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EXTERNAL GROWTH STRATEGY AND PERFORMANCE: AN EMPIRICAL STUDY OF FRENCH SMES

CROISSANCE EXTERNE ET PERFORMANCE : UNE ÉTUDE EMPIRIQUE DES PME FRANÇAISES

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1. INTRODUCTION

Understanding how organizations grow and change is a major topic of interest in industrial economics and strategic management literature. A simple but fundamental distinction in the nature of growth is whether firms grow internally, by relying on their resources to innovate and expand their activities, or externally, by acquiring other firms through mergers and acquisitions (M&A). While "combo deals", acquisitions that represent a target price superior to $10 billion, always

attract the attention of the public and the press, M&A activity is not the sole province of large companies[1]. Small businesses are also very active in the M&A market (Grimpe and Hussinger 2008; Mawson and Brown 2016; Weitzel and McCarthy 2011). In Western Europe, and especially in France, the context of this study, the aging of the population creates an increase in the offer of smaller firms on the market for acquisition. While the study of M&A activities has generated substantial literature on large businesses, the case of small businesses has been somehow overlooked. Specifically, the question of a performance effect of acquisitions initiated by small businesses remains relatively unexplored[2].

Numerous theoretical approaches have been proposed as explanations of the M&A process. One of the oldest may be Schumpeter's (1942) well known "creative destruction" evolutionary analysis. According to this view, new forms of industrial organizations emerge as firms react to the apparition of new business opportunities by adapting their organizational structure. However, this approach is rather useful to understand how the economic context influences organizational choice. For example, building on Schumpeter's propositions, Bruner (2004) argues that M&A activities represent an important form of economic renewal that increases firms' resilience to economic shocks. More grounded in the field of management is Penrose's (1959) seminal work on the growth of firms, which focuses on firm-level determinants of growth strategies and their impact on firm performance. According to Penrose, external growth is an inescapable step in firms' lifecycle to acquire new resources that will fuel growth once internal resources cannot be recombined anymore to sustain firms' development. Indirectly, Penrose's view echoes Schumpeter's but focuses on firm-level determinants. Closer to us

1 In 2019, approximately 50,000 M&A operations were conducted worldwide by listed firms for a global amount of $3,700 billion. In Western Europe, approximately 17,500 deals were conducted for a global amount of 888 billion euros (https://imaa-institute.org/mergers-and-acquisitions-statistics/#Mergers-Acquisitions-Western-Europe%20). However, information for privately held and smaller firms are not taken into account in these figures.

2 To be clear, this paper focuses on acquisitions conducted by small firms and not on the fact that small firms can choose to be acquired by another firm.

is Williamson's Transaction Costs Theory (Williamson 1975; 1979) which highlights how market failures and incomplete information resulting in incomplete contract force firms to internalize an otherwise market exchange. This approach aims at explaining why an organization chooses to acquire another firm instead of conducting market-based transactions with other firms, thus providing a rational for M&A. Agency Theory, in turn, adopts a similar departure point (market failures and incomplete information), but explains how it might influence the manager, firm-specific, decision of M&A. Indeed, Agency Theory stipulates that managers, as agents of shareholders, can be opportunistic in their decision to launch M&A operations as a way of increasing the resources they control (Jensen 1986). The previous theoretical frameworks gave birth to an incredibly broad literature in industrial economics, entrepreneurship, finance, and strategic management. However, if we focus on a firm-level approach the fundamental question in M&A research is whether acquisitions create value or destroy value? From a theoretical perspective, there are three views on this question. The resource-based view (RBV) suggests that acquisitions provide new resources to the acquirer that fuel growth (Penrose 1959). It might be easier and less costly to integrate an entire bundle of resources through M&A than to purchase individual resources (Wernerfelt 1984). As a result, resource combinations between the target and the acquirer result in synergies that enhance firm performance (Ficery et al. 2007)[3]. The agency theory stresses the fact that acquisitions are value-destroying operations as they result from inadequate managerial decisions that destroy shareholder value (Jensen 1986). The Transaction

3 External growth and internal growth should not be opposed as in most cases, acquiring firms maintain internal growth activities, but at a slower pace (McKelvie and Wiklund 2010). Overall, growth is a multi-dimensional concept and firms largely combine various growth modes at the same time (Lockett, Wiklund, Davidson, 2011). Smaller firms, however, do not have enough managerial resources to adopt multiple growth modes efficiently and tend to adopt more focused growth strategies, especially when they opt for external growth (Wiklund and Shepherd, 2009). The goal of external growth operations is comparable to that of other growth modes. But acquiring another firm radically changes the firm's internal organization and leads to the emergence of new processes and capabilities which, in turn, lead to higher performances (Wernefelt, 1984).

Cost Theory proposes a more nuanced view and introduces the notion that the value creation of M&A is contingent on the characteristics of the industry and the environment in which the firm evolves. From an empirical perspective, the extensive empirical literature testing the performance effect of acquisitions remains inconclusive (Andrade et al. 2001; King et al. 2004; Maksimovic and Phillips 2013).

One reason for the inconclusiveness of the empirical literature on the performance effect of M&A results from the fact that the impact of several factors, related to either the deal or the acquirer's characteristics, might moderate or mediate the relationship between external growth and firm performance (King et al. 2004, Maksimovic et al. 2013). For example, several papers compare acquisitions conducted by small versus large firms and suggest a size effect as smaller acquirers' experience greater stock-price returns than larger ones (Moeller et al. 2004). The proximity between the activities of the target and the acquiring firm enhances post-acquisition operating cash-flows (Healy et al. 1992). Ghosh (2001) and Linn and Switzer (2001) find that cash-financed acquisitions are followed by greater performances than stock-financed ones, suggesting that the mode of payment has some influence. In the UK, Powell and Stark (2005) find no improvement in post-acquisition performance and no impact from the payment method but observe that industry relatedness and change in the target's top management team have a significant impact. Overall, this underlines the variety of approaches and conclusions in this domain and more fundamentally the fact that the relationship between M&A and firm performance is contingent upon firm and operations characteristics. Furthermore, most of these studies focus on large deals and on listed acquirers (Moeller et al. 2004; Arikan and Stulz 2016).

We contribute to the literature exploring the moderating effect on the relationship between M&A and firm performance by exploring the M&A performance effect in the specific context of small businesses. Research examining whether the performance of an external growth strategy is higher than that of an internal growth strategy in small businesses remains scarce and inconclusive (Weitzel and McCarthy 2011). While several studies do not identify significant benefits of M&A for small firms' performance (Ooghe et al. 2006, Wiklund and Shepherd

2009), other papers find gains in terms of increased sales and profitability (Duhautois and Petit 2013, Arvanitis and Stucki 2014, 2015; Mawson and Brown, 2016). These mitigated results call for additional empirical research on the performance effect of external growth strategy in small businesses. More specifically, we depart from the fact that the RBV and Agency Theory are suited for different objects of investigation. Relying on the RBV to explore the performance of external growth strategy suggests a focus on rather small and growing organizations (McKelvie and Wiklund 2010) while Agency Theory is more focused on large, listed firms (Bennedsen and Wolfenzon, 2000). Indeed, in larger, listed firms, the separation between ownership and control, which is a fundamental assumption in Agency Theory, is standard. Conversely, smaller firms are more often manager-owned which reduces the risk of Agency conflicts and thus the relevance of Agency Theory to study external growth strategies in smaller firms (Fama and Jensen, 1983). Consistent with RBV prediction we hypothesize that there should be a positive effect of the acquisition on small business performance.

To test this hypothesis, we rely on a unique data set. Our sample comprises 411 firm-year observations on small and medium-sized French firms that went public during the 2006-2014 period on the organized French market. To collect financial data, we used the Amadeus database. We complemented the collection by manually gathering information from the firm's annual reports about acquisition activities. This provides us with information that incorporates pre-acquisition accounting and financial data. We rely on a difference-in-differences approach using several performance measures to test our hypothesis. This provides a methodological contribution as this approach is a robust methodology to explore the performance effect of acquisition (Arvanitis and Stucki 2015). Further, we check the robustness of our findings through propensity-score matching (PSM).

Our results show that small businesses relying on external growth have significantly higher profitability than those that grow internally, but not a higher sales growth rate. Our results are thus consistent with RBV prediction. In small businesses, M&A have a positive impact on profitability, without necessarily impacting firm growth. Our findings suggest that the motivation behind an external growth strategy is rather

to acquire assets and technologies that enhance profitability than to grow faster. Nevertheless, the results are also explained by pre-acquisition differences in profitability which tend to be stable over time. Overall, our results underline that acquisitions are strategic organizational changes more than "growth" operations. Thus, we extend previous empirical research on the profitability effect of acquisitions in the case of small firms (Arvanitis and Stucki 2014, 2015; Mawson and Brown 2016). We contribute to this literature by exploring the effect of acquisitions in terms of profitability, and not only in terms of firm growth.

The remainder of the paper proceeds as follows. First, we review the literature on post-acquisition performances and develop our hypothesis. Then, we present the research methodology and data. Further, we expose our results, and provide a conclusion in the last section.

2. THEORETICAL BACKGROUND AND RELATED LITERATURE

There is a broad debate between the RBV and the agency theory regarding the impact of external growth strategy on firm performance. While the former, based on Penrose's theory of growth (1959), considers acquisition as valuable operations that provide synergies, the latter stresses the detrimental effect of the M&A process (Jensen 1986). Through acquisitions, companies acquire new resources that fuel growth and it is likely that, at some point in their lifecycle, they will not have any other choice than to buy out another company to keep growing (Penrose 1959). If the market for acquisitions is imperfect, a firm can buy a rare bundle of resources at a cheap price and earn benefits (Wernerfelt 1984). The combination of the newly acquired resources with the acquiring firm's existing ones results in unique assets that cannot be imitated, providing strategic advantages (Salter and Weinhold 1979; Barney 1991). The nature of these benefits typically depends on the firm's strategy. For example, diversifying acquisitions may create value through the creation of synergies (Ficery et al. 2007). The acquisition of a competing firm might also be value-enhancing, as the acquirer will gain market power (Weitzel and McCarthy 2011). Thus, overall, RBV predicts that

external growth operations should positively impact firm performance. Opposite to this view, Agency theory suggests that external growth is value-destroying, especially when acquiring firms are mature. These firms make acquisitions because their cash-flow levels are high and managers cannot identify new internal growth opportunities (Jensen 1986). Instead of returning cash-flows to shareholders, managers launch acquisitions as growth at all costs strategy because it promotes their own interests (Wright et al. 2002). It also increases the firm dependency on their skills and facilitates managerial entrenchment (Shleifer and Vishny 1989). The Transaction Cost Theory (TCT) proposes a more nuanced view and introduces the notion that the value creation of M&A is contingent on the characteristics of the industry and the environment in which the firm evolves. According to Gibbons (2005) TCT actually proposes two approaches: the hold-up and adaptation views. On the one hand, if we consider TCT under the lens of the hold-up, it focuses on industry-level determinants of M&A, such as asset specificity and opportunistic behavior of agents in the industry, like business partners, and does not explicitly consider factors that are internal to the organization. Therefore, according to this view the value creation potential of M&A might vary across industries. On the other hand, if we consider TCT under the adaptation lens, then integration allows the firm to beneficiate from a dynamic efficiency allowing it to adapt more easily to its environment (Williamson, 1988). Under this lens, TCT indicates that M&A are a way for firms to develop their adaptation capacity, and is not far from resource-based approaches (Coriat and Weinstein 2010). Based on this theoretical debate, the influence of external growth strategy on firm performance seems to be an empirical debate. However, the empirical literature (for a detailed review see Andrade et al. 2001; King et al. 2004; Maksimovic and Phillips 2013) mostly explores large corporations, but what about if we consider smaller organizations?

Indeed, small businesses exhibit specific characteristics that could affect the performance effect of external growth. First, they are less likely to be affected by agency conflicts in conducting acquisitions, because managers and owners tend to be the same person (Bennedsen and Wolfenzon, 2000; Fama and Jensen 1983). Indeed, it is important to notice that the conceptual opposition between the RBV and the Agency Theory mainly reflects the fact that these theories apply to

different objects of investigation. The starting point of Agency Theory is the idea that shareholders rely on external managers as their agent to run business activities (Meckling and Jensen 1976). The motivation to hire external managers results from the fact that, at some point in the firm's lifecycle, initial founders are limited in their ability to run an organization that becomes more and more complex. However, for this situation to occur, it is necessary that firms reach a relatively large size. As argued by Fama and Jensen (1983), separation of ownership and control is an attribute of large, often publicly listed firms. It follows that Agency Theory arguments do not apply to smaller firms. Furthermore, management entrenchment, an illustration of Agency conflicts, is less likely to affect small firms because owner managers don't need to increase the firm dependence on their skills. As a consequence, small firms are more likely to withdraw from a deal than large firms if the price becomes excessive during the negotiations (Weitzel and McCarthy 2011). This provides more flexibility in the M&A process because it means that small firms' managers will more easily give up an acquisition. As a result, small firms are more selective in the target choice, which in turn increases the probability that they conduct more profitable acquisitions when compared to large firms.

Second, small businesses suffer from the liability of smallness (Aldrich and Auster 1986): small, growing firms have an initial set of resources that is much smaller than that of larger, more established firms. Therefore, they face a lack of internal resource-recombination opportunities (Penrose 1959; McKelvie and Wiklund 2010). In this specific context, an acquisition strategy could allow circumventing the lack of resources. This process thus allows new capabilities to arise as synergies are achieved after the acquisition. However, acquisitions are value-creating only if synergies are created (Schultz and Zaman 2001; Weitzel and McCarthy 2011) and specific know-how is transferred from one activity to another (Iacobucci 2002). This know-how is a managerial talent, and its use can only be relevant in original business-related acquisitions. Therefore, firms conducting unrelated acquisitions should perform worse than firms conducting original business-related ones. In small firms, managers lack the time and, sometimes, the skills required to drive activities in diversified businesses (Robson et al. 1993). Thus, small firms conducting acquisitions are expected to

make acquisitions more closely related to their core activities, and such acquisitions should be followed by better performance (Iacobucci and Rosa 2005). Furthermore, external growth allows small firms to reach a critical size faster than internal growth does (Weitzel and McCarthy 2011). The very survival of a small business can be at stake if its market power does not increase fast enough, and this creates a strong incentive to acquire other companies when the firm is young. Empirical works bring evidence of such phenomena, especially in highly competitive industries (Schultz and Zaman 2001).

Finally, M&A represent a way for firms to generate slack resources, which in turn increase firm's adaptation capacity (Penrose 1959, Cyert and March 1963, Wernerfelt 1984). The presence of slack represents a buffer against external shocks and facilitate risk taking initiatives, which in turn positively affect performance (Bourgeois 1981). The benefits of M&A through the acquisition of slack resources are likely more important for small businesses than for large firms because small firms depend more than large firms on their environment to acquire resources (Aldrich and Auster 1986). Therefore, increasing the firm adaptation capacity through M&A is a way to circumvent the liability of smallness and to allow small businesses to not miss unexpected business opportunities. The subsequent effect on performance should thus be positive.

A few empirical papers have explored the extent to which acquisitions by small firms are followed by higher performances. Ooghe et al. (2006) study a sample of Belgian acquisitions conducted by small privately held firms and report a decline in the acquirer's profitability. Wiklund and Shepherd (2009) show that small Swedish acquirers only experience a higher performance, measured as growth in sales if specific integration efforts are made. Arvanitis and Stucki (2015) identify higher productivity and innovation performance on a sample of Swizz M&A. Mawson and Brown (2016) use a case-study approach on eight UK-based acquiring start-ups and indicate that higher growth and profitability were experienced after acquisitions.

Overall, theoretical predictions by the RBV and adaptation view of TCT in the specific context of small businesses indicate that an external growth strategy should result in higher performances. Empirical

evidence on this topic is rather mixed but largely depends on the performance measure used to assess performances. There are several reasons specific to a small business that might undermine the agency issue and magnify the RBV; thus we hypothesize that there should be a positive effect of the acquisition on small business performance.

3. METHODOLOGY

3.1. Econometric framework

One major caveat with the literature exploring the performance effect of M&A is that it does not explicitly investigate the performance impact of acquisitions with respect to the performance of non-acquiring firms. Arvanitis and Stucki (2014, 2015) acknowledge that the inclusion of non-acquiring firms is important in M&A studies because of the mechanical increase in sales that follows an acquisition. In other words, the simple addition of sales revenue of the acquiring firm and the target does not prove that there are synergy gains. Thus, it is difficult to identify the impact of an acquisition on firm performance because we cannot observe what this performance would have been without the acquisition. This suggests that more insights on the true benefits of an acquisition, if any, can be gained by comparing non-acquiring with acquiring firms. It is exactly what we attempt to do, as our unique sample allows us to explore the impact of acquisitions on smaller firms' performance that is based on the comparison of growth modes, external versus internal growth.

This motivates our choice to consider a sample of firms that conducted an initial public offering (IPO), which gives us access to information about all the acquisitions made before and after the listing in the annual reports and prospectus. This sample allows us to use a difference-in-differences (Did) approach, in which we look at the difference in performances before and after the IPO and distinguish between firms that conduct acquisitions and those that do not (see Lechner (2010) for additional information about this procedure). Doing so allows us to control for omitted variable bias, and particularly for any unobserved effects

that may be related to the firm or the period. It is also important to notice that the use of a Did approach is based on the parallel trend assumption. In other words, we assume that the performance of firms that rely on external growth and the performance of firms that do not follow parallel trends over the considered period.

3.2. Sample and data sources

To collect the data, we used several sources of information. To determine the firms to include in the sample, we used the information provided by the official website of Euronext[4], which lists all the IPOs that occur in the French market. Then, we obtain financial data on the firms from the BVD Amadeus database. We manually gather information about firms' acquisition activities through the annual reports and the offering circular or prospectus[5] as this information is not available in Amadeus for small acquisitions. This allows us to cross-check the quality of the data and to obtain data that is not readily available.

During the period[6] from 2006 through 2014, 275 firms conducted an IPO on Euronext. First, we excluded from the sample 63 firms that transferred from another financial market. Second, we only retained firms that met the criteria for small and medium-sized firms according to the definition set by the European Commission[7]. Specifically, firms are considered as small or medium-sized if their number of full-time equivalent employees is lower than 250 and either their sales turno-

4 Available at https://www.euronext.com/en

5 These documents were available on the companies' websites.

6 In 2005, a reform of the French financial markets resulted in the creation of Alternext, a segment dedicated to small and medium-sized firms. However, in 2005, most firms listed on Alternext were transfers from other segments and did not raise capital. We, therefore, decide to begin our investigation period in 2006. The end of our period in 2014 is motivated by the fact that we need a three-year period after the listing. Because accounting information for a given year is only published during the following year, the longest time frame we could build when we gathered data was the 2006-2014 period.

7 Available at http://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition_fr.

ver is lower than 50M euros or their total assets are lower than 43M euros. At this point, there were 117 eligible firms. We also eliminated firms operating in the financial and real estate industries. Indeed, financial institutions do not seek to take full control of a corporate firm but mostly act as minority shareholders who are less active in the management of the target. Thus, financial institutions do not have many industrial synergies to build when acquiring another firm. Regarding the real estate industry, the French legal setting offers alternative reporting standards which make it difficult to compare the performance of real estate firms to those operating in other industries. Finally, we excluded delisted firms and firms for which we were unable to gather sufficient data. The final number of eligible firms is 105. We then collected annual financial and accounting data for the year before the IPO as well as for each of the three years following the IPO. This allows us to include lagged effects of the acquisitions on profitability as post-acquisition benefits are likely not to be immediate. Indeed, the Penrose view on firm growth stresses the integration challenges that managers face after an acquisition. For small firms' managers, who are often wearing several hats, it is difficult to dedicate time both to the integration process and to the daily operations of the acquiring firm (Penrose 1959). Therefore, integration efforts are required to achieve gains in synergies (Wiklund and Shepherd 2009) and this justifies why we use a three-year event window. For example, if a company made an acquisition in the year that follows its IPO, we have three firm-year observations for its profitability, which allows observing one-year and two-year lagged effects of the acquisition.

3.3. Model and Variables

M&A are multidimensional operations and complex by nature which means that different performance indicators are required to measure an acquisition's performance impact (Arvanitis and Stucki 2014). Consistent with previous research, we measure firm performance both through growth in sales, calculated as the change in sales between two consecutive years expressed in percentage and through profitability. It is important to notice that the choice of accounting-based performance measures is motivated by our theoretical framework. According

to the RBV, the creation of synergies during acquisitions increases performance, but for these effects to concretize, some time is required. Using a measure of performance based on stock prices would, therefore, be inadequate.

However, there is a mechanical increase in sales after an acquisition as the acquirer's income statement is merged with the target's, and this size effect might influence firm growth outside any acquisition effect. Indeed, the effect of firm size on firm growth is a controversial issue. The Gibrat (1931) law states that growth is proportional to the size and that the factor of relationship is random. Gibrat's law has generated substantial research. Some studies find that growth rates are independent of size, others that Gibrat's law is applicable only to large organizations, and some studies observe that growth rates diminish with increasing size (Evans 1987; Wagner 1992; Sutton 1997). This suggests that more insights on the true benefits of an acquisition, if any, can be gained by focusing on a profitability indicator.

Profitability is captured by operational return on assets (OROA) defined as the firm's EBIT (Earnings before interests and taxes) divided by the firm's total asset. This measure has been commonly used in empirical research to assess firm profitability, both in M&A and IPO studies (Mikkelson et al. 1997; King et al. 2004).

To implement our Did methodology, we first created a dummy variable "Acquirer" that is equal to "1" for the treated firms, namely those that made at least one acquisition during the three-year event window. Then, we created a dummy variable "Post" that is equal to "1" if the observation takes place after the acquisition and "0" if it is not. Last, we computed the interaction term "Acquirer*Post" between the variables "Acquirer" and "Post."

We also include a number of control variables. Several authors find that age matters regarding the post-acquisition performance of a firm (Arikan and Stulz 2016). Thus, we controlled for the firm's age, which is defined as the number of years since firm creation. Like age, firm size is likely to play a role in both acquisition activity and firm performance (Weitzel and McCarthy 2011). Thus, we also controlled for firm

size, which is defined as the firm's natural logarithm of total assets. Furthermore, we controlled for firm financial structure using its leverage, which is computed as a firm's total debt divided by total assets. Indeed, Harford et al. (2009) show that deviations from target capital structure condition how firms finance an acquisition. Additionally, Lang et al. (1996) report that leverage affects firms' performance depending on the degree of diversification. The availability of cash also conditions a firm's acquisition behavior, so we use the cash ratio, defined as cash and equivalents over total assets, as a control variable. Regarding investment variables, we include investment in fixed assets, calculated as the percentage change in fixed assets between two consecutive years as well as net operating working capital. Net operating working capital is calculated as inventories plus accounts receivable minus accounts payable over sales (Aktas et al. 2015). Then, we include the ratio of intangible assets over fixed assets as a control variable because firms that have high levels of intangible assets are often biotechnology firms for which research and development expenses are high. Last, to account for the impact of the Global Financial Crisis, we include a dummy variable that equals one if a firm-year observation takes place in 2009 or later and 0 otherwise. It is indeed important to take into consideration that this crisis had a significant impact on small and medium-sized financing conditions in France (Dolignon 2011; Fougère et al. 2013; Kremp and Sevestre 2013).

The estimated model in the following section is as follows:

$$OROA_{i,t} = \beta_0 + \beta_1 * Acquirer_{i,t} + \beta_2 * Post_{i,t} + \beta_3 * Acquirer_{i,t} * Post_{i,t} + Controls + Error\ term$$

4. RESULTS

4.1. The performance of external growth strategy in small firms

We observed 110 acquisitions over the three-year event window. Regarding the timing of the acquisition, 28 percent of the sample

firms conducted at least one acquisition in the year following the IPO, 39 percent within two years, and 42 percent within three years. Half of the acquiring firms were new acquirers that had never conducted an acquisition before the IPO. This shows that the post-IPO context is relevant to study the performance effect of acquisitions performed by small businesses as many deals occur. There is a clear pattern (75% of the observations) in the profile of targets, which are French small and medium-sized firms operating in the same industry as the acquirer. These observations indicate that our sample acquiring firms focus on horizontal mergers and not on vertical mergers.

Table 1 presents the mean and standard deviation of the variables included in the study. The median OROA is -0.1 percent and the mean is -11.0 percent as some of our sample firms, especially biotechnology firms, experience very low and negative EBIT. These numbers need to be considered within the context of the average standard of 7 percent OROA for French small firms[8], and they show a strong decline in post-IPO performances regarding the pre-IPO OROA. This phenomenon has already been documented in previous research (see Mikkelson et al. 1997). It confirms that a Did framework is suited for our data because it controls for such changes in profitability that are not related to the growth strategy. We present in table 2 a comparison of the main variables between the treated group (acquiring firms) and the control group (non-acquiring firms). On average, acquiring firms have higher profitability, invest more, hold less cash, are older and larger, and have a higher fraction of intangible assets. Table 3 shows a correlation matrix between our variables. As significant correlations might exist among some of our variables, we estimate the variance inflation factor (VIF) using STATA 15. None of the VIF values exceed 1.45, which is far below the level of 10, where multicollinearity may be an issue.

8 https://publications.banque-france.fr/sites/default/files/medias/documents/bulletin-de-la-banque-de-france_203_2016-01-02.pdf

Table 1. Descriptive statistics

Variables	N	Mean	Standard Deviation	Minimum	25th percentile	Median	75th percentile	Maximum
OROA	533	-0.110	0.351	-4.036	-0.242	-0.007	0.090	0.620
Acquirer	533	0.131	0.338	0.000	0.000	0.000	1.000	1.000
Fixed assets investment	427	0.757	3.020	-0.490	-0.035	0.115	0.437	33.406
Net operating working capital	509	-0.418	7.557	-13.226	0.031	0.202	0.346	1.791
Cash ratio	533	0.293	0.227	0.000	0.123	0.244	0.421	0.948
Age	533	12.146	9.506	0.000	7.000	10.000	14.000	56.000
Size	533	9.672	1.028	5.961	8.980	9.663	10.384	12.746
Leverage	533	2.109	8.481	-9.477	0.519	1.040	2.161	21.775
Intangible assets ratio	533	0.152	0.167	0.000	0.015	0.085	0.253	0.805

Table 2. Comparison between acquiring firms and non-acquiring firms

	Non-acquiring firms		Acquiring firms		Difference in means
Variables	**Number of observations**	**Mean**	**Number of observations**	**Mean**	**t statistics**
OROA	303	-0.218	230	0.031	-8.652***
Fixed assets investment	243	0.404	184	1.223	-2.797***
Net operating working capital	280	-0.367	229	-0.48	0.168
Cash ratio	303	0.34	230	0.231	5.635***
Age	303	10.746	230	13.991	-3.957***
Size	303	9.583	230	9.789	-2.289**
Leverage	303	1.846	230	2.453	-0.819
Intangible assets ratio	303	0.114	230	0.203	-6.299***

***, **, * denote statistical significance at the 1%, 5% and 10% levels, respectively.

Table 3. Correlation matrix

	Variables	1	2	3	4	5	6	7	8
1	OROA								
2	Acquirer	**0.354**							
3	Fixed assets investment	**0.100**	**0.133**						
4	Net operating working capital	0.015	-0.012	-0.058					
5	Cash ratio	**-0.157**	**-0.232**	-0.021	-0.046				
6	Age	**0.152**	**0.163**	-0.025	0.072	**-0.164**			
7	Size	**0.231**	**0.142**	0.024	-0.008	0.031	**0.290**		
8	Leverage	-0.043	-0.025	-0.007	-0.025	-0.018	0.010	0.009	
9	Intangible assets ratio	**0.162**	**0.316**	**0.108**	-0.041	**-0.385**	**-0.186**	0.074	0.028

N=411, correlation coefficients > to 0.10 are significant at $p < 0.05$ level and shown in bold.

A Breusch and Pagan (1980) Lagrange multiplier test rejects the use of pooled ordinary least squares so we should rely either on fixed-effects model or a random-effects model. As we use a Did estimator, the "Acquirer" variable would be collinear with firm-fixed-effects dummies so we use a random-effects model. Table 4 presents the results of the impact of the firm's growth strategy on its performance using our Did approach.

Table 4. Difference-in-Differences (DiD) estimations of post-acquisition performances

Dependent variables	OROA	OROA2	Sales growth
Independent variables			
Acquirer	0.217 ***	0.206 ***	-1.902
	0.044	0.044	1.286
Post	0.025	0.022	-3.018
	0.031	0.030	2.189
Acquirer*Post	-0.111 **	-0.086 **	3.282
	0.045	0.037	2.792

Control variables			
Fixed asset investment	0.002	0.000	0.003
	0.002	0.001	0.048
Net operating working capital	-0.002 ***	-0.002 **	-1.261
	0.001	0.001	1.579
Cash ratio	0.060	-0.044	-9.388
	0.076	0.071	9.913
Age	0.002	0.001	-0.107
	0.002	0.002	0.067
Size	0.060 **	0.044*	-0.381
	0.025	0.023	0.869
Leverage	-0.001	0.000	0.101 **
	0.001	0.001	0.047
Intangible assets ratio	0.021	0.000	-4.052
	0.108	0.101	6.761
Post-Crisis Dummy	-0.114 ***	-0.109 ***	1.187
	0.017	0.018	0.834
Constant	-0.730 ***	-0.486 **	10.050
	0.251	0.231	12.917
N	411	411	406
R^2	0.264	0.246	0.062

Robust standard errors are under the coefficients. ***, **, * denote statistical significance at the 1%, 5% and 10% levels, respectively.

The acquirer dummy is negative for sales growth and the interaction term is positive but not statistically significant. Thus, we observe no statistically significant effect of external growth strategy on sales growth. The acquirer dummy coefficient is positive for the profitability measure (OROA) and highly significant. The Did interaction (Acquirer * Post) term is negative for the profitability variables and significant. This has two implications. First, there is a general decline in economic performance after the IPO. Indeed, the sum of the Post and interaction terms is negative and equal to -0.100. Second, this decline is less pronounced in the case of acquiring firms as the sum of the interaction term and the acquisition dummy coefficient is positive and equals 0.158. The results show that firms that adopt an external growth strategy over-perform compared to non-external growth

strategy-oriented firms. This partially supports our hypothesis as small businesses that realize external growth strategy experience higher performance. However, we do not observe that they experience higher sales growth. It is important to notice, however, that the difference in performance we observe after acquisitions is also the result of pre-existing differences between acquiring firms and non-acquiring firms.

While OROA is a common measure in M&A studies (King et al. 2004), one could argue that differences in growth mode would result in different investment levels in property, plant and equipment (PPE). Firms relying on internal growth typically need to maintain high investment in PPE. To some extent, firms relying on external growth do not need such investments because they acquire new resources through the M&A process. As a result, it is possible that depreciation and amortization are significantly higher for internal growth firms than for acquiring firms, thus biasing a performance measure like EBIT. Therefore, we also considered an alternative measure of profitability defined as EBITDA (Earnings before interest, taxes, depreciation and amortization) divided by the firm's total assets (Mikkelson et al. 1997). We refer to this variable as $OROA_{2.}$ We then reran our regressions with the same specification. The results, provided in column 2 of Table 4, also hold for $OROA_{2}$, and our independent variable is equally significant. This shows that our results are not affected by considerations on depreciation and amortization.

4.2. Robustness test

We decided to use an alternative econometric framework to check the validity of our results. Following Arvanitis and Stucki (2015), we relied on a matching technique. In situations where there are many observable characteristics for the units, a propensity score-matching technique is an appropriate answer to alleviate concerns regarding self-selection into treatment (Dehejia and Wahba 2002). To do this, we used the psmatch2 procedure available for Stata 15. First, we computed a propensity score using a logit regression on the probability of conducting an acquisition after the IPO using all our control variables and the firm's

acquisition experience[9]. Although our sample is rather small, we make sure that we have more observations in the control group than in the treated group, so that the matching should be correct. Then, we calculate the difference in the mean performance of matched firms using the nearest neighbor in terms of propensity score as a match.

The difference in OROA between the treated group, those companies that made an acquisition, and the non-treated group are positive and highly significant as shown in table 5. The results are satisfactorily balanced for all our variables when including second-order terms for age and leverage as indicated in table 6 (Caliendo and Kopeinig 2008). We also ran this procedure on $OROA_2$, with similar results. This confirms our results about the positive impact of an external growth strategy on firm profitability.

Table 5. Results of the PSM
(Average treatment effect for the treated, ATT)

Target variable	OROA	OROA2	Sales growth
ATT	0.224***	0.194***	-5.939
t-stat	4.65	4.00	-1.14
N treated	163	163	162
N untreated	223	223	219
N off support	21	21	21

***, **, * denote statistical significance at the 1%, 5% and 10% levels, respectively.

Table 6. Test balancing property and common support of PSM (OROA)

Variable	Sample	Treated	Control	t	p>|t|
Fixed asset investment	Unmatched	1.223	0.385	2.750	0.006
	Matched	0.693	0.581	0.510	0.608
Net operating working capital	Unmatched	-0.636	-0.440	-0.230	0.815
	Matched	-0.742	-0.095	-0.660	0.509
Cash ratio	Unmatched	0.238	0.344	-4.870	0.000
	Matched	0.244	0.270	-1.150	0.250

9 We also include two sets of dummy variables to account for the firm's location and industry.

Acquisition experience	Unmatched	0.500	0.238	5.700	0.000
	Matched	0.479	0.521	-0.770	0.440
Age	Unmatched	14.641	11.363	3.490	0.001
	Matched	11.982	12.258	-0.350	0.728
Age*Age	Unmatched	359.400	171.100	4.040	0.000
	Matched	193.650	201.890	-0.290	0.768
Leverage	Unmatched	1.937	2.346	-0.500	0.619
	Matched	1.826	2.025	-0.740	0.462
Leverage*Leverage	Unmatched	9.628	124.290	-1.370	0.170
	Matched	9.226	10.113	-0.230	0.820
Size	Unmatched	10.029	9.766	2.850	0.005
	Matched	9.965	9.747	2.130	0.034
Summary of the distribution of the abs(bias):					
Mean abs(bias)	Unmatched	28.3			
	Matched	7.0			
LR chi²	Unmatched	79.45***			
	Matched	13.2			

***, **, * denote statistical significance at the 1%, 5% and 10% levels, respectively.

5. CONCLUSION

The main objective of this article was to observe if an external growth strategy brings higher performance than an internal one in the case of smaller firms. Although research on the performance effect of mergers and acquisitions is vast, few papers have considered the case of SMEs for which information is often not available. We based our work on a sample of French companies that went public between 2006 and 2014 and used sales growth and OROA as performance measures. To alleviate causality issues, we used a difference-in-differences approach and checked the robustness of our results through propensity score matching. Results show a positive and highly statistically significant relationship between acquisitions and firm profitability, while we do not observe a significant relationship with firm sales growth. In other words, externally growing firms seem to build, or to preserve, a competitive advantage over internally growing firms. This result is

in line with the resource-based view (Penrose, 1959; Wernerfelt 1984) as the benefits of the acquisitions reflect an efficient resource combination, but contrasts with previous empirical works that identified a positive effect of acquisitions on sales growth (Arvanitis and Stucki 2015, Mawson and Brown 2016). According to the Penrosean theory of growth, growth is motivated endogenously by a managerial willingness to maximize profits (Penrose 1959). Thus, if firms initiate mergers and acquisitions, the purpose of such operations is to increase profitability ex-post and not only to reach a larger size. Growing without profitability likely leads to business failures, so conducting targeted acquisitions to secure profitability appears to be an adequate strategy for SMEs (Davidsson et al. 2009). Our results support this view and further highlight that acquisitions are strategic organizational changes more than "growth" operations that would only be aimed at gaining a greater size. The present study contributes to enrich the literature on mergers and acquisitions by considering the profitability impact of external growth operations of SMEs. An important implication of the paper is that SMEs are rather efficient in conducting external growth operations, which is not the case of larger firms (King et al. 2004). Acquisitions conducted by larger firms are often driven by Agency conflicts where managers launch growth at-all-cost strategies that destroy value. Because SMEs are less affected by Agency conflicts, it is not surprising that they are more capable of benefiting from acquisitions.

While our results are consistent with a synergy effect of external growth strategy, we have not identified the nature of the synergies explaining the higher profitability for acquiring firms. For example, it is possible that acquirers benefit from a market power effect. If the acquired firm is a competing firm, acquiring it removes one player from the field and allows for better control of the market, thus bringing cost/margin benefits. The same argument is valid if the acquired firm is a supplier or a distributor as more flexibility in the supply chain is gained. Therefore, the target degree of relatedness to the acquirer's core business is likely to play a role in explaining the external growth strategy performance effect. However, in our sample most of the operations are related acquisition and not diversifying ones, thus we could not compare acquirers according to the nature of acquisitions.

Further, as suggested by Penrose (1959), the performance effect of the external growth strategy also depends on the firm's integration efforts (Wiklund and Shepherd 2009). As we have not captured the extent of integration efforts, we can only report that the benefits of the acquisitions in terms of synergies outweigh potential costs related to these integration efforts. Alternatively, several papers argue that acquisitions create some form of "enthusiasm" for the acquirer (Arvanitis and Stucki 2015; Mawson and Brown 2016). These papers suggest that enhanced motivation is a way to overcome the managerial challenge created by acquisition as managers must deal with additional tasks during the integration process. As a result, strengthened motivation to capitalize on the opportunities provided by the acquisition may also explain this synergy effect. Due to the limitations of our dataset, we were not able to test these ideas.

Last, our results indicate that there are important pre-acquisition differences in terms of profitability between acquiring firms and non-acquiring firms. Firms that are already profitable are more likely to launch external growth activities and they maintain higher profitability afterward when compared to non-acquiring firms. This observation offers an avenue for future research. Do smaller firms need to secure profitability before launching an external growth strategy? Growing through acquisition is highly challenging for smaller firms and taking such a risk means that managers "feel ready" to do so. It would be interesting to know if securing profitability triggers a riskier growth strategy for smaller firms, as proposed by the Behavioral Theory of the firm (Cyert and March 1963; Bromiley 1991; Bradley et al. 2011).

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