

## THE STRATEGIC ROLE OF PRIVATE EQUITY IN THE INTERNATIONALIZATION OF ITALIAN SMEs

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The internationalization of the portfolio company is a key strategy used by private equity (PE) investors to create value and produce returns. In recent years, the focus on the strategies for value-creation through operational improvement has become essential to achieve the exponential growth required to the portfolio company, given the low multiples and the market risk of leverage. In this paper, we define the key types of contribution that a PE investor can provide in order to support the internationalization process and their effects on the portfolio company's performance. The research is based on a survey administered to 47 PE fund managers, which covers 156 deals involving Italian companies. The results offer insight into the contribution to the corporate governance, strategy and management that PE provides in addition to the monetary support. The findings show that the non-financial support given to the portfolio companies has a positive impact on the performance and that the most impactful contribution the PE can give is the support to the relational network when the company strategy involves a foreign direct investment.

*Keywords:* Private Equity; alternative investments; SMEs; internationalization; FDI; Italy; economic impact; ANOVA; latent Dirichlet allocation.

JEL Classifications: G24, G34.

### 1. Introduction

As pointed out by [Hellmann & Puri \(2002\)](#), the traditional stream of research on financial intermediation focuses on “information-based roles of the financial intermediaries” (p. 169), to frame the moral hazard and/or adverse selection in the investment processes (i.e. the research strains from [Diamond 1984](#), [Stiglitz 1985](#), [Fama 1985](#)). Only a fraction of the overall research focuses on the impact alternative

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investments have on the financed companies and on the broader role that private equity (PE) fund managers and venture capitalists (VC) play beyond the one of the traditional financial intermediaries, by leveraging their expertise in strategic and financial decision-making in both the short and long-term. In these terms, PE and VC would perform additional roles of support and control, besides the monitoring one. Consistently with this view, the research suggests that this type of investor adds value to the financed companies beyond the mere provision of financial resources, due to the direct involvement as board members (Gervasoni & Sattin 2020, Bonini & Capizzi 2019, Gerasymenko *et al.* 2015, Gerasymenko & Arthurs 2014, Chahine & Goergen 2011, Sapienza 1992).

This stream of research identified early on several types of contributions that funds managers routinely use to create value and provide the PCs with a competitive advantage (Landstrom, 1991). To summarize the types of contribution most cited by the literature, we can list the following: financial services and consultancy, monitoring operating performance, serving as a sounding board for the entrepreneur team, support to the frame and implementation of governance practices, support in strategic decision-making, networking and interfacing activities with high profile professionals, other investor groups and key market players (for more see Gervasoni & Sattin 2020, Kortum & Lerner 2000, Gorman & Sahlman 1989, Macmillan *et al.* 1988). Subsequent research delved further into this view by assessing the changes in company structure and the business model taking place with the involvement of the PE investor in areas such as strategy, marketing, human resources management and networking activities with external parties (Gerasymenko & Arthurs 2014, Manigart & Wright 2013).

Yet, the study of the relation between these mechanisms and the influence on the internationalization of the firm is still underdeveloped, as already highlighted by George *et al.* (2005, p. 216).

The most developed framework to assess the influence of PE investors over the backed companies' internationalization process stems from the studies focusing on the above-cited PE value-creation mechanisms of professionalization and development of human capital. These studies build on the early observations highlighting that one of the firms' main problems when approaching the internationalization process, aside from the lack of financial resources, is the scarcity of specialized human capital, knowledge and expertise (e.g. Westhead *et al.* 2001, McDougall & Oviatt 1996, Oviatt & McDougall 1994, Bonaccorsi 1992). Following these findings, the study of George *et al.* (2005) reports that VC' equity ownership positively influences the management attitude toward the risks of internationalization and the internationalization process itself in both scale and scope. Then, Zahra *et al.* (2007) add to this view by examining the relationship between the share of VC ownership in the firm and the activity of the firm aimed at building international knowledge and improving export-oriented technological assets, finding a positive impact of the former on the latter. In addition, Lockett *et al.* (2008), in one of the most cited studies on the topic, analyze the export intensity of companies depending on their development stage (early seed and startup, as well as late stage), arguing that the

export intensity of the financed firms results from a strategic decision of the management, influenced by both the intellectual and financial capital of the firm. In this, the VC support the managerial choices with their internationalization experience to select an appropriate strategy, which in turn influences the intensity of export and allocation of resources toward the internationalization process (see also Fernhaber & McDougall-Covin, 2009).

The literature presented has two major gaps; the first one involves the lack of studies which focus specifically on the support of internationalization by investors, analyzing the process dynamics and its impact. This gap is best remarked by the words of Bigos (2019, p. 6): “Unfortunately, there only is a handful of studies available that concentrate on the internationalization of venture capital backed companies”. Moreover, to date most of the studies focus only on venture capital early stage investments. The findings of the research on early stage investments provide a valid guiding framework for our research, given the same context of institutional investors investing in equity of privately held companies, but can lead to different results for our sample of PE investments in mature companies.

The second gap involves the study of the types of contribution given by the PE investor in the internationalization process and how it impacts the performance of the PC. In this regard, it has to be noted that some studies highlight the existence of a filtering process applied by the investor, which is based on the propensity of a target company to internationalize before the investment. Therefore, the propensity to internationalize acts as a signaling effect of the company itself to the fund. For example, Gleason and colleagues (2006) find that born-global companies are able to attract more VC financing. So, knowing that investors tend to select companies with characteristics that favor an international expansion, our aim was to assess how they support such a process and what the consequences on performance are.

In this paper we empirically examine the role PE investors play in the internationalization of the portfolio companies (PC) receiving their financial backing, by answering the research question formalized as follows: What is the impact of the different types of contribution that PE investors make to support the internalization process of PCs?

Our main goal is thus to frame the various types of contributions PE investors can make to PCs, as well as to assess the impact of these contributions on the PC’s internationalization performance.

We use a unique dataset, based on a survey administered to PE funds managers, on the deals related to the period spanning from 2006 to 2015. The deals were detected by the AIFI (Italian Private Equity, Venture Capital and Private Debt Association) through the PEM® — Private Equity Monitor<sup>a</sup> report. The report monitors all PE deals involving Italian companies, gathering information from public sources. The survey data for 156 deals were filled out manually by the PE fund managers involved in the deal. We enhanced the survey data using the information

<sup>a</sup> Available at: [www.privateequitymonitor.it/](http://www.privateequitymonitor.it/).

provided in the companies' financial statements. The resulting sample's information covers 156 PE deals involving 149 Italian companies. After an initial assessment of the resulting dataset through descriptive statistics, we report the results of the content analysis applied to cluster the textual data produced by PE fund managers, describing their contribution to the internationalization process and verifying the main areas of PE contribution. We then proceed to analyze the effects of each type of PE contribution on the PC internationalization performance, using one-way and two-way ANOVA models.

The overall results classify the PE intervention under four main thematic clusters related to their contribution and then show how each contribution affects the performance of the company, also considering the interaction with the internationalization strategy adopted by the PC. This research makes two major contributions to the literature. First, it goes beyond extant research by addressing the contribution to the company internationalization process for investments in later stages of the companies' life cycle. This topic is especially relevant for the Italian market, which is characterized by many small and medium-sized enterprises (SMEs) which, given the small size of the national market, strongly need to capitalize on international demand to grow their business. Second, our work clearly defines the key contribution areas and evaluates their impact on the PCs' internationalization performance. This analysis shed lights on the inner mechanics of value-creation strategies performed by PE investors. Our findings and conceptual framework are thus offered to foster future academic works and debate on this under researched topic and inform PE practitioners' decision-making processes.

The rest of this paper is structured as follows. Section 1 sets the theoretical framework, based on the literature review and the consequent research questions. Section 2 describes the research methodology and data analysis framework. Section 3 discusses the results and their implications. Section 4 concludes.

## 2. Sample and Methodology

### 2.1. *Sample*

This study is built on a unique dataset provided by a survey administered to both national and international PE funds, which inquired the PE deals involving Italian companies in the decade from 2006 to 2015. Even though the PEM database covers the last 20 years of PE deals in the country, we chose this period span in order to exclude the deals that were too old to be fully monitored and to filter out most of the distortion effects due to the multiples' inflation that occurred before the financial crisis. Additionally, because the aim of this study is to frame and assess the PE contribution to the internationalization growth of mature PCs under ordinary circumstances, we consider only expansion capital, replacement and buyout deals, and we exclude turnaround deals, which by definition are subject to peculiar characteristics of the PCs' growth stage.

Thus, the initial pool of contacts for the survey was based on the 833 deals monitored by AIFI (Italian Private Equity, Venture Capital, and Private Debt Association) through the annual report PEM — Private Equity Monitor,<sup>b</sup> the most comprehensive database on Italian PE deals. Given the amount of time between the deal and the survey, the fund managers involved in roughly only 658 deals could be reached at the present time (others quit or changed professional activity). The survey data were obtained in two separate collection efforts. For 96 deals, the data were filled out manually by fund managers on the occasion of the annual event organized by AIFI, called Premio Dematté Private Equity of the Year. An additional 60 forms were instead sent and filled out following a direct request by email from AIFI. We enhanced the survey data using the information provided in the companies' financial statements retrieved from Orbis-Bureau van Dijk.<sup>c</sup> The resulting sample information consists of 156 PE deals involving 149 Italian companies, covering 23.4% of the reachable sample and 18.5% of the overall sample of deals in the reference time interval.

The data gathered by the survey concern both qualitative and quantitative information. Specifically, the questionnaire was composed of seven items in the form of six multiple choice questions and one open ended question. The constructs and items were developed following the literature (Bonini & Capizzi 2017, Smolarski & Kut 2011, Hellmann & Puri 2002, Sapienza *et al.* 1996) and verified through a two-step approach (Creswell 2017, Agarwal 2011). First, we sorted and structured the items internally following consultation with academics from both the corporate governance and international economics fields. Second, we performed a preliminary testing and validation of the survey with a panel of PE professionals gathered by AIFI.

The survey items verified the PC's internationalization processes in terms of strategies adopted by the company and contribution of the PE managers. The survey inquired about the internationalization process features both at the investment and at the PE exit, hence allowing us to assess the organic growth of the company in relative terms. To describe the internationalization process, we considered both quantitative and qualitative aspects, including the type of internationalization adopted, the key drivers, the internationalization strategy and approach, the target countries and the geographic areas addressed.<sup>d</sup> The export ratio is used as a proxy for internationalization performance (as in Smolarski & Kut 2011). Given the research question, the evaluation of the fund contribution was performed in qualitative terms, asking the fund to describe it through an open-ended question. The open-ended question allows for an exploratory and comprehensive approach to build the framework for the types of contribution. The related answers were analyzed by means of a content analysis and more specifically by referring to the qualitative

<sup>b</sup>[www.privateequitymonitor.it/](http://www.privateequitymonitor.it/).

<sup>c</sup>[www.orbis.bvdinfo.com](http://www.orbis.bvdinfo.com).

<sup>d</sup>The internationalisation measurement is based on the framework set by the literature of the research field, e.g. Johanson & Vahlne (1990), Ramaswamy *et al.* (1996) and Attig *et al.* (2016).

analysis of the constant comparative method (Charmaz 2006) which was then triangulated (Oleinik 2011, Gray & Densten 1998, Jick 1979) with the Structural Topic Model (STM) of Latent Dirichlet Allocation (LDA; Roberts *et al.* 2014).

As shown in Table 1, our final sample covers the analysis period from 2006 to 2015 evenly (Table 1, Heading 1.1). Roughly 60% of the sample is composed of SMEs, both in terms of revenues (below 50 million, Table 1, Heading 1.2) and the number of employees (below 250, Table 1, Heading 1.3). The distribution of observations across the industrial sectors (Table 1, Heading 1.4) and regions (Table 1, Heading 1.5) reflects the trends observed in the market reports of PEM.<sup>e</sup> In fact, the sample shows a concentration of the deals in the Lombardy region and on industrial products and consumer goods, which is consistent with what is observed in the overall market over the period.

The sample is mostly composed of buyouts, 61.5%, and expansion deals account for the rest, 38.5%. Table 2 shows that most of the sample is composed of buyouts or expansion deals related to national investors, while only 18% represents deals made by foreign funds (Table 2, Heading 2.1). This percentage is not consistent with what we observe on the Italian market and is skewed by the survey answer rate of national funds compared to the foreign ones. While the practices for pan-European funds may not differ from the national ones, an argument can be made when these results are generalized to funds of other regions, such as the U.S., as mentioned before. Thus, while this point does not impair the validity of the results as far as the Italian market is concerned, it poses a limit on the generalizability to markets outside the European Union.

Finally, our data confirm the notion that PE has a strong preference for PC that already have some presence in foreign markets. Indeed, as reported in Table 2 (Heading 2.2), more than 70% of the deals performed by both national and foreign PE targets companies which already have an international presence. In line with the theory, expansion deals (growth capital) involve more companies with no international presence at the time of the deal (40%). In this case, it is possible to assume that one of the main leverages of value creation is the internationalization process of the PC.

## 2.2. Methodology

The analysis is divided into three parts. The first part reports an analysis of the economic impact on the PC internationalization process over the investment duration. The aim of this part is to assess the drivers, strategies, internationalization tools implemented and the overall performance in terms of internationalization of the PC on the entire sample.

The second part applies content analysis (latent Dirichlet allocation) to the description of the PE intervention, in order to cluster the intervention in specific types of contribution to the internationalization process. This analysis is based on

<sup>e</sup>For more information: <http://www.privateequitymonitor.it/publicazioni.php>.

Table 1. Sample PC characteristics.

1.1 Distribution by Year		1.2 Distribution by Revenue		1.3 Distribution by Employees		1.4 Distribution by Industry		1.5 Distribution by Region	
Year	%	Revenue (mln, €)	%	Employees	%	Industry	%	Region	%
2006	13	0-2	3	0-19	3	Industrial products	39	Lombardia	44
2007	7	2-10	8	20-99	38	Consumer goods	17	Emilia-Romagna	13
2008	13	10-30	31	100-199	17	Other professional and social services	10	Veneto	12
2009	6	30-50	18	200-249	8	ICT	10	Piemonte	7
2010	7	50-100	18	250-499	12	Food & beverage	8	Toscana	7
2011	12	100-250	16	500-999	11	Health care and social services	5	Lazio	4
2012	13	> 250	6	> 1.000	11	Pharmaceutical and biopharmaceutical industry	4	Liguria	3
2013	13					Retail and wholesale trade	3	Abruzzo	2
2014	8					Transportation	3	Marche	2
2015	8					Financial services	2	Campania	1
								Friuli-Venezia Giulia	1
								Trentino-Alto Adige	1
								Sicilia	1
								Umbria	1

Table 2. Sample deals' characteristics.

2.1. Distribution by deal type and investor origin			
Investor type	Deal type		
	Expansion	Buyout	
National	36%	45%	
Foreign	1%	18%	

2.2. Distribution by international presence at $t_0$ of the PC* and investor origin or deal type			
	International presence at $t_0$		
	No	Yes	Total
National	22%	78%	100%
Foreign	28%	72%	100%
Buyout	12,5%	87,5%	100%
Expansion	40%	60%	100%

*Note:* \*Dummy variable describing whether the PC had any % of revenues generated in foreign markets at the time of the deal.

the theoretical framework provided by the aforementioned literature which frames the PE contribution through a set of strategic actions in specific areas of the company. This general pattern of intervention is then customized by the investor to the PC financial performance, organizational structure and strategic position. The customization is achieved by adjusting the mix of action intensity for each type of contribution. On this basis, we then narrow the focus on the specific topic of the support to internationalization and the types of contribution involved.

These two initial parts are aimed at fully framing and contextualizing the PE activity to support internationalization to pave the way for the analysis of the effects of such intervention. Thus, the third part reports the results of the ANOVA test conducted to compare the main effects on the export revenue of the PE contribution and PC internationalization type, as well the two-way ANOVA used to study the joint interactions of PE contributions and internationalization strategies. We draw from the literature concerned with the measurement of impact of PE on PC companies (Gervasoni & Sattin 2020, Bigos 2019, Devigne *et al.* 2013, Hillman & Dalziel 2003, Hellmann & Puri 2002). From this, we expect PE to adapt the contribution mix (intensity for each type of contribution) to the specific PC context that is in order to be able to provide the best support in each context.

### 3. Empirical Results

#### 3.1. Performance indicators and economic impact

To define the types of contribution given by PE funds to PCs, we first start by assessing the changes on the PCs' internationalization process over the investment

duration and the observed differences in drivers and strategies for internationalizing for the entire sample. From the analysis of the PC characteristics before the investment, we can highlight that 77% of the overall sample already had some sort of internationalization at the moment of the investment. This information suggests the tendency of PE to invest in target companies with a strong focus on foreign markets, which signals a growth strategy and endeavor to perform over competitors that PE can build upon. Thus, this information, even if not conclusive, seems to support LiPuma (2006) causality relation between PC internationalization and investments. Of the sample, 74% saw an increase in the international presence during the investment period, confirming the overall tendency of PE to successfully support the PC internationalization process. Table 3 shows the entity of such increase in terms of foreign revenues' percentage before and after the investment, underlining no significant differences between national and foreign PE.

On the other hand, Table 4 assesses the strategic choices adopted by the PC with the support of PE regarding the type of internationalization adopted during the holding period. The internationalization process during the holding period was achieved by means of a greenfield investment for 31% of the PCs, highlighting the strong change in the pace and risk-taking approach of the PCs once financed by PE. It is also worth noting the increase in the holding period for the PCs which choose a longer internationalization process involving the following: An acquisition, the formation of a network of sales agents or a greenfield investment. The increase in the holding period when these three approaches are involved shows how PE provides patient capital, being ready to commit to investments with longer term growth processes (Dominguez 2018, Gooderham & Nordhaug 2003, pp. 7–22).

Table 4 also reports the key drivers for each chosen strategy, underlining how PE-backed companies are pushed to adopt an entrepreneurial and opportunity seeker approach, alongside the factual data related to the international markets they already operate in. Thus, PE supports them in scouring new potential international markets and showing international entrepreneurship (Reuber et al. 2018). This approach is then reflected in the degree of spread of target geographic areas (reported in Table 5), which involves extra-EU regions for nearly 70% of the deals.

Table 3. Foreign revenues' percentage before and after the investment.

Foreign revenue (%)	Entry	Exit	Change
Mean	51%	53%	7%
Median	44%	50%	3%
Standard dev.	34%	34%	12%
Only — Foreign PE			
Mean	35%	42%	7%
Only — National PE			
Mean	41%	47%	5%

Table 4. Analysis of internationalization strategy type<sup>a</sup> by holding period and driver of internationalization.<sup>a</sup>

Int. strategy type	%	Av. Holding period	Market research	Sales results	Suppliers relations	Product/service mix innovation
Greenfield	31%	4.4	38.46%	38.46%	11.54%	11.54%
Contracting sales agents	18%	4.7	38.46%	38.46%	11.54%	11.54%
Acquisition	17%	4.6	44.44%	29.63%	3.70%	22.22%
Industrial partnership	15%	4.4	41.18%	35.29%	5.88%	17.65%
New direct clients	10%	3.4	38.46%	38.46%	11.54%	11.54%
Digital marketing and sales	9%	4.0	38.46%	38.46%	11.54%	11.54%
<b>Total</b>	<b>100%</b>	<b>4.1</b>	<b>40.79%</b>	<b>34.21%</b>	<b>10.53%</b>	<b>14.47%</b>

Note: <sup>a</sup>Both the internationalization strategy type and drivers were inquired about in the survey conducted through multiple choice questions. Each choice is represented by a dummy variable. A single company may adopt multiple strategies and have multiple drivers.

Table 5. PCs' new target geographic areas for the internationalization process during the holding period.<sup>a</sup>

	Overall	Investor origin	
		Only foreign PE	Only national PE
America	32%	40%	30%
Africa	10%	0%	12%
Asia	26%	33%	25%
Europe	31%	20%	33%
Oceania	1%	7%	0%

Note: <sup>a</sup>Series of dummy variables, formed via direct question in the survey, tracking the new areas in which PCs developed their business during the holding period.

### 3.2. Funds' contribution content analysis

After defining the impact of PE on the PCs' internationalization strategies, we perform the content analysis on the answers to the survey's open-ended question, which required PE fund managers to describe the contribution made. By deploying both a qualitative content analysis, using the constant comparative method (Charmaz 2006), and the quantitative Latent Dirichlet Allocation (LDA) analysis on the survey answers (Blei *et al.*, 2003), these two processes were performed in parallel, in order to triangulate the results (Oleinik 2011, Jick 1979). The aim is to cluster the content of the PE description of their contribution into a finite number of strategies by recognizing the patterns of actions undertaken by the PE funds in response to specific PC needs.

We analyzed the 156 text documents related to the answers given by PE funds to the open-ended question of the survey requiring funds to describe their contribution

specifically to the companies' internationalization process, if there was any, during the holding period. The survey was conducted in the Italian language. Out of the 156, 42 did not provide a sufficient answer, while the remaining 114 provided an extensive answer which could be used for the LDA analysis. Due to this limitation, this part of the analysis refers to the cited sub-sample. The constant comparative method (Charmaz 2006) was performed at the AIFI offices on three separate occasions. The data were reviewed, coded, and categorized by the authors and the AIFI personnel involved, specifically two AIFI researchers. The estimation of the Structural Topic Model using the Latent Dirichlet Allocation (LDA) method was performed using the R software package "stm" (Roberts et al. 2014, 2016) on all available text documents. The four thematic clusters resulting from the triangulation of the two methods are reported in Table 6.

The four clusters resulting from the analysis point to four broad classes of intervention a PE fund can perform to support the internationalization process of the PC. The first type of intervention is related to the strategic analysis of the opportunities for growth the company has in new foreign markets. In this case, the PE investor pushes the company to pursue an opportunity seeking approach and assists the company in making entrepreneurial decisions, using the experience matured facing the different situations of each previous PC. This type of assistance, along with the financial one (Cluster 4), is at the basis of the PE intervention and, as such, is shown to be the predominant type of contribution for most of the deals. In this case, Cluster 1 comprises 54 of the overall deals. The second cluster instead refers to the type of contribution PE investors make when they use their connections and overall business network to support the companies in finding new opportunities and key deals. In this case, the fund acts as a scouting agent in foreign markets, capable of procuring resources and insights through its relational connections otherwise not obtainable by the PC. The third type of contribution refers to the support given to the management team in structuring the operative side of the investments. As such, this type of contribution refers to a more hands-on approach adopted by the PE investor only when the team lacks certain specific competencies needed in an international environment. When compared to the other types of contribution, this one is

Table 6. Clusters resulting from the LDA analysis and validated through the constant comparative analysis.

Cluster	Obs. number (LDA results)	Topic	Key terms <sup>a</sup> (in Italian language, stemmed)
1	54	Strategic analysis and strategy implementation	"apertur"; "commercial"; "joint-venture"
2	13	Networking and negotiation	"negoziazion"; "network"; "accord"
3	11	Management support	"manag"; "societ"; "support"
4	36	Financial support	"svilup"; "acquisizion"; "amministratore"

Note: <sup>a</sup>Three most relevant stemmed terms resulting from the LDA, excluding non-significative terms. The words are in Italian as the survey was conducted in this language.

used with less intensity, being the dominant type of contribution in only 11 deals. This may be due to the PE investors' preference to focus on contributions that are less operative and more strategic in nature and which can be better leveraged to achieve explosive company growth. Finally, the last type of contribution (Cluster 4) refers to the most traditional PE role of providing financial support, which is part and parcel of any investor activity.

Following the definition of the four clusters, each deal was allocated to one of them, on the basis of the  $\theta$  value of document-topic probabilities resulting from the LDA analysis and then the results were compared with the ones from the constant comparative method to check the consistency of the results. The two methods' results matched for most cases and the LDA classification was thus applied in the following step.

### 3.3. Performance assessment and comparison

Following the definition of the four clusters which frame the main types of contributions given by the PE investors to support the internationalization process of the PC, we address the differences in the PC international performance arising from different types of PE contribution. We use the clusters obtained to classify the main type of contribution applied in each deal and proceed to assess any statistically significant difference in the performance, using as proxy the export revenue percentage change in the holding period. The calculations were performed using the STATA 13 software. Prior to the ANOVA test, we conducted the Levene's test for equality of variances. For all three versions of the test (Table 7) the  $p$ -value is less than 0.05, indicating that there is a statistically significant difference in the variance of export revenues between clusters.

Table 7. Descriptive statistics of the clusters' means and Levene's test for equality of variances in the four clusters over the export revenue percentage change.

	Mean	Std. Dev.	Freq.
Cluster 1	0.05889074	0.07919315	54
Cluster 2	0.18561538	0.12755361	13
Cluster 3	0.05854545	0.03670521	11
Cluster 4	0.05754722	0.08334286	36
<b>Total</b>	<b>0.07288421</b>	<b>0.09268498</b>	<b>114</b>
	$W_0 = 3.8371465$	$df(3, 110)$	$Pr > F = 0.01174076$
	$W_{50} = 3.5564516$	$df(3, 110)$	$Pr > F = 0.01671751$
	$W_{10} = 3.9061697$	$df(3, 110)$	$Pr > F = 0.01076457$

Note:  $W_0$  test statistic for Levene's test centered at the mean.

$W_{50}$  test statistic for Levene's test centered at the median.

$W_{10}$  test statistic for Levene's test centered using the 10% trimmed mean.

Table 8. One-way ANOVA test for export revenue % change by clusters.

Source	SS	df	MS	F	Prob > F
Between groups	0.186511892	3	0.062170631	8.72	0.0000***
Within groups	0.784215319	110	0.00712923		
<b>Total</b>	<b>0.970727212</b>	<b>113</b>	<b>0.008590506</b>		

Notes: \*\*\* $p < 0.001$ ,  $R^2 = 0.1921$  (Adjusted  $R^2 = 0.1701$ ).

Table 8 reports the results of the one-way ANOVA test conducted to determine if the export revenue percentual change during the holding period was statistically different for groups with different PE contribution. We found a statistically significant difference between groups (as determined by the  $F(3, 110) = 8.72$  with significant  $p$ -value).

Following these results, a Tukey *post-hoc* test was run (Table 9) which revealed that the export revenue percentual change was significantly higher for the comparison between: Cluster 2 and Cluster 1; Cluster 3 and Cluster 2; Cluster 4 and Cluster 2; Cluster 4 and Cluster 3. From this comparison, it is possible to see how Cluster 2, which related to a type of PE contribution focused on using the investor’s network of relations to find opportunities in new markets, is on average the one performing the best.

Finally, we delved deeper into the interaction between the PE investors’ contribution and the PCs’ internationalization process by introducing the internationalization strategy adopted by the PC and studying the interaction between the type of contribution, the internationalization strategy and their joint effect on the export revenue increase. To examine this relation, we employed a two-way ANOVA test. As shown in Table 10, the two-way ANOVA test indicates the already known significant main effect of the PE contribution type but also a significant interaction effect with the internationalization strategy. For the purpose of the analysis, a new variable was derived from the international strategy type, which categorizes the PC into three groups based on the intensity of their new international operations established during the holding period: The first one includes PCs that only sell products abroad through digital marketing and sales; the second one includes all PCs which additionally either formed industrial partnerships, contracting sales agents or acquired

Table 9. Pairwise comparisons of means with equal variances.

Export Revenue %	Contrast	Std. Err.	$t$	$P >  t $	[95% Conf. Interval]	
Cluster 2 vs. Cluster 1	0.1267246	0.026085	4.86	0.000	0.0586757	0.1947735
Cluster 3 vs. Cluster 1	-0.0003453	0.0279309	-0.01	1.000	-0.0732097	0.0725192
Cluster 4 vs. Cluster 1	-0.0013435	0.0181675	-0.07	1.000	-0.0487377	0.0460507
Cluster 3 vs. Cluster 2	-0.1270699	0.0345907	-3.67	0.002	-0.217308	-0.0368318
Cluster 4 vs. Cluster 2	-0.1280682	0.027321	-4.69	0.000	-0.1993415	-0.0567948
Cluster 4 vs. Cluster 3	-0.0009982	0.0290886	-0.03	1.000	-0.0768828	0.0748864

Table 10. Two-way ANOVA test for export revenue % change by clusters and internationalization strategy.

Source	Partial SS	df	MS	F	Prob > F
Model	0.281525723	11	0.025593248	3.93	0.0001***
Clusters	0.120451404	3	0.040150468	6.16	0.0007***
Int. strategy	0.026864946	2	0.013432473	2.06	0.1332
Interaction effect (C × I)	0.137081401	6	0.0228469	3.51	0.0037**
Residual	0.586297991	90	0.006514422		
<b>Total</b>	<b>0.867823714</b>	<b>101</b>	<b>0.008592314</b>		

Notes: \*\* $p < 0.01$ , \*\*\* $p < 0.001$ ,  $R^2 = 0.3244$  (Adjusted  $R^2 = 0.2418$ ).

new direct clients; finally the third group includes all companies that either acquired a foreign company or made a greenfield investment abroad.

Thus, we find that there is a significant interaction between the effects of PE contribution type and internationalization strategy on the export revenue increase, with  $F(6, 90) = 3.51$  and  $p = 0.0037$ . Additionally, only the main effect of the PE contribution type is statistically significant at  $p < 0.005$ , whereas the one for the internationalization strategy is not. In order to further explain the effects of the interaction, in Appendix A, we report the pairwise comparisons of marginal linear predictions and Fig. 1 shows the interaction effects between PE contribution type and PC internationalization strategy on export revenue change. From these two sources, it is possible to see how the difference in performance is especially relevant concerning the interaction between the PE contribution of Cluster 1 and internationalization Strategy 2, as well as the PE contribution of Cluster 2 with Strategy 2. Most of the differences in performance seem thus to be related to the PC's strategies applied to translate from only selling the product abroad to effectively set foot in a

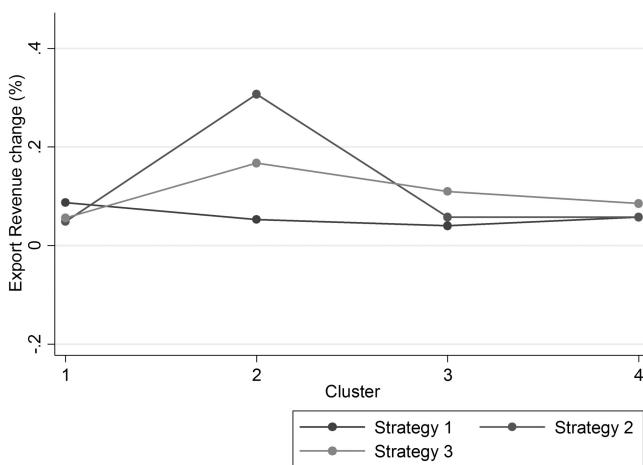


Fig. 1. Interaction effects between PE contribution type and PC internationalization strategy on export revenue change (%).

foreign market. In this context, the relational assets and expertise provided by the PE investor can boost the PC performance above the already high average growth of these deals.

#### **4. Conclusions**

The Italian economic context is characterized by a high intensity of entrepreneurial activity which results in a thriving environment for SMEs' formation and growth. One of the critical aspects for the successful growth of SMEs and Italian companies in this market scenario is the ability to quickly achieve a position in foreign markets. In fact, the strategic choice of internationalization can guarantee a competitive advantage based on the larger number of potential clients, scalability of operations, and lowering of the business market risk through diversification. As such, this process can help the Italian market overall in solving the long-standing competitive drawbacks that an environment composed mostly of SMEs faces when confronting large multinational companies.

In light of the above, our study provides insights both for academics and practitioners assessing the types of contribution to and effects of PE investors on Italian companies, with regard to such an essential aspect. Indeed, extant literature analyzing the strategies of value creation and effects of VC and PE investments shows that PE and VC investors play a key role in the process by providing financial resources and competences. Undoubtedly, for these types of investors, fast PC internationalization is a key to boost the investment performance. Our study further delves into the way in which this strategy has become crucial for most of the PE operations targeting Italian companies. The focus on this strategy is such that, not only does the PE investor support the PC in the process during the investment period, but also we find a high percentage of companies being selected having already shown a strong attitude to internationalize.

Additionally, our research further contributes to the extant literature by specifically assessing the types of contribution PE investors can make to support the internationalization process and their effects on PC performance in later stages, an aspect that has been neglected in favor of the focus on early stage investments. In this regard, we highlight the capabilities of both national and foreign PE funds to boost the PCs' internationalization process and induce strong performances. In our analysis, the PE contribution is clustered into four distinct types: strategic, financial, relational network, and management of operations abroad. Of these, each one is found to provide value to the company and among them the one having the most impact is the contribution concerning the relational network. This contribution is especially relevant in the case of PCs applying a strategy involving an actual international presence abroad via foreign direct investments (an acquisition or a greenfield). In this case, the PE investor expertise helps the company in tapping all its potential by providing opportunities for growth through its network of international contacts.

Our findings provide a useful framework of reference also to professionals, both company managers and investors. On the one hand, this framework helps clarify the kind of support PCs can expect from PE investors and their effects. On the other hand, it further stresses the importance of this strategy of value-creation to investors, especially in the Italian economic environment, showing which type of contribution is most useful in relation to the needs for each PC's main type of internationalization strategy. Overall, from a PE investor perspective, this strategy proves essential in boosting returns, while mitigating the portfolio country-specific exposure, by lowering the risk at the company level, an essential argument to understand in the fundraising negotiations of national PE investors.

This study presents the limitations in terms of generalizability of results to other countries, for which further studies are needed. We urge the reader to take into consideration the self-reported nature of the data referring to the PE contribution. In fact, due to resources limitation and in most cases the time gap, it was not possible to administer a survey also to the PC's management teams. Additionally, the sample size is relatively small, despite the long period taken into consideration, due to the overall small size of the Italian PE market compared to other countries, coupled with the survey answer rate. We also already addressed the argument of the skewed answer rate in favor of national funds. The small sample size limited our capability to include all variables of possible consequence. With a larger data sample more control variables could be included without sacrificing the model degrees of freedom.

As an additional consideration we highlight that some research has speculated that the European VC and PE have developed structural differences from the U.S. ones, even though the latter initially acted as reference for their development (Arundale 2019, Sapienza *et al.* 1994, Ooghe *et al.* 1991). Thus, the findings of our sample comprising only deals on Italian target companies, whilst limited in their generalizability, can frame better the specificities of the support to internationalization process of PE and VC investors in the European market. This is especially true in relation to the Italian market, which is composed of SMEs with a strong need to foster growth through external markets and internationalization to compensate for the limited internal market.<sup>f</sup>

Future research could take into consideration the possible moderating effects of the PE funds' size and investment strategy characteristics, previous investment rounds in the PC, entrepreneurship ratio or availability of other external financing forms, integrating the latest developments of the sector (Bonini *et al.* 2019). Another important analysis may be performed on time effects by using longitudinal data on the PE investors' support activity, in order to further assess the role of PE as patient capital. Finally, it may prove extremely insightful to compare the effects of different types of contribution across different countries in order to assess the difference due to country-specific economic environments (see Wright *et al.*, 2005).

<sup>f</sup>For more information: European Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs — GROW (2019).

## Appendix A

Table A.1 reports the pairwise comparisons of marginal linear predictions for clusters of PE contribution and PC internationalization strategies, reporting both the unadjusted groups and the results of the Scheffé test. The table was calculated using STATA 13.

Table A.1. Pairwise comparisons of marginal linear predictions.

	Margin	Std. Err.	Unadjusted groups	Scheffé groups
Cluster 1#Strategy 1	0.0873077	0.0223855	AB	AB
Cluster 1#Strategy 2	0.049	0.0360955	A	A
Cluster 1#Strategy 3	0.05597	0.0147359	A	AB
Cluster 2#Strategy 1	0.05325	0.040356	A	AB
Cluster 2#Strategy 2	0.3075	0.040356		B
Cluster 2#Strategy 3	0.1675	0.040356	B	AB
Cluster 3#Strategy 1	0.04	0.080712	AB	AB
Cluster 3#Strategy 2	0.058	0.028536	A	AB
Cluster 3#Strategy 3	0.11	0.080712	AB	AB
Cluster 4#Strategy 1	0.0583083	0.0232995	A	AB
Cluster 4#Strategy 2	0.058125	0.020178	A	AB
Cluster 4#Strategy 3	0.08525	0.040356	AB	AB

Note: Margins sharing a letter in the group label are not significantly different at the 0.05 threshold.

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