Indeed, studies conducted by Seth et al. (2000) in the US and Wang and Moini (2012) in Europe reveal how synergies is the main motive behind companies' cross-border M&As. In particular, more significant effects are originated by operating synergies, followed by joint sales, share of intangible resources and increased market power (Seth, Song & Pettit, 2000; Wang & Moini, 2012).

Hubrys. The hubrys hypothesis suggests that acquirers' managers over valuate the target firm, paying more than the target is worth, due to excessive overconfidence coming from past successful transactions, which leads them to undertake the acquisition assuming their valuations are correct, even if no synergies will arise (Tripathi & Lamba, 2015).

Essentially, this irrational behaviour relies upon asymmetric beliefs by the bidder and target about the wealth gains association with the acquisition, with the bidder mistakenly overvaluing the target. As we saw, cross-border acquisitions are characterized by even greater information asymmetry between the two parties, thus the hubris hypothesis may be even more relevant in the context of cross-border acquisitions than in domestic ones (Seth, Song & Pettit, 2000).

Managerialism or Agency problem. The managerialism hypothesis shares with the hubris hypothesis the assumption of managers' bounded rationality. Differently, it assumes that managers will knowingly overpay takeovers to maximise their own utility at the expense of the firm's shareholders. Managers may make acquisitions to add to their prestige, influence, compensation or self-preservation. (Wang & Moini, 2012). International acquisitions may thus appear more appealing than domestic ones, as they satisfy managers' search for prestige and empire building attitudes. Moreover, managers may seek to stabilize earning streams by acquiring foreign targets, which allow to higher risk diversification. In absence of strong corporate governance mechanism to control for managerial discretion, cross-border acquisitions may be more satisfactory at the expense of shareholders value (Seth, Song & Pettit, 2000).

Market power. One of the main drivers of M&A in the Industrial Organization literature is the attempt to enhance market power by absorbing rivals. In this sense, M&As may be aimed at the removal of actual or potential competitors to avoid escalating rivalry or consolidate the current position (Very & Schweiger, 2001). Market power can be obtained not only by horizontal mergers with competitors, but also by vertical mergers with upstream or downstream players and conglomerate transactions in other businesses. Foreign acquisitions may help in gaining market power abroad, where the company's competitive advantage is not strong as in the domestic market. Especially for multinational companies competing globally, cross-border acquisitions serve the aim of reducing competition and partners' bargaining power (Chen, 2008).

1.5 Cross-Border M&As effects on the target company performance

The existing literature on mergers and acquisitions has widely explored the post-acquisition outcomes. The body of literature is vast, but fragmented across a vast number of issues and with mixed results. The majority of acquisition studies deal with the impact of M&As announcements on the share price of the acquirer, which is not a suitable measure in the Italian context characterized by privately held SMEs. Other researchers have explored the wealth creation opportunity for acquirer and target firms' shareholders, the effects on the target country competitiveness and welfare, or the results on the performance of the acquirer and combined entity. Despite its importance in the entrepreneurial life cycle, in the past fewer studies

specifically investigated what happens to the acquired firm after an acquisition. In the latest years, the interest on this topic raised, and so related researches did.

The goal of the following paragraph is hence to deepen our understanding of how the economic performance of acquired companies develops. The topic is of extreme interest for policy makers and institutions, as well as for managers and shareholders submitted with an acquisition proposal. However, researchers obtained mixed results. Competing forces may be at work simultaneously, either leading to positive or negative performance effects. For example, operational synergies may bring performance enhancement, while post-integration problems may worsen the organizational efficiency. Further, the motive that drove the acquisition, the level of integration between the acquirer and acquired company, culture fit may all affect the acquisition success for the target company.

Two main stream of theoretical literature dealing with performance of foreign-controlled firms can be identified (Bentivogli & Mirenda, 2016).

1. The first one is related to the multinational companies' theory and the general hypothesis of MNEs' performance advantage over purely domestic firms (Hymer, 1960). Theoretical argument in favour of a superior performance of foreign firms is based on the OLI paradigm (ownership-location-internationalization advantages) of international production (Dunning, 1988). Foreign investors enjoy ownership advantages that grant them a competitive advantage over foreign competitors, a location specific advantage in the market they are entering and the ability to transfer them to foreign affiliate at a relatively low marginal costs. Further, firms need to overcome a large fixed cost of investment abroad, and hence, multinationals making FDI must have higher productivity than exporters and other domestic firms. Thus, MNEs are able to transfer proprietary assets and knowledge across countries to make their plants more efficient. Superior performance of foreign subsidiaries is then the result of superior technologies, new organizational practices, managerial skills, capital, brand reputation and negotiation power with suppliers and customers thanks to the parent company higher market potential (Markusen, 2002). Yet, it also exists the well supported argument that foreign subsidiaries performance may get worse due to the parent company liability of foreignness (Hymer, 1976), MNEs' scarce knowledge of the local economy, poor culture fit, managerial and reporting issues. These contrasting arguments result in heterogeneous empirical evidences, although studies which support a positive impact of foreign acquisition on the acquired firm performance prevail by a wide margin

(Chang, Chung & Moon, 2013; Crinò & Onida, 2008; Damijan, Kostevc & Rojec, 2015; Girma & Gorg, 2007).

2. The second stream of literature derives from the market for corporate control research (Manne, 1965). This alternative point of view highlights the relevance of considering an ex-ante selection bias in target selection as a key driver of different post acquisition performances. Acquirers may choose underperforming but promising companies (negative selection, or "lemons picking") to remove inefficiencies and generate the full value of the company. On the contrary, they may target only best performing firms (positive selection, or "cherries" picking) so that it will be easier to capture value from the acquisition. Given that, MNEs superior performance may be simply the result of a non-random acquisition of best performers in the market. Accounting for ex ante selection and differences in pre-acquisition performance levels thus explains post-acquisition outcomes.

   The relevant literature seems to support the cherry picking hypothesis (Almeida, 2007; Chari, Chen & Dominguez, 2009; Guadalupe, Kuzmina & Thomas, 2012; Salis, 2008; Zhu, Jog & Otchere, 2011), but the opposite view also received some backing (Feys & Manigart, 2010). Analysing a sample of Spanish firms, Guadalupe et al. (2012) document how foreign firms cherry-picked the most productive companies (Guadalupe, Kuzmina & Thomas, 2012). Chari et al. (2009) support this position adding that US target firms report higher levels of sales, employment and total assets (Chari, Chen & Dominguez, 2009). In a Portuguese cross-sectional analysis, Almeida (2007) reveals that acquired companies are larger, employ a more educated workforce, pay higher wages and exhibit technological characteristics more similar to the acquirer's one (Almeida, 2007). On the opposite, Feys and Manigart (2010) show that Belgian targets are on average underperforming before the acquisition compared to remained-independent firms, in terms of lower sales growth and lower margins (Feys & Manigart, 2010)

   Looking at the Italian context, scholars' results are not conclusive. Barbaresco et al. (2018) find that Italian target companies of foreign acquisitions achieve results at least not lower than target of domestic acquisitions in the five year prior to the deal (Barbaresco, Matarazzo & Resciniti, 2018). Piscitello and Rabbiosi (2005) report that MNEs do not seem to systematically select lower or higher productive target companies (Piscitello, Rabbiosi, 2005).

Regardless of the literature stream they belong to, scholars focused on some specific and recurring measures of target company performance. A wide majority of researchers investigated the effects on productivity (total factor and labour productivity) and on labour market-related measures, such as the level of employment and the level of wages. The impact these variables have on the target country welfare and macroeconomic indicators motivates the interest on these topics. Among others variables, profitability, sales and investments worth a foremost attention.

1.5.1 Total factor productivity

Productivity is considered to be the main indicator of how successful an acquisition has been for the acquired company (Damijan, Kostevc & Rojec, 2015).

The internationalization theory mentioned above suggests that MNEs' foreign subsidiaries should benefit from the transfer of proprietary assets and therefore display higher productivity and profitability levels compared to local firms. However, empirical studies do not always converge on the superior productivity hypothesis and provide mixed results.

Using an OLS approach to a sample of Chinese companies acquired by foreign investors, Liu et al. (2017) find a 22% increase in total factor productivity of target firms. A stronger performance enhancing effect emerges when a larger technology gap exists between the country of the acquirer and China, and only in horizontal and conglomerate acquisitions, not in vertical ones. Interestingly, they also observe an inverted-U relationship between the performance of the target and the share of the target's equity owned by the foreign acquirer. A large equity control reduces the incentives of the target management to contribute to the firm, which in turn reduces their performance. This result indicates that technology and management transfer are not the only factors that affect the target performance (Liu, Lu & Qiu, 2017).

A lower but still significant productivity improvement is documented also by Arnold and Javorcik (2009) on a sample of cross-border M&As in Indonesia. Results indicate that foreign ownership leads to significant TFP improvement which become visible in the acquisition year and continue in subsequent periods. After three years, acquired plants exhibit a 13.5% higher productivity than non-acquired comparable companies. The rise in productivity is due to restructuring initiatives, as the acquired plants increase investments in fixed assets, enlarge production scale, hire new labour and pay higher wages. Foreign ownership does also enhance the integration of the target into the global economy through increased exports and imports (Arnold & Javorcik, 2009). Lower and slower improvements are signalled by Karpaty (2005). In its investigation over a sample of Swedish firms, he reveals that the increase in productivity

in foreign owned firms ranges between 3 and 9% according to the estimator chosen and does not occur immediately, but only after 3 years post acquisition (Karpaty, 2005). Similarly, Bertrand and Zitouna (2008) find evidence of positive and significant impact productivity of French companies target of horizontal acquisitions. However, the productivity enhancement does not translate into higher profitability, suggesting that companies redistribute efficiency gains at the upstream or downstream production stage through an increase in input prices or decrease in final good prices. Moreover, these results are stronger for cross-border M&As than for domestic ones, and when the acquirer comes from non-European countries (Bertrand & Zitouna, 2008). The importance of country-difference is highlighted by Harris and Robinson as well (2003). In a study of foreign acquisitions on UK targets, they reveal how plants acquired by US companies experience higher productivity than domestically owned plant. On the other side, there is little evidence of a significant productivity differential in favour of European parent companies owned plants (Harris & Robinson, 2003). Apparently, European integration reduces the difference between European and domestic acquisitions, or EU MNEs appear to be less skilled and/or less equipped to transfer their proprietary assets efficiently compared to their US counterparts (Benfratello & Sembenelli, 2006).

The advantage of foreign acquisitions is confirmed also by Fukao et al. (2006) in Japan. Foreign acquisitions improve target firms' productivity and profitability significantly more and quicker than acquisitions by domestic firms. The increase in productivity is visible in the three years window after the acquisition and is the result of technological transfer between acquirer and target company (Fukao, Ito, Kwon & Takizawa, 2006).

Interestingly, analysing firm-level financial data on acquisitions in a sample of seven new European Union countries[4], Damijan et at. (2015) confirm that target firms of foreign investors register above average productivity levels, and further suggest that foreign ownership yields different rewards according to the pre-acquisition performance. The improvement effect is more pronounced for smaller firms, which can better benefit of the transfer of managerial capabilities from the parent company and increased efficiency in the use of labour and capital. Moreover, the increase in performance is more significant for manufacturing firms than service firms (Damijan, Kostevc & Rojec, 2015).

[4] Bulgaria, Estonia, Czech Republic, Poland, Romania, Slovenia and Slovakia.

Differently from all precedent studies, Buckley et al. (2014) investigate foreign acquisitions from emerging to developed countries. In these situations we may imagine a different pattern of technological and managerial differences. However, the same result holds: also emerging countries MNEs contribute to increase the target firms productivity and sales, in particular when the acquiring firm can exploit prior acquisition performance (Buckley, Elia & Kafouros, 2014). Despite the numerous studies supporting a productivity positive effect, some scholars tested the opposite outcome. Salis (2008) finds no evidence of a positive causal effect of foreign acquisition up to two years following the deal of Slovenian target firms (Salis, 2008). In UK, Schiffbauer et al. (2017) report a 5.1% lower TFP of acquired firms in the acquisition year compared to similar companies with the same probability of being acquired. This negative outcome is likely the result of high restructuring costs. In the long run, no effect of foreign ownership on TFP is found. Interestingly, the scholars observe significant heterogeneity at the industry level, which potentially explains the absence of positive TFP effects at the aggregate level (Schiffbauer, Siedschlag & Ruane, 2017). Finally, Zhu et al. (2011) do not find significant impact on the target productivity following foreign acquisitions of emerging countries companies, which on the contrary occurs when the acquirer is domestic (Zhu, Jog & Otchere, 2011).

Looking at the Italian context, Benfratello and Sembenelli (2006) provide empirical evidence in support of this last view. According to their analysis, foreign ownership has no effect on Italian companies' productivity. Confirming the results of Harris and Robinson (2003) in UK and Bertrand and Zitouna (2008) in France, they also find that firms under US ownership tend to be more productive than other nationalities ownership. This suggests that the transfer of technology seems to occur only if the difference between the recipient and the investment country is sufficiently pronounced and that US MNEs have a parent company advantage over others (Benfratello & Sembenelli, 2006).

1.5.2 Labour productivity

The impact of M&As on the target company performance in terms of labour productivity has been largely under investigation by both the literature on MNEs and scholars in the field of Industrial Organization.

Literature supporting a positive impact on labour productivity is vast. In the above mentioned article on Indonesian firms, Arnold and Javorcik (2009) provide the largest estimate of such impact. According to their analysis, labour productivity improved by 63% after the acquisition

and was accompanied by new hirings and higher wages. This huge improvement is not the result of changes in skill-intensity. Foreign owners are able to introduce new organizational and managerial changes that make the production processes more efficient and use labour more effectively. Further, MNEs are able to attract the most experienced and motivated workers from local plants, which justifies the higher wages paid (Arnold & Javorcik, 2009).

Other studies provide still positive, but much lower estimates of labour productivity improvements, i.e. on the order of 10-15%. For example, Guadalupe et al. (2012) report a 11% increase in labour productivity of Spanish firms following a foreign acquisition, mainly due to investments in technology and process innovation (Guadalupe, Kuzmina & Thomas, 2012). Conyon et al. (2002) certify a 14% increase in UK target companies (Conyon, Girma, Thompson & Wright, 2002). In a study on US companies' acquisitions, Chen (2011) confirm these results and point out the relevance of the acquirer's country of origin, distinguishing between acquirers from industrialized and emerging markets. Compared to companies that received domestic acquisitions, those acquired by industrialized countries firms experience a labour productivity increase by 13%. On the contrary, targets of developing countries acquirers exhibited lower productivity gains of 23% in the four years after the acquisition (Chen, 2011).

In Italy, several studies support these findings, agreeing on a positive effect of foreign ownership (Crinò & Onida, 2008; ICE & Prometeia, 2014; Mariotti, Onida & Piscitello, 2003; Piscitello & Rabbiosi, 2005). Mariotti et al. (2003) observe an increase in both labour productivity and employment level in companies subjected to foreign acquisitions compared to those that did not experience any ownership change. In particular, results are even stronger for small target firms (1-49 employees) and if the investor is a European multinational company. Smaller companies are less likely to present duplications and redundancies that need rationalization. They are usually acquired as launching pads that will need additional assets, thus resulting in productivity and employment improvements. On the other side, US MNEs' worse performance may be due to their lower sensitivity to local labour pressures, but also to a different attitude towards the FDI investment. US companies are likely to set in Italy just a bridgehead that does not require an immediate sequential investment and adopt a try-and-see attitude with a slower adaptive learning on the local environment (Mariotti, Onida & Piscitello, 2003; Piscitello & Rabbiosi, 2005). These results contrast with what Benfratello and Sembenelli (2006) highlighted, providing mixed conclusions to policy makers.

1.5.3 Employment level and wages

The impact of foreign acquisitions on employment is often considered as a proxy for post acquisitions trends in acquired firms' extent of activity. Results of empirical studies are mixed and no position seems to prevail. The inconclusiveness of scholars researches fuels the position of those who see foreign takeovers as harmful for the economic development of the country. Foreign acquisitions do not add to the country production capacity, but simply transfer ownership and control to foreign hands, often resulting in layoffs and shutting downs of some activities.

Employment growth is documented by Arnold and Javorcik (2009) in Indonesia and Chen (2011) in the US, but only when the acquirer comes from an industrialized country (an increase of 24% versus a decline of 26% when the acquirer is located in a developing country). A significantly lower growth, but still positive (2%) is reported by ICE & Prometeia (2014) in Italy.

Conversely, Girma and Görg (2006) claim that foreign acquisitions reduced the employment level of UK acquired firms, in particular for unskilled labour in technological intensive industries. Chari et al. (2009) confirm Chen (2011)'s result that US firms acquired by developing countries acquirers experience a decline in employment (Chari, Chen & Dominguez, 2009; Girma & Görg, 2006).

Results are much more conclusive with regards to the effect on wages. Multinational theory suggests that MNEs pay higher wages due to their superior level of technology that explains their higher level of productivity. Moreover, the change in ownership often brings with it a change in industrial relations practices which may impact the wage structure. Foreign parent companies may also decide to increase compensations to "bribe" workers to avoid industrial relations disputes or this may come as a result of the implementation of successful working practices (Girma & Görg, 2007).

Numerous evidences rely on UK data. Conyon et al. (2002) find that foreign firms pay equivalent employees 3.4% more than domestic firms as a result of their higher level of productivity (Conyon, Girma, Thompson & Wright, 2002). Girma and Görg (2007) support these results, reporting even higher wage premiums. They observe a significant effect on wages only for target firms acquired by US multinationals, while no evidence is found for EU based multinationals. US-owned targets benefit of an 8% and 13 percent increase in compensation for skilled and unskilled workers, respectively (Girma & Görg, 2007).

In Italy, both Crinò and Onida (2008) and Barbaresco et al. (2018) document higher wages paid by foreign owners. In particular, Barbaresco et al. (2018) report that the higher compensation level is observed in the 4 years windows post-acquisition and it is typically accompanied by an employment base recomposing in favour of high-skilled employees (white-collars) (Crinò & Onida, 2008; Barbaresco, Matarazzo & Resciniti, 2018).

1.5.4 Profitability and returns

Compared to the above mentioned variables, profitability and returns have been investigated more rarely. Existing literature seems to support a general hypothesis of foreign-owned companies' advantage in profitability. In the US, positive evidences are found by Chen (2011) who reports an increase in profits by 10% and by Chari et al. (2009). Looking at ROA trend, they observe how ROA for acquired firms declines significantly in the first three years post acquisitions, but then increased from the fourth year on by 8.3%. The pattern of increased profitability (income/assets) and declining sales is consistent with improvements in firm-efficiency and restructuring activities that generated beneficial effects just after the third year (Chen, 2011; Chari, Chen & Dominguez, 2009). The same pattern can be identified in Fukao et al. (2006)'s research in Japan. Similarly, no immediate improvements in profitability are visible, but ROA significantly improves in three and four years after the acquisition (Fukao, Ito, Kwon & Takizawa, 2006). In China, Chang et al. (2013) observe how foreign-acquired firms experience an average increase in ROA slightly above remaining local firms' one; the enhancing effect is stronger for acquisitions of modernized companies with high intangible assets (Chang, Chung & Moon, 2013).

Looking at Europe, results are more mixed. Feys and Manigart (2010) support the profitability enhancing hypothesis in Belgian foreign-acquired companies, which tend to experience similar sales growth of independent companies but higher profit margins (Feys & Manigart, 2010). On the contrary, a study conducted by Bertrand and Zitouna in France does not reveal increases in French target firms' profitability in the five years post acquisition (Bertrand & Zitouna, 2008). The same controversial situation holds in Italy. Crinò and Onida (2008) find strong evidence of a foreign-owned firms disadvantage over national firms. Companies owned by multinationals exhibit lower ROA, EBITDA margin and EBIT per capita. Possible explanations could be MNEs' transfer of profits in more fiscally convenient locations, higher international competition which forces to limit price margins, or lower incentives to reinvest earning to push

growth due to large recourse of intra firm loans (Crinò & Onida, 2008). Conversely, Bentivogli and Mirenda observe a net increase of 1.8% in ROE and 1.7% in cash flows on assets following foreign acquisition (Bentivogli & Mirenda, 2017). In a more recent study, Barbaresco et al. (2018) obtain other results. According to their findings, foreign-owned companies are more profitable than national comparable companies are. Actually, both groups experience a decrease in ROI in the three years post-acquisition due to the impact of the 2008 economic crisis. However, acquired companies deterioration was lower, -0.5% compared to -2.7%, suggesting that foreign-owned companies better responded to the macroeconomic adverse situation. In particular, European owners have a slightly higher impact than US and UK parent companies (Barbaresco, Matarazzo & Resciniti, 2018).

1.5.5 Other variables

A marginal part of the literature investigated some other performance variables, such as the level of debt, sales and incentives to innovation and investments.

With regard to the level of indebtedness, scholars seem to agree on a lower level of financial leverage in multinational companies. Bentivogli and Mirenda observe a decrease by 2.8% in the debt/assets ratio (Bentivogli & Mirenda, 2017). The same result is documented also by Crinò and Onida (2008), who highlight that MNEs are less dependent on debt (measured by total debt/total capital, debt/equity ratio, profits/total capital) than national firms. MNEs are characterized by a lower weight of short term liabilities over total debt, lower cost of debt and less intense recourse to bank loans, but rather to other types of liabilities as bonds (Crinò & Onida, 2008). Both studies point out that differences are stronger in the service sector than in the manufacturing one.

On the contrary, sales trends differ across the studies. Bentivogli and Mirenda (2017), Buckley et al (2014), Chen (2011), Liu et al. (2017), ICE & Prometeia (2014) all provide evidences for a sales improvement in foreign-acquired targets, even though with different magnitude effect (ICE & Prometeia register a 2.8% increase, Bentivogli and Mirenda a 7%, while Chen reports a much higher improvement, 29%). Barbaresco et al. (2018) point out that manufacturing firms enjoy a significant increase in their export sales, thanks to the higher international presence provided by the foreign acquirer (Barbaresco, Matarazzo & Resciniti, 2018). On the other side, Chari et al. (2009) and Feys and Manigart (2010) observe sales decline.

Finally, MNEs' transfer of superior technology and proprietary assets results in higher innovation levels post foreign acquisition. Acquired firms are more likely to innovate and invest, both in the purchase of new machinery and fixed assets and in the adoption of new methods of production organization (Guadalupe, Kuzmina & Thomas, 2012; Liu, Lu & Qiu, 2017).

1.6 Conclusions

The precedent chapter helped us in deepening our understanding of the magnitude of the cross-border M&As phenomenon, its trend, driving factors and effects on corporate performance.

Inbound acquisitions, which have always been the driver of Italian cross-border deals, sensitively decreased in 2018, partially compensated by an increase of outbound investments. Data on 2019 first quarter confirm a declining trend of the Italian M&As market. Given this changing scenario, an investigation on the nature and components of cross-border deals is extremely relevant for a wide range of decision makers, including policy makers, entrepreneurs and managers. Indeed, the analysis of main country, industry and firm-levels determinants of cross-border M&As dug into the factors that affect the level of international deals, main obstacles to the deal completion and identification of likely-to-be targets and acquirers. Cultural distance, macroeconomic conditions (e.g., GDP growth or capital markets trend), industry shocks, technological changes, corporate financial performance and managers' international experience emerged as the most relevant factors to keep monitored. The impact they can exercise on the single deal also depends on the motives behind the acquisition. Two factors seem to prevail over the wide range of M&As' reasons. Cross-border deals are seen as a means of international expansion and market entry and/or as instrumental to acquire specific and valuable resources and capabilities, characterized by low international mobility.

Whether the foreign acquisition is valuable for the target company as well and not only for the acquirer is still a matter of debate. The literature obtained mixed results in the analysis of the effects on the target company's productivity, level of employment, wages, profitability and other relevant variables. However, the prevailing position supports the existence of a foreign ownership premium: through the transfer of superior technology, assets, managerial and organizational skills, foreign owners succeed in enhancing the target company performance

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2. CHAPTER

FAMILY BUSINESSES AND M&AS

2.1 Introduction

Family firms are a widespread and pervasive control structure. In Italy, 85% of active companies are family controlled and they generate 70% of total employment in the country (AIDAF, 2018). The overlap between the family system and the business rationales creates unique dynamics and challenges. Family owners live the company as an extension of the family, contributing strong commitment and personal attachment to it. The will to transfer the business to future generations is the foremost goal and drives long-term decisions aimed at the business continuity. Different decision-making processes, organizational culture and investment policies are thus prominent characteristics of family firms. These peculiarities lead us to expect that family businesses will also perform differently when involved in a so disruptive venture as a merger or acquisition. Unfortunately, empirical research on family businesses and M&As is still partial. While family firms' characteristics as acquirers have received significant attention, there is still scarce evidence on target family firms and their post-acquisition operating performance. Moreover, to the best of our knowledge, no studies have extensively investigated family firms in the context of cross-border acquisitions.

According to us, an in-depth analysis of how family ownership affects the success of M&As and the following performance may be extremely timely and meaningful, given the relevance of the family business control structure in our country. In short, what the following chapter will try to answer is "How do mergers and acquisitions differ when a family business is involved?". We will outline what the literature studied on family businesses and M&A transactions in other to explore what we already know on the topic. To this purpose, thirty-two studies from leading economic journals have been carefully selected and examined. The core issues and empirical insights resulting from their analysis are presented throughout the chapter.

2.2 Methodology and state of the art

The literature on family businesses is broad and covers numerous fields. Family controlled firms have been analysed under the lens of finance, accounting, management, organization, internationalization and any other business or economic science. Of course, a complete examination of family business is beyond the scope of this work, whose interest is limited to the differential impact families can have on the merger and acquisitions activity of their business. Therefore, we selected only papers related to that topic, or that could provide useful insights on those family businesses characteristics that may be relevant in understanding why they represent a deal-differentiating factor. Thirty-two papers have been thoroughly selected and analysed (Table 12a and 12b). To identify them we used several business and academic sources. Main databases consulted were Business Source Complete by EBSCO, Elsevier ScienceDirect and Springer Link Books. The use of key words such as "Family Businesses and M&As", "Family business investments" or different combinations of these key elements provided us some first valuable results. The research was then expanded consulting references cited by first articles and doing specific researches on influential journals, e.g. "Family Business Review", "Family Business Strategy", "Strategic Management Journal" and many others. The results of this investigation were thirty-two papers covering the fields of strategy, management and finance.

The analysed time period starts in 1955 (Shim & Okamuro, 2011) and finishes in 2012 (Bettinazzi, Miller, Amore & Corbetta, 2018). It is worth noticing that the majority of papers analysed end-of-the-century beginning-of-the-new-century datas. Apparently, the first years of the 2000s marked a rise in interest on the topic. Similarly, a large number of papers focuses on the United States as country of analysis (nine out of thirty-two works). Countries investigated are United States (Anderson, & Reeb, 2003a; Anderson, & Reeb, 2003b; Basu, Dimitrova & Paeglis, 2009; Bauguess & Stegemoller, 2008; Feldman, Amid & Villalonga, B., 2019; Gómez-Mejía, Patel & Zellweger, 2018; Miller, Le Breton-Miller, Lester & Cannella, 2007; Miller, Le Breton-Miller & Lester, 2010; Villalonga & Amit, 2006), Canada (André, Ben-Amarm& Saadi, 2014; Ben-Amar & André, 2006), East Asia (Chen, Huang & Chen, 2009; Shim & Okamuro, 2011; Wong, Chang & Chen, 2010) and Continental Europe (Andres, 2008; Bannò & Zaninotto, 2014; Baronchelli, Bettinelli, Del Bosco & Loane, 2016; Barontini & Caprio, 2006; Maury, 2006; Bettinazzi, Miller, Amore & Corbetta, 2018; Bianco, Golinelli & Parigi, 2009; Bouzgarrou & Navatte, 2013; Caprio, Croci & Del Giudice, 2011; Caroli, Cucculelli & Pongelli, 2015; Chirico, Gómez-Mejia, Hellerstedt & Withers, 2019; Favero, Giglio, Honorati & Panunzi, 2006; Feito-Ruiz & Menéndez-Requejo, 2010; Gonenc, Hermes & Van Sinderen, 2013; Minichilli, Corbetta & MacMillan, 2010; Sraer & Thesmar, 2007).

Table 12 Summary of analysed papers on family firms characteristics, performance and valuation

Author	Year	Country	Type of companies in the sample	Study time	Definition of family business	Content	Main findings
Anderson, R. C., & Reeb, D. M.	2003a	United States	Listed	1992-1999	It exists fractional equity ownership of the founding family and / or the presence of family members serving on the board of directors	Family firms performance	Family firms perform better than nonfamily firms. The relation between family holdings and firm performance is nonlinear. When family members serve as CEO, performance is better than with outside CEOs.
Anderson, R.C., & Reeb, D.M.	2003b	United States	Listed	1993-2000	It exists fractional equity ownership of the founding family and / or the presence of family members serving on the board of directors	Family firms characteristics	Family firms experience less diversification than, and use similar levels of debt as, nonfamily firms.
Andres, C.	2008	Germany	Listed	1998-2004	The founder and/or family members hold more than 25% of the voting shares	Family firms performance	Family Businesses are more profitable, but only when the founding family is still active either on the executive or the supervisory board.
Bannò, M. & Zaninotto, E.	2014	Italy	Private	1986-2010	A family owns more than 50% of shares if it is private. The threshold is reduced to 20% for listed companies.	Family firms and entry mode	The higher the level of family ownership, the higher the likelihood of a wholly owned subsidiary abroad. Family management involvement is not relevant.
Baronchelli, G., Bettinelli, C., Del Bosco, B. & Loane, S.	2016	Italy	Private	-	A family directly or indirectly owns the majority (51%) of the voting shares	Family firms' FDIs	Higher family involvement corresponds to lower FDIs in psychically distant countries, especially when the firm is young.
Barontini, R. & Caprio, L.	2006	Continental Europe	Listed	1999-2001	The largest shareholder owns at least 10% of ownership rights and controls more than 51% of direct voting rights or more than double of the direct voting rights of the second largest shareholder.	Family firms valuation and performance	Valuation and operating performance are significantly higher in founder-controlled corporations, and are at least not worse than average in descendants-controlled corporation.
Bettinazzi, E., Miller, D., Amore, M.D. & Corbetta, G.	2018	Italy	Private	2002-2012	A family owns the majority of equity shares and holds at least a board position	Ownership similarity and the likelihood of M&As	Family controlled firms are more likely to choose another family controlled firm as partner for an M&A.
Bianco, M., Golinelli, R. & Parigi, G.	2009	Italy	Private	1996-2007	Self Evaluation	Family firms sensitivity to uncertainty	Family firms are significantly more sensitive to uncertainty: this might contribute to explain why in some situations they perform better, whereas in others they do worse.

Caroli, M.G., Cucculelli, M. & Pongelli, C.	2015	Italy	Private	1998-2008	A family owns more than 50% of shares.	Family firms and entry mode	Family managers prefer equity entry modes, professional mangers tend to prefer non-equity, short term entry modes.
Denison, D., Lief, C. & Ward, J.L.	2004	World	Listed and non listed	1998-2003	1) had family voting ownership of 15% or more, and 2) had family members holding critical leadership positions, or family control of the company's governing body	Family firms and corporate culture	Family firms perform better because they have a stronger organizational culture.
Favero, C., S. Giglio, M. Honorati, F. & Panunzi	2006	Italy	Listed	1998-2003	An individual or a family controls at least 20% of equity shares	Family firms valuation and performance	Family firms have superior accounting performance, but only when led by a non-family manager. Their market valuation is higher only when the founder is in control.
Gómez-Mejía, L. R., Makri, M. & Kintana, M.L.	2007	World	Listed	1998-2001	Two conditions: two or more directors have a family relationship and family members hold at least 10% of voting stocks	Family firms diversification	Family firms prefer less diversification. They tend to opt for domestic rather than international diversification. Those that go the latter route prefer to choose regions that are 'culturally close'.
Maury, B.	2006	Western Europe	Private	1998-2003	10% of voting rights in the hands of a family, individual, unlisted firm	Family firms valuation and performance	Family firms are more profitable than non-family firms only when the family is active. Active and passive family control are associated with higher firm valuations. Family firms prefer diversifying acquisitions.
Miller, D., Le Breton-Miller, I., Lester, R. H. & Cannella, A. A., Jr.	2007	United States	Listed	1996-2000	Multiple members of the same family are involved as major owners (at least 5% of equity) or insiders (officers or directors)	Family firms valuation	Family firms performance is highly sensitive to the definition of family firms, in particular the distinction between lone founder and multiple family members involved. Only businesses with a lone founder outperform.
Minichilli, A., Corbetta, G. & MacMillan, I.	2010	Italy	Listed and non listed	2005	A family owns more than 50% of shares if it is private. The threshold is reduced to 30% for listed companies.	Family management and firm performance	There is a U-shaped relationship between the ratio of family members in the top management team and firm performance. The presence of a family CEO is beneficial for firm performance.
Sraer, D., Thesmar, D.	2007	France	Listed	1994-2000	The founder or the founder's family owns more than 20% of voting rights	Family firms valuation and performance	Family firms largely outperform widely held corporations. This result holds for founder-controlled firms, professionally managed family firms, and also for descendants run firms.
Villalonga, B. & Amit, R.	2006	United States	Listed	1994-2000	The founder or a member of the family is officer, director or owns 5% of the firm's equity.	Family firms valuation	Family ownership creates value only when the founder serves as CEO or as Chairman with a hired CEO. When descendants serve as CEOs, firm value is destroyed.

Table 13 Summary of analysed papers on family firms and M&As

Authors	Year	Country	Type of companies	Study time	Family Firm	Definition of family business	Content	Main results
André, P., Ben-Amar, W., & Saadi, S.	2014	Canada	Listed	1997-2006	Acquirer	The founder or his family is the largest shareholder of the firm, at a minimum threshold of 10 % of voting shares	Market returns to acquirer announcement when it is a family firm	Acquirer's family ownership and announcement period abnormal returns are positively related, but decreasing at high levels of ownership. Founder CEO undertake better high tech M&As than descendant or hired CEO.
Basu, N., Dimitrova, L. & Paeglis, I.	2009	United States	Listed (newly public firms)	1993-2000	Acquirer	The founder or his/her descendants either hold at least 5% of the firm's outstanding shares or are actively involved in the management (or governance) of the firm.	Market returns to acquirer announcement when it is a family firm	The relationship between acquirer family ownership and announcement period abnormal returns is negative.
					Target		Market returns to acquirer announcement when the target is a family firm	Acquisitions of targets with low levels of family ownership are associated with greater value creation.
Bauguess, S. & Stegemoller, M.	2008	United States	S&P 500	1994-2005	Acquirer	The founder or a member of his or her family is a director or owner with at least 5% of equity shares.	Market returns to acquirer announcement when it is a family firm	Family firms destroy value when they acquire and they are not likely to make diversifying acquisitions more than non-family firms.
					Target		Family Firms probability of being target of an acquisition	Family firms are less likely to be acquired.
Ben-Amar, W. & André, P.	2006	Canada	Listed	1998-2002	Acquirer	An individual or family holds the ultimate largest controlling block in a company	Market returns to acquirer announcement when it is a family firm	Positive acquirer's abnormal returns are higher for family firms.
Bouzgarrou, H. & Navatte, P	2013	France	Listed	1997-2006	Acquirer	An individual or a family controls more than 51% of voting rights, or controls more than double the voting rights of the second largest shareholder	Market returns to acquirer announcement when it is a family firm	Family firms acquirers obtain higher market returns. The relationship depends on the control level.
							Post acquisition operating performance of family firm acquirers	Family firms realize an improvement in their returns on assets, which is higher than non family firms.
Caprio, L., Croci, E. & Del Giudice, A.	2011	Continental Europe		1998-2008	Acquirer	A family or an individual is the largest ultimate owner (in terms of voting rights) at the 10% threshold	Family firms' approach to M&A as acquirer	Family firms make less acquisitions. No evidence that family firms prefer diversifying acquisitions.
					Target		Family Firms probability of being target of an acquisition	Family firms are less likely to accept an acquisition proposal. The relationship between family ownership and likelihood of accepting a takeover bid is non-linear.

Chirico, F., Gómez-Mejia, L., Hellerstedt, K.&Withers, M.	2019	Sweden	Private	2004-2008	Target	Owned and managed by two or more family members.	Family firms' approach to M&A as a business exit option	Family owners under distressed conditions are less likely to exit than non-family owners. When exit is unavoidable, they rather prefer mergers over sale or dissolution.
Feito-Ruiz, I. & Menéndez-Requejo, S.	2010	Europe	Listed	2002-2004	Acquirer	A family or an individual is the major shareholder	Market returns to acquirer announcement when it is a family firm	Family firms acquirers obtain higher market returns. The relationship between returns and family ownership is negative.
Feldman, E.R., Amid, R. & Villalonga, B.	2019	United States	Listed	1994-2010	Acquirer	The founder or a member of the founder's family by either blood or marriage is an officer, director, or blockholder, either individually or as a group	Market returns to acquirer' announcement when both, one, or neither of the companies in the transaction are family firms.	Acquirer shareholder returns are highest when family firms buy non-family firm divesters, especially when family CEO acquirers buy businesses from non-family CEO divesters.
					Target			Divester shareholder returns are highest when family firms sell businesses to non-family firm, especially when family CEO divesters sell businesses to non-family CEO acquirers.
Gómez-Mejía, L., Patel, P. & Zellweger, T.	2018	United States	S&P 500	1997-2011	Acquirer	At least 5% of shares and one member in the BOD or top-level executives.	Family firms' approach to M&A as acquirer	Family firms are less likely to acquire and when they do so, they prefer related targets.
Gonenc, H., Hermes, N. & Van Sinderen,E.	2013	Netherlands, Belgium, Germany	Private	1997-2008	Target	A person has a stake of 20% or more of shares outstanding	Market returns to acquirer announcement when the target is a family firm	Bidders returns are lower when they acquire family controlled targets compared to non family targets.
Miller, D., Le Breton-Miller, I. & Lester, R.H.	2010	United States	Fortune1000	1996-2000	Acquirer	Multiple members of the same family have at least 5% of equity or are insiders (officer/director)	Family firms' approach to M&A as acquirer	Family ownership is inversely related to the number and dollar volume of acquisitions. The propensity to make diversifying acquisitions to increase with the level of family ownership.
Shim, J. & Okamuro, H.	2011	Japan	Listed	1955-1973	Acquirer	The founder or his/her family members are among the ten largest shareholders or in the top management (CEO or chairman)	Family firms' approach to M&A as acquirer	Family firms are less likely to merge. The higher family ownership, the higher likelihood of mergers.
							Family firms acquirers' post acquisition performance	Family firms benefit less from mergers. Tobin's q and ROA and employment growth deteriorate post acquisition.
Wong, Y. J., Chang, S. C. & Chen, L. Y.	2010	Taiwan	Listed	1998-2005	Acquirer	The family holds more than 50% of seats of the board.	Market returns to acquirer announcement when it is a family firm	Family firms are associated with lower abnormal returns when they announce an acquisition.
Chen, Y. R., Huang, Y. L. & Chen, C. N.	2009	East Asia	Private	1998-2005	Acquirer	The ultimate shareholder owns more than 20% of equity shares.	Effects of financial constraints on family firms engaging in cross-border M&As	Family firms prefer domestic to cross-border acquisitions.

In terms of composition of the dataset, twenty-four papers analyse listed corporations, while just eight focus on private companies. Some of them adopt more specific discriminants, for example selecting just newly public firms (Bouzgarrou & Navatte, 2013) or distinguishing for firms' size (Miller, Le Breton-Miller, Lester & Cannella, 2007).

2.2.1 Family Business definition

The definition of family business is not unique and various works present great differences in how they identify family firms. Indeed, defining criteria mirror the entrepreneurship style and ownership structures of the country whereby companies are localized. Two macro criteria are applied: 1) holding a minimum threshold of ownership rights, and 2) having a certain board or management representation.

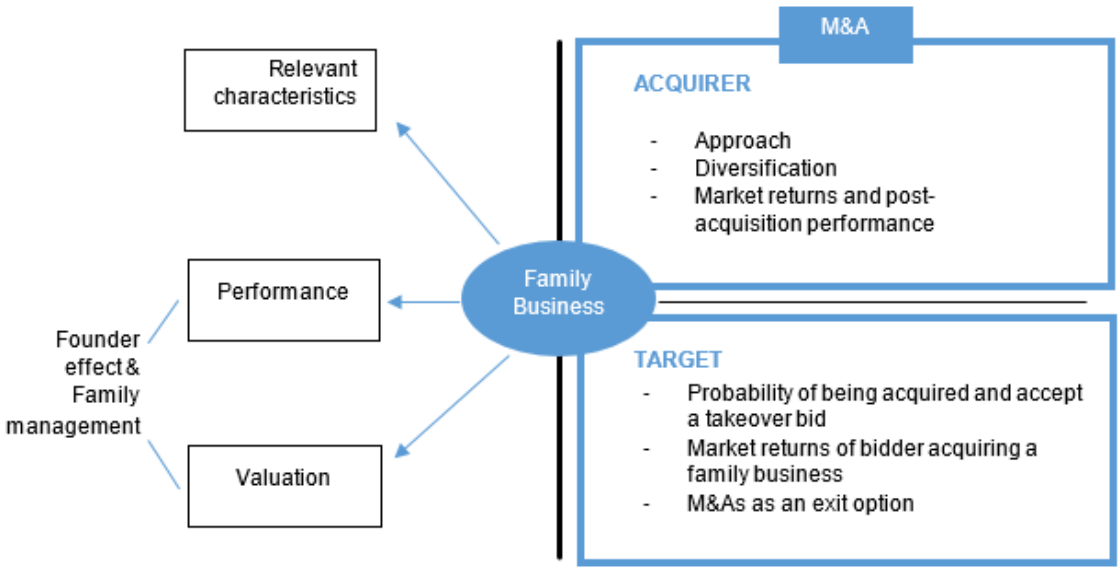
As expected, the required ownership threshold is sensitively lower for listed companies than for private ones. However, even comparing listed corporations, differences exist among countries; for example, in the United States, holding 5% of the company stocks is considered sufficient to be identified as a family owner (Miller, Le Breton-Miller, Lester & Cannella, 2007; Villalonga & Amit, 2006). In Europe, the threshold is set at a much higher level; in Italy, either 30 % (Minichilli, Corbetta & MacMillan, 2010) or 20% (Bannò & Zaninotto, 2014; Favero, Giglio, Honorati & Panunzi, 2006); in Germany 25% (Andres, 2008); in France 51% (Bouzgarrou & Navatte, 2013) or 20% (Sraer & Thesmar, 2007). For private companies, the control of an absolute majority of voting rights is usually required, i.e. holding at least 50% of equity shares (Baronchelli, Bettinelli, Del Bosco & Loane, 2016; Bettinazzi, Miller, Amore & Corbetta, 2018; Bannò & Zaninotto, 2014; Caroli, Cucculelli & Pongelli, 2015), even if some scholars lower it down to 20% (Chen, Huang & Chen, 2009; Gonenc, Hermes & Van Sinderen, 2013). A considerable number of papers do also inspect the distribution of boards positions (Anderson & Reeb, 2003a; Anderson & Reeb, 2003b; Basu, Dimitrova & Paeglis, 2009; Bauguess & Stegemoller, 2008; Bettinazzi, Miller, Amore & Corbetta, 2018; Chirico, Gómez-Mejia, Hellerstedt & Withers, 2019; Denison, Lief & Ward, 2004; Feldman, Amid & Villalonga, 2019; Gómez-Mejía, Makri &Kintana, 2007; Gómez-Mejía, Patel & Zellweger, 2018; Miller, Le Breton-Miller &Lester & 2010; Villalonga & Amit, 2006; Wong, Chang & Chen, 2010). However, just in one case (Wong, Chang & Chen, 2010) it is considered as the unique criterion to determine the family nature of the business, as it is usually matched with an ownership requirement. Interestingly, Bianco, Golinelli and Parigi (2009) do not impose any ex ante criteria. Using a self-evaluation questionnaire, they identify as family firms those that autonomously declare to be so.

Indeed, the use of so miscellaneous definitions may compromise the possibility to generalize the conclusions of each paper; companies that in a study are labelled as family firms, would not be recognized as so in other works. The issue is well known in the literature; indeed, many scholars adopt different criteria to check the robustness of their results. In particular, Miller, Le Breton-Miller, Lester and Cannella (2007) build their entire study on this issue and find that family firms performance is highly sensitive to the definition of family firms, in particular the distinction between lone founder and multiple family members involved. The use of different definitions may explain why results are often contrasting and offer an instrument to reconcile these differences.

2.2.2 Core issues and structure of the chapter

Despite the above mentioned differences in sample selection and variables definition, a careful examination of the papers allowed us to detect some common contents, which are frequently debated by scholars (Figure 6). The structure of this chapter will follow these core issues and outline the similarities and differences among various works related to the same theoretical or empirical research question.

Figure 6 Main contents from the literature review



Source: Personal elaboration of the author

The left side of the picture may be referred as a preliminary or introductive part. The rationale of this first section is that a full comprehension of how family firms interact with mergers and acquisitions would not be possible without a previous definition of their main characteristics, benefits and costs that the family may introduce. A complete examination of family firms features is beyond the scope of this work, but it is useful to have a glimpse of those factors that

may truly affect their attitude towards, and performance in, M&As. Provided that, several scholars wondered whether these peculiarities may result in significant differences in the business operating, accounting and market performance (Barontini & Caprio, 2006; Favero, Giglio, Honorati & Panunzi, 2006; Maury, 2006; Sraer & & Thesmar, 2007). In that, it is found that family involvement and, in particular, the identity of the business leader may be particularly relevant. As such, common topics are the so called *founder effect*. i.e. the business founder holding the CEO position, and role of the family management. These topics are summarized in section 2.2 on family business characteristics, performance and valuation.

The right side of the picture is then the core of the chapter and what really answers to the questions "How do mergers and acquisitions differ when a family business is involved?". A first logic categorization led us to distinguish between family firms playing the role of acquirers and family firms being the target of a transaction. As we will see, the literature is much more ample concerning acquirers family firms. In particular, abundant arguments are provided on families' attitude towards M&As, meaning the volume and scale of family business' acquisitions (Caprio, Croci & Del Giudice, 2011; Gómez-Mejía, Patel & Zellweger, 2018; Miller, Le Breton-Miller &Lester & 2010; Shim & Okamuro, 2011), and their diversification approach (Anderson & Reeb, 2003b; Gómez-Mejía, Makri & Kintana, 2007; Miller, Le Breton-Miller & Lester, 2010; Bauguess & Stegemoller, 2008; Caprio, Croci & Del Giudice, 2011). Further, a wide number of studies look at acquisitions performance, in particular in terms of marker reaction to the acquisition announcement (André, Ben-Amar & Saadi, 2014; Basu, Dimitrova & Peglis, 2008; Bauguess & Stegemoller, 2008; BenAmar & André, 2006; Bouzgarrou & Navatte, 2013; Feito-Ruiz & Menéndez-Requejo, 2010; Feldman, Amit & Villalonga, 2019; Wong, Chang & Chen, 2010). The literature results of acquirers family firms are presented in Paragraph 2.4.

Concerning target family firms, the analysis is much less comprehensive. Scholars investigated how family ownership affects the probability of being acquired or to accept a takeover bid, and whether the level of family control is relevant in driving this decision (Bauguess & Stegemoller, 2008; Caprio, Croci & Del Giudice, 2011). While no evidences are provided on target family firms' post-acquisition performance, there are some insights on the market performance of bidders acquiring family firms (Basu, Dimitrova & Peglis, 2008; Gonenc, Hermes & Van Sinderen, 2013). Lastly, a paper shed lights on the attractiveness of mergers as a business exit option for family firms, more than for non-family controlled companies (Chirico, Gómez-Mejia, Hellerstedt & Withers, 2019). These issues will be the content of Paragraph 2.5.

Finally, the chapter concludes with a last section, that is not included in the above graph. Paragraph 2.6 is dedicated to family businesses and cross-border deals, which is the ultimate

matter of interests of this work. To the best of our knowledge, a complete examination on family firms and foreign M&As does not exist, and that explains why this last topic is not present in a graph summarizing the actual state-of-the-art. However, we tried to build on the issue by gathering some insights scattered here and there in the fields of M&As and entry modes (Baronchelli, Bettinelli, Del Bosco & Loane, 2016; Caroli, Cucculelli & Pongelli, 2015; Chen, Huang & Chen, 2009; Gómez-Mejía, Makri & Kintana, 2007).

2.3 Family Businesses

Family businesses are prevalent around the world among both privately and publicly traded companies. In Italy, family controlled firms represent 85% of total enterprises and 66% of listed companies with 50 million or higher turnover. Continental Europe countries present similar percentages, while lower ratios can be observed in the United States (AIDAF, 2018). These evidences have been supported by several studies, which argue that the family control structure is more value efficient in Europe (Barontini & Caprio, 2006; Maury, 2006; Sraer & Thesmar, 2007) than in the United States (Anderson & Reeb, 2003a; Miller, Le Breton-Miller, Lester & Cannella, 2007; Villalonga & Amit, 2006) due to the different legal and institutional environment. In particular, it has been demonstrated that family businesses are powerful and persistent arrangements in countries with weak investors' protection, less developed financial markets and inactive market for corporate control (Franks, Mayer, Volpin & Wagner, 2010). Long-standing institutional factors as inefficient law enforcement system and a low social capital have been identified as the main elements motivating the wide spread of family businesses in Italy (Bianco, Golinelli & Parigi, 2009). In other words, the weaknesses of the Italian financial markets and institutions induce entrepreneurs to trust in their heirs more than in external professional and investors, thus transmitting the business from one generation to another and preserving the family ownership over time. Together with cultural reasons, this explains why Italian family business distinguish themselves for longevity, as 15 out of the 100 older companies in the world are Italians (AIDAF, 2018).

2.3.1 Family Firms characteristics

Founding families represent an important class of large shareholders that potentially have unique incentive structures and a strong voice in the firm. They are widely recognized as having a heightened attachment to their firm compared to the owners of other organizations (Chirico, Gómez-Mejia, Hellerstedt & Withers, 2019). For business families, the firm is an extension of

the family itself, an asset to pass to future generations, rather than wealth to consume during their lifetimes. Control preservation and intergenerational transfer are thus their primary goals. This strong attachment to the business leads to different decision-making processes and management policies. Family firms are motivated by the preservation of their socio-emotional wealth (SEW), referring to the non-financial aspects or "affective endowments" of family owners. SEW captures the affect-related value that family owners get from the business, e.g. close identification with the firm that usually carries the family's name, binding social ties and/or the unrestricted exercise of personal authority vested in family members. SEW gains or losses represent the frame of reference that family firms use to assess the value of opportunities (Berrone, Cruz & Gómez-Mejía, 2012). Given that, family firms often find themselves in the horns of a dilemma between SEW considerations and financial considerations. Financial rewarding opportunities may be rejected if they are perceived as a threat to the preservation of the affected-related value of the firm. In other words, when financial concerns and SEW concerns drive to opposite directions, SEW protection takes precedence. However, in financial duress situations, the two decision-making drivers may find themselves aligned. When the financial performance of the company is at risk, family owners are willing to undertake highly risky financial opportunities, if these would allow to preserve the own existence of the business and thus save the related SEW (Gómez-Mejía, Patel & Zellweger, 2018). On the contrary, under strong financial performance, SEW concerns lead to adopt more conservative management policies aimed at reducing business risk. Several studies argue that family firms are typically more risk adverse than non-family firms and more sensitive to uncertainty, due to the undiversified nature of the family investment into the business and the desire for firm survival (Anderson & Reeb, 2003a; Anderson & Reeb, 2003b; Bianco, Golinelli & Parigi, 2009). Further, SEW preservation motivates them to place strong importance on the creation of a social community supporting the business. Family firms invest in stable relationship with suppliers, clients and employees. These social ties are part of the family's need to safeguard the family name reputation, the robustness and longevity of the firm (Miller, Le Breton-Miller & Lester, 2010).

Indeed, family owned businesses are distinguishable from non-family firms due to their more unified culture and strong identity (Craig, Dibrell & Garret, 2014). The family's values and behavioural models are transferred to the business and progressively constitute its organizational culture, i.e. the set of shared values and norms held by employees, which guide their interaction with peers, management and clients in the organization (Schein, 1985). Family businesses' organizational culture is rooted in the personality of the founder, who is recognized with superior natural leadership and is the moral and decisional reference point in the

organization. Benevolent ties with employees, informal and personal relationships are the main characteristics of familiar organizational culture. This extra importance granted to the firm unity makes employees feel a deeper sense of belonging, embrace the family objectives and commit special efforts to make the company succeed in the long-run (Denison, Lief & Ward, 2004).

Potential benefits of family firms

Families are considered a unique group of active, long-term owners, holding sustainable equity positions in the firm. Their personal attachment and dependence on the firm provides them strong economic incentives to exercise an active monitoring role on managers. Moreover, family owners do also have the knowledge and experience required to effectively oversight managers, given their long tenure in the business (Anderson & Reeb, 2003a; André, Ben-Amar & Saadi, 2014). Therefore, agency problems between managers and large shareholders can be reduced or even eliminated in family firms, thus incentivising the adoption of efficient policies (Bouzgarrou & Navatte, 2013). Further, family members do often hold management positions in first-hand. Active involvement allows them to deepen their knowledge of the firm and improve their investment decisions, particularly in knowledge-based investments like R&D projects or high-tech acquisitions (André, Ben-Amar & Saadi, 2014). Differently from non-family professionals, family managers share the family's vision and long-term orientation. This common perspective strengthen their incentive to collaborate and reduces the emerging of personal interests (Wong, Chang & Chen, 2010). Consequently, family bonds and trust provide family businesses with a competitive advantage over non-family firms. Adopting a Resource Based View approach, the family's ownership and management bright side is reflected by the *familiness* concept, which suggests that family firms differ from non-family for the unique resources and capabilities they develop (Minichilli, Corbetta & MacMillan, 2010).

Potential costs of family ownership

Family members may exploit the powerful position they have in the business to extrapolate private benefits from the firm. Founding families have the incentives and opportunity to take actions that benefit themselves at the expense of firm performance, for example by making personal use of the firm's resources (Gómez-Mejía, Patel & Zellweger, 2018; Wong, Chang & Chen, 2010). If this is the case, those that will suffer more will be non-family, minority shareholders. Some authors observe that in family businesses, the real agency problem is not among shareholders and managers, but among majority (family) and minority shareholders. The non-monetary objectives pursued by family shareholders may be irrelevant for the minority, but still introduce a distortion in how decisions are taken, running counter to the

optimal decision for the business. Further, managers may be loyal to the controlling family and act for that, not for shareholders in general (Ben-Amar & André, 2006; Bouzgarrou & Navatte, 2013; Feito-Ruiz & Menéndez-Requejo, 2010; Maury, 2006). The risk of minority shareholders expropriation is higher when the family is significantly involved in the management of the firm. As argued above, managerial entrenchment may be beneficial for the company, but it could also be a means of private expropriation, e.g. through excessive compensation, related party transactions or special dividends. Moreover, the appointment of the CEO and top management team may be limited to the family members' set, who not necessarily possess the skills and knowledge required for those positions. This suboptimal choice may deprive the company of pivotal professionalities and lead to unfavourable decision-making (Gómez-Mejía, Patel & Zellweger, 2018). Nepotism may also play a role in those circumstances. Due to the effect of nepotism, family firms may favour hiring family members and fail to retain competent but unrelated employees. Additionally, nepotism can systematically and favourably bias family CEO's perception of its relatives employed in the firm, reducing the effectiveness in monitoring family agents because of the embedded parent child relationship (Wong, Chang & Chen, 2010).

2.3.2 Family Firms Valuation and Performance

The precedent arguments point out how family firms may be either a value-adding or a value-destroying factor to their firm. According to what aspect prevails, family firms valuation and performance may be enhanced or lessen by the presence of the family, and both hypothesis are theoretically backed. Basu et al. (2009) effectively sum up the two offsetting arguments, referring to "incentive alignment effect" and "entrenchment effect". Family ownership is expected to align shareholders and managers interests, thus increasing firm value, but could also lead to family entrenchment and the use of value destroying policies without fear of shareholders activism (Basu, Dimitrova & Paeglis, 2009). Further, other factors may be relevant. Long-term orientation, personal commitments to the firm, need to maintain good relationships with the communities, careful investment policies may all justify an higher valuation recognised to family-controlled businesses and higher operating performance (Ben-Amar & André, 2006).

Table 14 Summary of the results of empirical studies on family firms' performance, valuation and founder effectsummarizes the empirical studies analysing this issue and outlines the measures of performance used.

Table 14 Summary of the results of empirical studies on family firms' performance, valuation and founder effect

Authors	**Year**	**Companies in the sample**	**Measure of performance**	**Do family firms outperform non-family firms?**	**Founder Effect**
Anderson, R. C., & Reeb, D. M.	2003	S&P 500	ROA and Tobin's q	Yes	Yes
Andres, C.	2008	Listed	ROA and Tobin's q	Yes	Yes
Barontini, R. & Caprio, L.	2006	Listed	ROA and Tobin's q	Yes	Yes
Favero, C., Giglio, M. Honorati, F. & Panunzi	2006	Listed	ROA, ROE, Tobin's q	Yes	No
Maury, B.	2006	Private	Tobin's q and ROA	Yes	Active vs passive family ownership, no clear reference to CEO positions
Miller, D., Le Breton-Miller, I., Lester, R. H. & Cannella, A. A., Jr.	2007	Fortune1000+ smaller public firms	Tobin's q	Yes, but only businesses with lone founder. No when multiple family members are involved.	Yes
Minichilli, A., Corbetta, G. & MacMillan, I.	2010	Listed and non listed	ROA	Yes	Yes
Sraer, D., Thesmar, D.	2007	Listed	Sales growth, ROA, ROE, Market to book, Dividend/profit, debt/assets	Yes	Yes
Villalonga, B. & Amit, R.	2006	Fortune500	Tobin's q and ROA	Yes, but only when the founder is CEO	Yes

Source: Personal elaboration of the author

As regards to firm valuation, empirical studies support a positive effect of family ownership on the market value of their organizations (Anderson & Reeb, 2003a; Anderson & Reeb, 2003b; Barontini & Caprio, 2006; Maury, 2006; Sraer & Thesmar, 2007; Villalonga & Amit, 2006). Family firms seem to obtain higher valuations than non-family firms. A common issue under discussion is whether family management, in particular the presence of a family CEO, affects the market valuations of the company. Traditionally, a *positive founder effect* emerges: when the company is led by its founder, its commitment, know-how and entrepreneurial spirit enhances the company value. On the contrary, descendants CEOs or professional CEOs have obtained more ambiguous results. Anderson and Reeb (2003a) confirm that market performance appears to be better only in the presence of founder CEOs and outside CEOs, while founder descendants have no effect on market performance. Barontini and Caprio (2006) agree that valuation is significantly higher in founder-controlled corporations and at least not worse than average in descendants-controlled ones. In other words, when descendants hold the position of CEO, family-controlled firms are not distinguishable from non-family ones and the family premium disappears. On the contrary, Villalonga and Amit (2006) clearly find that

descendants CEOs destroy value as they exacerbate the conflict with minority shareholders. Contrarily, Sraer and Thesmar (2007) argue that descendants CEOs and professional CEOs as well create value, mainly due to a better use of capital and labour resources.

Interestingly, Maury (2006) adds a new element on the investigation on family firms' value. Confirming that family firms are associated with 7% higher valuation compared to non-family firms, he also adds that this result holds regardless the participation of the family in the management of the firm. Active or passive family control does not affect the value recognized by the market to the firm (Maury, 2006).

Moving to the organization performance issue, family firms' advantage still holds (Anderson & Reeb, 2003a; Andres, 2008; Barontini & Caprio, 2004; Favero, Giglio, Honorati & Panunzi, 2006; Maury, 2006; Sraer & & Thesmar, 2007). Anderson and Reeb (2003a) find that the accounting performance of family firms is strongly superior to the one of non-family firms, but the relationship between family ownership and performance is non-linear. In particular, performance increases until families own about one-third of the firm's outstanding equity. Thereafter, performance begins to decline but still better, on average, than in non-family firms. The company's age is irrelevant in driving this relationship (Anderson & Reeb, 2003a). Maury (2006) and Andres (2008) confirm that family firms perform better, but only when the family is active in the company, i.e. the family holds at least one of the top two officer positions (Maury, 2006) or is present in the executive or supervisory board (Andres, 2008). In other words, if families are just large shareholders without management representation, the performance of their companies is not distinguishable from other firms.

Looking at the impact of the CEO nature on performance, results are more favourable towards a *family CEO effect*, more than a lonely *founder effect*. Anderson and Reeb (2003a), Andres (2008) and Minichilli, Corbetta and MacMillan (2010) agree that family firms outperforms non-family ones only when the CEO is a family member, regardless whether it is the founder or an heir. Using a Resource Based View language, this is likely to be the effect of *familiness*, which provides family firms a unique competitive advantage (Minichilli, Corbetta & MacMillan, 2010). Andres (2008) and Sraer and Thesmar (2007) object that all types of family-controlled firms do better than widely held firms, even when the CEO is an outsider. On the other side, there is also who supports the opposite view. Favero, Giglio, Honorati and Panunzi (2006) object that family firms run by the owning family (founder-controlled and heir-controlled ones) largely underperform other firms, while family firms with a professional CEO are best performers.

Overall, these results seems to demonstrate that family firms are an effective organizational structure, in which potential benefits outperform the still numerous potential costs. Several

studies supporting higher market valuation and performance are inconsistent with the hypothesis of minority shareholders expropriation or widely diffused nepotism. However, these results point out that families are only able to induce positive effects if they have a deeper relationship with their business, act as steward of the firm and effectively exercise their role of long-term, active shareholders.

2.4 Characteristics and performance of M&As initiated by acquirers family firms

The last decade marked a great increase in interests in how mergers and acquisitions are affected by the presence of a family firm in the deal. Scholars have debated whether family dynamics affect the type of deals and their performance. However, we can observe a disproportion in how the topic has been debated concerning the role played by family firms. Our research led us to identify fifteen papers dealing with family businesses in M&As. Out of these, nine focus on acquirers family firms (André, Ben-Amar & Saadi, 2014; Ben-Amar & André, 2006; Bouzgarrou & Navatte, 2013; Chen, Huang & Chen, 2009; Feito-Ruiz & Menéndez-Requejo, 2010; Gómez-Mejía, Patel & Zellweger, 2018; Miller, Le Breton-Miller & Lester, 2010; Shim & Okamuro, 2011; Wong, Chang & Chen, 2010), four on both targets and acquirers family firms (Basu, Dimitrova & Paeglis, 2009; Bauguess & Stegemoller, 2008; Caprio, Croci & Del Giudice, 2011; Feldman, Amid & Villalonga, B., 2019), and just two on target family firms exclusively (Chirico, Gómez-Mejia, Hellerstedt & Withers, 2019; Gonenc, Hermes & Van Sinderen, 2013). Main results are here presented.

2.4.1 Family firms acquirers' attitudes towards M&As

The distinctive characteristics of family ownership play a role in defining firms' investment policies and growth strategies. As we previously pointed out, family firms are more risk adverse and sensitive to uncertainty than non-family counterparts are. Their more cautious attitude leads them to be significantly less likely to undertake acquisitions than non-family firms (Bauguess & Stegemoller, 2008; Caprio, Croci & Del Giudice, 2011; Miller, Le Breton-Miller & Lester, 2010; Shim & Okamuro, 2011). It is not only their attitude toward risk that may drive acquisitions behaviour, but also their different priorities, influence and monitoring capabilities. The familiar setting may well shape social and strategic priorities, the owners' and business' goals (Miller, Le Breton-Miller & Lester, 2010). These preferences relate directly to the distinctive motivations of family owners, whose main concern is to retain control and pass the

business on to later generations. In light of this strategy of continuity, family owners will avoid potentially destabilizing acquisitions that could jeopardize their control over the business and their close-knit social system. Indeed, the decision-making dilemma between socio-emotional wealth and financial objectives make acquisition decisions even harder in family businesses. While the financial returns of acquisitions are often uncertain, their negative downsides in terms of SEW are much more foreseeable (Gómez-Mejía, Patel & Zellweger, 2018). First, acquisitions often require external funding, by issuing new equity or through debt financing. The appearance of new actors, as stockholders or creditors, from outside the family will weaken the family control and independence, important components of SEW. Funding the acquisition may cause the opening to new blockholders with a particular focus on financial and tangible results, partially in contrast with the emotional attachment the family has. Second, acquisitions may compromise the well-established social networks of family firms, as the ones with long-time employees. Third, the change in product and resource portfolios may threat the family reputation, the company image and the projection of the family owners onto that image. Finally, the scenario of a failed acquisition will be seen as a major deterrent for the family who tends to view the firm of an extension of the family itself. Thus, family owners frame the likely outcome of an acquisition as certain SEW loss with uncertain financial gains, and be reluctant to undertake such transactions (Gómez-Mejía, Patel & Zellweger, 2018).

Beside the SEW concerns, other factors explain why family firms are less likely to engage in M&As. Concentrated ownership structure reduces the risk of non-value enhancing proposals made by managers in pursue of their personal interests (e.g. hubris, managerialism, empire building). Back to the agency theory, due to their superior monitoring capabilities and particular interest in long-term conservation, family owners can avoid managers' opportunistic behaviours (Bouzgarrou & Navatte, 2013). On the other side of the agency problem, the controlling family may collude with managers to exploit personal benefits, at the expense of minority shareholders. Acquisitions may represent an opportunity for tunnelling and expropriate personal resources. Furthermore, family owners often have their personal portfolio heavily invested in the company, and therefore they may have incentives to facilitate acquisitions that increase diversification in their investments. Despite theoretically backed, this last view has not had the support of empirical evidences, confirming that family owners usually add value to the company by avoiding opportunistic acquisitions (Caprio, Croci & Del Giudice, 2011). Additionally, family entrenchment may also row against acquisition transaction. Given the limited pool from which family managers are selected, executives may be less than fully competent. In these situations, they may adopt risk-adverse strategies in which complex

acquisitions are avoided simply because the managerial talent needed to make them work is lacking (Miller, Le Breton-Miller & Lester, 2010).

Going further, some scholars investigated whether a specific relationship between the level of family ownership and likelihood of acquisitions exists. Shim and Okamuro (2011) find a positive linear relationship between the level of family ownership and the probability of M&As. Family firms that have a high ownership stake are more likely to merge than those with lower family ownership. This result could be partially explained by Caprio, Croci and Del Giudice (2011)'s argumentation. They observe that family owners are less likely to make acquisitions, especially when the stake held by the family is not large enough to assure the persistence of family control after the acquisition. In other words, given that the major family concern is losing control over the firm due to dilution, they will engage in an M&A transaction only when the stake they hold is sufficiently high to guarantee control even after dilution (Bauguess & Stegemoller, 2008; Caprio, Croci & Del Giudice, 2011; Shim & Okamuro, 2011). Finally, beside a lower volume of acquisitions, family owners are observed to engage in smaller scale transactions (Miller, Le Breton-Miller & Lester, 2010).

2.4.2 Mergers and Acquisitions as a diversification means

Unlike other blockholders, family owners have most of their wealth in the family business and cannot diversify their personal portfolio without diluting their voting rights as well as the socio-emotional wealth derived from their control position (Gómez-Mejía, Makri & Kintana, 2007). Consequently, many scholars suggest that family owners may try to diversify their wealth portfolio through the business itself, that is through diversifying acquisitions outside the core industry of the family firm. Doing so, they succeed in reducing family's portfolio risk without losing control over the firm (André, Ben-Amar & Saadi, 2014).

Several scholars who focused on the study of family firms and M&As devoted their attention to the diversifying nature of acquisitions undertaken by family controlled companies. However, the issue is still open, as results are mixed. Beside the hedging risk strategy, there may be several rationales explaining why families might prefer unrelated acquisitions when they acquire. First, diversifying acquisitions are usually associated with a lower degree of post-acquisition organizational integration of the acquired business. Thus, they are less apt to disrupt the strategic focus or corporate culture of the family firm, which are key concerns for many families. Second, diversifying acquisitions could be an opportunity to establish new career paths and new forms of training for family members, without damaging the core business (Miller, Le Breton-Miller & Lester, 2010). Given that, many scholars provide evidences that

when family businesses acquire, they prefer diversifying acquisitions (Gómez-Mejía, Makri & Kintana, 2007; Miller, Le Breton-Miller & Lester, 2010).

However, valid considerations against the diversifying nature of family firms' acquisitions exist. M&As to increase diversification may reduce SEW even more than related acquisitions. The diversification process is complex and unusual. New routines and modus operandi that stray away from the firm's "true and tried" methods of operation are required. This entails greater uncertainty and more delegation, both of which can reduce SEW. Moreover, the family may lack the managerial talent and expertise needed to conclude the diversification process. This would force owners to hire executives from outside the family and consequentially to give up some control over the decision-making process. Finally, diversification strategies may bring with them important changes in how the business is organized and perceived from outside. This may engender resistance from family members that might feel their traditional sphere of influence is being threatened (Gómez-Mejía, Makri & Kintana, 2007). Therefore, despite diversification's positive financial outcomes in terms of reduced business risk, family firms might prefer less rather than more diversification in order to preserve SEW, and thus choose related targets (Gómez-Mejía, Patel & Zellweger, 2018).

In accordance with that theoretical reasoning, several scholars empirically confirm that family firms are less likely to make diversifying acquisitions (Anderson & Reeb, 2003b; Bauguess & Stegemoller, 2008; Caprio, Croci & Del Giudice, 2011; Gómez-Mejía, Makri & Kintana, 2007). To reconcile the two positions, Gómez-Mejía, Patel and Zellweger (2018) interestingly observe that family businesses may adopt different diversification strategies, according to the performance and financial situation of the firm. They introduce the notion of *vulnerability,* proxy by below aspiration level performance and the absence of slack. Increased vulnerability triggers a change in decision-making, heightening the propensity to prioritize financial over SEW concerns: meeting the firm's financial obligations is a necessary condition for the family owners to enjoy any SEW. If the family fails to survive, SEW disappears. That is why in below aspiration level performance, SEW and financial concerns are aligned and both drive to acquisition decisions as an attempt to rebound the company's growth. In particular, the decision to remain undiversified to save some SEW is not affordable anymore. Vulnerability weakens the family firm's overall reluctance to acquire and the reluctance to acquire unrelatedly, because if the firm fails to survive SEW and financial wealth would disappear altogether. On the contrary, related acquisitions remain the preferred ones when the company's performance is healthy (Gómez-Mejía, Patel & Zellweger, 2018).

2.4.3 Family Firms' Acquisitions performance

Going further in the examination of family firms and M&As, it is worth digging into how family control determines not only a different attitude towards such transactions, but also a different M&A performance. The large majority of related literature to date (Table 15) focused on the stock market returns around the M&A announcement date, while a limited minority investigated the impact on the operating performance of the acquired business (Paragraph 2.3.3.1). Indeed, the analysis of family firms' M&As returns has been mainly a financial issue, whereby shareholders valuation is usually measured as the cumulative abnormal returns (CAR) in the days around the announcement date[5].

From the theoretical point of view, two competing hypothesis may justify M&As returns by family firms acquirers as compared to non-family firms. If family control imposes costs on minority shareholders, such as tunnelling or suboptimal investments to extrapolate personal benefits, negative shareholders valuation should be expected when an M&A is announced. On the other side, family ownership enhances long-term strategies, lowers managers-shareholders agency costs and entails more cautious investments policies. Knowing that family firms are more reluctant to acquire, the market should expect that when such companies announce acquisitions, these acquisitions are of better average quality (Bouzgarrou & Navatte, 2013; Caprio, Croci & Del Giudice, 2011; Feito-Ruiz & Menéndez-Requejo, 2010).

Empirical evidences mainly support this second hypothesis, showing that investors typically ascribe higher valuations to family firms acquisitions than to non-family firms (André, Ben-Amar & Saadi, 2014; Basu, Dimitrova & Peglis, 2008; BenAmar & André, 2006; Bouzgarrou & Navatte, 2013; Feito-Ruiz & Menéndez-Requejo, 2010; Feldman, Amit & Villalonga, 2019).

[5] CAR is calculated as the differences between daily share returns and the expected returns of individual firms in the stock market, taking into account market return and firm risk. Daily returns calculate the variation in the share price each day, related to the previous day's price (plus dividends and corrected for splits) (Feito-Ruiz & Menéndez-Requejo, 2010).

Table 15 Summary of the results of empirical studies on family firms' acquisitions performance

Authors	Year	Type of companies in the sample	Content	Measure of Performance	Do family firms acquirers generate value?	Moderating factors
André, P., Ben-Amar, W., & Saadi, S.	2014	Listed	Market returns to acquirers' announcement when it is a family firms	Cumulative abnormal returns over 3 days (-1,+1) around the announcement date	Yes	Level of family control
Basu, N., Dimitrova, L. & Paeglis, I.	2009	Listed (newly public firms)	Market returns to acquirers' announcement when it is a family firms	Cumulative abnormal returns over 2 days starting on the announcement date	Yes	Level of family control
Bauguess, S. & Stegemolle, M.	2008	S&P 500	Market returns to acquirers' announcement when it is a family firms	Cumulative abnormal returns over 2 days starting on the announcement date	No	-
Ben-Amar, W. & André, P.	2006	Listed	Market returns to acquirers' announcement when it is a family firms	Cumulative abnormal returns over 3 days (-1,+1) around the announcement date	Yes	-
Bouzgarrou, H. & Navatte, P	2013	Listed	Market returns to acquirers' announcement when it is a family firms	Cumulative abnormal returns over 3 days (-1,+1) around the announcement date	Yes	Level of family control
				Cumulative abnormal returns over 36 months around the announcement	Yes, but not statistically significant	-
			Post acquisition operating performance of family firm acquirers	Acquirer's EBITDA/Total Assets three years post acquisition	Yes	-
Feito-Ruiz, I. & Menéndez-Requejo, S.	2010	Listed	Market returns to acquirers' announcement when it is a family firms	Cumulative abnormal returns in the event window (–2, +2)	Yes	Level of family control
Feldman, E., Amid, R. & Villalonga,B.	2019	Listed	Market returns to acquirers' announcement when both, one, or neither of parties are family firms.	Cumulative abnormal return in the 2-day event windows [−1, 0] surrounding the announcement dates	Yes	Identity of the target: family vs non-family firm
Shim, J. & Okamuro, H.	2011	Listed	Family firms acquirers' post acquisition performance	ROA, Tobin's q, sales growth, and employment growth	No	
Wong, Y. J., Chang, S. C. & Chen, L. Y.	2010	Listed	Market returns to acquirers' announcement when it is a family firms	Cumulative abnormal returns over 3 days (-1,+1) around the announcement date	No	

Source: Personal elaboration of the author

Moreover, Feito-Ruiz and Menéndez-Requejo (2010) observe that family firms positive influence holds in different legal and institutional environments (i.e. civil law and common law countries), meaning that family ownership is a relevant factor itself, not simply a reflection of concentrated ownership structures and how they are regulated by the legislator.

Several scholars propose that the effect on market performance depends on the level of ownership controlled by the family, but do not agree on the sign of that effect. Basu, Dimitrova

and Paeglis (2009) argue that acquirers with high levels of family ownership earn higher abnormal returns, consistent with a better alignment of the family's interest with those of minority shareholders at high levels of ownership. The same result is confirmed by Bouzgarrou and Navatte (2013), who add that the relationship starts to be significant just for levels of pre-acquisition ownership higher than 60%. Conversely, other scholars find out that families with low levels of ownership obtain better market returns. André, Ben-Amar and Saadi (2014) suggest that the positive relationship between family ownership and announcement period abnormal returns is positive, but starts to decrease for ownership levels higher than 52%. Investigating high-technology M&As, Andrè, Ben-Amar and Saadi (2014) conclude that the highest stock market reactions are observed at low levels of family ownership, due to the dominance of the expropriation issue when the family holds a significant stake in the business. Feito-Ruiz and Menéndez-Requejo (2010) confirm this hypothesis and find out that shareholders' ownership higher than 32% has a negative effect on acquiring firms' abnormal returns.

On the other hand, Wong et al. (2010) in Taiwan and Bauguess and Stegemoller (2008) in the US find that family control is significantly and negatively associated with the abnormal returns of acquisitions announcements, i.e. family firms destroy value when they acquire. The two papers provide different justifications for their counter-current results. Differently from Feito-Ruiz and Menéndez-Requejo (2010), Wong et al. (2010) argue that different empirical findings can be attributed to different levels of investors' protection. In emerging market with weaker investors' protection (as Taiwan is) the agency cost between majority and minority shareholders is higher, thus the risk of family tunnelling prevails. On the other side, Bauguess and Stegemoller (2008) resort to diversification costs to reconcile their results. They show that family firms in their sample pursue diversifying acquisitions at the same rate as non-family firms, but given that they are generally more focused firms to begin with, the marginal effect of a diversifying acquisition confers greater costs to shareholders.

Regarding the positive *founder effect* discussed above, scholars confirm that acquisitions announced while the founder is still the chairman or CEO obtain higher market returns. Founder's heirs CEOs also determine positive effect, while firms managed by professional CEOs are not significantly different from non-family firms. These results confirm that founder CEOs may have specific understanding of the business and commitment to its success, thus creating a value added factor in M&As transactions as well (André, Ben-Amar & Saadi, 2014; Caprio, Croci & Del Giudice, 2011).

2.3.3.1 Family Firms' Acquisitions performance in variables other than stocks returns

A marginal share of the family business literature on M&As investigated acquisitions performance using variables other than the stock market returns. Bouzgarrou and Navatte (2013) use the three-year Return on Assets following the acquisition as a measure of performance. They show that family businesses are more efficient acquirers, but the relation between family control and operating performance is non-linear. In particular, positive impact of family control is pronounced at intermediate level of ownership, while the relation is positive but insignificant for low and high level of control. At intermediate level of control, the risk of dilution is more threatening. Therefore, family firms that undertake acquisitions carefully consider just those that create value and avoid dilution of family control (Bouzgarrou & Navatte, 2013).

On the contrary, Wong et al. (2010) and Shim and Okamuro (2011) find out that family control is negatively associated with post acquisition performance. Wong et al. (2010) considers the change in the announcing firm's industry-adjusted profitability in terms of Return on Equity in the three years post acquisition. Evidences show that family firms see a negative change in their operating performance. Shim and Okamuro (2011) further stress that family firms experience a significant deterioration in their performance in terms of industry-adjusted Return on Assets and employment growth. Results seem to be independent of the ownership stake held by the family.

2.5 Characteristics and performance of M&As with target family firms

Despite the lower amount of empirical results available, all studies agree that family control reduces the probability of being acquired (Bauguess & Stegemoller, 2008; Caprio, Croci & Del Giudice, 2011). Family firms are less likely to be acquired and less prone to accept an acquisition proposal. Selling the business would mean the complete loss of the socio-emotional wealth derived from it and the failure of the intergenerational transfer project. Interestingly, Caprio, Croci and Del Giudice (2011) carry out an analysis on the effect of the largest shareholders' level of ownership on the probability of accepting a takeover bid, focusing on companies with concentrated ownership, family and non-family businesses. They observe that the relationship between ownership and likelihood of accepting an acquisition proposal is non-linear and it is significantly exacerbated by the presence of a controlling family. In general, for level of ownership below 20%, the likelihood of acceptance of a takeover increases with voting rights. When the stake is between 20% and 50%, no relation between the two variables is found, meaning that an increase in the stake within this range does not make takeovers significantly

less likely to occur. For levels beyond 50%, that is, as the company becomes more closely controlled, the likelihood of a takeover decreases. However, when the largest shareholder is a family, results are partially different. While, in general, the presence of a large shareholder with less than 20% of voting rights facilitates takeovers, it does not when the large shareholder is a family, meaning that even when the family's stake is low, they still want to preserve their position. Moreover, family ownership in the 20-50% range already reduces the probability of the company being acquired. In shorts, for family controlled businesses, the relation between their stake in the company and the likelihood of being acquired is always negative, even for low levels of control. This result interestingly suggests that concentrated or diffused ownership alone are not sufficient to explain takeover approval, the identity of owners is relevant as well. Family control is confirmed to be an obstacle for passive takeovers (Caprio, Croci & Del Giudice, 2011).

Further, family firms are even less likely to be acquired when family members are employed in the management team of the company. Self-interested family managers may refuse value-enhancing proposals that would force them out of their positions and deprive them of the related private benefits (Bauguess & Stegemoller, 2008; Caprio, Croci & Del Giudice, 2011).

Conversely, other scholars point out that the peculiar characteristics of family businesses may make them particularly appealing as target for potential acquirers, in particular in such situations in which the target previous owners are expected to remain active in the business even in the post-transaction operations. The family is likely to be seen as a reliable and committed owner, motivated to see the business success in the long run. The family's SEW may be depicted as an asset to acquire, which will guarantee new owners a well established community, loyal and trustworthy employees and collaborative previous owners (Chirico, Gómez-Mejia, Hellerstedt & Withers, 2019). Following this reasoning, M&As transactions acquiring a family firm should be expected to generate higher value. However, empirical evidences on the topic suggest the opposite. Basu, Dimitrova and Paeglis (2009) find out that greater value creation is associated to acquisitions of targets with low level of family ownership. When the family owns a significant stake in the company, meaning that it actually acts as a controlling dominant shareholder, the market does not perceive the acquisitions as a value-creating transaction. Gonenc, Hermes and Van Sinderen (2013) find that bidders' cumulative announcement returns (CARs) are lower when they acquire family-controlled target, compared to non-family controlled companies. According to the scholars, this evidence is consistent with the notion that family owners are much more reluctant to sell to an outsider and will require higher premiums to accept the takeover proposal.

Finally, a limited number of researchers investigated the impact of similarities and differences between target and acquirer when it comes to family businesses. Bettinazzi, Miller, Amore and Corbetta (2018) suggest that the greater the similarity between two firms, the higher the likelihood of an acquisition between them. This result holds for family firms as well: the more similar two family businesses are in terms of family involvement in the management of the company, the higher the probability that they will choose one another as partners of an M&A (Bettinazzi, Miller, Amore & Corbetta, 2018). However, Feldman, Amid and Villalonga (2019) demonstrate the highest value is generated by transactions in which just one of the two parties is a family business. They suggest that an acquisition is a two-side process in which the identity of both parties matters and it is not sufficient to focus just on one of the two, the combination between the two parties is critical. Compared to a situation in which both target and acquirers are family businesses, transactions in which just one of the two parties is family controlled perform better, no matter whether target or acquirer. This result suggest that the unique characteristics of family firms create value just if combined with a non-family firm that may balance the excessive role the family may play in the business decisions (Feldman, Amid & Villalonga, 2019)

2.5.1 Mergers and Acquisitions as a business exit opportunity

Mergers and acquisitions are often referred as a growth strategy, but indeed, they could also represent a way to exit from the business. From an economic perspective, mergers are generally less preferable than other exit options. Compared to sale or dissolution, which involve upfront payment, future returns from a merger are much more uncertain. The value generating ability of the transaction will depend on the integration of the two businesses, people and cultures, and the agency issue involved with being a partial owner can further jeopardize the success of the transaction. Moreover, in a merger the risk and value of the transaction is shared by both parties, making it a more hazardous choice to exit the business (Balcaen, Manigart, Buyze & Ooghe, 2012).

The very possibility to partially remain in the business is what drives family businesses to privilege the merger option when they are forced to exit the business. Chirico, Gómez-Mejia, Hellerstedt and Withers (2019) argue that despite the risks involved, a merger provides family owners the ability to balance the dual financial-SEW considerations and a better option than selling or liquidating the firm, which would imply the total and irrevocable loss of all SEW linked to the firm. The merger option includes precedent owners as a partner in the new entity,

allowing the family to continue to be involved in the firm in some way, even if it is no longer in full control.

Indeed, several scholars point out that family owners come to the exit decision just after a long period of enduring financial distress. SEW presents a psychological barrier to the firm's extinction and causes family owners to tolerate and even justify increasingly negative performance cues while escalating their commitment to the business without resorting to exit (Chirico, Salvato, Byrne, Akhter & Arriaga Múzquiz, 2018). Family owners tend to avoid such reality, preferring to continue the operations of a failing business for affective reasons, denying the financially rational solution to exit the business. Exit would be a public statement of the firm's demise and the complete loss of the SEW generated by the business. That is why family firms tend to endure financial distress more than non-family firms, and when exit is unavoidable, they make the decision that result in the highest combined SEW and financial value (merger), thus maintaining the possibility of transgenerational continuation, whereas non-family firms will choose options with the highest financial value (sale or liquidation) (Chirico, Gómez-Mejia, Hellerstedt & Withers, 2019).

2.6 Family Firms and Cross-Border Mergers and Acquisitions

To the best of our knowledge, a complete investigation on family businesses and cross-border acquisitions does not exists. All studies mentioned above generally refer to mergers and acquisitions, without focusing on the nationalities of target and acquirers. However, as we tried to demonstrate in Chapter 1, cross-border acquisitions entail further complexities and thus deserve unique attention, separate from domestic M&As.

A valuable insight on the topic is provided by Chen, Huang and Chen (2009), who partially analysed the impact of family owned acquirers on cross-border M&As in East Asian Economies. What the scholars interestingly observe is that family firms are less likely to engage in cross-border acquisitions and largely prefer domestic ones. This investment preference seems not to be motivated by financing constraints, as family firms exhibit the same access to external funding that non-family firms and would have sufficient capacity to finance the corporate venture. Indeed, their investment decisions are motivated and constrained by factors related to their organizational structure and specific families' objectives. Acquiring a company in a foreign country will likely require to hire professional managers to serve the local business and thus to extend the decision-making power to outsiders. In this sense, cross-border transactions represent a threat to the preservation of family control and power. These managerial and organizational motives explain why family firms prefer domestic acquisitions (Chen, Huang &

Chen, 2009). Adding on that, Gómez-Mejía, Makri and Kintana (2007) assert that when family businesses choose to diversify, they prefer domestic rather than international diversification, since the former involves less threat to SEW. The scholars argue that geographic diversification triggers the well-known dilemma between risk hedging and SEW preservation. Even if the family firms' executives already have substantial international experience, the increase of information processing demands that accompanies increasing levels of international diversification may call for hiring additional outside managerial talent. A new network of suppliers, customers and partners needs to be established and greater information asymmetries will characterize these relationships. In short, it is not easy for the family to transfer the *familiness* advantage abroad. Further, those companies that decide to diversify internationally will prefer culturally close locations, as it reduces the SEW loss. Cultural distance is a particularly powerful form of uncertainty for diversifying firms because it implies differences in managerial values, mind-sets, and norms, which may lead to losses in coordination, information flow, and communication within organizations (Hofstede, 1980). These potential issues grow as the cultural distance between the two countries increases and may jeopardize the family control. This suggests that family firms will choose culturally close countries, to reduce the information processing demands and need to depend on outsiders to interpret and adapt to the new culture (Gómez-Mejía, Makri & Kintana, 2007). Baronchelli et al. (2016) confirm such position showing that higher family involvement in the firm tends to correspond to a lower number of foreign direct investments in psychically distant countries. Company's age serves as moderating factor, as the older the company gets, the higher the tendency to invest abroad. In shorts, while founding generations are more locally limited, the entry of new generations often coincides with a geographical expansion (Baronchelli, Bettinelli, Del Bosco & Loane, 2016).

Given the scarcity of information provided by M&As scholars, we also investigated what the Internationalization literature tells about family firms. Specifically, in Chapter 1 we saw that cross-border M&As are often undertaken to enter a new foreign market to implement an internationalization strategy. However, the literature on entry modes does not devote specific attention to family businesses. The majority of the literature has focused on multinational enterprises or conversely on small and medium enterprises (Kontinen & Ojala, 2010), but family businesses cannot be generally categorized in these two classes, as their peculiar characteristics do not fit with a simple size discrimination. Caroli, Cucculelli and Pongelli (2015) suggest that family firms are likely to prefer equity entry modes, given the long tenure of their investments and their will to exercise control. However, no indications on which equity entry mode would be preferable is provided. Moreover, the greater risk implied by equity entry modes compared to non-equity choices (e.g. strategic alliances or partnerships) is inconsistent

with family firms' risk adversity, thus leaving the discussion open (Caroli, Cucculelli & Pongelli, 2015).

2.7 Conclusions

The precedent chapter outlined the current state of the art in the family business and M&As literature. Family businesses are different from non-family controlled companies in their greater attachment to the business and higher exposure. Their focus on business continuity leads them to adopt more conservative policies and be more reluctant to engage in highly uncertain transactions as mergers and acquisitions might be. Despite that, empirical evidences show that acquisitions initiated by family firms obtain on average higher market valuations than non-family firms, meaning that the market trusts in the ability of families of being value-adding holding companies. More concerns are present when it comes to the operating performance, shedding light on the need for future investigations.

In shorts, we can summarize the main points debated as:

1. Family firms preferences as acquirers, volume and scale of acquisitions, levels of diversification
2. Value generating ability of family firms as acquirers in terms of market returns for acquirer shareholders (majority) and post-acquisition operating performance (minority)
3. Impact of the level of family ownership on
    a. The probability to make an acquisition
    b. The market returns from the acquisition
4. Role of the company's CEO identity in driving market reactions to the acquisition announcement
5. Whether acquirer family businesses prefer domestic or foreign targets and the cultural distance of their targets
6. The likelihood of a family business to be target of an acquisition
7. The market returns of bidders acquiring a family business and the relationship with family pre-acquisition ownership
8. Family owners preference for mergers as a business exit option

However, as we stressed out, existing works present some limits: first, they mainly focus on family firms as acquirers, while the impact of family control in the target company has been only partially investigated. Second, most scholars consider just listed family firms and investigate the effect of acquisitions on their stocks market. Private companies are almost left out of the debate. Third, the existing literature has not distinguished between domestic and

cross-border M&As. However, as we tried to demonstrate in Chapter 1, cross-border acquisitions present peculiar characteristics and thus deserve unique attention, separate from domestic M&As. Section 4 outlined the few available insights on family firms and cross-border acquisitions, suggesting that family firms are likely to prefer domestic acquisitions, and when undertaking international investments, culturally closed countries. These contributions are extremely valuable in explaining family businesses' approach to cross-border M&As and to market entry, yet the literature vacuum remains broad. The effect on post-acquisitions operating performance and the role of target family firms are still uncovered.

3. CHAPTER

MEASURING THE POST-ACQUISITION PERFORMANCE OF ITALIAN ACQUIRED FIRMS: DATA SELECTION AND DESCRIPTIVE STATISTICS

3.1 Introduction

The underlying ultimate goal of this work is to provide an empirical support to the great debate around foreign investments in Italy and whether they represent an opportunity for national companies, or a depletion of our skills and entrepreneurial system. In particular, our focus is on the familiar type of businesses who represent a substantial and pervasive component of the Italian economy. The literature review illustrated in the previous Chapter highlighted their characteristics and pointed out the literature vacuum when it comes to how family businesses react to foreign acquisitions and their subsequent operating performance.

In this Chapter, we will thus illustrate the working methodology we adopted in the attempt to provide an answer to the aforementioned questions. Our empirical research makes use of difference-in-difference and coarsened exact matching methodologies. The combination of these two sophisticated techniques enables us to measure the effect of foreign ownership on target performance, accounting for the possibility that performance differences arise due to ex-ante selection bias and not for the ownership change *per se*. A database consisting of inward cross-border acquisitions to Italy in the period 2011-2014 has been compiled matching two leading sources, Thomson Reuters EIKON and AIDA by Bureau Van Dijk. The resulting 152 transactions constitute our treated group and serve as starting point for our empirical analysis. Their composition and characteristics are extensively illustrated in the following paragraphs. Within these 152 companies, we then identified 70 family firms and 82 non-family firms. Besides this distinction, we also accounted for some targets and acquirers characteristics; the former being target macro industry (service vs manufacturing), size (SME vs large companies) and organizational change (CEO change vs non-CEO change), while the latter including

acquirer country of origin (Europe vs non-Europe) and type of acquirers (industrial vs financial).

The following Chapter will illustrate the methodology and rationale applied to build the treated and the control group. First, we will advance some research hypothesis that will guide our analysis based on the theoretical knowledge built in the first and second chapter. Some descriptive statistics on main variables will follow in order to get a first insight on the composition of the dataset. Finally, we will initiate our analysis on the three chosen outcomes of interests, a measure of size and growth (Sales) and two measures of profitability (ROA and EBITDA margin), to have a first view of their trends in the pre and post-acquisition phases.

3.2 Hypothesis development

Given the theoretical background presented in Chapter 1 on Cross-Border M&As and in Chapter 2 on Family Businesses, we may develop some research hypothesis that will guide our empirical analysis.

Acquirers' origin and cultural distance

Paragraph 1.3.1 on "Country level determinants of Cross-Border M&As" outlined the role of cultural distance[6] in affecting the level and complexity of foreign acquisitions. It has been observed that cultural distance may be an obstacle to the conclusion and success of international deals, as it introduces additional complexities in communication, exerting a significant impact in particular on some phases of the M&A process, i.e. deal negotiation and post-acquisition integration (Ahammad et al., 2016; Ahern et al., 2015; Chakrabarti et al., 2009).

More in detail, firms from culturally distant countries have different organizational practices, such as management and strategic decision-making styles, conflict resolution strategies, human resources polices and codes of ethics. In general, the larger the national cultural distance between the acquirer and the acquired companies, the more dissimilar and incompatible their practices and the more complicated their transfer. This makes acquisitions in culturally distant

[6] *The concept of "national cultural distance" has been firstly introduced by Hofstede (1980) and it is the most widely used construct of distance. Koguth and Singh (1988) define it as "the extent to which the shared norms and values in one country differ from those in another". In their article on national culture and choice of entry modes, the authors estimated national cultural distance as a composite index based on the deviation from Hofstede's national culture scales.*

countries more costly to manage (Kogut & Singh, 1988) as integration costs, information asymmetries and uncertainty are higher. Therefore, we may conclude that greater cultural distance hinders cross-border acquisitions performance. Several studies analysed in Paragraph 1.5 supports this hypothesis. In Italy, Barbaresco et al. (2018) find that the higher the "cultural distance" between the target and acquiring company's country is, the lower post-acquisition sales growth and EBITDA will be. Piscitello and Rabbiosi (2005) and Mariotti, Onida and Piscitello (2003) all find that post-acquisition performance improvements occur when the acquirer is European.

Hypothesis 1: Cultural distance is negatively associated with post-acquisition performance.

Paragraph 2.3.1 on "family business characteristics" highlighted that family owned businesses are distinguishable from non-family firms due to their more unified culture and strong identity (Craig et al., 2014). The familiar leadership style is based on benevolent ties with employees, informal and personal relationships and superior trust in the leader's skill. This stronger importance placed on the business values, believes and unity may further exacerbate the differences between target and acquirer cultures, and make the integration between the two cultures even harder.

Hypothesis 1a: Cultural distance is negatively associated with post-acquisition performance of acquired family firms.

Post-acquisition organizational change

M&As are widely recognized as a huge organizational shock which often involves all different areas of the business and require a throughout change management to work. According to the expected level of integration, the disorder determined by such organizational changes may be more or less pervasive. The more the two companies are expected to symbiotically reorganize following the acquisition, the more the routines and polices of the target (and acquirer) company will have to be revised. More than that, different integration solutions will result in different degree of autonomy the target company is left with. The acquirer may impose its authority and control at different levels of the organization. For example, it may exert its control as holding company, meaning that is has no interest in integrating and creating value through anything except financial transfers, risk-sharing or general management capability. In such case, the acquirers' influence is exercised at the strategic level, while the target maintains a significant degree of autonomy over its day-by-day operations. On the contrary, when the integration requires the symbiosis of the two firms, the target structure is likely to be significantly affected or in some cases disappear. The most visible sign of those changes is the top management team

composition. A confirmation of the existing management signals the acquirer's trust in the target leaders, but also a will to leave the target with a certain autonomy and continuity with the pre-acquisition status. On the contrary, when the acquirer plans a radical change in the target strategic direction, the first step is likely to be a change at the top of the target structure, which will provide a great sign of discontinuity to the whole organization. Following this reasoning, we can use top management change as a proxy for post-acquisition integration and organizational change. Specifically, when the CEO of the company is substituted by an acquirer's representative, we may conclude that the acquirer wants to exercise its full control and no autonomy is left to the target company. Whether this will turn into enhanced or deteriorated company performance is still an open issue. On one side, a so disruptive change may result in disorder, employee's demotivation and lack of reference points. At least in the short term, resistance to change, inefficiencies, loss of some customers and employees is a physiological effect. This position has been empirically supported by Cannella and Hambrick (1993) and by Krishnan, Miller and Judge (1997) who find that the departure of executives from acquired firms is harmful to post-acquisition performance, especially when it regards the CEO. Their conclusion implies that executives from acquired firms are an intrinsic component of the acquired firm's resource base, and that their retention is an important determinant of post-acquisition performance. Conversely, the appointment of an outside CEO may be a catalyst for change and boost a faster adoption of new policies, providing a clear sign of a new strategic direction. This idea is backed by Anslinger, Copeland and Thomas (1996) who show a positive association between managing executive turnover and company performance. According to the authors, a change at the top level management helps new owners to clearly set and push the pace of change, discipline managers and guarantee lower agency conflicts between owners and managers. These advantages may be particularly relevant for foreign owners, for whom, given the barrier of geographic distance, a day-by-day monitoring is more complex and expensive. Thus, the appointment of a trustworthy leader who directly represents the owner's interests is often a preferable choice.

Hypothesis 2a: CEO change is positively related to post-acquisition performance.

Hypothesis 2b: CEO change is negatively related to post-acquisition performance.

Whatever the sign of the effect is, its magnitude is likely to be exacerbated in family firms, whereby the personality of the family leader is rooted in the organizational culture. In accordance with Hypothesis 2a, the need of a CEO change may be even more urgent in family firms, in order to push change and integration. In particular when the pre-acquisition CEO is a family member, confirming its authority entails the risk that it continues to manage the business

as if it is owned by its family, resisting to the implementation of the changes required to generate expected synergies. Its monitoring would place on new owners an extra burden of control. On the contrary, a family CEO confirmation may preserve the social capital of the firm and the connected internal and external relationships based on the family's name and reputation. These are likely to be fundamental components of the set of resources and capabilities that constitute the firm's value, which the acquirer should be concerned of. In this case, a CEO change may be detrimental and result in a loss of value.

Hypothesis 2c: CEO change is positively related to post-acquisition performance of family firms.

Hypothesis 2d: CEO change is negatively related to post-acquisition performance of family firms.

Acquired family firms' post-acquisition performance

Chapter 2 discussed what we know so far on Family Firms and M&As. Despite a satisfactionary body of literature on family businesses as acquirers, there is still scarce evidence on family firms as target of acquisitions. Scholars agree on the fact that such companies are less likely to be acquired, even when the stake they hold in the business does already not guarantee a control position (Caprio et al, 2011) and in particular when the family is employed as C-level managers of the company (Bauguess & Stegemoller, 2008). On top of that, it has been observed that acquirer's abnormal returns to M&A announcements are lower when the target is a family firm (Basu et al., 2009; Gonenc et al., 2013). However, the post-acquisition operating performance of target family firms is still an open issue.

Several studies presented in Paragraph 2.2.2 observe that family-firms tend to exhibit superior performance compared to non-family firms, in particular in terms of profitability (Anderson & Reeb, 2003a; Andres, 2008; Barontini & Caprio, 2006; Favero et al., 2006; Maury, 2006; Minichilli et al., 2010; Sraer & Thesmar, 2007; Villalonga & Amit, 2006) and returns (Favero et al., 2006; Sraer & Thesmar, 2007). It may be argued that this superior performance could be a sufficient reason to imagine that even following an acquisition, family firms will perform better than acquired non-family firms. However, the logic behind this reasoning may be questioned; following the acquisition, the company is no more a family firm. If the reason of family firms superiority is the presence of the family *per se*, once this advantage disappears we cannot justify their superior performance any more. Nevertheless, the characteristics of family firms may ex-ante condition the post-acquisition performance. The literature points out that family owners have a special attachment to the firm, which makes them willing to put additional efforts for the preservation of the business. Following that, they are more reluctant to sell, as

they live the sale of the business as a loss of family identity. Thus, we may imagine that when the circumstances lead them to look for an acquirer, they will carefully select the new owner and investigate its motives and post-acquisition plans more accurately than non-family owners would do. On top of that, it has been observed that family owners are often willing to sacrifice financial rewards to maximise the possibilities of business preservation (Gómez-Mejía et al., 2018). Therefore, when families sell their business, the community assumes that the selected owner is the best opportunity for the business, not necessarily the one that pays more, but the one that has the best project for the firm. This careful management of the pre-acquisition planning and negotiation is a critical success factor for post-acquisition performance.
Finally, it may be added that in those cases in which the family represents a cost for the business (e.g. in case of management entrenchment, nepotism, extrapolation of private benefits), then the entry of a new owner is *a fortiori* a motive to expect superior post-acquisition performance.

Hypothesis 3: Post-acquisition performance is higher for acquired family firms.

Following the just presented reasoning, this effect should be even stronger when the family remains involved in the business in the post-acquisition setting. The fact that the family is willing to collaborate with new owners will send out a message of trust and continuity, which will reassure employees and the entire business community. Therefore, we could expect that the preservation of a role for the family in the new configuration of interests following the acquisition will lead to lower organizational disruption and avoid (or at least reduce) a sense of hostility and resistance to change that is likely to accompany the entry of a foreign owner.

Hypothesis 3a: When the family remains in the business, post-acquisition performance is higher.

3.3 Data and descriptive statistics

3.3.1 The treated group

To test the effect of foreign acquisitions on target companies performance, we started identifying a set of Italian firms that 1) have been subjected to a foreign acquisition and 2) whose balance sheets are available to use. Serving this dual purpose is more demanding than expected for more than one reason, among all the absence of a ready-to-use dataset of Italian inward cross-border M&As. Although some databases on FDIs or specific internationalization issues exist (e.g. the EFIGE Survey or the Bank of Italy's INVID survey), their limited number of observations and their restricted focus do not serve our purpose. Moreover, these resources

only provide data on foreign controlled firms, thus limiting the possibility to identify a control sample and apply a difference-in-difference methodology.

To the best of our knowledge, the only database satisfying our dual purpose is Zephyr by Bureau van Dijk, which contains updated information on M&As transactions along with financial statements data on target and acquirer companies. Unfortunately, we do not have access to Zephyr. Therefore, we built our dataset combining two different panels of data. First, we used Thomson Reuters EIKON to extrapolate a list of transactions involving Italian target companies. EIKON covers one million deals all over the world and provides highly reliable and extended data on the deal value, purpose, description, target and acquirer industries, capitalization and several others precious information, if desired. In particular, it fully discloses names and regions of target and acquirers ultimate parents' country of origin, which is extremely valuable given our research interest. Thanks to this feature, we are guaranteed that acquisitions in our datasets are really cross-border, in that the target ultimate parent is Italian and the acquirer ultimate parent is not Italian. Second, we extracted financial statements information of target companies from AIDA (*Analisi Informatizzata delle Aziende Italiane*) by Bureau van Dijk. AIDA is a company account data system on Italian registered companies, with up to ten years of history. It contains detailed income statements and balance sheets, beside information on ownership distribution and owners' identity, Board of Directors composition and commercial data.

In order to apply a difference-in-difference method, we need to define our pre-treatment and post-treatment time frame. No consensus has emerged among researchers over the proper time period to evaluate the performance implications on M&As' targets (Thanos and Papadakis, 2012). Following precedent works (Barbaresco et al., 2018; Bentivogli & Mirenda, 2017), we consider a 3-years period before and after the acquisition, which we believe is a sufficient period to detect the effect of foreign ownership, at least in the short term. Moreover, AIDA's limitation to ten years of balance sheet information acted a natural constraint to the definition of our study time. By the time we built the M&A dataset (May 2019), AIDA displayed data from 2008 to 2017. Some data on 2018 results were already available, but unfortunately just for a minority of companies. Therefore, our database focuses on M&A transactions occurred between 2011 and 2014 and comprises a 7-year subset for each company, 3-years before the acquisition, the acquisition year and 3-years after it. The difference-in-difference estimation is then applied to the average of the 3-years pre-acquisition and the average of the 3-years post-acquisition values. The acquisition year serves as a reference point but is not included neither in the average-pre-deal, neither in the average-post-deal. Therefore, if a company has been acquired in 2011, the dataset will contain its financial statements from 2008 to 2010 and from 2012 to 2014. If it has

been acquired in 2012, we have data from 2009 to 2011 and from 2013 to 2015. If it has been acquired in 2013, we have data from 2010 to 2012 and from 2014 to 2016. If it has been acquired in 2014, we have data from 2011 to 2013 and from 2015 to 2017.

Defined the time period, we then applied some filters on acquisition characteristics. First, we chose to narrow down our analysis to majority acquisitions, meaning that the acquirer purchases at least 50,01% of the target shares. This choice implies a great reduction in the data sample, but guarantees higher reliability of data. Imposing the acquisition of a controlling share, we are sure that the acquirer truly gets the control of the target and has the power to influence its strategic direction. Moreover, minority acquisitions introduce some distortions in the transactions dataset. Consider for example the case in which an acquirer gets the control of more than 50,01% of the target's shares, but structure the deal as a two-steps transactions in which it acquires two minority quotas few months one after the other. EIKON recognizes each transaction as a separate one, despite having the same target, same acquirer and be very closed in time. While in the matter of fact the acquirer exerts control over the target company as if it acquired a majority stake in a one-shot transaction, the acquisition would result as two minority transactions in our database. The complexity in controlling for these and other situations led us to focus on majority acquisitions and preserve the reliability of data over the dimension of dataset.

Second, we also introduced some filters concerning the targets and acquirers' industry. Similarly to other studies (Benfretello & Sembenelli, 2006; Bentivogli & Mirenda, 2017; Feys & Manigart, 2010), we did not include acquisitions of financial target companies, real estate and governmental enterprises (see Table 15 in *Appendix I* for target industry distribution). The latter constraint was added considering the fact that financial companies have different financial structures and reporting requirements, which imply that the assessment of their performance requires a specific valuation. Concerning the acquirer industry, we included both financial and industrial acquirers to examine the differential effect they can induce on target performance, but we excluded real estates and government. The rationale is that, as our ultimate goal is the analysis of target companies performance, we limit our focus on those ownership changes that really act on the strategic direction of the acquired company.

Given these pillars definitions, we extrapolated a list of acquisitions that meet these criteria from EIKON. In short, our treated group is made of deals with the following characteristics:

- M&A transactions concluded between January 1st, 2011 and December 31st, 2014;
- Deal status completed;
- Percentage of shares acquired: at least 50,01%;

- Deal form: acquisitions, acquisitions of assets, acquisitions of majority interest and mergers;
- Target industry: all except financial, real estates and governments;
- Acquirer industry: all except real estates and governments;
- Target nation: Italy;
- Acquirer nation: all except Italy.

These filters provided us a list of 618 transactions. Additional cleaning were then applied. Looking at the transactions one by one, we eliminated those cases in which the target ultimate parent was not Italian, to ensure that the ultimate control of the company was in Italian hands before the acquisition by a foreign owner. In this way we eliminated acquisitions of companies registered in Italy but actually already foreign-controlled as subsidiaries of multinational companies. We then eliminated transactions in which the target company was re-sold within three years post-acquisition or whereby both the acquirer name and acquirer region were undisclosed.

These cleaning applied, our dataset narrowed down to 298 transactions. The list of target companies was then matched with AIDA sources to access the financial statements information for the related 7-years period. Transactions were again checked one by one to assure consistency. In particular, since EIKON provides just the target company name, but no identifying number as "Codice Fiscale", each company has been carefully considered in order to avoid mismatch due to different companies having the same "Ragione sociale".

The availability of information on AIDA imposed us an additional screening. 5 companies were not recorded on AIDA, while 35 transactions were excluded because there were not enough information on their financial statements. 41 transactions were disregarded because the foreign investor bought a business unit, a branch or certain assets which did not have separate financial statements from the target's other operations before the acquisition. On the contrary, 34 target companies lack post-acquisition financial data because they were ceased and incorporated into the foreign acquirer. Other 17 transactions were eliminated because the stake acquired by the foreign investor has been re-sold to third parties within 3 years after the acquisition, while 2 were resold to the previous Italian owner. 2 companies had shut down after liquidation and 7 went bankrupt. Additionally, 1 deal was excluded since it resulted as M&A in Thomson Reuters but not in AIDA or in other sources (i.e. company website, newspapers, other financial databases). 1 deal was delated since it was actually a Joint Venture and not a M&A as reported in Thomson Reuters. Finally, 1 deal was discarded since the acquirer (Ferrero Trading Lux SA)

cannot be considered foreign even if its legal address is in Luxembourg because the operational headquarter is still in Italy and the ownership is still in Italian hands.

Due to these cleanings, the final treated group is composed by 152 cross-border acquisitions, whish are illustrated in Table 16.

Table 16 Acquisitions in the treated group

M&A Year	Target name	Acquirer Name	Percent of Shares Acquired
2011	Adora ict s.r.l.	Kranem Corp	100
2011	Agrium italia s.p.a.	Agrium Inc	100
2011	Alemea technology s.r.l.	Loqus Solutions Ltd	100
2011	Alfa sistemi telemedia srl in liquidazione	Kranem Corp	100
2011	Baywa r.e. solar systems srl	BayWa re GmbH	70
2011	Biophil italia s.p.a.	Lehmann&Voss&Co KG	80
2011	Blogo.it s.r.l.	Populis Ltd	100
2011	Brioni s.p.a.	PPR SA	100
2011	Bulgari s.p.a.	LVMH Moet Hennessy Louis Vuitt	55,03
2011	Capgemini bst s.p.a.	Capgemini Finance et Services	100
2011	Colombo via della spiga s.r.l.	Cheil Industries Inc	100
2011	Elcam medical italy spa	Elcam Medical ACS	100
2011	Emer s.p.a.	Westport Innovations Inc	100
2011	Esoform s.r.l.	Ecolab Inc	100
2011	Eurodifarm s.r.l.	DHL Supply Chain BV	100
2011	Glunz & jensen s.r.l.	Glunz & Jensen A/S	83,5
2011	Greif italy s.r.l.	Greif Inc	100
2011	Gruppo mercurio s.p.a.	Gefco SA	70
2011	Immobiliare alloro s.r.l.	Multi-Color Corp	100
2011	Indra italia s.p.a.	Indra Sistemas SA	77,5
2011	Industrie fincuoghi societa' per azioni in liquidazione	Kale Group	100
2011	Itp benelli societa' per azioni	ITP Energy Corp	100
2011	La rinascente s.p.a	Central Retail Corp	100
2011	Level ip s.r.l.	Prosodie SA	100
2011	Loquendo - societa' per azioni abbreviabile loquendo s.p.a.	Nuance Communications Inc	100
2011	M.t. srl	Tat Fook Tech(HK)Co Ltd	61
2011	Mandarina duck s.p.a.	E Land Ltd	100
2011	Messinter s.p.a.	IPS Pressevertrieb GmbH	51
2011	Ntt data italia s.p.a.	NTT Data Corp	100
2011	Parboriz s.p.a.	Marbour SAS	60
2011	Scm frigo group s.r.l. in liquidazione	G & L Beijer AB	51
2011	Sgs sertec s.r.l.	SGS SA	100
2011	Sigmar italia s.p.a.	Fareva Corporate France SASU	100
2011	Telemis s.r.l.	Telemis SA	100
2011	Top rel s.r.l. in liquidazione	TUEV Nord AG	100
2011	Toshiba transmission & distribution europe s.p.a.	Toshiba Corp	67
2011	Velan abv s.r.l.	Velan Inc	70
2011	Vimercati s.p.a.	Viney Auto	70
2012	3a antonini s.r.l. in liquidazione	Ziylan Ayakkabi Sanayii ve Tic	100
2012	Aero-rossa s.r.l.	Alpiq Ecopower Italia AG	100
2012	Bel power europe s.r.l.	Bel Fuse Inc	100

2012	Blueface italia s.r.l.	Blueface Ltd	100
2012	Bovo s.p.a.	Papier Mettler	100
2012	Bps brindisi 2 s.r.l	ESPF GmbH	100
2012	Calcio lecco 1912 s.r.l.	Cala Corp	79
2012	Chelab srl	Silliker SAS	100
2012	Cimbria s.r.l.	A/S Cimbria	100
2012	Docomo digital italy s.p.a.	DOCOMO Deutschland GmbH	93,709
2012	E.r. energia rinnovabile societa' a responsabilita' limitata	Antin Infrastructure Partners SAS	100
2012	Elios 1 s.r.l.	ESPF GmbH	100
2012	Eskigel s.r.l.	R&R Ice Cream PLC	100
2012	Ferretti s.p.a.	Shangdong Heavy Ind Grp Co Ltd	75
2012	Gelit s.r.l.	Ralcorp Holdings Inc	100
2012	Interporto rivalta scrivia s.p.a.	Katoen Natie NV	90,22
2012	Marbo italia s.p.a.	Elantas GmbH	100
2012	Mizuno italia s.r.l.	Mizuno Corp	100
2012	Nardo' technical center s.r.l.	Porsche Engineering Group GmbH	100
2012	Principe hotel management srl	VAO Intourist	100
2012	Remosa s.r.l.	IMI PLC	100
2012	Synopsis consulting s.r.l. in liquidazione	Altair Engineering Inc	100
2012	Taleco s.r.l. in liquidazione	EcoData Group PLC	100
2012	Teseo - s.p.a. tecnologie e sistemi elettronici ed ottici siglabile teseo s.p.a.	Groupe Clemessy SA	100
2012	Vodafone automotive italia s.p.a.	Cobra Service Network SA	100
2012	Wavetech s.r.l.	Eurona Wireless Telecom SA	100
2013	Acquaviva s.r.l.	Belenergia SA	100
2013	Albesiano sisa vernici s.r.l.	Von Roll Holding AG	100
2013	Brindisi solar s.r.l.	Belenergia SA	100
2013	Cid s.p.a.	Alvimedica Medical Devices	100
2013	Codd&date s.r.l.	Vipera PLC	51
2013	Defendi italy s.r.l.	E G O Blanc und Fischer & Co	100
2013	Domo engineering plastics italy s.p.a.	Domo Chemicals NV	100
2013	Douglas chero s.p.a.	Cameron International Corp	75
2013	Eden s.r.l.	OASE Holding GmbH	100
2013	Edif instruments s.r.l.	Human Gesellschaft fuer Bioche	100
2013	Efore s.p.a.	Efore Oyj	100
2013	Enterra s.p.a.	Belenergia SA	70
2013	F.c. internazionale milano s.p.a.	International Sport Capital	100
2013	Finder pompe s.r.l.	Pump Solutions Group	100
2013	Fives oto s.p.a.	Fives SA	100
2013	Fluence italy s.r.l.	RWL Water LLC	100
2013	Franco vago s.p.a. over seas transport system abbreviabile in fra nco vago s.p.a.	Nippon Express Europe GmbH	100
2013	Fs florence s.r.l.	Constellation Hotels Holdings Ltd	100
2013	G.t. attuatori - s.r.l.	Rotork PLC	100
2013	Geosoft s.r.l.	Leica Geosystems AG	100
2013	Immogar s.p.a.	Waaree Instruments Ltd	100
2013	Isia s.p.a.	Grundfos Holding A/S	100
2013	Kba- flexotecnica s.p.a.	Koenig & Bauer AG	100
2013	Leali s.r.l. - in liquidazione	Aldel Holding BV	100
2013	Loro piana s.p.a.	LVMH Moet Hennessy Louis Vuitt	80
2013	Marazzi group s.r.l.	Mohawk Industries Inc	100
2013	Memar-monteassegni s.p.a.	TechTreck Ltd	100

2013	Mixnet	Solutions 30 SA	70
2013	Mks instruments italy s.r.l.	MKS Instruments Inc	100
2013	Nicox farma s.r.l. societa' in liquidazione	Nicox SA	100
2013	P.h. - s.r.l.	TUEV Sued AG	100
2013	P.t.m. s.r.l.	Westeel Ltd	100
2013	Pernigotti s.p.a.	Toksoz Holding AS	100
2013	Petracer's ceramics s.r.l.	Koramic Building Products NV	100
2013	Solaria real estate	Belenergia SA	100
2013	Sumiriko italy s.p.a.	Tokai Rubber Industries Ltd	100
2013	Teko telecom s.r.l.	John Mezzalingua Assoc LLC	100
2013	Valextra s.p.a.	NEO Capital LLP	60
2013	Vimercate salute s.p.a.	Barclays Infrastructure Funds Management Ltd	51
2013	Voestalpine b+hler welding fileur s.r.l.	Bohler Welding Holding GmbH	90
2013	Zeb consulting s.r.l.	zeb/	100
2014	Audax energia s.r.l.	Audax Energia SA	100
2014	Biokosmes s.r.l.	Venture Life Group PLC	100
2014	Bologna football club 1909 - s.p.a., in forma abbreviata bfc s.p .a.	BFC1909 USA SPV LLC	100
2014	Clay paky s.p.a.	OSRAM Licht AG	100
2014	Comestero group s.r.l. anche nella denominazione di comesterogroup srl	Suzo-Happ Group	100
2014	Dac distribuzione alimentari convivenze s.p.a. o in forma abbreviata dac s.p.a.	The Bidvest Group Ltd	60
2014	Dia.metra s.r.l.	Immunodiagnostic Systems Holdings PLC	100
2014	Diagnosis - societa' a responsabilita' limitata	Lifebrain Ag	100
2014	Eden technology s.r.l.	Tongmake International Co Ltd	51
2014	F.i.p.s. fabbrica italiana pompe sommergibili s.r.l.	CRI Pumps Pvt Ltd	100
2014	Flamar cavi elettrici s.r.l.	Molex LLC	100
2014	Fosber societa' per azioni	Guangdong Dongfang Precision Science & Technology Co Ltd	60
2014	Garbuio s.p.a.	Hauni Maschinenbau AG	100
2014	Garo dott. Ing. Roberto gabbioneta spa	Gardner Denver Inc	100
2014	Gentium - s.r.l.	Jazz Pharmaceuticals PLC	98
2014	Health robotics srl	Aesynt Inc	100
2014	Humana italia s.p.a.	DMK Deutsches Milchkontor GmbH	100
2014	I.s.a.l. s.r.l. abbreviabile ove consentito in isal s.r.l.	Alfred Kaercher GmbH & Co KG	100
2014	Industria italiana integratori trei s.p.a.	aniMedica GmbH	100
2014	Ipe s.r.l.	Ergon Capital Partners III SA	66
2014	Kkt s.r.l.	Fleetmatics Group PLC	100
2014	Konica minolta ij textile europe s.r.l.	Konica Minolta Inc	100
2014	Lifebrain s.r.l.	Lifebrain Ag	100
2014	Mitsubishi electric klimat transportation systems s.p.a.	Mitsubishi Electric Corp	80
2014	N.g.c. medical s.r.l.	Medtronic Inc	70
2014	Nuova castelli s.p.a.	Charterhouse Capital Partners LLP	80
2014	Palazzo del freddo giovanni fassi s.r.l.	Haitai Confectionery & Foods Co Ltd	100
2014	Pastificio lucio garofalo s.p.a	Ebro Foods SA	52
2014	Piaggio aero industries societa' per azioni	Mubadala Development Co PJSC	57,558
2014	Pilosio s.p.a.	Columna Capital LLP	100
2014	Pixartprinting s.p.a.	Vistaprint NV	97

2014	Recipharm italia s.p.a.	Recipharm AB	100
2014	Redecam group s.p.a.	Dundee Sarea	100
2014	Rottapharm s.p.a.	Meda AB	100
2014	S.d.n. spa	Labco SA	100
2014	Saet s.p.a.	Park-Ohio Holdings Corp	100
2014	Societa' per azioni lucchese olii e vini	ShangHai YiMin No1 Foods (Group) Co Ltd	90
2014	Societa' produttori sementi spa	Syngenta AG	100
2014	Solera italia s.r.l.	Solera Holdings Inc	100
2014	Sterigenics italy s.p.a.	Sterigenics International Inc	100
2014	Steris s.p.a.	Synergy Health PLC	100
2014	Technovaa italy macplast s.p.a.	Technovaa Industries LLC	100
2014	Varroc lighting systems italy - societa' per azioni sigla denominazione: varroc lighting systems italy s.p.a.	Varroc Engineering Pvt Ltd	80
2014	Vodafone automotive s.p.a.	Vodafone Global Enterprise	100
2014	Welocalize italy s.r.l.	Welocalize Inc	100
2014	Wuerth elektronik stelvio kontek s.p.a.	Wuerth Elektronik eiSos GmbH & Co KG	100
2014	Xtel s.r.l.	Kantar Retail UK Ltd	100

Source: Personal elaboration of the author

3.3.2 The control group

The difference-in-difference (DID) method is based on the comparison between a treated and a control group, a set of units in some-way similar to the treated units, but different from them in that they did not receive the treatment, i.e. the foreign acquisition. In this way, we obtain a proper counterfactual to estimate the casual effect, isolating it from other factors, for example pre-selection bias. The presence of a control group is what makes DID different from a time-series estimate in which the treatment effect is simply analysed as a difference over time in the treated units. In order to build our control group, we used the AIDA database to extract a set of companies with similar characteristics to those in the treated group and which are purely domestic in our considered time frame. In particular, we set the following criteria on AIDA research tool:

- Companies operating in the same ATECO 2007 3-digit codes in which the treated units operate;
- Companies with a national and a global controlling shareholders (and ultimate owner) based in Italy and being an industrial company, an individual, a family or a listed company. Banks, financial services, insurances, private equity and venture capital companies, hedge funds, mutual and pension funds, foundations, governments are excluded by the sample;
- Companies that are not subsidiaries of foreign owners.

The resulting control group is made by 121.623 companies with at least seven consecutive financial statement available (i.e. from 2008 to 2014, from 2009 to 2015, from 2010 to 2016 and/or from 2011 to 2017). Differently from the treated group, a company in the control group can be present as more than one observation. Indeed, according to the number of years of accessible financial statements, the same company can be present up to 4 times. For example, if a company has available and complete balance sheets from 2008 to 2017, then it will be considered as control unit for acquisitions concluded in 2011, 2012, 2013 and 2014. The variable called "M&A effective year" will indicate the balance sheets used to build the average of the 3-years pre and post acquisitions, and so for which treated units it can be matched. As a consequence, the control group amounts to 238.413 observations. More specifically, 65.042 companies are used as control group for M&As concluded in 2011; 65.455 companies form the control for M&As concluded in 2012; 51.163 companies are the control for M&As realized in 2013 and 56.601 companies are in the control group for M&As realized in 2014.

3.3.3 The treated group: descriptive statistics

Table 17 Transactions in the treated group by year summarizes the distribution of the 152 deals in the treated group among the 4 years study time. The nadir in 2012 and following growth in 2013 and 2014 confirm the general trend identified by Zephyr's research on the Italian M&A market reported in Figure 1 at the beginning of this work.

Table 17 Transactions in the treated group by year

M&A Year	**Number of deals (treated group)**
2011	38
2012	26
2013	41
2014	47
Total	152

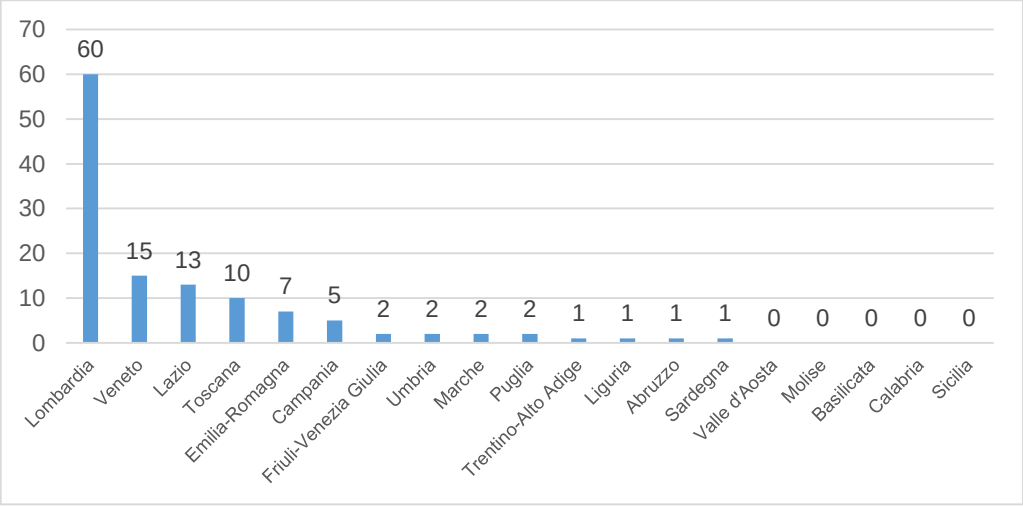
Source: Personal elaboration of the author

Looking at deals distribution by geographic region (Figure 7), it is evident how Lombardy plays the lion's share with 60 deals out of 152 (39,5%), followed at great distance by Veneto with 15 deals (9,86%). The Nord-Est[7] area accounts for 15,79% of transactions in the treated group. On the contrary, southern regions are mostly absent from our analysis. Abruzzo, Molise, Puglia, Campania and Basilicata totally represent just 8 deals, 5 of which are acquisitions of

[7] *According to ISTAT classification, we define Nord-Est as Veneto, Friuli-Venezia Giulia, Trentino-Alto Adige and Emilia-Romagna. Souther regions are Abruzzo, Molise, Puglia, Campania, Basilicata and Calabria.*

Campania's based companies, while Molise, Basilicata and Calabria are not represented at all. This geographic concentration confirms the common knowledge on the higher attractiveness of Northern companies and a two-speed development of the country.

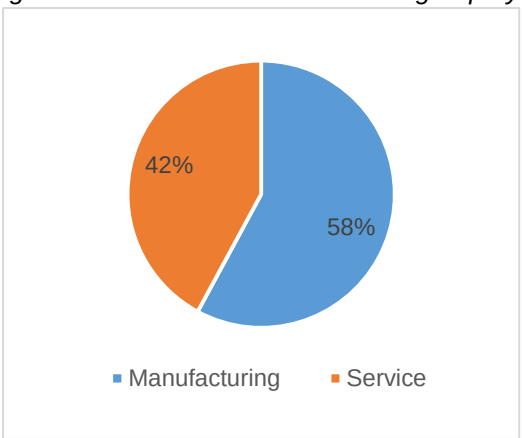
Figure 7 Transactions in the treated group by Italian region

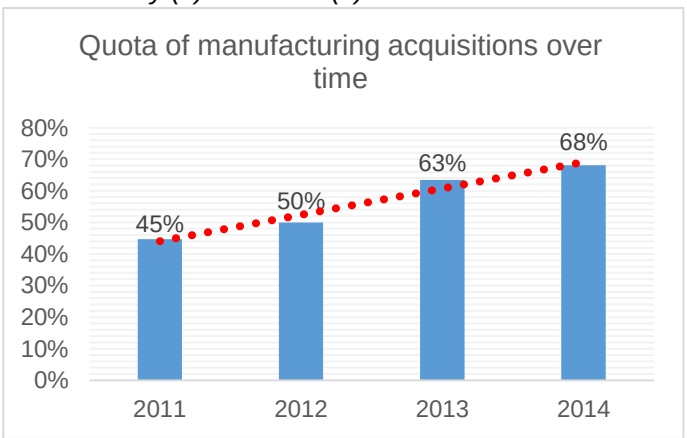


Source: Personal elaboration of the author

Figure 8a displays the distribution of treated companies by macro-sector, meaning distinguishing manufacturing and service industries. Differently to other studies (e.g. Barbaresco et al., 2018; Piscitello & Rabbiosi, 2005), but following other recent works in Italy (e.g. Bentivogli & Mirenda, 2017; ICE & Prometeia, 2014) we chose to include service companies as well to get a full view on the Italian productive world. Companies in the manufacturing industries seem to be more attractive to foreign investors, who may recognize a more foreseeable opportunity for economies of integration. It is worth noticing that the interests in manufacturing companies is increasing over time, as their quota on total deals in our sample shows a positive trend (Figure 8b). *Appendix I* reports the complete lists of 3-digit ATECO 2007 codes present in our data sample.

Figure 8 Transactions in the treated group by macro-industry (a) and trend (b)

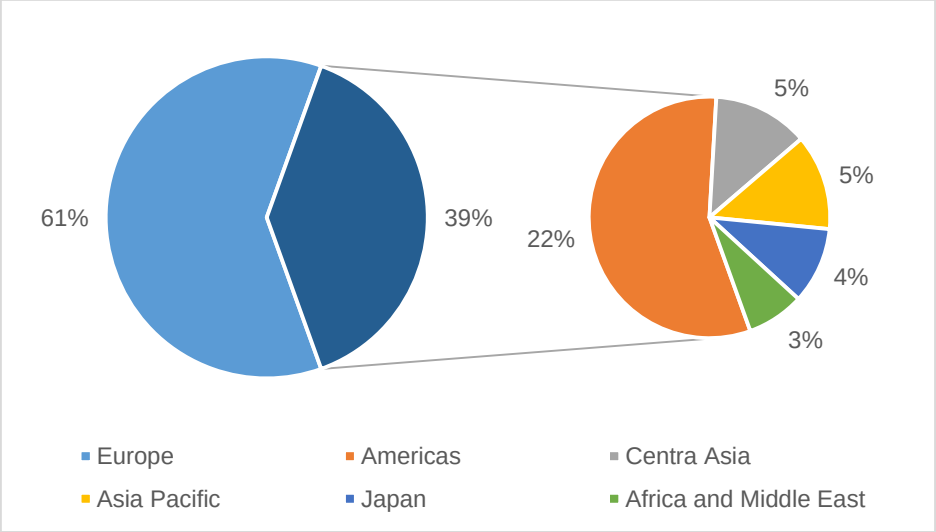




Source: Personal elaboration of the autho

Looking at the acquirer's side of the deal (Figure 9), 61% of deals are concluded by European investors. Among non-European ones, Americas-based acquirers are the most active, with 22% of total deals. Beside a small component of Canadian companies, Americas buyers are almost totally represented by US-based acquirers. Table 18 confirms that US companies are the top-ranked acquirers in absolute value as well, followed by Germany and UK.

Figure 9 Transactions in the treated group by acquirers' region of origin



Source: Personal elaboration of the author

Table 18 Transactions in the treated group by acquirers' country of origin

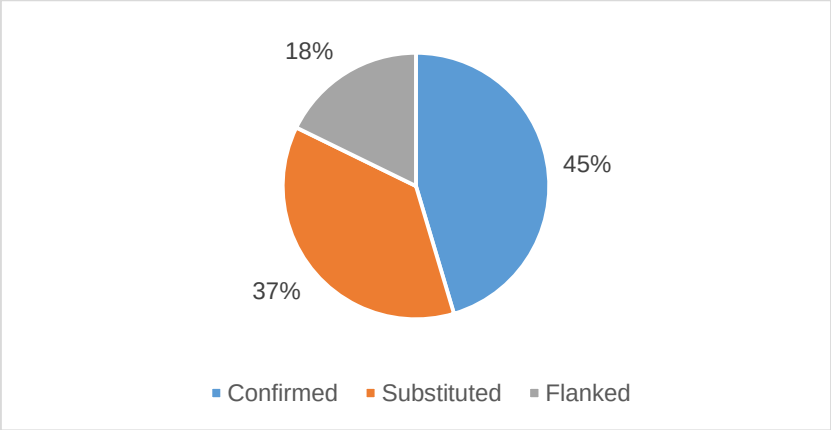
Acquirer Country	**N° of deals**	**% of total deals**
United States of America	29	19%
Germany	24	16%
United Kingdom	16	11%
France	14	9%
Japan	6	4%
Switzerland	6	4%
Canada	5	3%
Belgium	5	3%
Luxembourg	5	3%
China	4	3%
India	4	3%
Spain	4	3%
Turkey	4	3%
Others	*26*	*17%*

Source: Personal elaboration of the author

Figure 10 illustrates the composition of our treated datasets looking at the CEO position, which we use as proxy of the organizational change the target company has gone throught. Using information available on AIDA (complemented with external sources when needed) we collected data on whether and how the person occupying the CEO position changed after the acquisition. Data show that in a substantial 45% of the cases, new foreign owners trust in the

skills and management capabilities of the target CEO and confirm its role even following the acquisition. On top of that, it is not uncommon that new owners flank the current CEO with a second one, who representing the new investors' interest, may support the existing CEO in the acquisition plan implementation. Conversely, in 37% the CEO is substituted and replaced by a foreign owner representative.

Figure 10 Treated group by post-acquisition CEO status



Source: Personal elaboration of the author

Finally, Table 19 provides some descriptive statistics on main variables for both groups of companies, acquired and non-acquired. Our research interest is to measure the effect of foreign acquisition in terms of corporate accounting and operating performance. In particular, our outcomes of interest are sales, Return on Assets[8] and EBITDA Margin[9]. These three variables together provide a full view on the target post-acquisition turnover, ability to growth and efficiently manage its resources to increase profitability. In short, changes in sales, ROA and EBITDA margin trends well mirror the results of a new strategic direction of the company following the acquisition.

Table 19 allows a first rough comparison between treated and control groups regarding the three outcomes of interests, plus debt on equity in order to complete our analysis with a quick view at financial structure differences. Companies targeted by foreign acquisition have a lower D/E ratio both before and after the acquisition. In particular, in the post-acquisition time frame, D/E decreases for acquired companies, while non-acquired companies observe a huge increment in their debt level. Despite that, the greatest difference is in the average sales level, which is largely

[8] *ROA is defined as net income divided by total assets, following Chang et al. (2013) and Feys and Manigart (2010).*

[9] *EBITDA margin is defined as earnings before interest tax depreciation and amortization on sales.*

higher for acquired companies. Both groups experience an increase in average sales in the post-acquisition period. Regarding ROA, the two groups exhibit opposite trends. While treated companies had a negative pre-acquisition ROA and zero-level ROA post acquisition, control units experienced a decrease over the same time frame. The same diverging trend can be observed for EBITDA margin. Acquired companies average EBITDA margin increases post-acquisition, but the starting level was much lower than control units' one. Overall, this first rough analysis would lead us to conclude that foreign investors choose larger companies with high turnover, but low profitability. Therefore, they do not always cherry-pick best performing companies, but they also select low-performing companies to restructure them. We could reasonably hypothesize that the main acquisition driver is the attempt to improve operational efficiency. However, a more sophisticated analysis is needed in order to rightly determine the nature and causes of these effects. The simple comparison of average data does not take into account other factors that may explain these differences, beside the occurrence of an acquisition or not. Does acquired companies performance improve because of the acquisition or because of ex-ante different characteristics? Descriptive statistics do not have the power to detect these differences; only a difference-in-difference method can resolve this doubt.

Table 19 Descriptive statistics of main variables for acquired and non-acquired (data for sales in thousands of euro)

Variable	**Obs.**	**Mean**	**Std. Dev.**	**Min**	**Max**
Treated group					
Avg Sales Pre	152	41.216,47	69.147,39	-	407.988,80
Avg Sales Post	152	43.581,41	77.255,81	70,20	507.599,20
Avg ROA Pre	152	-0,03	0,36	-4,17	0,37
Avg ROA Post	152	0,00	0,13	-0,41	0,48
Avg EBITDA Margin Pre	151	-0,14	3,33	-40,20	3,74
Avg EBITDA Margin Post	152	-0,03	0,83	-7,69	1,49
Avg Debt/Equity pre	152	2,44	5,93	-6,46	45,36
Avg Debt/Equity Post	152	1,35	5,72	-4,78	65,71
Control group					
Avg Sales Pre	238.261	4.687,27	98.477,00	-4,33	20.204.808
Avg Sales Post	238.261	5.101,25	103.615,70	-26,00	21.788.564
Avg ROA Pre	238.254	0,00	2,25	-550,00	15,25
Avg ROA Post	238.246	-0,01	1,97	-684,00	95,44
Avg EBITDA Margin Pre	225.102	1,79	1257,22	-106.629	551.893
Avg EBITDA Margin Post	226.147	-1,19	341,97	-134.694,30	33.373
Avg Debt/Equity pre	235.550	2,82	18,97	-830,91	961,87
Avg Debt/Equity Post	231.731	9,93	63,26	-675,50	8025,13

Source: Personal elaboration of the author

3.3.4 The treated group: Family businesses

The ultimate interest of research of this work is to study whether being the target a family business has a differential effect on post-acquisition performance or not. Following Minichilli, Corbetta and MacMillan (2005), we define a family firm as a company whereby an individual or a family owns more than 50% of outstanding shares[10]. Data on ownership distribution back to the moment of the acquisition have been collected from AIDA, which provides year-by-year information on current and past owners' identity. Where AIDA was lacking data or it was doubtful, it was integrated with other internet sources (press news, articles, etc.). Resulting from this research, we identified 70 family firms and 82 non-family firms. A dummy equal to 1 if the unit is a family firm and 0 if it is not was then included in the dataset.

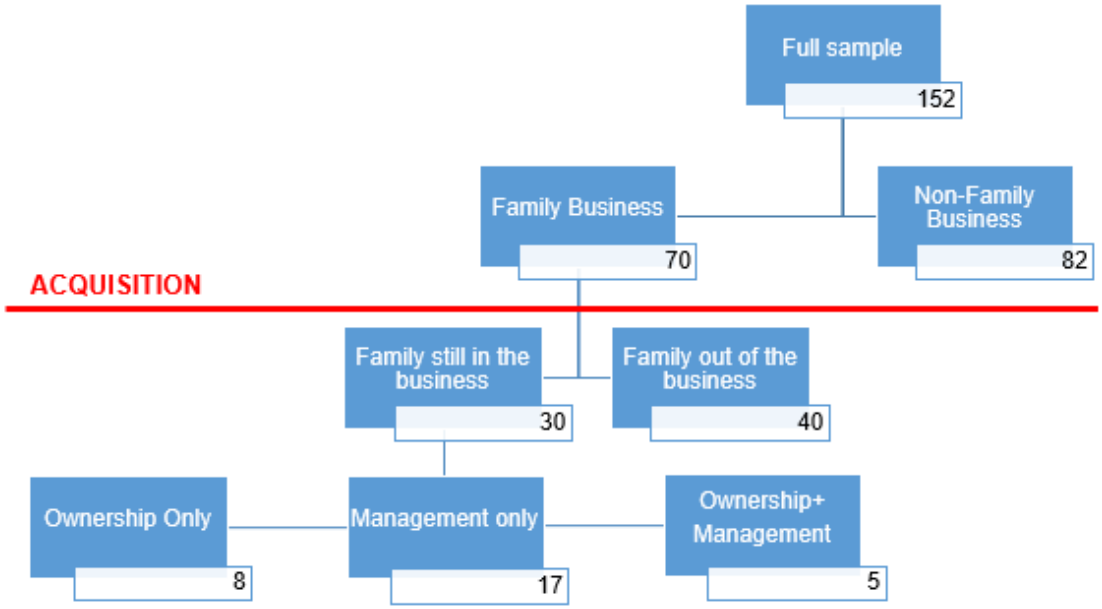
If the distinction between family and non-family businesses goes back to the acquisition period, we also investigated what happened after the acquisition. At first level, we distinguished between two possible outcomes: the family can either remain somehow involved in the business despite not being a controlling owner anymore, either exit the business. How the family remains in the business defines the second-level classification. First, it may save a quota of shares and exercise its powers as minority shareholder to the extent of its stake. Second, despite having sold the ownership of the company, it may maintain one or more management positions. It is not uncommon that new owners recognize the management skills of family members and the eventual benefits of preserving their leadership role in the company. Third, the precedent two situations may verify simultaneously, the family maintains a minority stake and is represented in the management team[11]. These three possible outcomes are defined as *Ownership only*, *Management only* and *Ownership+Management*. As before for family business classification, information have been retrieved from AIDA. Given the scarcity of information on management positions, external sources as press releases, articles, company website and LinkedIn were even more valuable. Indeed, clues on company's management information are much more delicate to access than information on shareholders. This research constraint may explain why the

[10] As pointed out in Chapter 2, the definition of family business varies across different studies and countries. We chose to follow a definition designed and implemented in the Italian context, whose characteristics of ownership concentration and shareholder activism require an ownership-based criteria and a majority rule definition.

[11] In this context, a separate treatment has been devoted to Board of Directors positions. If the family is present in the post-acquisition settlement of interests as a minority shareholder and contributing one or more directors, then this case is classified as Ownership only. The rationale is that directors representing a minority stake do not have the power to strongly affect the strategic direction of the company, neither to take operational decisions as C-level managers may do. Moreover, directorship positions (even the Chairman) are often representative positions, whose voice in decision-making is limited.

literature on family businesses always considers ownership holding, while more rarely takes management into consideration. However, considering the role of the family as leader and not only owners may generate valuable and new insights on the differential effect of family firms. Figure 11 graphically summarizes the precedent explanation. Out of the 70 family firms in our dataset, 40 completely left the business after having sold the majority stake, 30 somehow remained present in the company. Of these, the large majority (17, 56.6%) maintained a management role and guided the business under the foreign-owner surveillance. 8 families (26.7%) remained in the business as owners, renouncing to any leading role, while 5 of them (16.7%) kept a minority stake and maintained a representation at the C-level management.

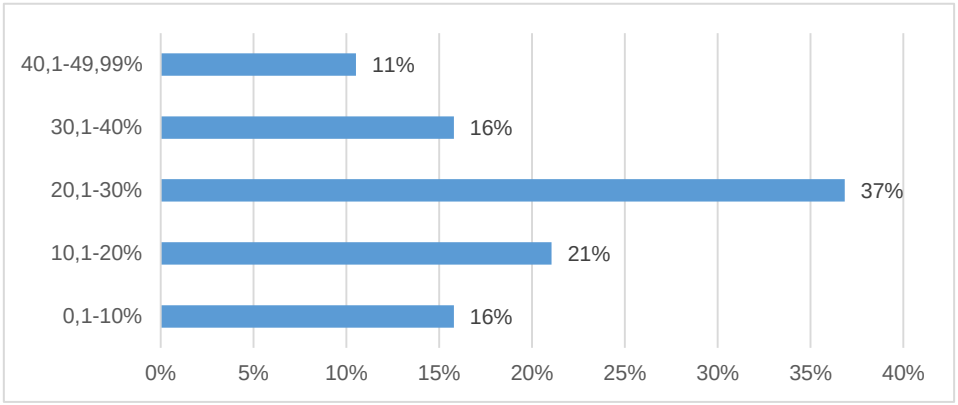
Figure 11 Family business classification



Source: Personal elaboration of the author

The just mentioned categorization enables us to observe that just 13 families out of 30 managed to preserve a minority stake in the business and did not leave a 100% control to the new owners. Figure 12 displays post-acquisition family ownership by 10 percentage points' intervals. It can be observed how a relative majority of families (37%) preserved a minority stake between 20 and 30% of the company's equity. Obviously, the higher the percentage the family is able to keep for itself, the higher its voice in the company' strategic direction, even if it does not holds the decision-making power any more. However, an active minority ownership may serve as a discipline factor in monitoring the conduct of the new foreign owners.

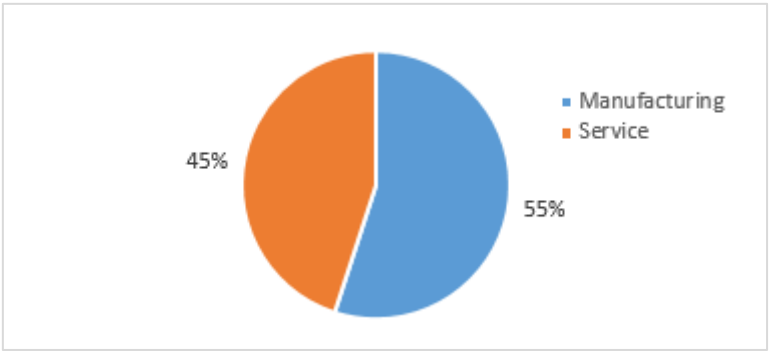
Figure 12 Post acquisition family ownership



Source: Personal elaboration of the author

Looking at the composition of the family sub-sample (Figure 13), we can observe how family firms do not exhibit significant differences in terms of sector distribution compared to the full sample. 55% of family firms operates in the manufacturing sector, while 45% in the service sector, confirming that the family control structure is not industry-specific, but it is diffused and pervasive in the whole economic system.

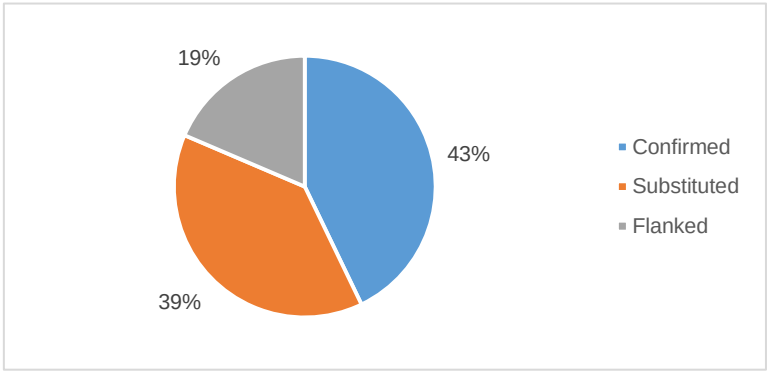
Figure 13 Treated group, acquired family firms by macro industry



Source: Personal elaboration of the author

Similarly, family firms are not more subjectable to CEO changes than non-family firms. The percentages displayed in Figure 14: Treated group, family firms by post-acquisition CEO status are really similar to those presented in Figure 10 for aggregate data, which may lead us argue that CEOs of family firms are not perceived by foreign investors as less reliable or capable than those of non-family firms.

Figure 14: Treated group, family firms by post-acquisition CEO status



Source: Personal elaboration of the author

Tables 20, 21, 22 report some descriptive statistics of main variables for all family businesses subgroups at different classification levels. Last columns of each table report differences in mean and t-test conducted on standardized variables to verify whether differences between subgroups are statistically significant. Table 20 highlights the difference between family and non-family firms. Differences between the two groups are not statistically significant, except for average 3-years post acquisition ROA and average 3-years pre-acquisition debt on equity. Family firms have higher pre and post-acquisition ROA. For both groups, ROA trend is positive. On the contrary, family businesses underperform in terms of sales and EBITDA, but both dimensions improve after the acquisition, more than what they do for non-family firms. In terms of financial structure, they use more external resources than non-family firms, but the level of debt is strongly decreasing for both groups after the acquisition by a foreign acquirer.

Table 21 analyses the first-level family business subgroups and compares main statistics for those companies whereby the family remained in the business and those whereby the family completely left the business after the ownership transfer. Again, differences are not statistically significant, except for post-acquisition EBITDA margin. Businesses where the family left experience an increase in EBITDA margin, while the opposite is true for those companies in which the family remained involved. The same pattern is true for ROA. On the contrary, companies were the family is still present after the acquisition outperform in terms of sales and debt on equity improvement. The second-level distinction among the three possible family status in the post-acquisition phase may help us in identifying some determinants of the just commented trends (Table 22). Unfortunately, the low number of observations does not allow us to identify some clear patters. T-tests results reveal that there are not significant differences in means between the three subgroups. The only significant differences hold between average sales pre and post-acquisition between *Management only* and *Management+Ownership* subgroups.

Table 20 Summary statistics of main variables for family firms and non-family firms

Variable	Group	Obs	Mean	Std. Dev.	Min	Max	Difference	T-Test
Avg Sales Pre	Family firms	70	38.895,16	74.593,35	-	407.988,80	10.057,14	0,38
	Non Family firms	82	43.198,07	64.536,21	20,77	327.402,30		
Avg Sales Post	Family firms	70	41.209,90	87.759,71	87,22	507.599,20	- 4.395,98	0,35
	Non Family firms	82	45.605,88	67.502,70	70,20	382.762,60		
Avg ROA Pre	Family firms	70	0,011	0,121	-0,553	0,220	0,072	-1,246
	Non Family firms	82	-0,061	0,473	-4,171	0,371		
Avg ROA Post	Family firms	70	0,017	0,100	-0,303	0,376	0,037	-1,7802*
	Non Family firms	82	-0,020	0,147	-0,411	0,484		
Avg EBITDA Margin Pre	Family firms	69	-0,484	4,85	-40,195	0,516	-0,638	1,175
	Non Family firms	82	0,154	0,751	-4,100	3,739		
Avg EBITDA Margin Post	Family firms	70	-0,037	0,643	-3835,000	0,853	-0,017	0,122
	Non Family firms	82	-0,021	0,960	-7,695	1,492		
Avg Debt/Equity pre	Family firms	70	1,535	3,215	-6,460	13,830	-1,662	1,7337*
	Non Family firms	81	3,198	7,441	-2,877	45,360		
Avg Debt/Equity Post	Family firms	70	0,975	2,779	-4,777	15,160	-0,697	0,748
	Non Family firms	81	1,672	7,364	-1,525	65,707		

Table 21 Summary statistics of main variables for family firms whereby the family remained in the business after the acquisition (Family IN) and those where the family did not remain after the acquisitions (Family OUT).

Variable	Group	Obs	Mean	Std. Dev.	Min	Max	Difference	T-Test
Avg Sales Pre	Family IN	30	43,939.93	83,524.16	-	407,988.80	9054.71	-0.50
	Family OUT	40	34,885.22	67,516.66	226.88	331,978.30		
Avg Sales Post	Family IN	30	45,782.48	100,309.40	87.22	507,599.20	8207.21	-0.39
	Family OUT	40	37,575.27	77,527.43	509.38	414,472.70		
Avg ROA Pre	Family IN	30	0.02	0.11	-0.41	0.22	0.02	-0.78
	Family OUT	40	0.00	0.13	-0.55	0.19		
Avg ROA Post	Family IN	30	0.01	0.09	-0.30	0.23	-0.01	0.28
	Family OUT	40	0.02	0.11	-0.20	0.38		
Avg EBITDA Margin Pre	Family IN	30	0.11	0.11	-0.11	0.52	1.04	-0.88
	Family OUT	40	-0.94	6.45	-40.20	0.46		
Avg EBITDA Margin Post	Family IN	30	-0.19	0.87	-3.84	0.59	-0.27	1,80*
	Family OUT	40	0.08	0.34	-1.60	0.85		
Avg Debt/Equity pre	Family IN	30	1.72	2.99	-0.01	13.83	0.32	-0.42
	Family OUT	40	1.39	3.41	-6.46	13.40		
Avg Debt/Equity Post	Family IN	30	0.62	1.79	-4.78	4.91	-0.63	0.95
	Family OUT	40	1.26	3.36	-3.04	15.16		

Table 22 Summary statistics of main variables for family firms whereby the family remained in the business after the acquisition (Family IN), distinguishing among those that remained as managers, owners or both simultaneously.

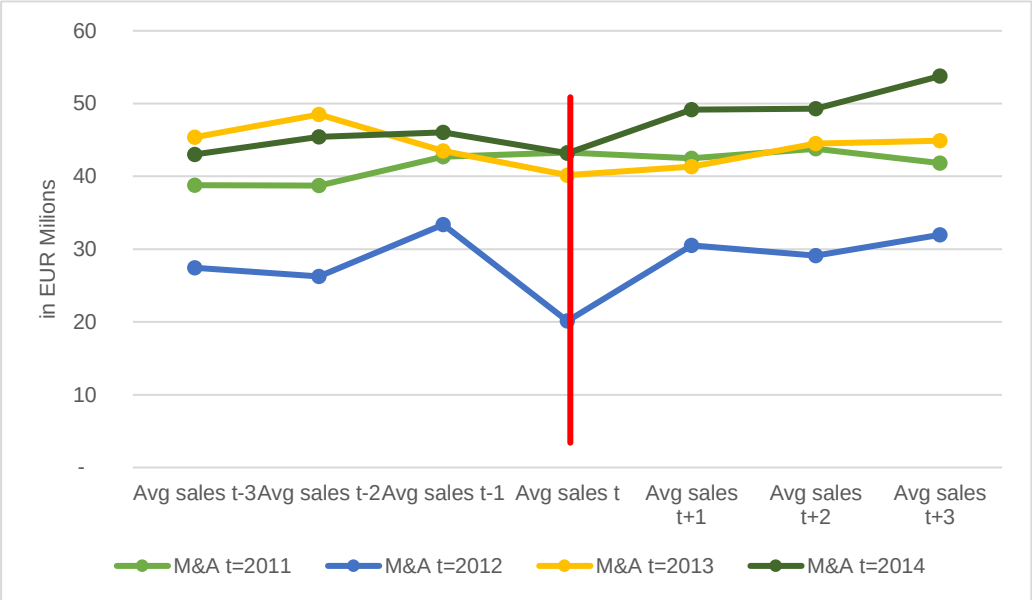
Variable	Group	Obs	Mean	St. Dev.	Min	Max	Difference (1)-(2)	T-Test (1)-(2)	Difference (1)-(3)	T-Test (1)-(3)	Difference (2)-(3)	T-Test (2)-(3)
Avg Sales Pre	Ownership Only (1)	8	70.198	138.536	-	407.989	43.869	- 1,18	1.306	- 0,02	- 42.564	1,82*
	Management Only (2)	17	26.329	49.554	788	205.877						
	Ownership+Management (3)	5	68.892	71.583	5.419	169.301						
Avg Sales Post	Ownership Only (1)	8	78.879	173.466	277	507.599	59.997	- 1,42	- 13.473	0,16	- 73.471	2,69**
	Management Only (2)	17	18.882	27.929	87	107.736						
	Ownership+Management (3)	5	92.353	106.316	93	246.128						
Avg ROA Pre	Ownership Only (1)	8	0,03	0,10	- 0,16	0,18	0,00	-0,03	-0,01	0,27	-0,02	0,25
	Management Only (2)	17	0,02	0,13	- 0,41	0,22						
	Ownership+Management (3)	5	0,04	0,05	- 0,01	0,12						
Avg ROA Post	Ownership Only (1)	8	- 0,00	0,06	- 0,07	0,13	-0,04	1,15	-0,04	1,15	0,00	-0,09
	Management Only (2)	17	0,04	0,09	- 0,17	0,23						
	Ownership+Management (3)	5	0,03	0,04	- 0,00	0,09						
Avg EBITDA Margin Pre	Ownership Only (1)	8	0,07	0,10	- 0,11	0,21	-0,03	0,78	-0,11	1,24	-0,07	1,28
	Management Only (2)	17	0,10	0,08	- 0,04	0,28						
	Ownership+Management (3)	5	0,18	0,19	0,05	0,52						
Avg EBITDA Margin Post	Ownership Only (1)	8	- 0,21	0,71	- 1,95	0,20	-0,08	0,22	0,14	-0,29	0,22	-0,45
	Management Only (2)	17	- 0,13	0,97	- 3,84	0,59						
	Ownership+Management (3)	5	- 0,35	1,02	- 2,19	0,13						
Avg Debt/Equity Pre	Ownership Only (1)	8	2,98	3,21	0,12	0,83	1,67	-1,20	1,55	-1,01	-0,12	0,08
	Management Only (2)	17	1,31	3,26	-	1,38						
	Ownership+Management (3)	5	1,43	1,39	0,07	3,31						
Avg Debt/Equity Post	Ownership Only (1)	8	0,93	2,21	- 3,20	3,61	0,51	0,88	-0,02	0,02	-0,53	0,60
	Management Only (2)	17	0,42	1,88	- 4,78	4,91						
	Ownership+Management (3)	5	0,95	0,85	-	2,06						

*Source: Personal elaboration of the author. T-test based on standardized variables are reported in the last column. *Statistical significance at 10%level. **Statistical significance at 5%level.*

3.3.5 Trend for sales

As previously mentioned, our outcomes of interests are sales, ROA and EBITDA margin. Figure 15 shows sales trend for the 7-year period, 3 years pre-acquisition, the acquisition year and 3 years post-acquisition. The first clear insight is that acquisitions concluded in 2012 on average regarded smaller firms compared to the other periods. Moreover, the inflection point at time t (the acquisition year) is more pronounced than in other acquisition years, despite present also in 2013 and 2014's trends. On average, post-acquisition sales are positioned on higher levels compared to pre-acquisition values, showing that despite an inflection due to the acquisition shock and following integration, a positive effect can be observed. 2013 is the only exception, but t+3 values are increasing and reaching pre-acquisition values.

Figure 15 Average pre and post- acquisition sales (data in millions of Euro)



Source: Personal elaboration of the author (N=152)

A further clarification on sales trends may come from pre and post-acquisition sales CAGR. Table 23 shows how companies in the treated group performed in terms of sales growth. A relative majority of acquisition targets (39%) had positive sales growth pre-acquisition and maintained this trend following the acquisition as well. For 20% of our companies, the foreign acquisition clearly re-boosted the company turnover, determining a trend shift from negative-to-positive. On the contrary, in 24% of cases, the acquisition was detrimental to the company's sales as a positive pre-acquisition CAGR turned to negative after the deal. Finally, 16% of company were experiencing a negative pre-acquisition sales trend that the new owners was unable to recover, at least in the first 3 years.

Table 23 Percentage of treated companies with positive and negative trend for sales (3 years CAGR) pre- and post-M&A

	CAGR Pre Negative	CAGR Pre Positive
CAGR Post Negative	16%	20%
CAGR Post Positive	24%	40%

Source: Personal elaboration of the author. Positive CAGR is defined as CAGR ≥ 0, negative CAGR is defined as CAGR <0.

Table 24 provides some additional insights on sales trend by breaking it down to subgroups. Non-family firms exhibit higher sales than family firms in all 7-years period, but while family firms experience a positive and satisfactionary post-acquisition CAGR by 18%, non-family businesses register a negative trend and barely overcome pre-acquisition level of sales. It can be observed that manufacturing companies have higher sales levels, both before and after the acquisition, however the increase in sales by service companies is greater, showing larger opportunities for improvements (+20% vs 0%). A first look to these data quickly allows to understand that the acquirer's country of origin has an impact as well. Non-European acquirer are attracted by larger companies and the improvement they are able to implement is greater than European ones (+14% vs -2%). The preservation of the same CEO apparently induces positive effects in the company performance, as companies whose leader did not change following the acquisition report higher sales and higher post-acquisition sales CAGR (+11% vs +1%). Looking at the acquirer type, conversely to what one can expect, it seems that industrial acquirers boost target's sales more than what financial acquirers do. Post-acquisition sales of target of industrial acquirers clearly increase (+11%), while companies acquired by financial buyers exhibit a strong decrease in sales (-17%).

Table 25 further expands our knowledge on post-acquisition sales growth for each subgroup by showing the difference in average pre and post-acquisition sales in absolute value and as a percentage. Overall, foreign acquisitions resulted in turnover improvement as average sales increased by 5.7%. The result is more pronounced for family firms, service companies and small and medium enterprises. Confirming what we previously pointed out, Non-European acquirers and industrial acquirers are more beneficial for companies performance in terms of sales growth.

Table 24 Sales trend by subgroups (data expressed in thousands of €)

	Obs	Avg Sales T-3	Avg Sales T-2	Avg Sales T-1	Avg Sales T	Avg Sales T+1	Avg Sales T+2	Avg Sales T+3	CAGR Pre	CAGR Post
Total	152	39.929	41.310	42.350	38.441	42.197	43.170	44.484	6%	5%
Family Business										
Family Business	71	38.004	37.547	40.076	35.459	37.194	41.694	43.976	5%	18%
Non Family Business	81	41.617	44.607	44.344	41.055	46.583	44.464	44.946	7%	-4%
Sector										
Manufacturing	88	50.911	52.718	52.248	45.099	52.395	50.831	52.425	3%	0%
Service	64	24.829	25.622	28.742	29.286	28.175	32.637	33.937	16%	20%
Acquirer's Region										
European Countries	93	34.238	36.182	36.528	34.704	35.959	34.498	35.117	7%	-2%
Non-European Countries	59	48.900	49.393	51.528	44.332	52.030	56.840	59.180	5%	14%
Type of acquirer										
Industrial acquirer	139	39.880	40.964	42.496	38.273	42.056	43.876	45.170	7%	7%
Financial Acquirer	13	40.452	45.004	40.794	40.241	43.712	35.630	35.878	1%	-18%
CEO change										
CEO change	82	39.293	40.944	41.512	38.140	42.889	41.838	43.182	6%	1%
No-CEO change	70	40.674	41.738	43.333	38.794	41.387	44.731	45.993	7%	11%
SME vs Large companies										
SME	114	13.670	12.501	13.648	13.380	14.293	15.474	16.018	0%	12%
Large Companies	38	122.645	127.736	128.458	113.625	125.910	126.260	133.834	5%	6%

Table 25 3-years average sales for the target firms before and after the M&A by a foreign company (data in thousands of euro)

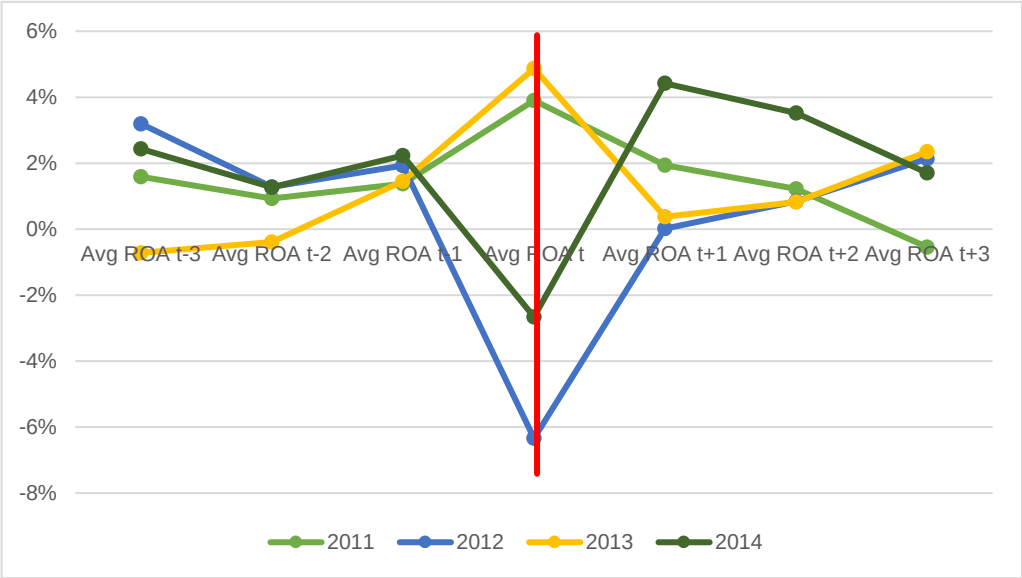
	Avg Sales Pre M&A	Avg Sales Post M&A	Difference	Difference (%)
Total firms (treated)	41.216	43.581	2.365	5,7%
Family Business	38.542	40.955	2.412	6,3%
Non-Family Business	43.561	45.884	2.323	5,3%
Manufacturing	51.994	52.307	314	0,6%
Service	26.398	31.583	5.185	19,6%
European	35.682	35.386	-296	-0,8%
Non-European	49.940	56.499	6.559	13,1%
Industrial acquirer	41.135	43.817	2.682	6,5%
Financial Acquirer	42.083	41.061	-1.022	-2,4%
CEO change	40.620	43.255	2.635	6,5%
No-CEO change	41.915	43.964	2.049	4,9%
SME	12.862	15.338	2.476	19,3%
Large firms	126.279	128.310	2.031	1,6%

Source: Personal elaboration of the author. CAGR Pre and CAGR Post refer to Compound Annual Growth Rate 3 years pre-acquisition and 3 years post-acquisition.

3.3.6 Trend for ROA

Return on Assets is an indicator of how efficient a company's management is at using its assets to generate earnings. In this regard, ROA patterns allow us to investigate the profitability situation of acquired companies. Figure 16 shows how different acquisition years exhibit different trends, with two standing out patterns. At the acquisition period (time *t*), ROA diverges from the rest of the distribution, but while in 2011 and 2013's acquisitions it reaches higher levels, in 2012 and 2014's deals in goes down. In both cases, ROA readjusts back to the previous levels from time *t+1* on. A second interesting insight can be observed on post-acquisition trends. While companies acquired in 2012 and 2014 experience an upward progression, 2011 and 2014's acquisitions are declining. Extending the time period over the 3-years time frame may allow to understand if these two opposite trends are transitory and will finally reconcile or if they are permanent; in this last case, intrinsic differences among companies subgroups may justify them.

Figure 16 Average pre and post- acquisition ROA



Source: Personal elaboration of the author (N=114, outliers were excluded)

Table 26 further clarifies whether companies benefitted or not from the acquisition in terms of assets profitability, comparing pre and post-acquisition ROA trends. 25% of companies exhibit positive ROA trend both in the pre and post-acquisition period. 27%, instead, had negative ROA growth in the 3 years pre-acquisition, but then recovered and achieved positive growth in the post-acquisition period. On the contrary, 27% experiences the opposite path, they had positive ROA trend pre-acquisition but then their profitability's growth got worse. Finally, another 27% had negative ROA trend before the deal and were not able to turn it into positive under a new owner.

Looking at absolute values, 79 companies out of 152 present a positive ROA trend in the 3 years post-acquisition, while 73 companies show a negative trend.

Table 26 Percentage of treated companies with positive and negative trend for ROA (3 years CAGR) pre- and post-M&A

	ROA Trend Pre Negative	ROA Trend Pre Positive
ROA Trend Post Negative	21%	27%
ROA Trend Post Positive	27%	25%

Source: Personal elaboration of the author. Positive trend is defined as trend ≥ 0, negative trend is defined as trend <0.

As we did for sales, Table 27 reports average ROA for each time period by treated units subgroups. Family firms have on average higher ROA, but the negative impact on acquisition year *t* is more pronounced than for non-family firms. Despite that, they recover and they conclude time *t+3* overcoming pre-acquisition ROA levels. From table 24 it is clear that ROA differences between subgroups are less evident than sales differences. For example, service companies tend to exhibit higher ROA than manufacturing ones, but their values are much more fluctuant over years. Differently from sales, companies acquired by European acquirers seem to outperform their non-European counterparts in profitability measures, but as for sales, industrial acquirers confirm their superiority over financial ones and companies whereby the CEO is confirmed are more profitable. Finally, acquisitions directed at large companies prefer more profitable targets (3.11% vs 1.35% in *t-1*), even if small and medium enterprises show better post-acquisition results.

Table 28 complements our analysis by sub-groups reporting the change in the 3-years average ROA before and after acquisition. Overall, ROA boosts from 1.3% to 1.66%, which equals a 27.69% improvement. Family businesses and manufacturing companies benefit from the acquisition more than their counterparts, but non-family firms and those operating in the service industries still report a positive outcome. On the contrary, in all other subgroups, there is clearly a positive and negative category. Companies targeted by European and industrial acquirers experience an improvement in their profitability from assets, while non-European and financial acquirer not only perform worse, but they induce a negative result. Confirming already mentioned results, companies where the CEO is endorsed exhibit a positive improvement and SME get more efficient than large corporations do.

Table 27 ROA trend by subgroups

	Treated firms	Avg ROA T-3	Avg ROA T-2	Avg ROA T-1	Avg ROA T	Avg ROA T+1	Avg ROA T+2	Avg ROA T+3
Total	137	1,45%	0,72%	1,74%	0,57%	1,90%	1,71%	1,36%
Family Business								
Family Business	53	2,52%	0,54%	1,95%	-2,10%	2,61%	1,99%	2,61%
Non Family Business	61	0,53%	0,87%	1,55%	2,89%	1,28%	1,47%	0,29%
Sector								
Manufacturing	63	1,28%	1,49%	0,78%	2,05%	1,73%	1,89%	1,54%
Service	51	1,67%	-0,24%	2,92%	-1,26%	2,11%	1,49%	1,14%
Acquirer's Region								
European Countries	70	1,38%	0,83%	1,82%	2,27%	2,90%	1,72%	1,44%
Non-European Countries	44	1,57%	0,53%	1,61%	-2,14%	0,31%	1,70%	1,25%
Type of acquirer								
Industrial acquirer	104	1,64%	0,66%	1,50%	0,44%	1,91%	1,90%	1,44%
Financial Acquirer	10	-0,52%	1,27%	4,24%	1,84%	1,79%	-0,24%	0,56%
CEO change								
CEO change	61	1,20%	0,30%	0,01%	1,03%	1,29%	1,69%	0,59%
No-CEO change	53	1,74%	1,19%	3,73%	0,03%	2,59%	1,73%	2,25%
SME vs Large companies								
SME	89	1,55%	0,46%	1,35%	0,18%	2,13%	1,84%	1,76%
Large Companies	25	1,11%	1,62%	3,11%	1,94%	1,06%	1,26%	-0,03%

Source: Personal elaboration of the author.

Table 28 3-years average ROA for the target firms before and after the M&A by a foreign company

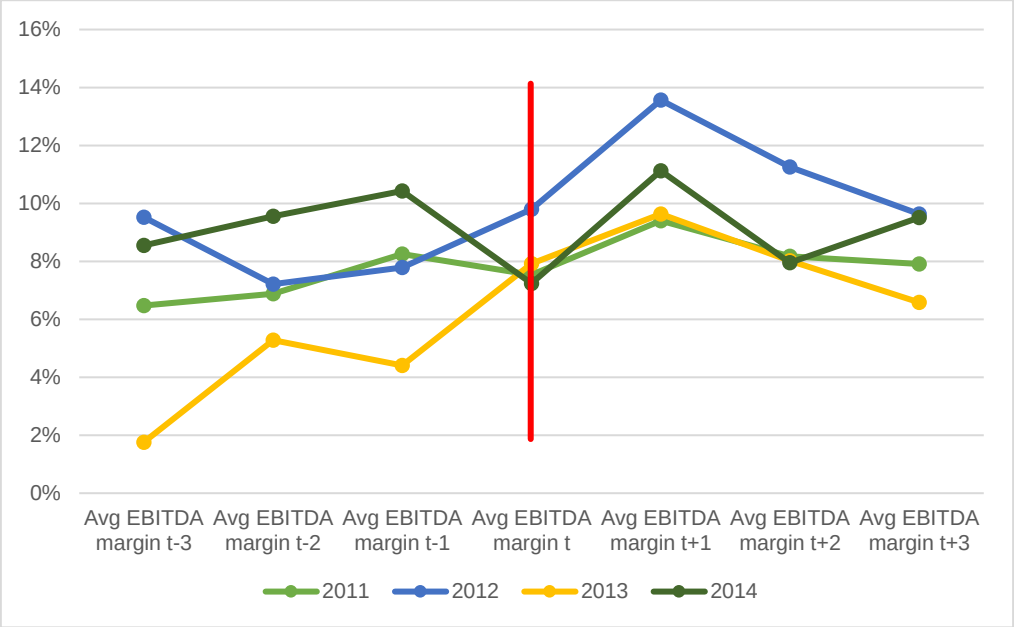
	Avg ROA Pre M&A	Avg ROA Post M&A	Difference (%)
Total firms	1,30%	1,66%	27,69%
Family Business	1,67%	2,40%	43,71%
Non-Family Business	0,98%	1,01%	3,06%
Manufacturing	1,18%	1,72%	45,76%
Service	1,45%	1,58%	8,97%
European	1,34%	2,02%	50,75%
Non-European	1,23%	1,08%	-12,20%
Industrial acquirer	1,27%	1,75%	37,80%
Financial Acquirer	1,66%	0,70%	-57,83%
CEO change	0,50%	1,19%	138,00%
No-CEO change	2,22%	2,19%	-1,35%
SME	1,12%	1,91%	70,54%
Large firms	1,95%	0,76%	-61,03%

Source: Personal elaboration of the author

3.3.7 Trend for EBITDA Margin

EBITDA margin is the second measure of profitability we consider. While ROA provides information on how efficiently a company uses its assets, EBITDA margin is an assessment of a firm's operating ability to generate earnings relative to its revenues. It is helpful in comparing the profitability of different companies while factoring out the effects of decisions related to financing and accounting. Figure 17 displays EBITDA margin trend over the 7-years period for all acquisitions in our treated group, distinguished by year of acquisition. At first sight it is clear how EBITDA margin tends to increase in the first year post-acquisition, but then decreases in years *t+2* and years *t+3*. Despite that, final values in the third year post-acquisition are slightly above pre-acquisition values.

Figure 17 Average pre and post- acquisition EBITDA Margin



Source: Personal elaboration of the author

Table 29 provides us data on pre and post-acquisition EBITDA margin trend. Companies in the treated sample equally distribute among the four possible cases. Specifically, looking at those companies that had positive EBITDA margin growth before the acquisition, 24% of total sample companies maintained this positive trend even after the entrance of a new foreign owner, while 32% of companies experienced a deterioration in their performance and reported a negative EBITDA margin trend post-acquisition. Conversely, 24% manifested the opposite trend, from negative pre-deal trend to positive post-deal trend. In 20% of cases, the ownership change was unable to turn a negative pre-acquisition trend into positive. Overall, 74 companies reported positive EBITA margin trend post-acquisition, 78 had negative trends.

Table 29 Percentage of treated companies with positive and negative trend for EBITDA Margin (3 years CAGR) pre- and post-M&A

	EBITDA margin Pre Negative	EBITDA margin Pre Positive
EBITDA margin Trend Post Negative	20%	32%
EBITDA margin Trend Post Positive	24%	24%

Source: Personal elaboration of the author. Positive trend is defined as trend ≥ 0, negative trend is defined as trend<0.

Table 30 presents average EBITDA margin by year and by sub-groups. Differences between family and non-family businesses are not pronounced, but family firms exhibit slightly higher values. Similarly, target industry and target size are not so relevant as well, as distinctions between Service-Manufacturing and SME-large companies do not strongly affect margins. On the contrary, acquirers' characteristics are more impactful. In particular, targets acquired by European acquirers register much higher EBITDA margins than targets of non-European acquirers, and conclude the 3-years post-acquisition period with almost double average margins (10.08% vs 5.65%). The same is true for financial acquirers, which boost operating profitability of target companies more than industrial acquirers do. The preservation of the CEO role confirms its positive effect on target performance.

To further investigate on EBITDA margin post-acquisition trends, Table 31 reports the change in average EBITDA margin 3-years pre and post-acquisition by subgroups. Considering the total treated group, the profitability index increases by 22.16%, from 7.49% to 9.15%. All sub-groups present positive differences, signalling that the EBITDA margin improvement does not depend on firms' characteristics but it is widely spread. The only negative difference can be observed with regards to companies in which the CEO changed after the acquisitions, which confirms its negative impact on corporate performance.

Table 30 EBITDA Margin trend by subgroups

	Treated firms	Avg EBITDA Margin T-3	Avg EBITDA Margin T-2	Avg EBITDA Margin T-1	Avg EBITDA Margin T	Avg EBITDA Margin T+1	Avg EBITDA Margin T+2	Avg EBITDA Margin T+3
Total	137	7,33%	7,31%	7,84%	7,89%	10,61%	8,54%	8,31%
Family Business								
Family Business	53	6,48%	7,98%	8,56%	7,86%	10,82%	8,61%	8,49%
Non Family Business	61	7,86%	6,90%	7,39%	7,92%	10,47%	8,50%	8,20%
Sector								
Manufacturing	63	7,10%	7,38%	7,11%	7,77%	11,88%	8,96%	7,97%
Service	51	7,65%	7,22%	8,84%	8,07%	8,83%	7,96%	8,77%
Acquirer's Region								
European Countries	70	8,93%	8,64%	9,62%	8,25%	11,12%	8,93%	10,08%
Non-European Countries	44	4,93%	5,32%	5,16%	7,36%	9,83%	7,96%	5,65%
Type of acquirer								
Industrial acquirer	104	7,24%	7,12%	7,60%	7,87%	10,38%	8,36%	8,17%
Financial Acquirer	10	10,64%	13,76%	15,85%	8,59%	18,17%	14,52%	12,77%
CEO change								
CEO change	61	5,37%	5,28%	5,24%	7,40%	10,81%	7,47%	7,21%
No-CEO change	53	9,26%	9,30%	10,38%	8,38%	10,41%	9,59%	9,38%
SME vs Large companies								
SME	89	7,10%	6,68%	7,91%	7,85%	10,75%	8,27%	7,71%
Large Companies	25	7,91%	8,87%	7,64%	8,01%	10,24%	9,21%	9,80%

Source: Personal elaboration of the author

Table 31 3-years average EBITDA Margin for the target firms before and after the M&A by a foreign company

	Avg EBITDA Margin Pre M&A	Avg EBIDA MArgin Post M&A	Difference (%)
Total firms (treated)	7,49%	9,15%	22,16%
Family Business	7,67%	9,31%	21,38%
Non-Family Business	7,38%	9,05%	22,63%
Manufacturing	7,20%	9,60%	33,33%
Service	7,90%	8,52%	7,85%
European	9,06%	10,04%	10,82%
Non-European	5,14%	7,81%	51,95%
Industrial Acquirer	7,32%	8,97%	22,54%
Financial acquirer	13,42%	15,15%	12,89%
CEO change	15,15%	8,50%	-43,89%
No-CEO change	9,65%	9,79%	1,45%
SME	7,23%	8,91%	23,24%
Large firms	8,14%	9,75%	19,78%

Source: Personal elaboration of the author

3.4 Conclusions

The precedent chapter presented the working methodology and some exploratory descriptive statistics on our treated group consisting of 152 Italian companies acquired by foreign owners in the 2011-2014 period. The results shown above seem to indicate a general improvement of acquired companies' performance. Indeed, at the aggregate level sales increase by 5.7%, ROA by 27.69% and EBITDA margin by 22.16%. The disaggregation of treated units by targets and acquirers characteristics enables us to identify the determinants of these effects and examine whether some factors boost acquired companies performance more than others. For example, family firms exhibit higher sales and ROA growth than non-family firms, and a comparable EBITDA margin change. However, data shown above do not have the power and reliability to indicate that these positive effects are the results of foreign acquisitions. In other words, since they do not discriminate for pre-acquisition target companies characteristics, they mix the impact of the acquisition with the normal course of the business, which would have occurred even in the absence of an acquisition. To separate these two components and verify whether foreign acquisitions are beneficial or not for Italian acquired companies, a more sophisticated technique is needed.

4. CHAPTER

MEASURING THE POST-ACQUISITION PERFORMANCE OF ITALIAN ACQUIRED FIRMS: EMPIRICAL RESULTS USING A DIFFERENCE-IN-DIFFERENCE MATCHING APPROACH

4.1 Introduction

Cross-Border mergers and acquisitions have long been a popular strategy and represent an important opportunity for corporate growth. However, political and managerial feelings toward investments coming from abroad are often mixed. On one hand, foreign investments are considered a sign of the economic welfare of a country and an opportunity for Italian companies modernization and growth. At the same time, they are also perceived as a source of external dependence and failure of domestic entrepreneurship. The underlying doubt is whether foreigners are really "better owners" for Italian companies than Italian owners are. The ultimate research goal of this work is to answer these doubts with an empirical analysis based on a custom-built dataset of foreign acquisitions of Italian companies.

Given the dataset introduction presented in Chapter 3, the following Chapter will illustrate in detail the empirical methodology, which makes use of difference-in-difference combined with coarsened exact matching. Paragraph 4.2 will provide a theoretical background to the methodology and show the rationale behind the empirical research. We will then illustrate the results we obtained on the effects of foreign ownership on post-acquisition sales, ROA and EBITDA margin, first for aggregate data (Paragraph 4.3) and then on treated units subgroups. Specifically, Paragraph 4.4 will focus on acquirers characteristics, being the acquirer country of origin (Europe vs non-Europe) and type of acquirer (Industrial vs Financial). Paragraph 4.5 will then suggest how target characteristics may impact on post-acquisition results, namely target macro industry (service vs manufacturing), size (SME vs large companies) and

organizational change (CEO change vs non-CEO change). Finally, Paragraph 4.6 will specifically focus on family firms, controlling for the impact of some of the aforementioned features when the acquired company is family-owned. Results discussion, implications and limitations will then conclude the Chapter.

4.2 The empirical methodology

Our research goal is to determine whether Italian companies are better off when acquired by foreign investors. In other words, we would like to compare their observed post-acquisition performance under foreign owners with their eventual performance under Italian previous owners. As this last case is not observable, we build a counterfactual setting using as reference the performance of companies that remained domestic over the same time period. Applying a difference-in-difference (DID) technique, we compare the difference in average outcome before and after the acquisition (the treatment) of acquired firms (the treated group) with the difference in average outcome during the same time period for those firms remaining domestic (the control group). However, before applying the difference-in-difference technique, we need to overcome, or at least reduce, the problem of sample selection bias. Indeed, plants acquired by foreign investors are unlikely to be a random sample from the population of companies. Foreign owners may "cherry pick" best companies or "lemons grab" low-performing ones. Regardless the case, simply comparing pre and post-acquisition performance would overestimate the effect of the acquisition itself, which would take credits of pre-acquisition differences between acquired and non-acquired companies. To take this into consideration, we combine the difference-in-difference approach with Coarsened Exact Matching, a matching technique that allows to identify firms that were not acquired but had similar characteristics to firms that were acquired by foreigners. The matching procedure eliminates differences between treated and control units based on observable pre-acquisition characteristics. The difference-in-differences matching estimator eliminates unobservable time-invariant differences between the treatment and control groups.

As mentioned in Chapter 3, we chose three accounting-based [12]outcome variables: sales, Return on Assets and EBITDA Margin. The first two are widely accepted measures of post-acquisition performance, both in Italy and abroad. In particular, sales provide a quick insights on company's growth and market share variations (Bentivogli & Mirenda, 2017; Buckley et al., 2014; Chari et al., 2009; Chen, 2011; Feys & Manigart, 2010; ICE & Prometeia, 2014; Liu et al., 2017). ROA enables to investigate the profitability situation of acquired companies, with particular reference to how efficiently they use their assets to generate earnings (Chang et al., 2013; Chari et al., 2009; Chen; 2011; Feys & Manigart, 2010; Fukao et al.; 2006). On the contrary, EBITDA margin is a not common variable in the International Business literature when it comes to cross-border M&As performance valuation. Nevertheless, we include this ratio since it can add on our knowledge on the company's operating profitability as it disregard the impact of decisions related to financial and accounting decisions.

4.2.1 The difference-in-difference technique

Difference-in-difference is a statistical technique used in econometrics and quantitative research in the social sciences. In contrast to time-series estimates of the treatment effect on subjects (which analyses differences over time) or cross-section estimates of the treatment effect (which measures the difference between treatment and control groups), difference-in-difference uses panel data to measure the difference between the treatment and control groups of the change in the outcome variables that occur over time. This approach is well suited to estimate the effect of sharp changes in the economic environment or changes in government policy. Indeed, previous literature on foreign ownership acquisition did frequently adopt DID as well. Among studies mentioned in Chapter 1, Bentivogli and Mirenda (2017), Chang, Chung and & Moon (2013), Chari, Chen, and Dominguez (2009), Chen (2011), Fukao, Ito, Kwon and Takizawa (2006), Girma and Gorg (2007), ICE and Prometeia (2014), Karpaty (2007), Shim and Okamuro (2006) all applied a DID estimator to assess the impact of foreign ownership on different outcome variables.

[12]In this regard, the literature on M&As performance is divided in two large streams: those that study the acquisition performance in terms of market reactions (measuring Cumulative Abnormal Returns) and those that use accounting-based measures. The latter have more than one advantage over the former: first, they indicate what really happened, and not market players' expectations on what could happen. Second, they allow to separately analyse different aspects of corporate performance, i.e. profitability, efficiency, growth, etc.

Difference-in-difference requires data measured from a treatment group and a control group at two or more different time periods, specifically at least one time period before "treatment" and at least one time period after "treatment." In our case, the difference-in-difference estimator is implemented on two time periods, pre and post-acquisition. Pre-acquisition values are given by the average of the 3-years before the acquisition, while post-acquisitions values are the average of the 3-years after the acquisition. In this way, we ease our calculations by comparing one pre-acquisition value to one-post acquisition value. The treated group is exposed to a treatment in the second period but not in the first period. The control group is not exposed to the treatment in neither of the two periods. Outcomes of interests are sales, ROA and EBITDA margins.

Figure 18 shows a graphical representation of the DID mechanism, assuming that the casual effect is constant across the treated group. The outcome variable is measured in the pre (A_i) and post-treatment (B_i) period, for both the treated (Y_1) and control (Y_0) group. B_1 and B_0 differ more than A_1 and A_0, but not the whole difference can be explained by the treatment, because treated and control groups did not start out at the same point in the pre-acquisition period. DID calculates the difference between the two groups that would have occurred if neither group experienced the treatment. In short, DID assumes that if the treatement did not occurred, the two groups would have experienced the same trend. Point C_1 represents the counterfactual. Therefore, the treatement effect is the difference between the observed outcome (B_1) and counterfactual outcome (C_1).

Formally, the observed outcome in Figure 18 can be written as:

$$Y_{it} = \alpha_i + \lambda_t + \beta F_{it} + \varepsilon_{it} \qquad (1)$$

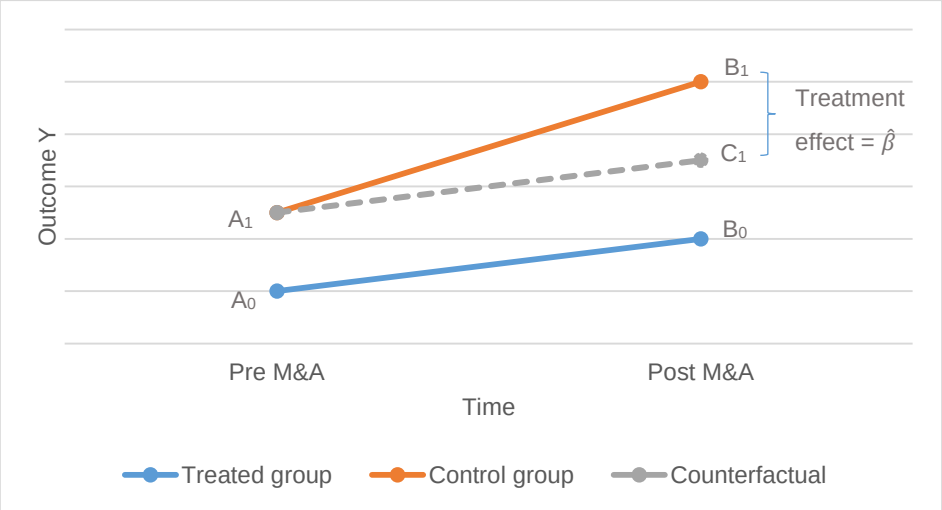
The outcome variable is denoted as Y_{it}, where *i* indicates each observed unit and *t* indicates the time period. $t \in \{Pre, Post\}$ represents the 3-years average outcome before the acquisition ("Pre") or following the acquisition ("$Post$"). The coefficient α_i captures all the specific characteristics of companies over time. λ_t indicates the full set of time effects of the model. $F_{it} \in \{0, 1\}$ is a dummy variable equal to 1 if unit *i* belongs to the treated group, 0 if it belongs to the control group. ε_{it} represents company-specific errors.

Assuming that $[\mathrm{E}(\varepsilon_{it}|i,t)] = 0$, the DID estimator is equal to

$$[\mathrm{E}(\mathrm{Y_{1iPost}}) - \mathrm{E}(\mathrm{Y_{1iPre}})] - [\mathrm{E}(\mathrm{Y_{0iPost}}) - \mathrm{E}(\mathrm{Y_{0iPre}})] =$$
$$[\lambda_{\mathrm{Post}} - \lambda_{\mathrm{Pre}} + \beta] - [\lambda_{\mathrm{Post}} - \lambda_{\mathrm{Pre}}] = \beta \qquad (2)$$

$\hat{\beta}$ represents the effect of the new foreign ownership on the target companies' outcomes of interest, taking into account pre-existing differences between treated and control groups and general time trend.

Figure 18 Graphical representation of the Difference-in-Difference estimator



Source: Personal elaboration of the author

The key assumption for any DID strategy is that the outcome in treatment and control group would follow the same time trend in the absence of the treatment. This fundamental assumption is commonly known as "common trend" (or "paraller path"). Only if the common trend assumption holds, we can safely state that the average change in the comparison group represents the counterfactual change in the treated group if there were no treatment[13].

Basically, the assumption underlying DID estimation is that, in the absence of the treatment, individual *i*'s outcome at time t is given by

$$E[Y_{0it}] = \alpha_i + \lambda_t \qquad (3)$$

which means that outcomes depend additively on two effects, a common trend and a company fixed effect. This previous formula contains two implicit identifying assumptions. First, the selection bias relates to fixed characteristics of individuals (α_i) and it is independent of time, meaning that the magnitude of the selection bias term does not change over time. Second, that

[13] *Note that the common trend assumption does not mean that the there is no trend in the outcome variable during the pre-treatment era (just the same trend across groups) and it does not require that the level of the outcome variable for the two groups be same in the pre-treatment period.*

the time trend (λ_t) is the same for the treated and the control group. These two conditions are necessary for identification in difference-in-difference estimation and constitute the common trend assumption. The following equality formally summarizes it:

$$\mathrm{E}[(\mathrm{Y_{0Post}} - \mathrm{Y_{0Pre}})|\mathrm{F} = 1] = \mathrm{E}[(\mathrm{Y_{0Post}} - \mathrm{Y_{0Pre}})|\mathrm{F} = 0] \quad (4)$$

The issue concerning the common trend assumption is that is it difficult to verify. Usually, pre-treatment data are compared to show that trends are the same, but even if pre-trends coincide, one still has to worry about other policies changing the same time. Moreover, in our specific case, the pre-treatment period is limited to 3 years, which does not allow us to empirically verify the assumption in the long-run. Figure 17, 18 and 19 in Appendix II illustrate the treated and control groups trends in outcome variables, sales, ROA and EBITDA margin. Although we cannot empirically support the parallel trend assumption for a long period due to a lack of balance sheet data before the acquisition (i.e. we do not have data prior to 2008), we verified the assumption for each outcome of interest since 2008 to 2011. For all three outcome variables the common trend assumption is verified from 2010 to 2011. The trend of treated and control groups is parallel for the whole period 2008-2011 for sales, while it is similar but not exactly parallel for ROA and EBITDA margin. However, trends are similar enough to confidently support the parallel trend assumption and are more similar than in case of the original unmatched groups.

In order to determine the difference-in-difference estimator β, we use a regression model in first-difference. Plugging in t=Pre, Post in equation (1), we get that the outcome variable of interest before and after the treatment is defined as

$$Y_{iPost} = \alpha_i + \lambda_{Post} + \beta F_{iPost} + \varepsilon_{iPost} \quad (5)$$

$$Y_{iPre} = \alpha_i + \lambda_{Pre} + \varepsilon_{iPre} \quad (6)$$

The DID estimator can be obtained from the regression in first-difference starting from the two precedent equations:

$$\Delta Y_i = \lambda' + \beta F_{iPost} + \Delta\varepsilon_i \quad (7)$$

where ΔY_i is the difference in the outcome of interests Y_i;

β is the coefficient of interests which measures the treatment effect;

λ' is the difference between λ_{Post} and λ_{Pre}which captures the time effect of the model.

Using the statistical software Stata, we estimate Equation 7 including the *cem_weights*[14] variables generated by the CEM algorithm. The resulting $\hat{\beta}$ will represent the effect of foreign acquisition on each outcome of interest, isolated from any selection bias. We did not include any covariate ΔX_{it} in the regression to control for the remaining imbalance, since we do not have any time-varying that is not influenced by the treatment. Nevertheless, we already accounted for the most important covariates through the matching procedure.

Equation 7 allows us to determine the effect of foreign acquisitions on sales, ROA and EBITDA margin for the whole treated group. We also performed some additional analysis on sub-groups. We were thus able to examine the differences between Family or Non-Family businesses, macro-industry (manufacturing vs services), size (SME vs large companies), type of acquirer (industrial vs financial), acquirer's region (European vs Non-European) and organizational change (CEO change vs non-CEO change). To test for these differences we adapted Equation 7 adding an interaction term, as illustrated in the following paragraphs.

4.2.2 Coarsened Exact Matching

As previously pointed out, applying a difference-in-difference estimator simply comparing treated and control groups' average effects as they are would likely result in a biased estimate. The average effect would be assigned entirely to the treatment, without taking into consideration pre-acquisition differences between acquired and non-acquired companies. To overcome the problem of sample selection bias, we first apply Coarsened Exact Matching to eliminate observable differences between the two subgroups.

The goal of matching is, for every treated unit, to find one (or more) non-treated unit(s) with similar observable characteristics against whom the effect of the treatment can be assessed. By matching treated units to similar non-treated units, matching enables to estimate the effect of

[14] *The CEM procedure adds three new variables to the original dataset every time the CEM command runs. The new variables are*

- *cem_strata: The stratum to which each case was assigned by CEM.*
- *cem_matched: Indicates whether or not this observation was matched. This variable is coded 0 (not matched) and 1 (matched).*
- *cem_weights: Provides weights for each case based on the most recent matching solution. The weight is specific to stratum to which the case has been assigned and representative of the proportion of all members present in the stratum. Unmatched cases have a weight of 0.*

the treatment reducing bias due to confounding so that the remaining observations have better balance between the treated and the control groups. To do so, matching techniques compare the distribution of covariates (X_{it-1}) between treated and control units. In general terms, covariates are characteristics of units subjected to a treatment, which may affect the outcome of the experiment. Having a better balance between the treated and control groups means that the empirical distribution of the covariates in the two groups are more similar.

Many matching methods exist. They differ in how they define the "similarity" between treated and control units. On one extreme, exact matching matches a treated unit to all the control units with the same covariates value. The result is a perfectly balanced, but often small, data sample. In fact, because of the richness of covariates, the method often produces very few matches. To overcome this shortcoming, many approximate methods have been developed. Approximate matching methods specify a metric to find control units that are close to treated units. This metric is often the Mahalanobis distance or the propensity score, which measures the probability of being treated, conditional on the covariates. A problem with this type of solutions is that they are very time consuming; they require the user to set the size of the matching solution ex ante, and then check for balance ex post. Thus analysts must check for balance after the algorithm is finished, then re-specify a matching model and recheck balance, etc. This process repeats until the user obtains an acceptable amount of balance. Despite that, propensity score matching is very diffused.

CEM is a relatively new procedure elaborated by Iacus, King and Porro (2009) which is designed to reduce imbalance and improve casual inference. CEM is part of a general class of methods termed "monotonic imbalance bounding" (MIB), which has beneficial statistical properties as compared to prior "equal percent bias reducing" (EPRB) models of which propensity score matching and Mahalanobis distance are examples. In MIB methods, the balance between the treated and the control group is chosen ex ante by the user rather than being discovered after the algorithm has finished through the laborious process of checking and readjusting the matching several times.

The central motivation for CEM is that while exact matching provides perfect balance, it typically produces few matches. To overcome this issue, CEM temporality coarsen each variable into substantively meaningful groups, perform exact match on these coarsened data, and then retain only the original (uncoarsened) values for matched data to perform additional analyses.

Formally, the CEM algorithm works as follow (Blackwell, Iacus, King & Porro, 2009):

1. Begin with the covariates X_{it-1} and make a copy, which we denote as X^*_{it-1}
2. Coarsen X^*_{it-1} according to user-defined cut points or CEM's automatic binning algorithm.
3. Create one stratum per unique observation of X^*_{it-1}, and place each observation in a stratum.
4. Assign these strata to the original data, X_{it-1}, and drop any observation whose stratum does not contain at least one treated and one control unit.

Once completed, these strata are the foundations for calculating the treatment effect.

As highlighted in point 2, the user may rely on CEM's automatic binning algorithm or define data customized cut points to coarsen each covariate. More coarsening (larger bins) will result in fewer strata, which means that more diverse observations are grouped together within the same strata. The number of matched units will be greater, but treated-control groups imbalance will be higher as well. The lower the number of bins, the more CEM gets closer to exact matching, which results in low imbalance but also in a more reduced data set to calculate the treatment effect. It is important to notice that CEM prunes both treated and control units to build a matched dataset with balanced distribution, meaning lower confounding and selection bias.

Iacus, King and Porro (2012) show that CEM possesses a wide range of statistical properties not available in most other matching methods, but it is at the same time exceptionally easy to comprehend and use. By choosing the coarsening ex ante, users can control the amount of imbalance in the matching solution, before running the effective matching command. This means that it does not require a separate step prior to matching, where data are restricted to the region of common empirical support of the treated and control units. The CEM command automatically identifies the region of common empirical support and perform matching in one unique command. CEM dominates commonly used existing matching methods (e.g. propensity score and Mahalanobis matching) in its ability to reduce imbalance, model dependence, estimation error, bias, variance, mean square error, and other criteria.

In our case, the purpose of matching is to pair each foreign acquired company with a remained-domestic one, in such a way that the domestic company's sales, ROA and EBITDA margin dynamics can be studied to generate the counterfactual for the foreign owned units. To do so, the first step is the choice of the covariates to match treated and control groups. Such choice is affected by the empirical literature and by the user's knowledge on the factors that may affect the outcome of interest. Second, a reasonable coarsening for each covariate X_{it-1} should be

selected. The CEM command can work as an automated binning algorithm which automatically selects a coarsening for each variable. However, a customized coarsening is often advisable. In general, we want to set the coarsening for each variable such that substantively indistinguishable values are grouped and assigned the same numerical value. Groups may be of different sizes if appropriate. To efficiently determine the cut points for coarsening, the user should rely on its knowledge of data, of the measurement scale of each variable and the empirical distribution of it. The CEM command provides difference matching according to the coarsened selected, and even a decimal point may have a considerable impact on results. Of course, the more coarsening we allow, the more matched units we will have, but also higher imbalance.

4.2.3 Basic evaluation and analysis of unmatched data

To introduce our analysis, we first present DID estimation of unmatched data to show what happens in case treated and control units covariates' distributions are not balanced.

Our unmatched data sample it made by 152 treated units and 238.261 control units. A dummy F_{it} signals whether unit i belongs to the treated or to the control group. The (unadjusted and therefore likely biased) DID can be found by a simple linear regression of ΔY_i on the treatment. Tables 32, 33 and 34 show Stata's outputs for the three dependent variables, sales, ROA and EBITDA margin. Foreign ownership has a non-significant effect on all three outcomes of interest. The effect on sales (Table 32) is positive and non-significant (B=1950.96; t=0.88; p>0.1). The effect on ROA (Table 33) is positive and non-significant (B=0.0269; t= 0.95; p>0.1). The effect on EBITDA margin (Table 34) is positive and non-significant (B=0.0283; t= 0.05; p>0.1).

Table 32 DID estimation on unmatched data through a regression model: output variable Sales

```
. reg dsales treated, robust

Linear regression                               Number of obs     =    238,413
                                                F(1, 238411)      =       0.78
                                                Prob > F          =     0.3780
                                                R-squared         =     0.0000
                                                Root MSE          =      20377

------------------------------------------------------------------------------
             |               Robust
      dsales |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     treated |   1950.962   2212.975     0.88   0.378    -2386.41    6288.335
       _cons |   413.9814   41.73617     9.92   0.000     332.1796    495.7832
------------------------------------------------------------------------------
```

Table 33 DID estimation on unmatched data through a regression model: output variable ROA

```
. reg droa treated, robust

Linear regression                               Number of obs     =    238,395
                                                F(1, 238393)      =       0.89
                                                Prob > F          =     0.3442
                                                R-squared         =     0.0000
                                                Root MSE          =     2.9625

------------------------------------------------------------------------------
             |               Robust
        droa |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     treated |   .0268753   .0284131     0.95   0.344    -.0288136    .0825642
       _cons |  -.0018471   .0060713    -0.30   0.761    -.0137467    .0100525
------------------------------------------------------------------------------
```

Table 34 DID estimation on unmatched data through a regression model: output variable EBITDA margin

```
. reg debitdam treated, robust

Linear regression                               Number of obs     =    221,098
                                                F(1, 221096)      =       0.00
                                                Prob > F          =     0.9633
                                                R-squared         =     0.0000
                                                Root MSE          =     257.47

------------------------------------------------------------------------------
             |               Robust
    debitdam |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     treated |   .0283076   .6152636     0.05   0.963    -1.177593    1.234209
       _cons |   .0803537   .5479437     0.15   0.883    -.9936021    1.154309
------------------------------------------------------------------------------
```

However, because the treatment was not randomly assigned, the pre-treatment covariates differ between the treated and control group. Without matching, the two distributions remain highly imbalanced. To see this, we compute the $\mathcal{L}_1$ statistic, introduced by Iacus, King and Porro (2012) as a comprehensive measure of global imbalance. It is based on the L_1 difference between the multidimensional histogram of all pre-treatment covariates in the treated group and the same in the control group. $\mathcal{L}_1$ varies between 0 and 1; $\mathcal{L}_1 = 0$ indicates perfect global balance, while $\mathcal{L}_1 = 1$ indicates complete separation between the two distributions. The goodness of a matching solution can be valued on $\mathcal{L}_1$ reduction. Indeed, unmatched results do also serve to valuate improvements in covariates' balance. The $\mathcal{L}_1$statistic measure of unmatched data acts as a reference point for all following matching. To compute it, we use the imbalance command in Stata:

```
. imb mean_sales_pre mean_roa_pre mean_ebitdam_pre maeffectivedateyear ateco073digit, treatment(treated)

Multivariate L1 distance: .9649326

Univariate imbalance:

                         L1        mean         min         25%         50%         75%         max
     mean_sales_pre    .57967       36528        25.1      3199.6       15881       44362   -2.0e+07
       mean_roa_pre    .26546    -.04141       67.97      -.0226    -.00231      .01476     -14.879
   mean_ebitdam_pre      .002      -1.924     1.1e+05    -.00302      .00869      .00027   -5.5e+05
maeffectivedateyear    .12364       .22204           0           0           1           1           0
      ateco073digit    .39027      -79.463           0         -24        -157         -61           0
```

Where *mean_sales_pre* indicates average sales from t-3 to t-1, *mean_roa_pre* is average ROA from t-3 to t-1, *mean_ebitdam_pre* is the average EBITDA margin from t-3 to t-1, *ateco073digit* is the 3-digit ATECO 2007 code and *maeeffectivedateyear* stands for the acquisition year (for the treated units) and the availability of balance sheet data for the analysis (for control units).

The $\mathcal{L}_1$ statistic of 0.9649 indicates that there is an extremely high-level imbalance between the two groups, with $\mathcal{L}_1$ really close to 1 which stands for complete separation. As pointed out, this 0.9649 is not valuable on its own, but as reference point for any matching procedure. In fact, the CEM commands provides a table similar to the above one, which indicates the level of imbalance of matched units given the chosen coarsening. Once we have a matching solution, we will compare its $\mathcal{L}_1$ value to 0.9649 and gauge the increase in balance due to the CEM solution from that difference.

The first column in the output table that is labelled L1 is the $\mathcal{L}_1$ statistic for each one of the variables (not including interactions). The second column in the table labelled "mean," reports the difference in means between treated and untreated units. The remaining columns in the table report the difference in the quantiles of the distributions of the two groups for the 0th (min), 25th, 50th, 75th, and 100th (max) percentiles for each variable (Blackwell et al., 2009). These values are useful to determine in which part of the distribution variables are unbalanced. For example, *mean_sales_pre* is imbalanced in the raw data in many ways. This points out that balancing only the means between the treated and the control groups does not necessarily guarantee balance in the rest of the distribution. Most important, of course, is the overall $\mathcal{L}_1$ measure, because even if the marginal distribution of every variable is perfectly balanced, the joint distribution can still be highly imbalanced (Blackwell et al., 2009).

4.2.4 Matched data

Given the reference point of unmatched results and imbalance, we applied Coarsened Exact Matching several times and analysed the goodness of each matching solution. Covariates used for matching are both continuous and dichotomous, namely[15]:

- *ateco073digit* is the 3-digit ATECO 2007 code, to match treated and control units operating in the same sector and control for industry-related factors;
- *mean_sales_pre*: average 3-years pre-acquisition sales, to control for size related factors;
- *mean_roa_pre* and *mean_ebitdam_pre*: average 3-years pre-acquisition ROA and EBITDA margin, to control for financial performance and profitability;
- *maeffectivedateyear*: M&A year for treated units and the year signalling the availability of financial statements for control units, to match same time period data.

Each covariate's coarsening has been designed according to our knowledge of data and the variable's empirical distribution. The goal is to maximize the number of matched units to preserve dataset information, while minimizing the value of the $\mathcal{L}_1$ statistic. Variables *ateco073digit* and *maeffectivedateyear* are not coarsened to impose exact matching on these two dimensions. In this way, treated units are matched only with control units operating in the same industry and with same period data (meaning that companies acquired in time *t* are matched with control units that have data from *t-3* to *t+3*). Sales are coarsened based on ISTAT classification in micro-firms (sales<€ 2 million), small firms (sales< €10million), medium firms (€10million <sales< €50million) and large companies (sales> €50million). ROA and EBITDA margin are coarsened based on their distribution between the two groups (e.g. looking at their percentiles) and trying to preserve relevant information, for example imposing 0 as cut points so that companies with positive (negative) values are not matched with companies with negative (positive) values.

```
. cem mae(#0) ateco073(#0) mean_roa_pre(-5 0 0.03 0.1 0.3) mean_ebitdam_pre (-60 -2 0 0.04 0.08 0.18 0.5 4)
>   mean_sales_pre(0 2000 10000 50000), treatment(treated) k2k
```

[15] *Sales, ROA and EBITDA margin are both outcome variables and covariates. The average of the 3-years pre-acquisition is used in the matching procedure as covariate, the average of the 3-years post-acquisitions is used in the DID regressions as outcome variable.*

Table 35 reports the matching summary. Out of 12785 combinations, only 124 have at least one treated company and one control company in it (i.e. matched strata). The $\mathcal{L}_1$ statistic is equal to 0.381, which shows a great improvement compared to the unmatched reference point (0.9649). This reduction in imbalance comes at the cost of a reduced dataset as 26 units in the treated sample have not been matched with any control unit.

Table 35 Matching summary (CEM)

```
Matching Summary:
-----------------
Number of strata: 12785
Number of matched strata: 124

                0       1
      All  238261     152
  Matched     126     126
Unmatched  238135      26


Multivariate L1 distance: .38095238

Univariate imbalance:

                       L1       mean        min        25%        50%        75%        max
            mae         0          0          0          0          0          0          0
        ateco073        0          0          0          0          0          0          0
    mean_roa_pre    .09524    -.04144    -3.0346    -.01236     .00305    -.00543    -.10259
mean_ebitdam_pre     .0873    -.03167    -1.0976    -.00031    -.00478     .01021          .
  mean_sales_pre    .04762    -7172.9          0      147.8     2367.7      13275   -2.1e+06
```

4.3 Empirical results: matched sample

Given the Coarsened Exact Matching presented in Table 35, we can now estimate the effect of foreign acquisition with a Difference-in-Difference approach, free of selection bias. We will first conduct an analysis of the three outcomes of interest, sales, ROA and EBITDA margin on the aggregate data. Further, we will disaggregate these effects by matched data sub-groups to dig into what factors drive the aggregate effect. In particular, we will separately investigate the effects of targets and acquirers' characteristics, the former being *macro-sector* (Manufacturing vs Service), *size* (SME vs Large companies) and *organizational change* (CEO change vs Not-CEO change), the latter being *acquirers origin* (European vs non-European; Latin Europe vs Other countries) and *type of acquirer* (Industrial vs Financial). Finally, Paragraph 4.6 will present our results on family businesses, by applying some of the just mentioned distinctions and verify when and how the effect of these factors change in presence of a family leading the business.

4.3.1 Sales

Academic literature results on foreign acquisitions' effect on target sales are mixed, but leaning to a positive effect. Bentivogli and Mirenda (2017), Buckley et al. (2014), Chen (2011), ICE and Prometeia (2014) and Liu et al. (2017) observe a positive effect on sales growth following the acquisition. Conversely, the opposite result is observed by Chari et al. (2009) and Feys and Manigart (2010). Chen (2011) finds no significant effects on sales.

Table 36 shows Stata' output of a first-difference regression analysis of sales on the treatment (where dsales[16] = Δsales). The model supports a positive effect of foreign ownership on sales (B=14144.11), however it is not statistically significant (t=1.19; p>0.1).

Table 36 DID estimation through a first-difference regression model: output variable Sales

```
.                reg dsales treated [iweight = cem_we], robust
(sum of wgt is 252)

Linear regression                               Number of obs     =        252
                                                F(1, 250)         =       1.41
                                                Prob > F          =     0.2355
                                                R-squared         =     0.0056
                                                Root MSE          =      94400

------------------------------------------------------------------------------
             |               Robust
      dsales |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     treated |   14144.11   11893.29     1.19   0.235    -9279.705    37567.93
       _cons |  -10773.82   11744.72    -0.92   0.360    -33905.03    12357.38
------------------------------------------------------------------------------
```

Our results do not confirm precedent studies conducted in Italy by Bentivogli and Mirenda (2017) and ICE and Prometeia (2014), who show that foreign ownership effect on sales is statistically significant, despite indicating different magnitude (Bentivogli and Mirenda register a 7% increase, while ICE and Prometeia a 2.8%). On the contrary, our results seem to suggest that foreign owners are not better than domestic owners in boosting company's growth. A possible explanation may be that foreign owners might be not interested in targets' sales potential, but in acquiring its know-how and capabilities. Or, new reporting and control structure imposed by the foreign owner result in higher bureaucracy, reducing flexibility and

[16] *The variables dsales, droa and debitdam presented in this and the following paragraphs are built as the difference between average outcome variables in the 3-years post acquisition and average outcome variable in the 3-years pre-acquisition.*

thereby scaling down sales (Feys & Manigart, 2010). Moreover, considering that Bentivogli and Mirenda (2017) find that the greatest effects in net sales emerge 3 years after the takeover, our 3-years time frame may be not sufficient to detect a significant positive effect in sales and an extended time horizon could be preferable.

4.3.2 ROA

Similarly to sales, we do not find a significant effect of foreign acquisitions on target companies Return on Assets. The first-difference regression analysis of ROA on the treatment shown in Table 37 (where droa = ΔROA) reveals that foreign ownership has a negative and non-significant effect on ROA (B= -0.0083; t= -0.21; p>0.1).

Table 37 DID estimation through a first-difference regression model: output variable ROA

```
. reg droa treated [iweight = cem_we], robust
(sum of wgt is 252)

Linear regression                               Number of obs     =        252
                                                F(1, 250)         =       0.05
                                                Prob > F          =     0.8314
                                                R-squared         =     0.0002
                                                Root MSE          =     .31076

------------------------------------------------------------------------------
             |               Robust
        droa |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     treated |  -.0083436    .039152    -0.21   0.831    -.0854534    .0687662
       _cons |   .0347433   .0208379     1.67   0.097     -.006297    .0757835
------------------------------------------------------------------------------
```

In this regard, literature results are mixed. Thanos and Papadakis (2012)'s review of studies using ROA as a measure of M&A performance indicate that acquisitions on average deteriorate financial performance. In Italy, Crinò and Onida (2008) find that companies owned by multinationals exhibit lower ROA. On the other side, Chang et al. (2013), Chari et al. (2009), Chen (2011), Feys and Manigart (2010) and Fukao et al. (2006) find a positive effect of foreign ownership on Return on Assets. However, it is worth noticing that Chari et al. (2009), Chen (2011) and Fukao et al. (2006) observe that ROA improvements manifest only from the third post-acquisition year on, while in the first years target companies experience a profitability decline. Such pattern is consistent with improvements in firm-efficiency and restructuring activities that generate beneficial effects just after the third year. Possible explanations for lower ROA could be MNEs' transfer of profits in more fiscally convenient locations,

higher international competition which forces to limit price margins, or lower incentives to reinvest earning to push growth due to large recourse of intra-firm loans (Crinò & Onida, 2008).

4.3.3 EBITDA Margin

EBITDA margin is not commonly used in the literature on foreign M&As effects on targets' performance. However, given its usefulness in comparing companies' operational performance, we included it as an outcome of interest. Crinò and Onida (2008) are the only ones using this ratio to compare the performance of foreign acquired companies with that of domestic companies. They find that both groups present a positive increase in EBITDA margin in the period considered, but MNEs controlled companies underperform domestic ones. Bertrand and Zitouna (2008) analyse French foreign-acquired companies and do not find a significant effect on EBITDA, which means that foreign owners do not significantly increase profits.

In order to analyse the effect of foreign-acquisition on EBITDA margin, we performed a first-difference regression analysis (Table 38). The relationship is negative and statistically significant at a 95% confidence interval ($B= -0.2222$; $t= -2.31$; $p<0.05$). This result lead us to conclude that the entry of a foreign owner determines a deterioration in the acquired company profitability, confirming the negative (despite non-significant) effect of ROA mentioned above (Table 37). This negative outcome might be the result of inefficiencies linked to the integration between the acquirer and target processes, which is further complicated by the fact the two companies have different cultural backgrounds. Moreover, as hypothesized for ROA, improvements in firm efficiency and restructuring activities may take time to manifest their expected positive outcomes. To a certain extent, some short-term operational losses may be physiological and unavoidable. More than in the other cases, an extension of the analysed time period could be valuable to understand whether this deterioration is temporary or it is a signal of steady operational inefficiency. Moreover, we should not forget that EBITDA margin has some limitations; for example, it ignores changes in working capital, which is usually needed in growing a business and it does not take into account capital expenditures to replace assets on the balance sheet.

Table 38 DID estimation through a first-difference regression model: output variable EBITDA margin

```
. reg debitdam treated [iweight = cem_we], robust
(sum of wgt is 250)

Linear regression                               Number of obs     =        250
                                                F(1, 248)         =       5.34
                                                Prob > F          =     0.0216
                                                R-squared         =     0.0209
                                                Root MSE          =       .763

------------------------------------------------------------------------------
             |               Robust
    debitdam |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     treated |  -.2221868   .0961361    -2.31   0.022    -.4115341   -.0328395
       _cons |   .0652236   .0487158     1.34   0.182    -.0307258     .161173
------------------------------------------------------------------------------
```

4.4 Empirical results based on acquirers' characteristics

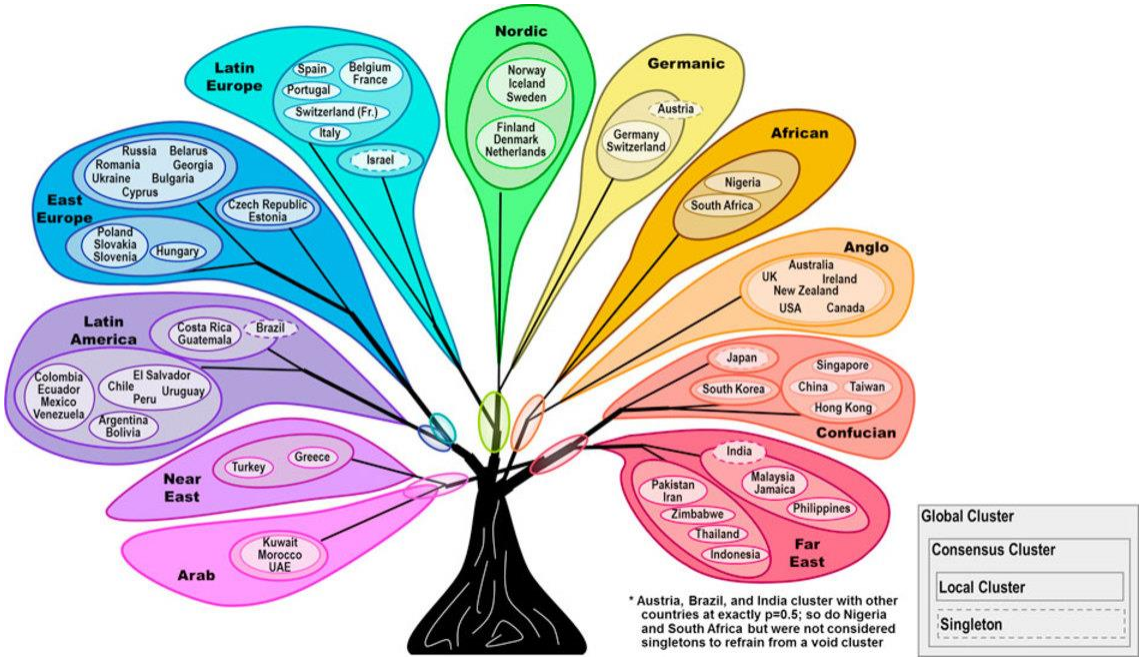
4.4.1 Acquirers' region of origin

Hypothesis 1 (Paragraph 3.2) proposes that cultural distance is negatively associated with post-acquisition performance. To test this hypothesis, we include in Equation 7 a new variable representing acquirer's origin.

In order to control for cultural distance, we apply Ronen and Shenkar (2013)'s cluster map (Figure 19). Their model is based on the concept of *frictions*, which denote the difficulties in interaction between people and organizations belonging to different cultures. In particular, based on countries' similarities in language, religion and geography, they empirically derive a clusterization of 70 analysed national cultures into 11 clusters. Their contribution has been particularly valuable in the internationalization theory, as it suggests that companies belonging to the same cultural cluster should face lower difficulties in interaction.

We also performed a second analysis based on the pure concept of geographic distance, distinguishing between European and non-European acquirers. Despite not answering to our hypothesis on cultural distance, this distinction can still be valuable as it takes into consideration the lower regulatory and trade obstacles European acquirers have.

Figure 19 Ronen and Shenkar's cluster map



Source: Ronen, S, & Shenkar, O., 2013

4.4.1.1 Acquirers based in Latin Europe vs other countries

According to Ronen and Shenkar (2013)'s model, Italy is located in the Latin Europe cluster which includes France, Italy, Spain, Portugal, Switzerland (French-speaking) and Israel. Given LE_i equal to 1 if the acquirer is based in Latin Europe and equal to 0 if the acquirer is not based in Latin Europe, the equation used to estimate the effect of foreign M&As on the outcome of interest is

$$\Delta Y_i = \lambda' + \beta F_{iPost} + \delta(F_{iPost} \times LE_i) + \Delta\varepsilon_i \qquad (9)$$

Out of 126 matched treated companies, 24 have been acquired by Latin-European companies and 102 by firms located in other countries.

We performed a first-difference regression analysis on sales to investigate the effect of foreign ownership according to acquirers' provenience from Latin Europe[17] countries or not (Table 39). The model shows a non-significant effect on sales (p-value=0.3220>0.1). In both cases, the effect is positive (respectively B=18148.85 and B=13201.82) and non-significant (p>0.1).

[17] *Note: the command "lincom" that we use in this paragraph and in the following ones test hypotheses on linear combination of regression coefficients. With interactions effects, it is necessary to construct hypotheses tests and confidence intervals on linear combinations of regression coefficients. In this specific case, the estimated effect of foreign acquisition by a European acquirer is given by the combination of* β *and* δ.

Table 40 shows the regression analysis indicated in Equation 9 on ROA. Overall, the model (p-value>0.1) does not show a statistically significant relationship between the dependent and the independent variables. However, when the acquirer comes from a Latin Europe country, the effect of foreign ownership is negative and significant (B=-0.0655; t=-1.78; p<0.1). On the contrary, the effect is positive but non-significant for companies acquired by non-Latin Europe MNEs (B=0.0051; t=0.11; p>0.1).

Table 41 shows Stata's output of a first-difference regression analysis on EBITDA margin. The model's p-value (0.0518) is lower than 0.1 and indicates a significant effect of the independent variables in explaining EBITDA margin. Latin-Europe acquirers exhibit a negative (B= -0.1788) and significant effect at a 90% confidence interval (t=-1.67; p<0.1) on EBITDA margin. Non-Latin Europe acquirers show a negative (B= -0.2324) and significant effect at a 95% confidence interval (t=-2.09; p<0.05).

Table 39 DID estimation through a first-difference regression model: output variable Sales (Latin European vs Other Acquirers)

```
. reg dsales treated treat_lat_eu [iweight = cem_we], robust
(sum of wgt is 252)

Linear regression                               Number of obs     =        252
                                                F(2, 249)         =       1.14
                                                Prob > F          =     0.3220
                                                R-squared         =     0.0058
                                                Root MSE          =      94579

------------------------------------------------------------------------------
             |               Robust
      dsales |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     treated |   13201.82   11939.74     1.11   0.270    -10313.94    36717.58
treat_lat_eu |   4947.029   5195.366     0.95   0.342    -5285.436    15179.49
       _cons |  -10773.82   11768.28    -0.92   0.361    -33951.88    12404.23
------------------------------------------------------------------------------

. lincom treated+treat_lat_eu

 ( 1)  treated + treat_lat_eu = 0

------------------------------------------------------------------------------
      dsales |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         (1) |   18148.85   12705.09     1.43   0.154    -6874.286    43171.98
------------------------------------------------------------------------------
```

Table 40 DID estimation through a first-difference regression model: output variable ROA (Latin European vs Other Acquirers)

```
. reg droa treated treat_lat_eu [iweight = cem_we], robust
(sum of wgt is 252)

Linear regression                               Number of obs     =        252
                                                F(2, 249)         =       1.77
                                                Prob > F          =     0.1729
                                                R-squared         =     0.0042
                                                Root MSE          =     .31076

------------------------------------------------------------------------------
             |               Robust
        droa |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     treated |    .005099   .0453784     0.11   0.911    -.0842754    .0944733
treat_lat_eu |  -.0705734    .050369    -1.40   0.162     -.169777    .0286302
       _cons |   .0347433   .0208797     1.66   0.097    -.0063801    .0758666
------------------------------------------------------------------------------

. lincom treated+treat_lat_eu

 ( 1)  treated + treat_lat_eu = 0

------------------------------------------------------------------------------
        droa |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         (1) |  -.0654744   .0367392    -1.78   0.076    -.1378335    .0068847
------------------------------------------------------------------------------
```

Table 41 DID estimation through a first-difference regression model: output variable EBITDA Margin (Latin European vs Other Acquirers)

```
. reg debitdam treated treat_lat_eu [iweight = cem_we], robust
(sum of wgt is 250)

Linear regression                               Number of obs     =        250
                                                F(2, 247)         =       3.00
                                                Prob > F          =     0.0518
                                                R-squared         =     0.0213
                                                Root MSE          =     .76439

------------------------------------------------------------------------------
             |               Robust
    debitdam |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     treated |  -.2323841   .1113506    -2.09   0.038    -.4517019   -.0130664
treat_lat_eu |    .053536   .1381782     0.39   0.699    -.2186218    .3256939
       _cons |   .0652236   .0488143     1.34   0.183    -.0309217     .161369
------------------------------------------------------------------------------

. lincom treated+treat_lat_eu

 ( 1)  treated + treat_lat_eu = 0

------------------------------------------------------------------------------
    debitdam |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         (1) |  -.1788481   .1070511    -1.67   0.096    -.3896974    .0320013
------------------------------------------------------------------------------
```

4.4.1.2 European vs non-European acquirers

Out of 126 matched treated companies, 78 have been acquired by European companies and 48 by non-European companies. Among the latter, United States acquirers are prevailing.

Given EU_i equal to 1 if the acquirer is European and equal to 0 if the acquirer is non-European, the equation used to estimate the effect of the foreign M&A on the outcome of interests is:

$$\Delta Y_i = \lambda' + \beta F_{iPost} + \delta(F_{iPost} \times EU_i) + \Delta\varepsilon_i \quad (8)$$

Table 42 shows the results of a first-difference regression analysis to investigate the relationship between foreign ownership and sales, distinguishing between European and non-European acquirers. The effect on sales is positive but non-significant for both subgroups. Foreign ownership by a European investor has a positive but non-significant effect (B=12800.4; t=1.06; p>0.1). Foreign ownership by a non-European investor has a positive but non-significant effect as well (B=16327.64; t=1.35; p>0.1).

Table 42 DID estimation through a first-difference regression model: output variable Sales (European vs non-European Acquirers)

```
. reg dsales treated treat_eu [iweight = cem_we], robust
(sum of wgt is 252)

Linear regression                               Number of obs     =        252
                                                F(2, 249)         =       1.16
                                                Prob > F          =     0.3148
                                                R-squared         =     0.0058
                                                Root MSE          =      94582

------------------------------------------------------------------------------
             |               Robust
      dsales |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     treated |   16327.64   12106.57     1.35   0.179    -7516.708    40171.98
    treat_eu |  -3527.233   3762.671    -0.94   0.349    -10937.95    3883.487
       _cons |  -10773.82   11768.28    -0.92   0.361    -33951.88    12404.23
------------------------------------------------------------------------------

. lincom treated+treat_eu

 ( 1)  treated + treat_eu = 0

------------------------------------------------------------------------------
      dsales |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         (1) |    12800.4   12023.86     1.06   0.288    -10881.04    36481.85
------------------------------------------------------------------------------
```

We also performed a first-difference regression analysis to investigate the effect of foreign ownership on ROA, distinguishing between European and non-European acquirers (Table 43). The model has a p-value lower than 0.05 and shows a negative and statistically significant

relationship between foreign ownership by non-European acquirer and ROA (B= -0.0676; t= -2.58; p=0.01). On the contrary, foreign ownership by a European investor does not exhibit a significant effect on sales (B=0.0281; t=0.5; p>0.1).

Table 44 shows Stata's output for a first-difference regression analysis of EBITDA margin on the treatment, when the acquirer is European or not. Differently to ROA, in this case it is foreign ownership by a European acquirer that shows a negative and significant effect (B=-0.2569; t=-2.1; p<0.05). Foreign ownership by non-European acquirer does not show a statistically significant effect on EBITDA margin (B=-0.1657; t=-1.28; p>0.1).

Table 43 DID estimation through a first-difference regression model: output variable ROA (European vs non-European Acquirers)

```
. reg droa treated treat_eu [iweight = cem_we], robust
(sum of wgt is 252)

Linear regression                               Number of obs     =        252
                                                F(2, 249)         =       4.20
                                                Prob > F          =     0.0160
                                                R-squared         =     0.0115
                                                Root MSE          =     .30962

------------------------------------------------------------------------------
             |               Robust
        droa |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     treated |  -.0676174   .0261929    -2.58   0.010    -.1192053   -.0160295
    treat_eu |     .09575   .0546673     1.75   0.081    -.0119192    .2034192
       _cons |   .0347433   .0208797     1.66   0.097    -.0063801    .0758666
------------------------------------------------------------------------------

. lincom treated+treat_eu

 ( 1)  treated + treat_eu = 0

------------------------------------------------------------------------------
        droa |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         (1) |   .0281326   .0563415     0.50   0.618    -.0828341    .1390993
------------------------------------------------------------------------------
```

Table 44 DID estimation through a first-difference regression model: output variable EBITDA margin (European vs non-European Acquirers)

```
. reg debitdam treated treat_eu [iweight = cem_we], robust
(sum of wgt is 250)

Linear regression                               Number of obs     =        250
                                                F(2, 247)         =       2.69
                                                Prob > F          =     0.0700
                                                R-squared         =     0.0226
                                                Root MSE          =     .76389

------------------------------------------------------------------------------
             |               Robust
    debitdam |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     treated |  -.1657542   .1291346    -1.28   0.200    -.4200995    .0885912
    treat_eu |  -.0911604   .1638167    -0.56   0.578    -.4138162    .2314955
       _cons |   .0652236   .0488143     1.34   0.183    -.0309217     .161369
------------------------------------------------------------------------------

. lincom treated+treat_eu

 ( 1)  treated + treat_eu = 0

------------------------------------------------------------------------------
    debitdam |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         (1) |  -.2569145   .1221714    -2.10   0.036    -.4975451    -.016284
------------------------------------------------------------------------------
```

4.4.2 Type of acquirers: industrial vs financial acquirers

A further differentiation on acquirers' characteristics regards acquirers' core business. We distinguish between *industrial acquirers* (e.g. suppliers, customers, competitors, playing in related or unrelated industries) and *financial acquirers* (e.g. private equity, venture capitalists, hedge funds, etc.). The distinction may be particularly relevant given the different focus these two type of players have and their decision-making drivers. Industrial buyers typically engage in M&As to extract value from synergies. Their goal is to find compatible companies which can synergistically integrate in their business (in terms of know-how, capabilities, technologies, product offering, etc.) to improve their P&L performance. On the contrary, financial buyers are in the business of making investments; they will not integrate the target company in their corporate structure, they are interested just in its growth opportunity and cash generating ability to enhance its value and earn from its future sale in a 5 to 10-years period. Therefore, their approach toward the acquisition and following management policies are extremely different.

Out of our 126 matched companies, only 11 have been acquired by financial buyers, whereas 115 have been targeted by industrial acquirers. This large disproportion in our matched dataset reflects the wider tendency in the Italian Private Equity and Venture Capital market in the period of analysis. According to AIFI (*Associazione Italiana del Private Equity, del Venture*

Capital e Private Debt), in 2011, 2012, 2013 and 2014 foreign capital was 21%, 11%, 26% and 44% of total capital raised, respectively. The increment in 2014 marked a raise in foreign investments in Italy in the following years, which represented 35% of total raised capital on average in the period 2015-2018. Consequently, our dataset is affected by the scarcity of data in the period of analysis (AIFI, 2018).

Equation 10 provides our first-difference model. Let IA_i be a dummy variable equal to 1 if the target has been acquired by an industrial buyer and equal to 0 if it has been acquired by a financial buyer:

$$\Delta Y_i = \lambda' + \beta F_{iPost} + \delta(F_{iPost} \times IA_i) + \Delta\varepsilon_i \qquad (10)$$

We performed a first-difference regression analysis in Stata (Table 45) in order to analyse the relationship between foreign ownership and sales, distinguishing for industrial and financial acquirers. The result show that foreign ownership is not statistically significant for sales (p-value>0.1). Both type of acquirers are associated to a positive (B=14506.51 and B=10355.4, respectively) but non-significant effect on sales (t=1.21; p>0.1 and t=0.86; p>0.1, respectively). Table 46 shows the results of a first-difference regression analysis of ROA on the treatment for industrial and financial acquirer. The model's p-value=0.07 signals a statistically significant relationship between ROA and the independent variables. In particular, the effect is negative and significant for companies acquired by financial buyers (B=-0.1273; t=-2.24; p<0.05), while it is positive but non-significant for companies acquired by industrial buyers (B=0.0030; t=0.07; p>0.1).

Table 47 regards EBITDA margin first-difference regression. The model reveals a statistically significant relationship between EBITDA margin and the independent variables, foreign acquisition and type of acquirer. Specifically, the effect is negative and significant for both type of acquirers (B= -0.1525 for industrial buyers, B= -0.9502 for financial buyers). Companies acquired by industrial buyers show a negative effect significant at a 90% confidence interval (t= -1.67; p>0.1), while the effect for companies acquired by financial buyers does show an even stronger significance at a 95% confidence interval (t= -2.11; p<0.05).

Table 45 DID estimation through a first-difference regression model: output variable Sales (industrial vs financial acquirers)

```
. reg dsales treated treat_ia [iweight = cem_we], robust
(sum of wgt is 252)

Linear regression                               Number of obs     =        252
                                                F(2, 249)         =       1.45
                                                Prob > F          =     0.2372
                                                R-squared         =     0.0057
                                                Root MSE          =      94586

------------------------------------------------------------------------------
             |               Robust
      dsales |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     treated |    10355.4   12009.87     0.86   0.389    -13298.47    34009.27
    treat_ia |   4151.108   3148.258     1.32   0.189    -2049.502    10351.72
       _cons |  -10773.82   11768.28    -0.92   0.361    -33951.88    12404.23
------------------------------------------------------------------------------

. lincom treated+treat_ia

 ( 1)  treated + treat_ia = 0

------------------------------------------------------------------------------
      dsales |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         (1) |   14506.51   11944.01     1.21   0.226    -9017.663    38030.68
------------------------------------------------------------------------------
```

Table 46 DID estimation through a first-difference regression model: output variable ROA (industrial vs financial acquirers)

```
. reg droa treated treat_ia [iweight = cem_we], robust
(sum of wgt is 252)

Linear regression                               Number of obs     =        252
                                                F(2, 249)         =       2.64
                                                Prob > F          =     0.0732
                                                R-squared         =     0.0072
                                                Root MSE          =     .31028

------------------------------------------------------------------------------
             |               Robust
        droa |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     treated |  -.1272756   .0567157    -2.24   0.026    -.2389793    -.015572
    treat_ia |   .1303082   .0637684     2.04   0.042      .004714    .2559024
       _cons |   .0347433   .0208797     1.66   0.097    -.0063801    .0758666
------------------------------------------------------------------------------

. lincom treated+treat_ia

 ( 1)  treated + treat_ia = 0

------------------------------------------------------------------------------
        droa |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         (1) |   .0030325   .0414929     0.07   0.942    -.0786894    .0847544
------------------------------------------------------------------------------
```

Table 47 DID estimation through a first-difference regression model: output variable EBITDA margin (industrial vs financial acquirers)

```
. reg debitdam treated treat_ia [iweight = cem_we], robust
(sum of wgt is 250)

Linear regression                               Number of obs     =        250
                                                F(2, 247)         =       3.42
                                                Prob > F          =     0.0341
                                                R-squared         =     0.0642
                                                Root MSE          =     .74744

------------------------------------------------------------------------------
             |               Robust
    debitdam |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     treated |  -.9501873   .4508188    -2.11   0.036    -1.838127   -.0622479
    treat_ia |   .7976353   .4547608     1.75   0.081    -.0980683    1.693339
       _cons |   .0652236   .0488143     1.34   0.183    -.0309217     .161369
------------------------------------------------------------------------------

. lincom treated+treat_ia

 ( 1)  treated + treat_ia = 0

------------------------------------------------------------------------------
    debitdam |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         (1) |   -.152552    .091299    -1.67   0.096    -.3323757    .0272718
------------------------------------------------------------------------------
```

4.5 Empirical results based on acquired companies' characteristics

4.5.1 Target macro-industry: Manufacturing vs Service companies

Out of 126 matched companies, 72 belongs to the manufacturing sector and 54 to the service sectors. Let M_i be a dummy variable equal to 1 when the company operates in manufacturing and equal to 0 when the company operates in service sectors. Then, the model to determine the effect of foreign ownership, distinguishing for target macro-industry is

$$\Delta Y_i = \lambda' + \beta F_{iPost} + \delta(F_{iPost} \times M_i) + \Delta\varepsilon_i \qquad (11)$$

We performed a first-difference regression analysis to assess the effect of foreign ownership on sales, controlling for target industry. Results are shown in Table 48. The model does not present a statistically significant relationship between sales and the independent variables. Both acquired companies operating in the manufacturing sector (B=14449.13; t=1.19; p>0.1) and services (B=13737.42; t=1.15; p>0.1) show a non-significant positive effect on sales.

Table 49 reports the same regression analysis conducted on ROA as independent variable. The p-value of the model (0.3857) indicates its low quality and non-significant effect on ROA.

However, the two subgroups present opposite effects. Companies operating in the manufacturing industry report a negative and non-significant effect on ROA (B= -0.0341; t= -1.24; p>0.1), while companies in the service sector report a positive and non-significant effect (B= 0.0261; t=0.34; p>0.1).

Table 50 shows the Stata's output of a first-difference regression analysis on EBITDA margin. The p-value of the model (0.0707) reveals a significant effect of the independent variables on EBITDA margin. In particular, when the target operates in the manufacturing industry, foreign ownership has a negative and significant effect (B= -0.2563; t=-2.02; p<0.05). On the contrary, when it operates in the service industry, the effect is negative but non-significant (B=-0.1766; t=-1.42; p>0.158).

Table 48 DID estimation through a first-difference regression model: output variable Sales (Manufacturing vs Services)

```
. reg dsales treated treat_manufacturing [iweight = cem_we], robust
(sum of wgt is 252)

Linear regression                               Number of obs     =        252
                                                F(2, 249)         =       0.71
                                                Prob > F          =     0.4922
                                                R-squared         =     0.0056
                                                Root MSE          =      94589

------------------------------------------------------------------------------
             |               Robust
      dsales |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     treated |   13737.42   11941.57     1.15   0.251    -9781.938    37256.78
treat_manufacturing |   711.7046   3548.661     0.20   0.841    -6277.515    7700.924
       _cons |  -10773.82   11768.28    -0.92   0.361    -33951.88    12404.23
------------------------------------------------------------------------------

. lincom treated+treat_manufacturing

 ( 1)  treated + treat_manufacturing = 0

------------------------------------------------------------------------------
      dsales |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         (1) |   14449.13   12123.39     1.19   0.234    -9428.345     38326.6
------------------------------------------------------------------------------
```

Table 49 DID estimation through a first-difference regression model: output variable ROA (Manufacturing vs Services)

```
. reg droa treated treat_manufacturing [iweight = cem_we], robust
(sum of wgt is 252)

Linear regression                               Number of obs     =        252
                                                F(2, 249)         =       0.96
                                                Prob > F          =     0.3857
                                                R-squared         =     0.0048
                                                Root MSE          =     .31066

------------------------------------------------------------------------------
             |               Robust
        droa |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     treated |   .0260665    .076354     0.34   0.733    -.1243156    .1764485
treat_manufacturing |  -.0602176   .0756054    -0.80   0.427    -.2091253    .0886901
       _cons |   .0347433   .0208797     1.66   0.097    -.0063801    .0758666
------------------------------------------------------------------------------

. lincom treated+treat_manufacturing

 ( 1)  treated + treat_manufacturing = 0

------------------------------------------------------------------------------
       droa |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        (1) |  -.0341511    .027535    -1.24   0.216    -.0883823      .02008
------------------------------------------------------------------------------
```

Table 50 DID estimation through a first-difference regression model: output variable EBITDA margin (Manufacturing vs Services)

```
. reg debitdam treated treat_manufacturing [iweight = cem_we], robust
(sum of wgt is 250)

Linear regression                               Number of obs     =        250
                                                F(2, 247)         =       2.68
                                                Prob > F          =     0.0707
                                                R-squared         =     0.0223
                                                Root MSE          =     .76402

------------------------------------------------------------------------------
             |               Robust
    debitdam |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     treated |  -.1766415   .1248161    -1.42   0.158    -.4224811     .069198
treat_manufacturing |  -.0797042   .1638789    -0.49   0.627    -.4024825    .2430742
       _cons |   .0652236   .0488143     1.34   0.183    -.0309217     .161369
------------------------------------------------------------------------------

. lincom treated+treat_manufacturing

 ( 1)  treated + treat_manufacturing = 0

------------------------------------------------------------------------------
    debitdam |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        (1) |  -.2563457   .1266607    -2.02   0.044    -.5058184    -.006873
------------------------------------------------------------------------------
```

4.5.2 Target size: SME vs Large companies

In order to define small, medium and large companies, we follow ISTAT classification of Italian enterprises based on total revenues. Therefore, small companies are those that have less than €10million revenues, medium companies are those that have total revenues in the €10-€50million range, and large companies are those that have more than €50million revenues. The measure of sales taken into consideration is average sales 3-years pre-acquisition.

Out of 126 matched companies, 100 are SME and 26 are large companies. Let SME_i be a dummy equal to 1 when the company is a SME and equal to 0 when it is a large company. Then our model is:

$$\Delta Y_i = \lambda' + \beta F_{iPost} + \delta(F_{iPost} \times EU_i) + \Delta\varepsilon_i \quad (12)$$

We first performed a first-difference regression analysis to assess the effect of foreign ownership on sales when the target company was a SME or a large company at the moment of the acquisition. Table 51 shows the Stata result. The model has a p-value greater than 0.1 and does not show a statistically significant relationship between sales and the independent variables. Specifically, the effect is positive and non-significant for both SME (B= 12658.92; t=1.07; p>0.1) and large companies (B=19856.39; t=1.38; p>0.1).

Table 52 shows the result of a first-difference regression analysis on ROA. Similarly to sales, the model p-value (0.7648) does not allow us to conclude that ROA is significantly explained by the independent variables. The effect on ROA is negative and non-significant both when the target company is a SME (B= -.0046; t= -0.10; p>0.1) and when it is a large company (B= -0.0229; t= -0.72; p>0.1).

Finally, we looked at EBITDA margin (Table 53), performing the same regression analysis as the two precedent cases to verify whether the independent variables are statistically significant in explaining the profitability measure. The model p-value (0.0702) allows us to accept this hypothesis. However, the effect on EBITDA margin is only significant for small and medium enterprises (B= -0.2650; t= -2.31: p<0.05), while is not significant for large companies (B= -0.0576; t=-0.91; p-value>0.1).

Table 51 DID estimation through a first-difference regression model: output variable Sales (SMEs vs large companies)

```
. reg dsales treated treat_sme [iweight = cem_we], robust
(sum of wgt is 252)

Linear regression                               Number of obs     =        252
                                                F(2, 249)         =       0.95
                                                Prob > F          =     0.3872
                                                R-squared         =     0.0061
                                                Root MSE          =      94567

------------------------------------------------------------------------------
             |               Robust
      dsales |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     treated |   19856.39   14413.66     1.38   0.170     -8531.84    48244.63
   treat_sme |  -7197.476   8370.717    -0.86   0.391    -23683.91    9288.959
       _cons |  -10773.82   11768.28    -0.92   0.361    -33951.88    12404.23
------------------------------------------------------------------------------

. lincom treated+treat_sme

 ( 1)  treated + treat_sme = 0

------------------------------------------------------------------------------
      dsales |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         (1) |   12658.92   11802.55     1.07   0.285    -10586.63    35904.47
------------------------------------------------------------------------------
```

Table 52 DID estimation through a first-difference regression model: output variable ROA (SMEs vs large companies)

```
. reg droa treated treat_sme [iweight = cem_we], robust
(sum of wgt is 252)

Linear regression                               Number of obs     =        252
                                                F(2, 249)         =       0.27
                                                Prob > F          =     0.7648
                                                R-squared         =     0.0005
                                                Root MSE          =     .31134

------------------------------------------------------------------------------
             |               Robust
        droa |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     treated |  -.0228756   .0316614    -0.72   0.471     -.085234    .0394828
   treat_sme |   .0183103    .047736     0.38   0.702    -.0757076    .1123282
       _cons |   .0347433   .0208797     1.66   0.097    -.0063801    .0758666
------------------------------------------------------------------------------

. lincom treated+treat_sme

 ( 1)  treated + treat_sme = 0

------------------------------------------------------------------------------
        droa |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         (1) |  -.0045653   .0463488    -0.10   0.922    -.0958509    .0867203
------------------------------------------------------------------------------
```

Table 53 DID estimation through a first-difference regression model: output variable EBITDA Margin (SMEs vs large companies)

```
. reg debitdam treated treat_sme [iweight = cem_we], robust
(sum of wgt is 250)

Linear regression                               Number of obs     =        250
                                                F(2, 247)         =       2.69
                                                Prob > F          =     0.0702
                                                R-squared         =     0.0269
                                                Root MSE          =     .76219

------------------------------------------------------------------------------
             |               Robust
    debitdam |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     treated |  -.0575746   .0630691    -0.91   0.362    -.1817963    .0666472
   treat_sme |  -.2074114   .1111146    -1.87   0.063    -.4262643    .0114416
       _cons |   .0652236   .0488143     1.34   0.183    -.0309217     .161369
------------------------------------------------------------------------------

. lincom treated+treat_sme

 ( 1)  treated + treat_sme = 0

------------------------------------------------------------------------------
    debitdam |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         (1) |   -.264986   .1146055    -2.31   0.022    -.4907146   -.0392573
------------------------------------------------------------------------------
```

4.5.3 Organizational change: CEO change vs CEO confirmation

Hypothesis 2 discusses how organizational change, and specifically CEO change, may exert different effects on the post-acquisition performance of acquired companies. Hypothesis 2a suggests that CEO change is positively associated to post-acquisition performance as it triggers a faster implementation of integration plans and supports the pace of change. Conversely, Hypothesis 2b is based on the opposite reasons and suggests that CEO change is negatively related to post-acquisition performance as it likely leads to disorder and employees' resistance. In order to verify which ones of the two hypothesis is empirically demonstrated by our data, we include in our model a dummy variable, CEO_i, equal to 1 when the target's CEO changes or is flanked following the acquisition and equal to 0 when the target' CEO does not change. Our model does become:

$$\Delta Y_i = \lambda' + \beta F_{iPost} + \delta(F_{iPost} \times CEO_i) + \Delta\varepsilon_i \qquad (13)$$

In out matched dataset of 126 companies, 68 experienced a CEO change following the acquisition, whereas in 58 cases the target's CEO was confirmed.

We performed a first-difference regression analysis to assess whether foreign ownership is statistically significant in explaining sales, distinguishing for CEO change or CEO confirmation

(Table 54). The model's p-value (0.4792) indicates that there is not a statistically significant relationship between the dependent and independent variables. The effect is positive and non-significant for both companies whereby the CEO changed (B=13827.63; t=1.14; p>0.1) and where the CEO did not (B=14515.15; t=1.21; p>0.1).

Table 55 shows Stata's output for first-difference regression analysis on ROA. Similarly to sales, the model is not statistically significant in explaining ROA. Despite that, the effect is negative and significant for companies that experienced a CEO change (B= -0.0496; t= -1.73; p<0.1), whereas it is positive but non-significant for companies whereby the CEO did not change (B= 0.0400; t =0.56; p>0.1).

We then performed a first-difference regression analysis on EBITDA margin (Table 56). In this case, the model's p-value (0.0635) indicates that the relationship between independent variables and the outcome of interest is statistically significant. In particular, the effect is negative and significant when the CEO of the target company changed (B= -0.2111; t= -1.98; p<0.05), while it is negative but not-significant for companies whereby the CEO did not change (B= -0.2352; t= -1.56; p>0.1).

Table 54 DID estimation through a first-difference regression model: output variable Sales (CEO Change vs not-CEO change)

```
. reg dsales treated treat_changemgmt [iweight = cem_we], robust
(sum of wgt is 252)

Linear regression                               Number of obs     =        252
                                                F(2, 249)         =       0.74
                                                Prob > F          =     0.4792
                                                R-squared         =     0.0056
                                                Root MSE          =      94589

------------------------------------------------------------------------------
             |               Robust
      dsales |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     treated |   14515.15    11963.2     1.21   0.226    -9046.812    38077.12
treat_changemgmt |  -687.5194   3655.615    -0.19   0.851    -7887.389     6512.35
       _cons |  -10773.82   11768.28    -0.92   0.361    -33951.88    12404.23
------------------------------------------------------------------------------

. lincom treated+treat_changemgmt

 ( 1)  treated + treat_changemgmt = 0

------------------------------------------------------------------------------
      dsales |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         (1) |   13827.63   12133.84     1.14   0.256    -10070.41    37725.68
------------------------------------------------------------------------------
```

Table 55 DID estimation through a first-difference regression model: output variable ROA (CEO Change vs not-CEO change)

```
. reg droa treated treat_changemgmt [iweight = cem_we], robust
(sum of wgt is 252)

Linear regression                               Number of obs     =        252
                                                F(2, 249)         =       1.96
                                                Prob > F          =     0.1425
                                                R-squared         =     0.0106
                                                Root MSE          =     .30976

------------------------------------------------------------------------------
             |               Robust
        droa |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     treated |    .040021   .0710034     0.56   0.574    -.0998229    .1798649
treat_changemgmt |  -.0896168   .0706203    -1.27   0.206    -.2287061    .0494725
       _cons |   .0347433   .0208797     1.66   0.097    -.0063801    .0758666
------------------------------------------------------------------------------

. lincom treated+treat_changemgmt

 ( 1)  treated + treat_changemgmt = 0

------------------------------------------------------------------------------
        droa |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         (1) |  -.0495958   .0285949    -1.73   0.084    -.1059144    .0067229
------------------------------------------------------------------------------
```

Table 56 DID estimation through a first-difference regression model: output variable EBITDA Margin (CEO Change vs not-CEO change)

```
. reg debitdam treated treat_changemgmt [iweight = cem_we], robust
(sum of wgt is 250)

Linear regression                               Number of obs     =        250
                                                F(2, 247)         =       2.79
                                                Prob > F          =     0.0635
                                                R-squared         =     0.0210
                                                Root MSE          =     .76449

------------------------------------------------------------------------------
             |               Robust
    debitdam |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     treated |  -.2352406   .1503992    -1.56   0.119    -.5314691    .0609879
treat_changemgmt |   .0241879   .1708496     0.14   0.888      -.31232    .3606958
       _cons |   .0652236   .0488143     1.34   0.183    -.0309217     .161369
------------------------------------------------------------------------------

. lincom treated+treat_changemgmt

 ( 1)  treated + treat_changemgmt = 0

------------------------------------------------------------------------------
    debitdam |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         (1) |  -.2110527   .1064675    -1.98   0.049    -.4207527   -.0013526
------------------------------------------------------------------------------
```

4.6 Empirical results based on Family businesses

Hypothesis 3 proposes that acquired family firms post-acquisition performance is better than acquired non-family firms. In order to test this hypothesis, we performed first-difference regression analyses on Sales, ROA and EBITDA Margin, introducing a dummy variable, FO_i, equal to 1 when the company is a family firm and equal to 0 when it is not. Therefore, in order to estimate the effect of foreign ownership on target performance, distinguishing for family and non-family firms, our starting model is

$$\Delta Y_i = \lambda' + \beta F_{iPost} + \delta(F_{iPost} \times FO_i) + \Delta\varepsilon_i \qquad (14)$$

Out of our 126 matched companies, 58 are family businesses, whereas 68 are not.

Table 57 shows the output of a first-difference regression analysis on sales conducted on Stata to assess whether the dependent variable has a statistically significant relationship with the independent variables. The model's p-value (0.4954) does not allow to accept this hypothesis. In fact, the effect is positive but non-significant both when the company is a family firm (B= 14185.33; t=1.17; p>0.1) and when it is not (B=14108.95; t=1.17; p>0.1).

We then performed a first difference regression analysis on ROA. Table 58 shows that in this case as well there is not a statistically significant relationship between ROA and the independent variables. Specifically, when the company is a family firm, the effect is negative and non-significant (B=-0.0405; t= -1.58; p>0.1). on the contrary, family firms exhibit a positive effect on ROA, but non statistically significant (B= 0.0191; t=0.30; p>0.1).

Table 59 shows the results of a first-difference regression analysis conducted on EBITDA margin. In this case, the model p-value (0.0415) allows to identify a statistically significant relationship between foreign ownership and EBITDA margin, distinguishing for family and non-family firms. In particular, when the company is a family firm, the effect is negative and significant at a 95% confidence interval (B= -0.1682; t= -2.14; p<0.05), when the company is not a family firm, the effect is also negative and significant, but at a 90% confidence interval (B= -0.2683; t= -1.76; p<0.1).

Table 57 DID estimation through a first-difference regression model: output variable Sales (Family businesses vs non-family businesses)

```
. reg dsales treated treat_fo [iweight = cem_we], robust
(sum of wgt is 252)

Linear regression                               Number of obs     =        252
                                                F(2, 249)         =       0.70
                                                Prob > F          =     0.4954
                                                R-squared         =     0.0056
                                                Root MSE          =      94589

------------------------------------------------------------------------------
             |               Robust
      dsales |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     treated |   14108.95   12008.97     1.17   0.241    -9543.154    37761.06
    treat_fo |   76.37558   3807.507     0.02   0.984     -7422.65    7575.401
       _cons |  -10773.82   11768.28    -0.92   0.361    -33951.88    12404.23
------------------------------------------------------------------------------

. lincom treated+treat_fo

 ( 1)  treated + treat_fo = 0

------------------------------------------------------------------------------
      dsales |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         (1) |   14185.33   12135.34     1.17   0.244    -9715.674    38086.33
------------------------------------------------------------------------------
```

Table 58 DID estimation through a first-difference regression model: output variable ROA (Family businesses vs non-family businesses)

```
. reg droa treated treat_fo [iweight = cem_we], robust
(sum of wgt is 252)

Linear regression                               Number of obs     =        252
                                                F(2, 249)         =       1.53
                                                Prob > F          =     0.2176
                                                R-squared         =     0.0048
                                                Root MSE          =     .31067

------------------------------------------------------------------------------
             |               Robust
        droa |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     treated |    .019074   .0635596     0.30   0.764     -.106109     .144257
    treat_fo |  -.0595624    .061827    -0.96   0.336    -.1813329    .0622082
       _cons |   .0347433   .0208797     1.66   0.097    -.0063801    .0758666
------------------------------------------------------------------------------

. lincom treated+treat_fo

 ( 1)  treated + treat_fo = 0

------------------------------------------------------------------------------
        droa |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         (1) |  -.0404884   .0255867    -1.58   0.115    -.0908823    .0099056
------------------------------------------------------------------------------
```

Table 59 DID estimation through a first-difference regression model: output variable EBITDA Margin (Family businesses vs non-family businesses)

```
. reg debitdam treated treat_fo [iweight = cem_we], robust
(sum of wgt is 250)

Linear regression                               Number of obs     =        250
                                                F(2, 247)         =       3.22
                                                Prob > F          =     0.0415
                                                R-squared         =     0.0230
                                                Root MSE          =     .76371

------------------------------------------------------------------------------
             |               Robust
    debitdam |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     treated |  -.2682532   .1524865    -1.76   0.080    -.5685928    .0320864
    treat_fo |   .1000753   .1569627     0.64   0.524    -.2090807    .4092314
       _cons |   .0652236   .0488143     1.34   0.183    -.0309217     .161369
------------------------------------------------------------------------------

. lincom treated+treat_fo

 ( 1)  treated + treat_fo = 0

------------------------------------------------------------------------------
    debitdam |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         (1) |  -.1681779   .0784273    -2.14   0.033    -.3226494   -.0137064
------------------------------------------------------------------------------
```

Hypothesis 3a further suggests that family firms performance is higher when the family remains in the business. In order to test this hypothesis, we introduce two dummy variables: $FamIN_i$ which is equal to 1 when the family remains in the business even if it does not control the company anymore, and equal to 0 otherwise. $FamOUT_i$ which is equal to 1 when the family leaves the business and equal to 0 otherwise.

$$\Delta Y_i = \lambda' + \beta F_{iPost} + \delta(F_{iPost} \times FamIN_i) + \gamma(F_{iPost} \times FamOUT_i) + \Delta\varepsilon_i \qquad (15)$$

Out of our 58 matched family firms, in 25 cases the family remained in the business, in 33 cases the family left the business after having sold the majority stake.

Table 60 presents Stata's output of first difference regression to determine the effect of foreign ownership on sales, distinguishing for family's presence in the post-acquisition setting of acquired family firms. The model's p-value (0.5548) does not show a statistically significant relationship between sales and the independent variables. The effect is positive but non-significant both when the company remained in the business (B=17081.54; t=1.34; p>0.1) and when the family leaves the business (B=11991.23; t=0.97; p>0.1)

We then performed a first-difference regression analysis (Table 61) to assess the effect of foreign ownership on ROA, distinguishing for family's presence in the post-acquisition setting of acquired family firms. When the family remains in the business post-acquisition, the effect on ROA is negative and significant (B=-0.0514; t=-1.85; p<0.1). On the contrary, the effect is negative and non-significant when the family does not remain active in the business (B=-0.0322; t=-1.06; p>0.1). The model's p-value (0.2563) does not show a statistically significant relationship between ROA and the independent variables.

Table 62 shows the result of a first-difference regression analysis on EBITDA Margin. The model's p-value (0.0932) allows to observe a statistically significant relationship between EBITDA Margin and foreign ownership, distinguishing for family's presence in the post-acquisition setting. In particular, the effect is negative and significant for both companies whereby the family remained in the business (B= -0.2554; t= -1.82; p<0.1) and companies whereby the family left the business (B= -0.1021; t= -1.65; p=0.1).

Table 60 DID estimation through a first-difference regression model: output variable Sales (Family IN vs Family OUT)

```
. reg dsales treated treat_famIN treat_famOUT[iweight = cem_we], robust
(sum of wgt is 252)

Linear regression                               Number of obs     =        252
                                                F(3, 248)         =       0.70
                                                Prob > F          =     0.5548
                                                R-squared         =     0.0058
                                                Root MSE          =      94772
```

dsales	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
treated	14108.95	12033.16	1.17	0.242	-9591.259	37809.17
treat_famIN	2972.584	5355.527	0.56	0.579	-7575.532	13520.7
treat_famOUT	-2117.721	4410.46	-0.48	0.632	-10804.46	6569.014
_cons	-10773.82	11791.98	-0.91	0.362	-33999.02	12451.37

```
. lincom treated+treat_famIN

 ( 1)  treated + treat_famIN = 0
```

dsales	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
(1)	17081.54	12727.39	1.34	0.181	-7986.019	42149.09

```
. lincom treated+treat_famOUT

 ( 1)  treated + treat_famOUT = 0
```

dsales	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
(1)	11991.23	12359.49	0.97	0.333	-12351.71	36334.18

Table 61 DID estimation through a first-difference regression model: output variable ROA (Family IN vs Family OUT)

```
. reg droa treated treat_famIN treat_famOUT [iweight = cem_we], robust
(sum of wgt is 252)

Linear regression                               Number of obs     =        252
                                                F(3, 248)         =       1.36
                                                Prob > F          =     0.2563
                                                R-squared         =     0.0050
                                                Root MSE          =     .31126
```

droa	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
treated	.019074	.0636876	0.30	0.765	-.1063636	.1445116
treat_famIN	-.0704606	.0628757	-1.12	0.264	-.1942989	.0533778
treat_famOUT	-.0513061	.0640284	-0.80	0.424	-.177415	.0748027
_cons	.0347433	.0209218	1.66	0.098	-.0064637	.0759503

```
. lincom treated+treat_famIN

 ( 1)  treated + treat_famIN = 0
```

droa	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
(1)	-.0513866	.027797	-1.85	0.066	-.1061349	.0033618

```
. lincom treated+treat_famOUT

 ( 1)  treated + treat_famOUT = 0
```

droa	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
(1)	-.0322321	.0303145	-1.06	0.289	-.0919389	.0274746

Table 62 DID estimation through a first-difference regression model: output variable EBITDA Margin (Family IN vs Family OUT)

```
. reg debitdam treated treat_famIN treat_famOUT [iweight = cem_we], robust
(sum of wgt is 250)

Linear regression                               Number of obs     =        250
                                                F(3, 246)         =       2.16
                                                Prob > F          =     0.0932
                                                R-squared         =     0.0253
                                                Root MSE          =     .76437
```

debitdam	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
treated	-.2682532	.1527961	-1.76	0.080	-.5692087	.0327023
treat_famIN	.0128915	.1956347	0.07	0.948	-.3724412	.3982243
treat_famOUT	.1661237	.1496321	1.11	0.268	-.1285998	.4608472
_cons	.0652236	.0489134	1.33	0.184	-.0311189	.1615661

```
. lincom treated+treat_famIN

 ( 1)  treated + treat_famIN = 0
```

debitdam	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
(1)	-.2553617	.1403971	-1.82	0.070	-.5318954	.021172

```
. lincom treated+treat_famOUT

 ( 1)  treated + treat_famOUT = 0
```

debitdam	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
(1)	-.1021295	.0618721	-1.65	0.100	-.2239961	.0197371

4.6.1 Family business and organizational change

Hypothesis 2c and 2d discuss how family firms' performance may react to a CEO change, in particular taking into consideration the extraordinary importance of the organizational culture and personality of the leader in such organizations. In order to test this hypothesis, we include in our model an interaction term between the dummy variables Family Ownership and CEO change to observe how the CEO change modifies the effect of family ownership for treated units.

Out of our 58 matched family business, in 25 cases the CEO changed, in 33 cases the CEO did not change. In order to distinguish for CEO change, we estimate the model indicated by Equation 16:

$$\Delta Y_i = \lambda' + \beta F_{iPost} + \delta(F_{iPost} \times FO_i) + \mu(F_{iPost} \times FO_i \times change) + \Delta\varepsilon_i \qquad (16)$$

Table 63 shows Stata's output of Equation 16 on Sales as outcome variable. The model's p-value (0.6661) does not indicate a statistically significant relationship between sales and the independent variables. The effect is positive and non-significant both for family firms whose CEO changes (B=15251.49; t=1.20; p>0.1) and for family firms whose CEO did not change (B=12777.99; t= 1.05; p>0.1).

We then performed a first-difference regression analysis to assess whether foreign ownership has a significant effect on ROA, distinguishing for family firms and CEO change (Table 64).

In this case as well, the model's p-value (0.3525) indicates the model low quality and the absence of a statistically significant relationship. However, the effect on ROA is negative and statistically significant for family businesses whereby the CEO changed (B= -0.0516; t= -1.66;

p<0.1). It is negative and non-significant for family firms whereby the CEO did not change (B= -0.0258; t= -0.99; p>0.1).

Table 65 shows a first-difference regression analysis on EBITDA margin. The model's p-value (0.0790) indicates a significant relationship between EBITDA and the independent variables. In particular, the significant effect can be observed for family companies whereby the CEO changed (B= -0.1772; t= -2.11; p<0.05). On the contrary, in family firms where the CEO did not change the effect of foreign ownership on EBITDA margin is negative but non-significant (B= -0.1563; t= -1.29; p>0.1).

Table 63 DID estimation through a first-difference regression model: output variable Sales (Family Businesses and CEO change)

```
. reg dsales treated treat_fo treat_fo_change [iweight = cem_we], robust
(sum of wgt is 252)

Linear regression                               Number of obs     =        252
                                                F(3, 248)         =       0.52
                                                Prob > F          =     0.6661
                                                R-squared         =     0.0057
                                                Root MSE          =      94778
```

dsales	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
treated	14108.95	12033.16	1.17	0.242	-9591.259	37809.17
treat_fo	-1330.961	3846.854	-0.35	0.730	-8907.632	6245.71
treat_fo_change	2473.501	5566.778	0.44	0.657	-8490.69	13437.69
_cons	-10773.82	11791.98	-0.91	0.362	-33999.02	12451.37

```
. lincom treated+treat_fo+treat_fo_change

 ( 1)  treated + treat_fo + treat_fo_change = 0
```

dsales	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
(1)	15251.49	12688.09	1.20	0.230	-9738.657	40241.64

```
. lincom treated+treat_fo

 ( 1)  treated + treat_fo = 0
```

dsales	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
(1)	12777.99	12169.76	1.05	0.295	-11191.27	36747.26

Table 64 DID estimation through a first-difference regression model: output variable ROA (Family Businesses and CEO change)

```
. reg droa treated treat_fo treat_fo_change [iweight = cem_we], robust
(sum of wgt is 252)

Linear regression                               Number of obs     =        252
                                                F(3, 248)         =       1.09
                                                Prob > F          =     0.3525
                                                R-squared         =     0.0052
                                                Root MSE          =     .31123
```

droa	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
treated	.019074	.0636876	0.30	0.765	-.1063636	.1445116
treat_fo	-.0449253	.0621874	-0.72	0.471	-.1674081	.0775574
treat_fo_change	-.0257257	.0278498	-0.92	0.357	-.0805781	.0291267
_cons	.0347433	.0209218	1.66	0.098	-.0064637	.0759503

```
. lincom treated+treat_fo+treat_fo_change

 ( 1)  treated + treat_fo + treat_fo_change = 0
```

droa	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
(1)	-.051577	.0310557	-1.66	0.098	-.1127436	.0095895

```
. lincom treated+treat_fo

 ( 1)  treated + treat_fo = 0
```

droa	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
(1)	-.0258513	.026203	-0.99	0.325	-.0774602	.0257575

Table 65 DID estimation through a first-difference regression model: output variable EBITDA Margin (Family Businesses and CEO change)

```
. reg debitdam treated treat_fo treat_fo_change [iweight = cem_we], robust
(sum of wgt is 250)

Linear regression                               Number of obs     =        250
                                                F(3, 246)         =       2.29
                                                Prob > F          =     0.0790
                                                R-squared         =     0.0231
                                                Root MSE          =     .76525
```

debitdam	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
treated	-.2682532	.1527961	-1.76	0.080	-.5692087	.0327023
treat_fo	.1119266	.182302	0.61	0.540	-.2471452	.4709984
treat_fo_change	-.0208295	.1300515	-0.16	0.873	-.2769859	.2353269
_cons	.0652236	.0489134	1.33	0.184	-.0311189	.1615661

```
. lincom treated+treat_fo+treat_fo_change

 ( 1)  treated + treat_fo + treat_fo_change = 0
```

debitdam	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
(1)	-.1771561	.0838214	-2.11	0.036	-.3422553	-.0120569

```
. lincom treated+treat_fo

 ( 1)  treated + treat_fo = 0
```

debitdam	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
(1)	-.1563266	.1211297	-1.29	0.198	-.3949101	.082257

4.6.2 Family businesses and acquirer's country of origin

Hypothesis 1a proposes that the negative effect of cultural distance on post-acquisition performance holds also when the acquired firm is a family business. Similarly to the precedent case, to test this hypothesis we introduce in our equation an interaction term between the dummies Family Ownership and Latin Europe, in order to verify how the provenience of the acquirer from a culturally close (Latin Europe) or culturally distant (non-Latin Europe) country modifies the effect of family ownership for treated units.

$$\Delta Y_i = \lambda' + \beta F_{iPost} + \delta(F_{iPost} \times FO_i) + \theta(F_{iPost} \times FO_i \times LE_i) + \Delta\varepsilon_i \qquad (16)$$

Out of our 58 matched family businesses, 15 have been acquired by Latin Europe acquirers, 43 by acquirers located elsewhere.

We performed a first difference regression analysis on Stata, estimating equation 16 on the outcome variable Sales. Table 66 shows that there is not a statistically significant relationship between sales and the independent variables. The effect is positive and non-significant for both family firms acquired by Latin Europe acquirers (B=22587.51; t=1.64; p>0.1) and for family firms acquired by non-Latin Europe acquirers (B=11254.34; t=0.92; p>=0.1).

Table 67 shows the results of a first-difference regression analysis to assess the effect of foreign ownership on ROA, distinguishing for family firms acquired by Latin Europe acquirers and family firms acquired by acquirers located elsewhere. The model's p-value (0.0899) indicates that it exists a statistically significant relationship between ROA and the independent variables. In fact, the effect is negative and significant for family firms acquired by Latin-Europe acquirers

(B= -0.0828; t= -2.43; p<0.05). However, it is negative but non-significant for companies acquired by acquirers located elsewhere (B= -0.0257; t= -0.95; p>0.1).

Further, Table 68 presents the results for Equation 16's estimation on EBITDA margin outcome variable. In this case as well, the model's p-value (0.0602) allows us to identify a significant relationship between EBITDA margin and the independent variables. Specifically, the effect is positive and significant for both family firms acquired by Latin Europe acquirers (B= -0.1247; t= -2.33; p<0.05) and for family firms acquired by acquirers located elsewhere (B= -0.1833; t= -1.91; p<00.1).

Table 66 DID estimation through a first-difference regression model: output variable Sales (Family Businesses and Latin Europe acquirers)

```
. reg dsales treated treat_fo treat_fo_lateu [iweight = cem_we], robust
(sum of wgt is 252)

Linear regression                               Number of obs     =        252
                                                F(3, 248)         =       1.18
                                                Prob > F          =     0.3182
                                                R-squared         =     0.0063
                                                Root MSE          =      94750

------------------------------------------------------------------------------
             |               Robust
      dsales |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     treated |   14108.95   12033.16     1.17   0.242    -9591.259    37809.17
    treat_fo |  -2854.617   3843.168    -0.74   0.458    -10424.03    4714.793
treat_fo_lateu |   11333.17   7754.294     1.46   0.145    -3939.498    26605.84
       _cons |  -10773.82   11791.98    -0.91   0.362    -33999.02    12451.37
------------------------------------------------------------------------------

. lincom treated+treat_fo+treat_fo_lateu

 ( 1)  treated + treat_fo + treat_fo_lateu = 0

------------------------------------------------------------------------------
      dsales |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         (1) |   22587.51   13789.71     1.64   0.103    -4572.362    49747.38
------------------------------------------------------------------------------

. lincom treated+treat_fo

 ( 1)  treated + treat_fo = 0

------------------------------------------------------------------------------
      dsales |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         (1) |   11254.34    12168.6     0.92   0.356    -12712.63    35221.31
------------------------------------------------------------------------------
```

Table 67 DID estimation through a first-difference regression model: output variable ROA (Family Businesses and Latin Europe acquirers)

```
. reg droa treated treat_fo treat_fo_lateu [iweight = cem_we], robust
(sum of wgt is 252)

Linear regression                               Number of obs     =        252
                                                F(3, 248)         =       2.19
                                                Prob > F          =     0.0899
                                                R-squared         =     0.0063
                                                Root MSE          =     .31106
```

droa	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
treated	.019074	.0636876	0.30	0.765	-.1063636	.1445116
treat_fo	-.0448115	.0625315	-0.72	0.474	-.1679721	.0783491
treat_fo_lateu	-.0570366	.0318388	-1.79	0.074	-.1197456	.0056725
_cons	.0347433	.0209218	1.66	0.098	-.0064637	.0759503

```
. lincom treated+treat_fo+treat_fo_lateu

 ( 1)  treated + treat_fo + treat_fo_lateu = 0
```

droa	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
(1)	-.0827741	.0340534	-2.43	0.016	-.1498448	-.0157034

```
. lincom treated+treat_fo

 ( 1)  treated + treat_fo = 0
```

droa	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
(1)	-.0257375	.0270096	-0.95	0.342	-.078935	.02746

Table 68 DID estimation through a first-difference regression model: output variable EBITDA margin (Family Businesses and Latin Europe acquirers)

```
. reg debitdam treated treat_fo treat_fo_lateu [iweight = cem_we], robust
(sum of wgt is 250)

Linear regression                               Number of obs     =        250
                                                F(3, 246)         =       2.50
                                                Prob > F          =     0.0602
                                                R-squared         =     0.0233
                                                Root MSE          =     .76516
```

debitdam	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
treated	-.2682532	.1527961	-1.76	0.080	-.5692087	.0327023
treat_fo	.0849258	.1666083	0.51	0.611	-.2432349	.4130866
treat_fo_lateu	.058578	.0853304	0.69	0.493	-.1094933	.2266493
_cons	.0652236	.0489134	1.33	0.184	-.0311189	.1615661

```
. lincom treated+treat_fo+treat_fo_lateu

 ( 1)  treated + treat_fo + treat_fo_lateu = 0
```

debitdam	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
(1)	-.1247493	.0535686	-2.33	0.021	-.2302609	-.0192378

```
. lincom treated+treat_fo

 ( 1)  treated + treat_fo = 0
```

debitdam	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
(1)	-.1833274	.0958995	-1.91	0.057	-.3722163	.0055615

For the sake of information, we also present the results of the just illustrated analysis in case we do not consider the construct of cultural distance but pure geographic distance. To do so, we substitute the variable Latin Europe with the dummy variable European Acquirer presented in Paragraph 4.4.1.2. Thus, the model is:

$$\Delta Y_i = \lambda' + \beta F_{iPost} + \delta(F_{iPost} \times FO_i) + \theta(F_{iPost} \times FO_i \times EU_i) + \Delta\varepsilon_i \qquad (17)$$

Out of our 56 matched family firms, 36 have been targeted by Europe-based acquirers, 22 by acquirers based in the rest of the world.

Table 69 shows the result of a first-difference regression analysis to assess the effect of foreign ownership on sales, distinguishing for Family businesses acquired by European acquirers or non-European acquirers. The model's p-value (0.6388) indicates that there is not a statistically significant relationship between the dependent and independent variables. The effect is positive and non-significant for both family firms acquired by European acquirers (B= 13088.35; t= 1.05; p>0.1) and for family firms acquired by non-European acquirers (B= 15980.39; t= 1.28; p>0.1).

We then performed a first difference regression analysis modelled by Equation 17 on ROA as outcome variable. Table 70 shows that in this case as well the relationship in not statistically significant (p-value>0.1). In particular, the effect is negative and non-significant for both family firms acquired by European acquirers (B= -0.0375; t= -1.28; p>0.1) and for family firms acquired by non-European acquirers (B= -0.0454; t= -1.58; p>0.1).

Table 71 shows the results for Equation 17 using EBITDA margin as dependent variable. In this case, the model's p-value (0.0947) indicates that the independent variables are statistically

significant in explaining EBITDA margin. In particular the effect is negative and significant for family businesses acquired by European companies (B= -0.2084; t= -1.98; p<0.05), while it is negative and non-significant for companies acquired by non-European acquirers (B= -0.1024; t= -1.43; p>0.1).

Table 69 DID estimation through a first-difference regression model: output variable Sales (Family Businesses and European acquirers)

```
. reg dsales treated treat_fo treat_fo_eu [iweight = cem_we], robust
(sum of wgt is 252)

Linear regression                               Number of obs     =        252
                                                F(3, 248)         =       0.56
                                                Prob > F          =     0.6388
                                                R-squared         =     0.0057
                                                Root MSE          =      94778
```

dsales	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
treated	14108.95	12033.16	1.17	0.242	-9591.259	37809.17
treat_fo	1871.437	4748.891	0.39	0.694	-7481.863	11224.74
treat_fo_eu	-2892.044	5771.203	-0.50	0.617	-14258.86	8474.776
_cons	-10773.82	11791.98	-0.91	0.362	-33999.02	12451.37

```
. lincom treated+treat_fo+treat_fo_eu

 ( 1)  treated + treat_fo + treat_fo_eu = 0
```

dsales	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
(1)	13088.35	12472.04	1.05	0.295	-11476.27	37652.97

```
. lincom treated+treat_fo

 ( 1)  treated + treat_fo = 0
```

dsales	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
(1)	15980.39	12484.26	1.28	0.202	-8608.303	40569.08

Table 70 DID estimation through a first-difference regression model: output variable ROA (Family Businesses and European acquirers)

```
. reg droa treated treat_fo treat_fo_eu [iweight = cem_we], robust
(sum of wgt is 252)

Linear regression                               Number of obs     =        252
                                                F(3, 248)         =       1.13
                                                Prob > F          =     0.3389
                                                R-squared         =     0.0048
                                                Root MSE          =     .31129
```

droa	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
treated	.019074	.0636876	0.30	0.765	-.1063636	.1445116
treat_fo	-.0645277	.0633225	-1.02	0.309	-.1892461	.0601908
treat_fo_eu	.0079997	.0285397	0.28	0.779	-.0482115	.0642109
_cons	.0347433	.0209218	1.66	0.098	-.0064637	.0759503

```
. lincom treated+treat_fo+treat_fo_eu

 ( 1)  treated + treat_fo + treat_fo_eu = 0
```

droa	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
(1)	-.037454	.029341	-1.28	0.203	-.0952432	.0203352

```
. lincom treated+treat_fo

 ( 1)  treated + treat_fo = 0
```

droa	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
(1)	-.0454537	.0287935	-1.58	0.116	-.1021647	.0112573

Table 71 DID estimation through a first-difference regression model: output variable EBITDA Margin (Family Businesses and European acquirers)

```
. reg debitdam treated treat_fo treat_fo_eu [iweight = cem_we], robust
(sum of wgt is 250)

Linear regression                               Number of obs     =        250
                                                F(3, 246)         =       2.15
                                                Prob > F          =     0.0947
                                                R-squared         =     0.0241
                                                Root MSE          =     .76485
```

debitdam	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
treated	-.2682532	.1527961	-1.76	0.080	-.5692087	.0327023
treat_fo	.1658892	.1539022	1.08	0.282	-.1372449	.4690234
treat_fo_eu	-.1060335	.1068244	-0.99	0.322	-.3164407	.1043737
_cons	.0652236	.0489134	1.33	0.184	-.0311189	.1615661

```
. lincom treated+treat_fo+treat_fo_eu

 ( 1)  treated + treat_fo + treat_fo_eu = 0
```

debitdam	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
(1)	-.2083975	.1052246	-1.98	0.049	-.4156536	-.0011414

```
. lincom treated+treat_fo

 ( 1)  treated + treat_fo = 0
```

debitdam	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
(1)	-.102364	.0715841	-1.43	0.154	-.2433599	.038632

4.7 Discussion

Our empirical research on Italian firms acquired by foreign investors contributes to the existing knowledge on post-acquisition performance of inward cross-border acquisitions in our country. However, differently from Barbaresco et al. (2018), Bentivogli and Mirenda (2017), ICE & Prometeia (2014) and Piscitello & Rabbiosi (2005) we do not support the hypothesis that foreign owners are better than domestic ones in driving the company performance. Table 72 reports the results of the DID matching estimator. In each cell, the first term shows the effect of foreign M&A on the target firm's 3-years average outcome of interest (i.e. sales, ROA, EBITDA margin) after the takeover. Robust standard errors are enclosed in parentheses. While we do not find significant effects on Sales and ROA, we do find a significant relationship between foreign ownership and EBITDA margin. Companies acquired by foreign investors experience a deterioration in their operating performance. Indeed, there are some well-known real cases proving how tragically true this could be. It is the case of Pernigotti S.p.A., the born-Italian producer of chocolate and other confectionery, which in 2013 has been acquired by the Turkish Toksöz Group. In November 2018, the controlling company announced the shutdown of the Italian production facilities. Just the intervention of the Italian state and the separate acquisition of its main business units by Italian investors has allowed the preservation of the business[18]. On top of that, the negative effect on target companies profitability is also confirmed

[18] *Pernigotti S.p.A. is one of the 152 treated units composing our data sample. According to AIDA data, the company's moved from a 9.7x average EBITDA margin in the 3-years acquisition period to a negative average EBITDA margin in the 3-years post-acquisition.*

by Buckley et al. (2014). The authors observe that foreign acquirers do not always increase the profitability of target companies. They for sure result in a stabilization of the profitability trend, which is observed to be less volatile compared to the pre-acquisition situation, but whether the profitability is improved or not is associated to some moderating factors, e.g. the experience of the acquirer in the target country.

In order to dig into the components of these effects, we performed some sub-groups analysis based on acquirers and targets' characteristics. The following paragraphs will comment on the empirical results shown above.

Acquirers' characteristics

In Paragraph 3.2 we enounced Hypothesis 1:

Cultural distance is negatively associated with post-acquisition performance.

To verify the validity of this assumption we used Ronen and Shenkar (2013)'s cluster map model on cultural distance. Both companies acquired by Latin Europe acquirers and non-Latin Europe acquirers experience a deterioration in their operating performance, however the magnitude of the effect is greater when the acquirer comes from a non-Latin Europe country, i.e. a culturally distant country. This result confirms Hypothesis 1 and supports the stream of literature arguing that higher cultural distance translates into higher integration costs and lower corporate performance (Barbaresco et al., 2018; Piscitello & Rabbiosi, 2005; Mariotti, Onida & Piscitello, 2003).

Following precedent works on post-acquisition performance (Barbaresco et al., 2018; Piscitello & Rabbiosi, 2005) we also controlled for pure geographic distance, separating Europe-based acquirers from others. This measure is less informative than cultural distance in terms of organizational similarities between target and acquirer, but it takes into consideration the openness to trade and lower degree of regulatory barriers European acquirers face. Previous studies on the topic provide mixed results on the effect of the acquirers' country of origin. In Italy, Barbaresco et al. (2018) and Piscitello and Rabbiosi (2005), observe that acquired companies performance is greater when the acquirer is European, in particular comparing it to US-based acquirers. US MNEs' worse performance may be due to their lower sensitivity to local labour pressures, but also to a different attitude towards the investment. US companies are likely to set in Italy just a bridgehead that does not require an immediate sequential investment and adopt a try-and-see attitude with a slower adaptive learning on the local

environment. On the contrary, studies conducted in other European countries, observe that firms under US ownership tend to be best-performer (Bertrand & Zitouna, 2008). Our results do not clearly lean in favour of one position or another. In terms of ROA, we observe a negative and significant effect when the acquirer comes from a non-European country, whereas EBITDA margin regression shows a negative and significant effect when the acquirer is European. The lack of a statistically significant relationship in the other cases does not allow us to identify a unique common trend.

We completed our investigation on acquirers' characteristics by distinguishing between industrial and financial acquirers. It is worth noticing that, despite the relevant differences in their strategies and decision-making criteria, the issue has been scarcely investigated by the literature on foreign acquisition performance. To the best of our knowledge, the only study applying this distinction is Barbaresco et al. (2018)'s work. Its results on target companies' profitability (measured by ROI) support the idea that financial buyers are more successful than industrials in enhancing the company performance, even if the effect is not-statistically significant. While companies acquired by industrial buyers experience a ROI decline by 1.5%, companies acquired by financial players exhibit a ROI improvement by 2.7%. However, the authors observe that these two opposite trends are heavily affected by ex-ante selection bias[19], in that financial buyers acquired companies with much lower pre-acquisition profitability in order to implement their project of takeover - efficiency improvement - way out. Therefore, the registered relative improvement is highly affected by a lower-than-average pre-acquisition performance.

Our results reveal that companies in our sample acquired by financial buyers experience a performance deterioration greater than the companies acquired by industrial ones. This negative effect upsets the common knowledge that financial buyers should be beneficial for company performance as their focus is to boost the company's value and extract a gain from the sale of the business in a 5-10 years time frame. Apparently, financial buyers in our dataset did not succeed in doing so. A possible explanation may arise adopting an organizational perspective. Acquired companies in our dataset are by assumption industrial, as financial sectors have been excluded from our initial research. Therefore, the foreign acquisition by a financial buyer has a

[19] *Barbaresco et al. (2018) methodology does not eliminate ex-ante characteristics of acquired companies, as our empirical methodology combining CEM and DID does.*

double meaning to them: first, the shift of ownership and the entry of a new controlling owner coming from abroad, second, the shift of management goals, which are no more those of an industrial owner but those of a fund, whose strategies are exclusively financially-driven. From an organizational point of view, the post-acquisition phase is even more complex. Employees will have to adapt to a new mind-set and way of managing the business from a double point of view. Besides that, financial investors' focus is on company's growth. Their goal is to boost the company's turnover and cash generating ability to maximize its value once they will liquidate their investments. The reorganization implemented to this end may not necessarily turn into performance improvements in terms of greater operational profitability in the first post-acquisition years. A clear example illustrating the case is the acquisition of Nuova Castelli S.p.A., a producer and exporter of parmesan cheese, which is included in our treated group. In 2014, the UK-based private equity fund Charterhouse acquired the 80% of the company's equity. At that moment, the company's turnover amounted to €290million for a €37million EBITDA. In 2018, when Charterhouse started looking for new investors, sales were increased up to €460million and EBITDA went down to €27million. The EBITDA margin decreased from 12.75% to 5,87%, despite a sales CAGR of 58,6%.

Acquired companies characteristics

Hypothesis 2 discusses the possible outcomes of a change in the acquired companies CEO following the acquisition. A reshuffle at the top of the structure may help the new property in catalysing change and implement the post-acquisition plan reducing the resistance to change at the top. Conversely, it may also lead to enhanced disorder and disruption in the company's community. Therefore, CEO change (as a proxy for reorganizational change) may be positively or negatively related to post-acquisition performance.

Hypothesis 2a: CEO change is positively related to post-acquisition performance.

Hypothesis 2b: CEO change is negatively related to post-acquisition performance.

To investigate which of the two opposing hypothesis holds in our dataset, we verified the effect of a CEO change on our outcome variables through Equation 13. Results lead us to support Hypothesis 2b and refuse Hypothesis 2a. In fact, those companies whereby the CEO changed experience a deterioration in both ROA and EBITDA margin, which on the contrary is not significant for companies whereby the CEO did not change. Our results are consistent with Cannella and Hambrick (1993) and Krishnan, Miller and Judge (1997), who observe that the

departure of target CEO and top-management team has a negative effect on post-acquisition performance.

Following Bentivogli and Mirenda (2017), Crinò and Onida (2008), ICE and Prometeia (2014) we expanded our analysis on target companies characteristics by differentiating between Manufacturing and Service companies. Indeed, the bulk of literature on foreign acquisition performance highlights the importance of controlling for target industry. Industry-level characteristics have been frequently identified as factors affecting the motives behind M&As, as well as the desired level and type of post-acquisition integration. Market growth, market structure, sensitivity to regulation, the level of capital and labour intensity are all relevant drivers to consider for the post-integration management, and thereby performance (Kang & Johansson, 2000). Bentivogli and Mirenda (2017) observe that the impact of foreign ownership on acquired companies performance is not homogeneous across the two groups (and within the two groups as well). Moreover, their empirical analysis suggests that foreign ownership is a significant predictor of post-acquisition performance only for companies operating in the service sector, but not for those working in the manufacturing industries.

Our results show the opposite trend, i.e. the effect of foreign ownership on acquired companies performance (EBITDA Margin) is significant only for companies operating in the manufacturing industries, while it is not significant in the service sector. A possible explanation of this phenomenon could derive from the observation that it is more difficult to integrate two companies in the service sector, than to integrate two manufacturing plants. The service industry is characterized by an higher level of intangible assets and dependence on human capital skills. While operational transformation in production processes are relatively mechanic to implement, it is way harder to enforce changes that regard people and intangibles. Therefore, the impact of foreign ownership on the operational efficiency may be less notable and non-significant in the first post-acquisition years.

Further, in order to complete our investigation on targets' characteristics, we distinguished among small and medium enterprises and large companies. The theory of mergers and acquisitions has often developed around large deals, in particular in those cases in which the measure of performance was the market reaction to acquisition announcements. However small and medium enterprises are not less frequently object of M&As. In particular in the Italian context, which is largely dominated by SMEs, distinguishing for firms' size is particularly relevant. Target company dimension is a critical factor in explaining the motives of acquisitions and consequently the objectives to achieve during the integration phase. SMEs are typically

less sophisticated and structured, which turns to higher flexibility and low rigidity. Their adaptability may result in an easier post-acquisition integration management, but may also represent a limit to the implementation of more developed control structures imposed by the new holding, that they are not used to. Results confirms this last observation. Indeed, small and medium enterprises experience a significant deterioration in their operational profitability measured by EBITDA margin, which is not observed for large companies. Apparently, the mind-set change resulting from the entry of a foreign acquirer is a more traumatic event for SMEs than for large companies. The latter are presumably more accustomed to international standards and reporting structures, which may be a novelty for small and medium enterprises. Therefore, we may expect that the short-term post-acquisition integration is relatively easier for large companies.

Family businesses

The ultimate interest of research of this study is to assess whether foreign acquisitions determine different effects on post-acquisition performance when the acquired company is a family firm. In particular, following our literature review presented in Chapter 2, we developed the following Hypothesis:

Hypothesis 3: Post-acquisition performance is higher for acquired family firms.

Paragraph 4.8 provides our empirical results in this regard. In particular, results on EBITDA margin regression confirms the assumption under Hypothesis 3. While the effects on sales and ROA are non-significant for both family and non-family firms, both groups experience a significant deterioration in their EBITDA margin. However, looking at the magnitude of these effects ((B= -0.1682 for family firms vs B= -0.2683 for non-family firms), we can conclude that the presence of a family in the business alleviates the negative effect of foreign acquisitions on operating performance. Therefore, Hypothesis 3 is empirically supported: post-acquisition performance is higher for acquired family firms. This outcome supports the idea that family firms over-perform compared to their non-family counterparts, a result that has been empirically demonstrated by several studies in the Family Business literature (Anderson & Reeb, 2003a; Andres, 2008; Barontini & Di Caprio, 2006; Favero, Giglio, Honorati & Panunzi, 2006; Maury, 2006; Minichilli, Corbetta & MacMillan, 2010; Sraer & Thesmar, 2007; Villalonga & Amit, 2006), but that has not been tested in the M&A context yet.

Further, Hypothesis 3a introduces an additional element, proposing that the presence of the family in the post-acquisition allocation of interests enhances the target company performance, as it preserves the family firm value and reduces post-acquisition disruption.

> *Hypothesis 3a: When the family remains in the business, post-acquisition performance is higher.*

Differently from the previous case, empirical results do not support this Hypothesis. While first-difference regression analysis on sales and ROA does not show significant results, the negative effect on EBITDA margin is confirmed. Both family firms whereby the family remained in the business and those whereby the family completely left the company experience a deterioration in their operating performance. However, the effect is larger for those companies in which the family maintained a role (as minority owner or as manager) in the post-acquisition setting. Apparently, the signal of continuation that we expected to be positive for the corporate performance turned out to be detrimental. Possibly, the involvement of the family is perceived as an anchor to the past and an obstacle to the realization of the organizational change imposed by the new ownership. In this sense, the family may (also involuntarily) enhance employees' resistance to change and efforts to preserve their established routines. On top of that, the relegation of the family to a minority status in the company they used to own may trigger employees' loyalty toward precedent owners and a counterfactual hostility towards the new ones. Accordingly, lower post-acquisition performance is likely the result of a non-collaborative and adverse climate.

Connected to that, Hypothesis 2c and 2d discuss on the effect of a reshuffle at the top structure on family firms performance:

> *Hypothesis 2c: CEO change is positively related to post-acquisition performance of family firms.*
>
> *Hypothesis 2d: CEO change is negatively related to post-acquisition performance of family firms.*

Empirical evidences presented in Paragraph 4.6.1 confirm previous results on CEO change for aggregate data, i.e. CEO change is detrimental for corporate performance of family firms. These findings corroborate the idea of family businesses unity and loyalty toward the leader, whose departure leads to organizational disorder.

The organizational perspective has also been the backing theoretical framework for Hypothesis 1a, which takes the point of view of cultural distance between acquirer and target family firms:

> *Hypothesis 1a: Cultural distance is negatively associated with post-acquisition performance of acquired family firms.*

Results on the topic have been illustrated in Paragraph 4.8.2. Both Latin-Europe and non-Latin Europe acquirers are associated to a negative effect on the operating profitability of acquired family businesses, however, once again, the magnitude of the effect is lower for family firms acquired by investors coming from Latin Europe countries, meaning that lower cultural distance alleviates the negative effect on company's performance. Therefore, we may accept Hypothesis 1a and conclude that culturally similar acquirers lead to better post-acquisition performance both when the analysis focuses on family firms only or on aggregate data.

Table 72 Difference in difference: The effects of foreign M&As on target firm's performance

	Sales-diff	**ROA-diff**	**EBITDA margin-diff**
Aggregate results	14144.11	-0.0083	-0.2222**
	(11893.29)	(-0.0391)	(-0.0961)
Acquirers characteristics			
EU acquirers	12800.4	0.0281	-0.2569**
	(12023.86)	(0.0563)	(0.1222)
Non-EU acquirers	16327.64	-0.0676***	-0.1658
	(12106.57)	(0.0262)	(0.1291)
Latin Europe	18148.85	-0.0655*	-0.1788*
	(12705.09)	(0.0367)	(0.1071)
Non-Latin Europe	13201.82	0.0051	-0.2324**
	(11939.74)	(0.0454)	(0.1114)
Industrial acquirers	14506.51	0.0030	-0.1525*
	(11944.01)	(0.0415)	(0.0913)
Financial acquirers	10355.4	-0.1273**	-0.9502**
	(12009.87)	(0.0567)	(0.4508)
Acquired companies characteristics			
Manufacturing	14449.13	-0.0342	-0.2563**
	(12123.39)	(0.0275)	(0.1267)
Service	13737.42	0.0261	-0.1766
	(11941.57)	(0.0764)	(0.1248)
SME	12658.92	-0.0046	-0.2650**
	(11802.55)	(0.0464)	(0.1146)
Large company	19856.39	-0.0229	-0.0576
	(14413.66)	(0.0317)	(0.0631)
CEO Change	13827.63	-0.0496*	-0.2111**
	(12133.84)	(0.0286)	(0.1065)
NO-CEO Change	14515.15	0.0400	-0.2352
	(11963.2)	(0.0710)	(0.1504)

Family Businesses			
Family Business	14185.33	-0.0405	-0.1682**
	(12135.34)	(0.025)	(0.0784)
Non-Family Business	14108.95	0.019	-0.2683*
	(12008.97)	(0.063)	(0.1525)
Family IN	-0.0322321	-0.0514*	-0.2554*
	(0.0303145)	(0.027)	(0.1404)
Family OUT	-0.0322321	-0.0322	-0.1021*
	(0.0303145)	(0.0303)	(0.0619)
Family-CEO Change	15251.49	-.0516*	-0.1772**
	(12688.09)	(0.031)	(0.0838)
Family- non CEO change	12777.99	-0.0259	-0.1563
	(12169.76)	(0.0262)	(0.1211)
Family-Latin EU	22587.51	-0.0828**	-0.1247**
	(13789.71)	(0.034)	(0.0536)
Family- non Latin EU	11254.34	-0.0257	-0.1833*
	(12168.6)	(0.0270)	(0.0959)
Family-EU	13088.35	-0.0375	-0.2084**
	(12472.04)	(0.0293)	(0.1052)
Family- non EU	15980.39	-0.045	-0.1024
	(12484.26)	(0.028)	(0.0716)

Notes:
(i) N=252 companies (126 treated and 126 control)
(ii) Robust standard errors are enclosed in parentheses.
(iii) ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

4.8 Theoretical and managerial implications

This work contributes to the cross-border post-acquisition performance literature and to research on family firms. One of the unique features of this study is that it aims at reducing the existing literature vacuum on family firms in the context of cross-border acquisitions, specifically as target companies of such transactions. The body of research has amply demonstrated that family firms are distinct from non-family firms along many dimensions, including financial characteristics, objectives, incentives and decision-making processes (Anderson & Reeb, 2003a; Gómez-Mejía et al., 2010; Villalonga & Amit, 2009) and that they may be value-creating acquirers (André, Ben Amar & Saadi, 2014; Basu, Dimitrova & Peglis, 2008; BenAmar & André, 2006; Feldman, Amit & Villalonga, 2019). However, as stressed out in Chapter 2, the empirical evidences on acquired family firms are scarce and incomplete. Our

study advances this literature by providing an empirical support based on Italian firm-level data. In particular, we are able to provide new insights on how family firms react to an ownership change when the new investor is a foreigner, and how their operating performance will be like. To the best of our knowledge, no existing work investigated this issue. Our work seems to demonstrate that family firms performance advantage (Anderson & Reeb, 2003; Villalonga & Amit, 2006) holds in acquisition transactions as well, as their performance in the 3-years post-acquisition is superior to non-family firms. Moreover, we also provide new evidences on the role of the family in the post-acquisition setting, an issue that has been scarcely considered in the literature, but is extremely relevant according to us.

A second theoretical contribution to the literature of cross-border acquisition performance may come from the different sub-groups analysed. Unlike previous studies conducted in Italy, we included in our dataset both manufacturing and service firms to provide a full view on the Italian productive world. Moreover, our analysis does not focus only on industrial acquirers' transactions, but does also consider the differential impact of financial acquirers.

From a methodological point of view, we are one of the first to combine DID with coarsened exact matching. The bulk of literature on the topic adopts propensity score matching. However, Iacus, King and Porro (2009) highlight how CEM dominates commonly used existing matching methods in its ability to reduce imbalance, model dependence, estimation error, bias, variance, mean square error.

This work carries important implications for managers and practitioners. Results suggest that foreign companies interested in acquiring Italian firms should carefully consider the post-acquisition integration between the two businesses and the level of autonomy of the acquired companies. In fact, our analysis demonstrate that acquirers from culturally closed countries (as defined by Ronen and Shenkar (2013)' cluster map) are associated with higher post-acquisition profitability of acquired companies. This confirms the idea that lower frictions and organizational disorders result when people and organizations sharing similar cultural backgrounds interact. Moreover, higher performance does also result when the CEO of the acquired company is confirmed. Considering the change of the top manager as a proxy of the organizational change imposed on the acquired company, we would suggest that best-performing acquisitions are those in which the acquirer does not impose great changes and leave the target with a certain degree of autonomy. Further, the absence of significant effects on large companies and those operating in the service industry induces us to suggest that affecting the

performance of these companies is harder than for their counterparts. The acquisition plan should be even more carefully managed when dealing with such types of organizations.

Finally, for what it concerns family businesses, our suggestion would be that once the family decides to sell the control of the company, it should definitely leave the business. In fact, differently from what we expected, the presence of the family in the business following the acquisition is detrimental for corporate performance.

4.9 Limitations and future research

The empirical analysis performed in this work presents a number of limitations and suggests some interesting opportunities for future research. Firstly, our empirical methodology based on post-acquisition accounting results imposes some limits on the selection of treated units. In particular, the dataset is restricted to those companies that are still active and under the same owner (the acquirer) for at least three years following the foreign acquisitions, so that we are guaranteed that their financial statements are the result of the foreign owner's influence. Companies that failed, ceased or have been re-sold within three years are excluded from our analysis, even though, on the contrary, their number is particularly significant in the analysis of foreign owners' ability to successfully guide the company. The necessary observation of the only companies that survive imply the presence of the "survivorship bias" problem that appears to be technically not eliminable from the existing literature (Barbaresco et al., 2018). Further, our analysis is based on the comparison between foreign acquired firms and domestically owned companies. However, we do not account for ownership changes in the control group. The fact that those companies remain Italian in the study time 2008-2017 does not exclude that they have been target of other domestic owners. If the occurrence of domestic acquisitions targeting control units is significant, their performance may not be a proper counterfactual any more and bias our estimate of foreign ownership effects estimated using a DID matching approach.

This study valuates acquired companies performance using accounting-based measures. Despite some advantages over other performance criteria (e.g. market returns), they also present some drawbacks. In particular, they do take corporate financial performance into account. Future studies may complement operating and accounting performance of acquired firms with a measure of financial performance.

Further, future research may include additional covariates to improve the quality and completeness of the model. For example, interesting results may stem by the analysis of related or unrelated acquisitions, acquirers past experience in Italy, deal purpose, etc. All these factors may complement on the knowledge of performance determinants. Similarly, it may be particular interesting to expand the empirical knowledge with a more qualitative and personal analysis based on interviews with acquired companies' managers. Their words may explain some of the results that have been statistically demonstrated and enrich the understanding of a so complex venture as an acquisition.

Finally, future studies may definitely benefit from an extension of the dimension of the sample, as well as of the considered time frame. As suggested by Chen (2011) acquisitions effects may manifest after years from the closure of the deal and not be captured in our 3-years analysis. However, no clear consensus has emerged on the proper timing.

APPENDIX

Appendix I

Table 15: Number of company by 3-digit ATECO 2007 code

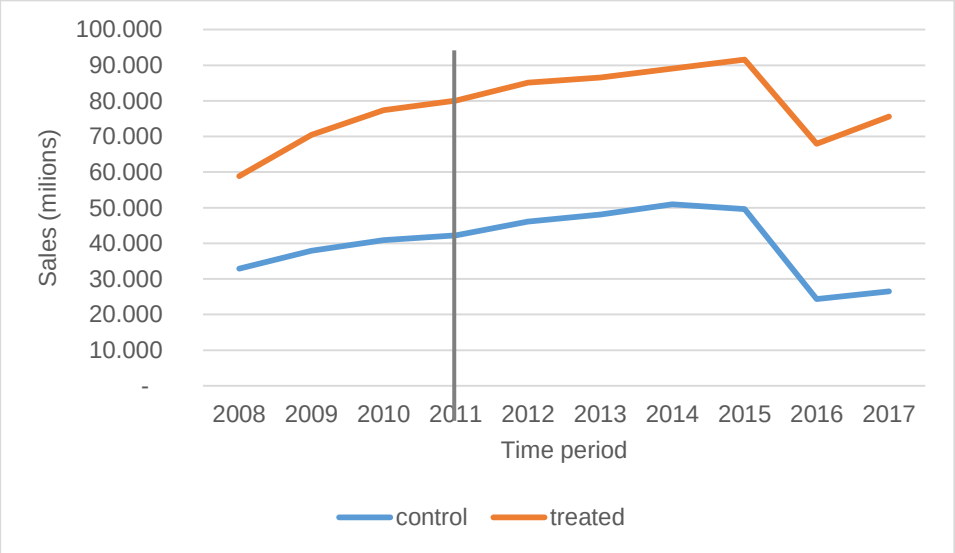
3-digit ATECO 2007	Description of activities	Treated group	Control group	Total
104	Produzione di software, consulenza informatica e attività connesse	1	245	246
105	Produzione, trasmissione e distribuzione di energia elettrica	2	1090	3,09
106	Fabbricazione di altre macchine di impiego generale	1	372	373
107	Fabbricazione di altre macchine per impieghi speciali	1	1277	2,277
108	Fabbricazione di macchine di impiego generale	2	877	879
141	Fabbricazione di articoli in materie plastiche	1	2640	3,64
151	Commercio all'ingrosso di beni di consumo finale	1	1187	2,187
152	Fabbricazione di medicinali e preparati farmaceutici	1	1474	2,474
172	Fabbricazione di strumenti e apparecchi di misurazione, prova e navigazione; orologi	1	1337	2,337
181	Fabbricazione di macchine per l'industrial alimentare, delle bevande e del tabacco	1	4133	5,133
200	Commercio al dettaglio di altri prodotti in esercizi specializzati	1	67	68
203	Collaudi ed analisi tecniche	1	422	423
204	Altri servizi di assistenza sanitaria	1	447	448
205	Attività sportive	2	1032	3,032
211	Industria lattiero-casearia	1	36	37
212	Produzione di altri prodotti alimentari	3	410	413
222	Fabbricazione di altri prodotti chimici	4	5783	9,783
233	Fabbricazione di materiali da costruzione in terracotta	2	323	325
241	Trattamento e rivestimento dei metalli; lavori di meccanica generale	1	159	160
243	Fabbricazione di apparecchiature per le telecomunicazioni	1	365	366
251	Fabbricazione di strumenti per irradiazione, apparecchiature elettromedicali ed elettroterapeutiche	1	3495	4,495
253	Fabbricazione di cablaggi e apparecchiature di cablaggio	1	21	22
256	Fabbricazione di apparecchiature per illuminazione	2	633	8,33
259	Fabbricazione di altre apparecchiature elettriche	1	2346	3,346
263	Fabbricazione di strumenti e forniture mediche e dentistiche	2	451	453
265	Commercio all'ingrosso di prodotti alimentari, bevande e prodotti del tabacco	3	625	628
266	Commercio all'ingrosso specializzato di altri prodotti	2	255	257
267	Attività degli studi di architettura, ingegneria ed altri studi tecnici	1	101	102
273	Ricerche di mercato e sondaggi di opinione	2	768	770

274	Produzione di oli e grassi vegetali e animali	2	742	744
279	Lavorazione delle granaglie, produzione di amidi e di prodotti amidacei	2	1930	3,93
280	Produzione di prodotti da forno e farinacei	1	101	102
281	Confezione di articoli di abbigliamento (escluso abbigliamento in pelliccia)	5	2047	7,0
282	Preparazione e concia del cuoio; fabbricazione di articoli da viaggio, borse, pelletteria e selleria; preparazione e tintura di pellicce	8	6675	14,7
289	Fabbricazione di calzature	7	4158	11,2
293	Fabbricazione di articoli di carta e cartone	3	1045	4,0
301	Stampa e servizi connessi alla stampa	1	685	686,0
303	Fabbricazione di prodotti chimici	1	75	76,0
310	Fabbricazione di pitture, vernici e smalti, inchiostri da stampa e adesivi sintetici	1	2125	3,1
323	Fabbricazione di saponi e detergenti, di prodotti per la pulizia e la lucidatura, di profumi e cosmetici	1	137	138,0
325	Fabbricazione di prodotti farmaceutici di base	2	717	719,0
332	Siderurgia	1	1348	2,3
351	Fabbricazione di altri prodotti della prima trasformazione dell'acciaio	9	5120	14,1
412	Fabbricazione di elementi da costruzione in metallo	1	218	1,0
463	Fabbricazione di generatori di vapore (esclusi i contenitori in metallo per caldaie per il riscaldamento centrale ad acqua calda)	2	577	7,4
464	Fabbricazione di altri prodotti in metallo	4	21592	25,6
465	Fabbricazione di strumenti ottici e attrezzature fotografiche	1	1973	3,0
466	Fabbricazione di macchinari ed apparecchiature nca	1	6661	7,7
467	Costruzione di navi e imbarcazioni	2	11505	13,5
471	Fabbricazione di aeromobili, di veicoli spaziali e dei relativi dispositivi	1	3753	4,8
477	Fabbricazione di mobili	3	9091	12,1
494	Fabbricazione di articoli sportivi	2	5854	7,8
521	Installazione di macchine ed apparecchiature industriali	1	614	615,0
522	Costruzione di edifici residenziali e non residenziali	1	4152	5,2
551	Commercio all'ingrosso di apparecchiature ict	1	5069	6,1
563	Commercio all'ingrosso di altri macchinari, attrezzature e forniture	1	3861	4,9
582	Commercio al dettaglio in esercizi non specializzati	1	119	120
610	Trasporto di merci su strada e servizi di trasloco	1	131	132
611	Magazzinaggio e custodia	1	40	41
620	Attività di supporto ai trasporti	15	14016	29,0
631	Alberghi e strutture simili	1	6184	7,2
681	Bar e altri esercizi simili senza cucina	1	30413	31,4
701	Edizione di software	2	4638	6,6
702	Telecomunicazioni	2	7577	9,6
711	Telecomunicazioni fisse	2	4572	6,6
712	Elaborazione dei dati, hosting e attività connesse; portali web	3	1368	4,4
732	Compravendita di beni immobili effettuata su beni propri	2	992	994
743	Attività di direzione aziendale	1	103	104
771	Attività di consulenza gestionale	1	469	470
774	Traduzione e interpretariato	1	256	257
829	Noleggio di autoveicoli	1	3812	4,8
869	Concessione dei diritti di sfruttamento di proprietà intellettuale e prodotti simili (escluse le opere protette dal copyright)	3	3471	6,5
931	Servizi di supporto alle imprese nca	3	3901	6,9
960	Altre attività di servizi per la persona	1	2250	3,3

Appendix II

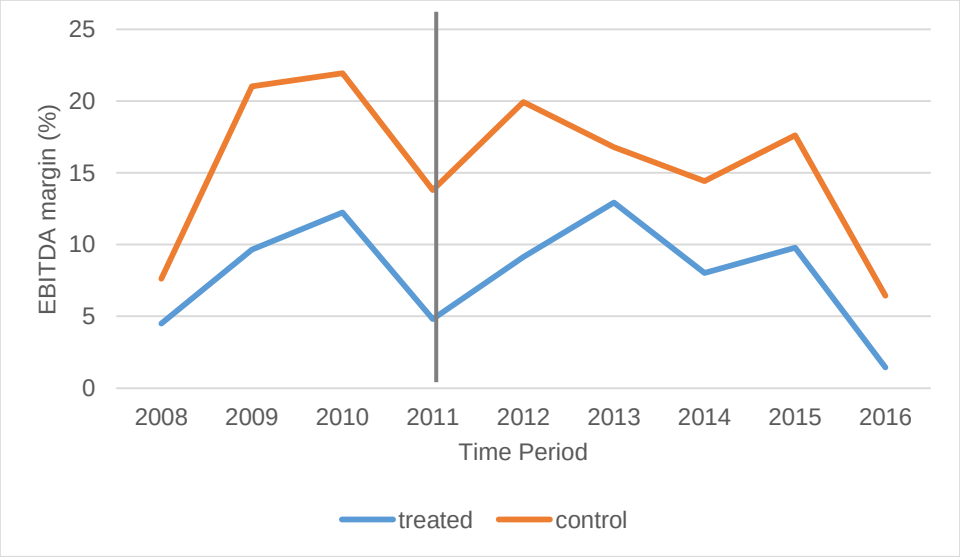
Note: trends for the matched groups are compared before 2011 (2011 represents the first treatment year in our sample). In this way we are sure that treated companies are domestically-owned before the M&A.

Figure 17 Evidence of parallel trend assumption before 2011 for sales (matched dataset: treated and control groups)



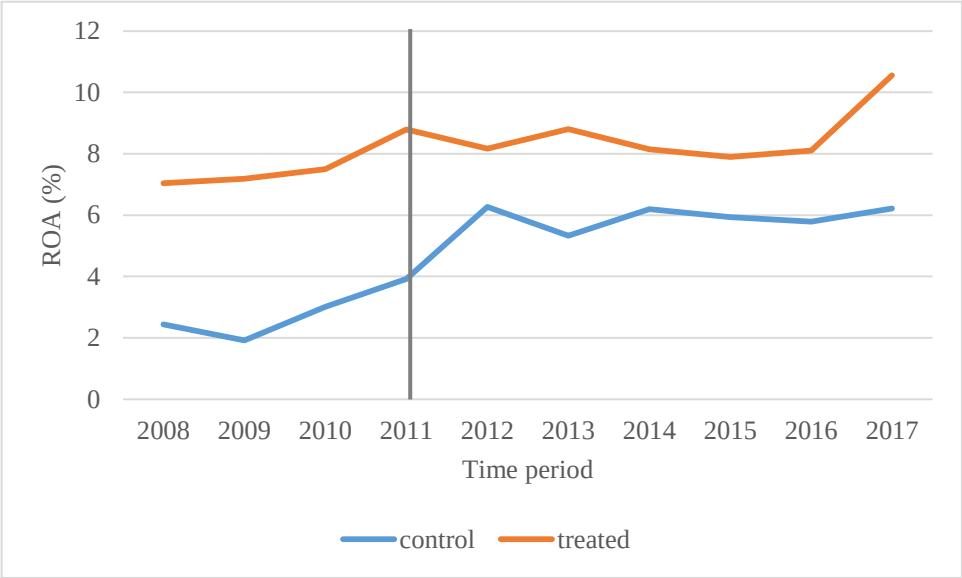
Source: elaboration of the author

Figure 18 Evidence of parallel trend assumption before 2011 for EBITDA margin (matched dataset: treated and control groups)



Source: elaboration of the author

Figure 19 Evidence of parallel trend assumption before 2011 for ROA (matched dataset: treated and control groups)



Source: elaboration of the author

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