

# OWNERSHIP STRUCTURE AND FINANCIAL PERFORMANCE: A STUDY OF THE ITALIAN RETAIL PHARMACIES

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## Abstract

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This study examines if differences in the financial performance of companies managing retail pharmacies can be detected based on governance factors. These factors refer to ownership type, group belonging, and a number of retail pharmacies owned. Based on a sample of 116 companies managing retail pharmacies in Italy, analyses of variance are conducted to assess the effects of governance factors on financial performance considering profitability, liquidity, and leverage ratios. Results showed that privately-owned companies tended to perform better than publicly owned and mixed ownership companies. Further, independent companies presented better financial performance than companies belonging to a group, while companies managing a single store presented better financial performance than those with multiple stores. This work sheds light on the governance factors that have an effect on companies managing retail pharmacies' financial performance. It contributes to the literature suggesting that private ownership can foster companies' profitability, also in the form of mixed ownership, and discusses the findings with reference to policymaking and practitioners' utility. The paper is the first contribution to a field that is quite under-investigated, concerning the drivers of financial performance, as pharmacies represent a public service combining both profitability orientation and the accomplishment of social interest.

**Keywords:** Retail Pharmacy, Financial Performance, Governance, Ownership

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## 1. INTRODUCTION

The healthcare industry plays a key role in the economy of most Western countries. Organizations that distribute drugs are industry players that contribute to the effectiveness of healthcare systems. Pharmacies are public service organizations whose mission is to deliver drugs to final consumers in a timely manner. It can be argued that pharmacies

have a hinge role between a country's healthcare system and its citizens.

Countries' policies that regulate pharmacies' activity may differ based on the characteristics of the national health system, market liberalization, and the number and type of players admitted. In the last twenty years, the institutional environment of pharmacies has undergone significant changes due to deregulation policies and the consequent

competition, which derived from new market players within the drugs distribution and healthcare services delivery segments.

These factors put retail pharmacies' accounts in financial distress. In this context, this effect is best highlighted in small and medium-sized retail pharmacies, compared to retail groups that can exploit economies of scale to support their differentiation strategies.

In Italy, pharmaceutical care is provided through the retail pharmacies under agreement with the NHS that states how retail pharmacies are rewarded for drug distribution and the type of care services they can deliver.

The partially regulated market in which pharmaceutical assistance operates has undergone meaningful changes in the last 20 years related to the increase of generics due to patents expire and the need to contain costs; the increase of the number of para-pharmacies shops; the increase of competitiveness due to the opening of new retail pharmacies to allow to recover the one to 3,000 inhabitants rate defined by the regulation. The tendency to group belonging have been emerging; indeed, in a context where the differentiation on services and non-drugs products becomes a relevant success factor for competitive advantage, numerous large market players have entered the retail pharmacies business counting on capillarity through multiple outlets and economies of scale to sustain differentiation and thus, profitability. In addition, in this complex context, the entry of foreign and domestic groups within the retail pharmacy segment was also introduced by the recent regulation framework that gives large private enterprises managing retail pharmacies the possibility to control up to 20% of retail pharmacies within each region. Among the main consequences of such a regulatory framework, there is a greater market concentration: this phenomenon can take place a) through potential acquisitions of pharmacies by multinational companies or b) the possibility of networking between independent pharmacists, exploiting economies of scale, and activating new services.

Further, in the Italian context, the regulatory changes followed a European general trend to privatization, affecting the management of the public service. However, in most European countries local governments tended to privatize a minority stake of the publicly owned companies while maintaining control to protect the public interest; this led to the rise of the mixed public-private companies (Monteduro, 2014).

That pattern of privatization took place also in the retail pharmacies' context; indeed, in Italy, the private ownership of retail pharmacies is flanked by public ownership. Publicly owned pharmacies are either owned by municipalities at a local level or there are mixed layers of ownership in which government institutions own major or minor quotas and the remaining quotas are owned by private enterprises. This delineates a context in which there are three types of governance of retail pharmacies: local state-owned enterprises (local-SOEs); private enterprises, which are non-state-owned enterprises (non-SOEs), and mixed-owned enterprises (MOEs). In countries such as Italy, state ownership of retail pharmacies has been discouraged in favor of privatization in order to pursue goals of cost containment and efficacy. Notably, in 2018, there

were approximately 18,800 pharmacies in Italy, of which only 1503 were managed by SOEs (Federfarma, 2018). In this context, major changes affecting the environment in which pharmacies operate concerns the management of public retail pharmacies; these latter can be managed at the local level by municipalities in the form of a) direct management by the municipality, b) direct management by a consortium of municipalities, c) *azienda speciale*, or d) in house providing. The *azienda speciale* represents a non-profit public institution defined as an "instrumental entity" of the local authority (usually the municipality), endowed with legal personality, entrepreneurial autonomy, whose statute is approved by the municipality in which it is located and whose activity is generally subordinated to territorial boundaries. The in house providing enterprise, whose main features are the following: public ownership (or control in the case of multiple public subjects owning the shares of the company) and 80% of the turnover mainly obtained from the management of the public service. From the governance point of view, differences between the two are limited, as they both exclude the entry of a private subject within the share of the company and the board of directors is appointed by the local authority who owns the company. Based on Wang, Wong, and Xia (2008) and Liu and Subramaniam's (2013) studies, who distinguish central government ownership and local government ownership, and being the owners of retail pharmacies limited to the local level mainly in the form of enterprises (*azienda speciale* and in house providing), we refer to those as local-SOEs.

In addition to those mentioned, another modality in which publicly owned retail pharmacies can be managed in Italy is that of MOEs, in which a part of the shares is in the hand of private investors. The private partner can be chosen by public tender on the basis of the technical, organizational, and economic requirements of the company. In this case, although the management of the service is in the hands of private subjects, derogations may be placed in the statutes of the company in regards to governance and managerial decisions, aimed at guaranteeing the control of the public subject over corporate life. The mixing of private and public interests is the main feature that distinguishes MOEs from local-SOEs that solely pursue public interest.

In the literature, several studies deepened corporate ownership in different settings, and the effects of privatization and competition on performance, focusing on performance differentials between SOEs and private companies (e.g., Megginson & Netter, 2001; DeWenter & Malatesta, 2001; La Porta, Lopez-de-Silanes, & Shleifer, 2002; Goldeng, Grünfeld, & Benito, 2008; Al-Matari & Al-Arussi, 2016; Monteduro, 2014) and more in general with a focus on the corporate governance factors affecting firms' performance (Lei, Lin, & Wei, 2013; Shan & Xu, 2011; Li, Tang, Chen, & Yan, 2010).

To date, however, no study has investigated the effects of the different forms of ownership on financial performance with regard to the retail pharmacies. When considering the effects of ownership on performance, literature has suggested that non-SOEs perform better than SOEs in competitive markets. However, as argued by Monteduro (2014), "these results are of little help in

many areas of public services where the fully privatized companies are rare and where service delivery take place through companies with some degree of public (totally public or public-private) ownership and where the environment is heavily regulated” (p. 31). Therefore, a better understanding of the performance of companies managing public services, with a special focus on MOEs, is of interest, due to the limited number of studies available to explain performance differentials (Monteduro, 2014). In this sense, the ability to assess the performance of these different entities on the basis of corporate governance factors can provide recommendations about the optimal solution for retail pharmacies’ management in those countries in which government policies have brought at relevant changes in the environment in which those firms operate.

Therefore, this study discusses performance differences among non-SOEs, SOEs, and MOEs through financial ratio analysis considering a sample of companies managing retail pharmacies in Italy. The study setting is considered of interest due to the aforementioned changes linked to deregulation and privatization policies that altered the environment in which the retail pharmacies operate. Financial ratio analysis is used to deepen the type of ownership and its relation with financial performance, which is a key factor for policymakers to assess the desirability of privatization of public services such as the one of retail pharmacies (Monteduro, 2014).

Financial ratio analysis has been considered indeed useful to provide insights for practitioners’ decision making in the context of healthcare organizations (Zeller, Stanko, & Cleverley, 1996); indeed, according to the literature, financial ratio analysis may enhance understanding of the financial performance of healthcare organizations (Barnes, 1987; Chu, Zollinger, Kelly, & Saywell, 1991). However, the performance and creditworthiness of health organizations are also dependent on non-financial information pertaining to their structural characteristics (Watkins, 2000). This study contends that policymakers making decisions about the governance of retail pharmacies should consider the effect of the structural characteristics of these enterprises on financial performance.

This paper proposes an analysis of the effects of different governance features on these companies’ profitability and capability to repay debts. Governance features were assessed considering the following variables: the effects of ownership, group belonging and multinationality, and the number of retail pharmacies possessed by each enterprise. This represents an under-investigated field with reference to pharmacies, given the limited number of studies in the pharmacy setting (e.g., Capettini, Dittman, & Morey, 1985, a reimbursement model for pharmacies based on their technical efficiency).

The paper proceeds as follows: Section 2 discusses the literature and in particular, the main schools of thought on the relation between corporate governance and performance, through which it develops the aims of the study; Section 3 discusses the methodology adopted defining the variables included in the analysis; Section 4 reports the results of the analyses, which are discussed in Section 5, and in Section 6 some conclusions are provided.

## 2. LITERATURE REVIEW

### 2.1. Ownership type

As argued by Monteduro (2014), public ownership has been criticized by three schools of thought: the agency theory, the property rights theory, and the public-choice theory. The agency theory argues that both in non-SOEs and SOEs the manager act to pursue their own profits to the detriment of that of the principal; however, in private companies, the conflict of interest is mitigated by incentives that guarantee companies’ efficiency and profitability. The property rights theory, focusing on control rights distribution, argues that in SOEs there is no clear holder of residual rights, so that performance control is less present. On the other side, non-SOEs can control costs, but at the expense of quality. Partial privatization in this context can be seen as a solution that can help to control both costs and quality. The public choice theory argues that in SOEs, politicians tend to pursue goals related to electoral consensus, with limited possibilities of citizens to control for performance, so that SOEs tend to perform worse than private ones. These theoretical approaches have been mainly used to test performance differentials between SOEs and non-SOEs (Monteduro, 2014).

In the privatization debate, corporate ownership type has been considered crucial to read the performance of SOEs and non-SOEs (Goldeng et al., 2008; Monteduro, 2014). However, studies on the relation between corporate ownership and firm performance have shown mixed results (Al-Matari & Al-Arussi, 2016), depending on the variables that were considered to test that relation (DeWenter & Malatesta, 2001).

The separation between ownership and control is expected to be particularly exacerbated in SOEs, where ownership tend to follow social and political interests that go beyond the profit objective (Dinç, 2005), thus remaining less technically efficient (Wu et al., 2012) and less profitable (DeWenter & Malatesta, 2001), although studies reported that agency problems emerge also in private enterprises (Vickers & Yarrow, 1991). The study of DeWenter and Malatesta (2001) showed that SOEs are less profitable than non-SOEs and they tend to borrow more capital and display greater labor intensity. Goldeng et al. (2008) found that the performance of SOEs is indeed inferior to that of non-SOEs in terms of return on assets and cost-share after controlling for the market structure, showing that performance differential was not only due to the different type of ownership but also to market characterization; indeed, the performance was correlated also to market share and market concentration factors. In addition, the authors found that stronger competition has a less negative effect on SOEs’ performance than on non-SOEs’ one; this is due to SOEs’ managers experiencing competition and learning how to behave. Al-Matari and Al-Aroussi (2016) studying a sample of non-financial companies in a developing country and adopting both agency and resource-dependence theories, found a positive and significant association between ownership concentration and government ownership to firm performance (ROA). In particular, for what concerns SOEs, they argue that the state-owned shares can be

used to align the owners and management interests and that governments are more aware of financing channels compared to the non-SOEs. In other studies, such as Li et al. (2010), leverage measures were taken into considerations: the authors found that non-SOEs tend to have lower total and short-term debt than SOEs in less developed regions of China. In this direction, the study of Belka, Estrin, Schaffer, and Singh (1995) analyzing 200 firms in times of privatization, found that privatized and especially de novo private firms were financially relatively healthy, with higher profits and fewer bad debts than the SOEs. Other scholars extended the analysis to include MOEs to test the performance differential between ownership types and performance. For instance, Mok and Chau (2003), studying the effect of privatization in China and adopting an agency theory lens, found that non-SOEs are more profitable than MOEs but, in some cases, MOEs are more profitable than non-SOEs. Moreover, when looking at the differences between MOEs and SOEs, the authors found that the profitability of MOEs is lower than the profitability of SOEs because of the conflict arising between public and private interest. With respect to efficiency, measured in terms of sales on assets, there were no substantial differences between MOEs and SOEs. However, Boardman and Vining (1989), adopting the property right theory and measuring efficiency as sales on employees, found that in competitive environments the MOEs performed better than SOEs and that non-SOEs performed better than SOEs and MOEs. Considering the literature discussing mixed companies as public-private partnerships, Monteduro (2014) argues that mixed companies may help overcome some criticalities of the public ownership: indeed, the presence of the private investor in the company can bring new skills and assets, it can increase the independence of the management and bring a new focus on economic performance. Through the study of a sample of 623 Italian local utilities, the author found that MOEs showed a better performance in terms of profitability compared to their public counterparts, with no need for majority ownership for better results. This author suggests that SOEs appear to be a secondary choice for the top management of public utilities in favor of MOEs that can mitigate the trade-off between the pursuit of social interest and financial performance. Other reasons in support of MOEs are found in Pérez-López, Prior, and Zafra-Gómez's (2015) review of the literature. According to the authors, MOEs through the participation of a private investor can help local authorities to obtain better access to financial resources, share risks and decrease the cost of providing the local service because of the greater managerial expertise of the private partner. Evidence about performance differentials between MOEs and non-SOEs is mixed. For instance, Rakhman's (2018) study found that partially privatized SOEs perform at least as good as private firms in terms of returns on asset, cash flows from operations and asset turnover. On the other side, studying the airline service industry, Backx, Carney, and Gedajlovic (2002) found that mixed ownership companies tend to perform better than public owned ones, but worse than private carriers. So that, differences in performance between non-SOEs and MOEs requires a deeper investigation.

Based on those premises, we hypothesize that non-SOEs managing retail pharmacies will be more financially healthy than other forms of ownership and that MOEs will be more financially healthy than SOEs.

## 2.2. Group belonging and multinationality

A company's performance can be strongly influenced by being an affiliate of a group of companies. Affiliation to groups can be problematic for what concerns the cost of groups: for instance, based on the results of Singh and Gaur's (2009) study that showed a negative relation between group belonging and firms' performance, Ciftci, Tatoglu, Wood, Demirbag, and Zaim (2019) introduced Zattoni, Pedersen, and Kumar's (2009) debate about the costs emerging between controlling and minority shareholders leading to a misallocation of capital. Ciftci et al. (2019), on the contrary, showed that the affiliation to a group is not significant to explain performance differentials. However, in the context of companies whose business focuses on retail pharmacies, literature takes a totally different position from what has been previously discussed, conceiving the group belonging as a factor that can potentially affect firms' performance. Studies have underlined how large retail chains can count on managerial and marketing expertise and on economies of scale to improve their performance, compared to small and medium-sized enterprises (Schmidt & Pioch, 2004; Gidman, 2010). Deregulation policies have brought mechanisms of horizontal and vertical integration (Gidman, 2010), which have exerted more competitive pressure on independent retail pharmacies and in some cases have forced them to close (Schmidt & Pioch, 2005) or be taken over by big chains (Ottewill & Magirr, 1999). Group advantages enable major efficiencies that help them develop cost leadership strategies and sustain differentiation of healthcare services. As a consequence, retail pharmacies that compete within this market tend to shift their business model to superior quality healthcare service delivery for niche markets, in order to capture clients (Singleton & Nissen, 2014; Hermansyah et al., 2017). Cost leadership strategies allow chains to maintain low prices for products and services, which puts small independent retail pharmacies under pressure for margins (Hermansyah, Sainsbury, & Krass, 2017); on the other side, cost-efficiency strategies may provide groups with resources to sustain differentiation of services and increase their profitability. Given this literature, we expect that companies managing retail pharmacies and belonging to a group experience have a major competitive advantage in terms of profitability compared to others.

To better interpret the effect of group belonging to the financial performance of companies managing retail pharmacies, is also relevant to consider the type of ownership of the group, if domestic or foreign. International commercial literature recognizes the superior performance of multinational companies compared to their domestic counterparts (Barbosa & Louri, 2005). Foreign-owned companies generally display greater financial, organizational, and technical resources; they have important commercial links that are transferable from the origin country to the affiliates: for instance, technical partnerships benefit from

commercial marketing and consulting agreements, trademarks and patents, managerial resources (Douma, George, & Kabir, 2006), economies of scale and superior governance (Barbosa & Lauri, 2005), better performance (Bai, Liu, Lu, Song, & Zhang, 2004, based on Tobin's Q; Ciftci et al., 2019, based on ROA and Tobin's Q). The literature also acknowledged that the benefits of participating in groups cannot be verified on a domestic scale when the company is a subsidiary of a parent company that belongs to the same origin country: generally, these are groups that use equity ownership as a way to convey resources in an inefficient way in order to maintain control to the disadvantage of minority shareholders (Douma et al., 2006).

We expect that the results in a pharmacies setting will support the results from previous studies in different contexts. In this sense, we hypothesize that companies belonging to a foreign group experience higher financial health than those belonging to a domestic group and that the aforementioned group advantages mainly pertain to the foreign groups.

### 2.3. Number of retail pharmacies

The firm's size has been discussed as a factor potentially affecting its performance. Ciftci et al. (2019) found that large firms perform better compared to their smaller counterparts; indeed, larger firms use economies of scale that reduce production or service costs (thanks to better negotiations) and increase their profitability. One of the factors affecting firms' size in the context of companies managing retail pharmacies, is the number of outlets these companies can count on.

The presence and capillarity of retail pharmacies within a territory are generally due to manifold factors such as market dynamics (Doucette, Brooks, Sorofman, & Wong, 1999; Martins & Queirós, 2015) and the legal frameworks within which they operate (Norris, 1997). Monteiro, Nunes, and Farina (2015) defined capillarity as "the presence of stores in the consumer's neighborhood and its diffusion in the urban space" (p. 143). Competitive environments influence the type of services offered (Martins & Queirós, 2015); thus, differentiation becomes a crucial element in responding to changes in the institutional context (Piocch & Schmidt, 2001) as well as tailoring personalized services to address the heterogeneous needs of patients. In order to compete with large pharmacy chains that can count on numerous outlets in a defined territory, which can leverage cost leadership strategies and differentiation on cognitive pharmacist services, independent retail pharmacies should develop core competences in every area of their business (from pharmacy management to healthcare service delivery). In particular, to sustain competitive advantage, small companies managing retail pharmacies could deliver cognitive pharmacist services of higher quality or find a niche market to offer unique specialist services to capture customers' willingness to pay (Singleton & Nissen, 2014). They are thus required to develop entrepreneurial orientation in order to guarantee innovative services (Jambulingam & Doucette, 1999). On this basis, we expect that companies that have more stores perform better than those with a sole store.

## 3. METHODOLOGY

To fulfil the research aims, we used multiple sources of data. We first conducted exploratory interviews to get a better understanding of the context and to determine the most relevant ratios to investigate. In 2018 we conducted 12 hours of exploratory unstructured interviews with a panel of experts: two chartered accountants specialized in pharmacy management (employed in two different Certified Public Accounting firms), one marketing consultant (employed in a private marketing consulting firm), a process management consultant (owner of a private managerial engineering consulting firm), one board member of the major Italian drug distributor, the president of a national consortium of pharmacies (a network established in 2006, involving 300 retail pharmacies in five different Italian regions), the vice-president of the National Association of Public Pharmacies (A.S.SO.FARM.), one board member of the National Association of Private Pharmacies (Federfarma), and one board member of one of the major galenic companies in Italy. Such experts were asked to provide their opinion about the mayor criticalities retail pharmacies face in the Italian context in terms of governance. The results of the interviews allowed determining the main issues requiring attention. Thus, based on the literature and on the interviews conducted we selected the variables to be considered in the study.

### 3.1. Sample of companies

We collected data from the AIDA dataset by Bureau Van Dijk, which is the national dataset of public companies' financial information. The dataset reports all the financial statements and allows the calculation of liquidity, profitability, debts, and productivity ratios. As the companies operated in Italy, financial data are provided in euros. This dataset provided us with a series of comparable data that we could use in the data analysis.

Our search for companies of interest was based on companies' main activity, using the ATECO 2007<sup>1</sup> classification of economic activities as defined by the Italian Office for National Statistics; we considered only those firms whose main activity was referred to as "retail pharmacies". This first search led to 403 companies. We then refined the list considering only those with fully and updated data (31/12/2017 or 31/03/2018 financial data). Aiming at ensuring consistency among revenues composition in the data, we then excluded companies that might present different business areas compared to those limited to the retail activity: a) companies whose main activity was not limited to pharmaceutical activity (e.g., multi-utilities), b) companies who were closed or wound up, and c) companies whose main core activity was not limited to retail pharmacy, but also consisted of manufacturing activity, wholesale and other

<sup>1</sup> The ATECO 2007 is a classification of activities adopted by the Italian Office for National Statistics based on the European nomenclature Nace Rev. 2 and the United Nations' Isic Rev. 4 classification. The ATECO 2007 classification serves to classify the companies at a statistic, fiscal and contributory level. It is composed by 918 categories: each category refers to a specific type of economic activity and is coded with a six-digit number. Companies managing retail pharmacies can be identified through the code 47.73.10.

services<sup>2</sup>. The final sample included 116 retail pharmacy companies. Further, data concerning the belonging of the enterprise to a multinational group, and the number of retail pharmacies owned were collected from the enterprises' websites (Khumawala, Ranasinghe, & Yan, 2016).

Table 1 provides descriptive statistics (minimum, maximum, mean, standard deviation) concerning profit, sales, and employees. As reported in the table, the companies in the sample reported on average 3740.05 thousand euros of sales and a profit of 119.41 thousand euros. The average number of employees is 14.

**Table 1.** Descriptive statistics

	<i>N</i>	<i>Min.</i>	<i>Max.</i>	<i>Mean</i>	<i>Std. dev.</i>
Sales (EUR thousand)	116	810.55	27844.39	3740.05	4851.92
Profit/loss (EUR thousand)	116	-37.06	1178.99	119.41	163.30
Employees	116	1	114	13.90	19.27

### 3.2. Independent variables

Based on the literature discussed above, we considered three independent variables: ownership type, group belonging and multinationality, and the number of retail pharmacies managed by each company.

*Ownership type:* We used a categorical variable to capture companies' ownership type, where 1 represented local-SOEs (100% publicly owned companies), 2 represented MOEs, and 3 represented non-SOEs (100% privately-owned companies). In this sense, consistent with Monteduro (2014), we considered MOEs those companies in which private or public ownership was less than 100%. In terms of ownership, the 116 companies in the sample are local-SOEs ( $n = 57$ , 49.1%), MOEs ( $n = 35$ , 30.2%) followed by non-SOEs ( $n = 24$ , 20.7%).

*Group belonging and multinationality:* We referred to group belonging using a categorical variable that considers whether the companies in our sample belong to a group and, in such cases, whether the group is based in a foreign country. Thus, 0 represented the companies that do not belong to a group, 1 represented the companies belonging to a domestic (Italian) group, and 2 represented the companies that belong to a group that is based in a foreign country. Of the sample, 87.9% ( $n = 102$ ) of companies do not belong to a group; among the 12.1% of companies belonging to a group, 8 companies managing retail pharmacies belong to a domestic group and 6 to a multinational group.

*Number of retail pharmacies:* The number of retail pharmacies managed by each company is considered using a dichotomous variable. Based on the literature, we separated the companies with one store from those with more than one store, as the latter can exploit economies of scale among the stores. In this variable, 0 represents the first case and 1 represents the latter. In our sample, the number of stores owned by the companies ranged from 1 (minimum) to 29 (maximum), with an average

number of 3.22: 69 companies (59.5%) consist of a single retail pharmacy, while the remaining 47 (40.5%) have more than one retail pharmacy.

### 3.3. Dependent variables

Based on the literature (Imani, Janati, Moghimi, Golestani, & Doshmangir, 2015; Czerniak, Scott, & Hospodka, 1994; Gombola & Ketz, 1983; Elliott & Elliott, 2011; Gibson, 2012), the performance of companies managing retail pharmacies was evaluated considering the following variables:

- two profitability ratios* - return on sales (ROS), to assess the company's operating efficiency, and the earnings before taxes, depreciation and amortization (EBTDA) margin, which is an assessment of the company's operating profitability;
- one liquidity ratio*, to test the company's ability to meet its short-term financial obligations. We considered the cash conversion cycle (days), which measures the number of days a company's cash is employed in the sales process and the benefits deriving from payment terms concerning its creditors;
- two debt or leverage ratios*, detecting the ability of the company to pay brief and long-term debts, these were short-term debt to total debt (%) and long-term debt to total debt (%).

In the context of companies managing retail pharmacies, liquidity allows to face debts towards wholesalers and pharmaceutical companies, against a decreasing margin on the drug delivery, due to the competitive context.

## 4. RESULTS

The purpose of our study was to explore the effects of the three independent variables on performance. To do that, we considered the influence of each of our independent variables on the dependent variables. We performed a one-way analysis of variance (ANOVA) using the SPSS software package (Miller, 1997; Field, 2009; Kutner, Nachtsheim, Neter, & Li, 2005).

### 4.1. The effect of ownership type

We tested the effect of ownership type on the sample's performance considering the characteristics of their legal structure: private ownership, public ownership, and mixed ownership. We first conducted an ANOVA (Table 2a). The analysis reported significant differences between the groups for all the performance variables considered. In particular, the three groups differed significantly with reference to cash conversion cycle ( $r = .001$ , 2-tailed test), short-term debt to total debt and long-term debt to total debt (both  $r = .004$ , 2-tailed test), EBTDA margin ( $r = .005$ , 2-tailed test) and ROS ( $r = .048$ , 2-tailed test).

<sup>2</sup> We deleted these companies from the sample as the financial performance of such companies may be affected by factors that are activity-specific and this could threaten the comparability of the sample.

**Table 2a.** Analysis of variance (ownership type)

		<i>Sum of squares</i>	<i>df</i>	<i>Mean square</i>	<i>F</i>	<i>2-tailed sig.</i>
ROS	Between Groups	119.020	2	59.510	3.113	.048
	Within Groups	2159.877	113	19.114		
	Total	2278.897	115			
EBTDA margin	Between Groups	.021	2	.010	5.540	.005
	Within Groups	.214	113	.002		
	Total	.235	115			
Cash conversion cycle (days)	Between Groups	30407.215	2	15203.607	8.507	.001
	Within Groups	121524.046	68	1787.118		
	Total	151931.264	70			
Short-term debt to total debt (%)	Between Groups	.257	2	.128	5.873	.004
	Within Groups	2.469	113	.022		
	Total	2.726	115			
Long-term debt to total debt (%)	Between Groups	.257	2	.128	5.873	.004
	Within Groups	2.469	113	.022		
	Total	2.726	115			

Given these results, we undertook further analysis to compare non-SOEs, local-SOEs, and MOEs, testing the significance of the differences emerging within the three groups for the performance variables (Table 2b).

Non-SOEs were found to perform better than local-SOEs when the cash conversion cycle, short-term debt to total debt, and EBTDA margin were taken into account. In particular, with reference to the cash conversion cycle, the two types of ownership (non-SOEs and local-SOEs) appeared to be highly different ( $r = .004$ , 2-tailed test): non-SOEs presented a  $mean = -57.37$ ,  $s.d. = 77.158$ , while local-SOEs managing retail pharmacies presented a lower performance in this sense with  $mean\ difference = -54.292$ ,  $s.e. = 16.339$ . Considering the EBTDA margin, non-SOEs performed slightly better than local-SOEs ( $r = .006$ , 2-tailed test): the  $mean\ difference$  is  $.033$  ( $s.e. = .011$ ); non-SOEs had a higher mean than local-SOEs ( $mean = .097$ ,  $s.d. = .052$  vs  $mean = .064$ ,  $s.d. = .036$ , respectively). With reference to leverage ratios, non-SOEs companies emerge

to have a lower short-term debt to total debt ratio ( $r = .007$ , 2-tailed test) than local-SOEs ( $mean = .83$ ,  $s.d. = .222$  vs  $mean = .94$ ,  $s.d. = .135$ ); conversely, non-SOEs present a higher long-term debt to total debt ratio ( $r = .007$ , 2-tailed test;  $mean\ difference = .111$ ,  $s.e. = .036$ ).

When comparing non-SOEs with MOEs, significant differences emerged with reference to cash conversion cycle, and short-term debt and long-term debt to total debt ratios. The results for the cash conversion cycle were  $r = .000$  (2-tailed test) significance ( $mean\ difference = -71.945$ ,  $s.e. = 17.453$ ). With reference to the short-term debt to total debt, the ANOVA reported  $r = .006$  (2-tailed) with MOEs performing worse ( $mean = .95$ ,  $s.d. = 0.97$ ) than non-SOEs ( $mean = .83$ ,  $s.d. = .222$ ). Conversely, considering long-term debt to total debt ratio, non-SOEs appeared to perform worse than MOEs ( $mean\ difference = .123$ ,  $s.d. = .039$ ) with  $r = .006$  (2-tailed test) significance.

No significant difference was found between local-SOEs and MOEs.

**Table 2b.** Analysis of variance between the different types of ownership

<i>Dependent variable</i>	<i>Group belonging (I)</i>	<i>Group belonging (J)</i>	<i>Mean difference (I-J)</i>	<i>Std. error</i>	<i>2-tailed sig.</i>
ROS	Local-SOEs	MOEs	-1.98616	.93885	.091
		Non-SOEs	-2.08180	1.06384	.128
	MOEs	Local-SOEs	1.98616	.93885	.091
		Non-SOEs	-.09564	1.15867	.996
	Non-SOEs	Local-SOEs	2.08180	1.06384	.128
		MOEs	.09564	1.15867	.996
EBTDA margin	Local-SOEs	MOEs	-.0195756	.0093372	.095
		Non-SOEs	-.0332158	.0105802	.006
	MOEs	Local-SOEs	.0195756	.0093372	.095
		Non-SOEs	-.0136403	.0115234	.465
	Non-SOEs	Local-SOEs	.0332158	.0105802	.006
		MOEs	.0136403	.0115234	.465
Cash conversion cycle (days)	Local-SOEs	MOEs	-17.653	11.172	.261
		Non-SOEs	54.292	16.339	.004
	MOEs	Local-SOEs	17.653	11.172	.261
		Non-SOEs	71.945	17.453	.000
	Non-SOEs	Local-SOEs	-54.292	16.339	.004
		MOEs	-71.945	17.453	.000
Short-term debt to total debt (%)	Local-SOEs	MOEs	-.012	.032	.921
		Non-SOEs	.111	.036	.007
	MOEs	Local-SOEs	.012	.032	.921
		Non-SOEs	.123	.039	.006
	Non-SOEs	Local-SOEs	-.111	.036	.007
		MOEs	-.123	.039	.006
Long-term debt to total debt (%)	Local-SOEs	MOEs	.012	.032	.921
		Non-SOEs	-.111	.036	.007
	MOEs	Local-SOEs	-.012	.032	.921
		Non-SOEs	-.123	.039	.006
	Non-SOEs	Local-SOEs	.111	.036	.007
		MOEs	.123	.039	.006

#### 4.2. The effect of group belonging and multinationality

As reported in Table 3a, results showed that in our sample group belonging and multinationality is

significant only with reference to the cash conversion cycle ( $r = .019$ , 2-tailed test).

We thus wanted to explore in which cases the variations were more significant (i.e., companies not belonging to a group, in domestic groups or in foreign groups) (Table 3b).

**Table 3a.** Analysis of variance (group belonging and multinationality)

		<i>Sum of squares</i>	<i>df</i>	<i>Mean square</i>	<i>F</i>	<i>2-tailed sig.</i>
ROS	Between Groups	38.510	2	19.255	.971	.382
	Within Groups	2240.386	113	19.826		
	Total	2278.897	115			
EBTDA margin	Between Groups	.072	2	.036	.096	.908
	Within Groups	2.654	113	.023		
	Total	2.726	115			
Cash conversion cycle (days)	Between Groups	16707.637	2	8353.819	4.201	.019
	Within Groups	135223.623	68	1988.583		
	Total	151931.261	70			
Short-term debt to total debt (%)	Between Groups	.072	2	.036	1.533	.220
	Within Groups	2.654	113	.023		
	Total	2.726	115			
Long-term debt to total debt (%)	Between Groups	.072	2	.036	1.533	.220
	Within Groups	2.654	113	.023		
	Total	2.726	115			

**Table 3b.** Analysis of variance between the different types of group belonging

<i>Dependent variable</i>	<i>Group belonging (I)</i>	<i>Group belonging (J)</i>	<i>Mean difference (I-J)</i>	<i>Std. error</i>	<i>2-tailed sig.</i>
Cash conversion cycle (days)	No group	Domestic group	41.930	20.744	.115
		Foreign group	-39.796	20.744	.141
	Domestic group	No group	-41.930	20.744	.115
		Foreign group	-81.726	28.203	.014
	Foreign group	No group	39.796	20.744	.141
		Domestic group	81.726	28.203	.014

The results of Table 3b highlight that significant differences in the cash conversion cycle variable emerged when considering companies that belong to a domestic group and those that belong to a foreign group ( $r = .014$ , 2-tailed test). Companies managing retail pharmacies that belong to a domestic group reported a mean cash conversion cycle of -45.51 ( $s.d. = 89.585$ ), while the companies in our sample that belong to a foreign group reported a mean cash conversion cycle of 36.22 ( $s.d. = 24.497$ ). No other significant difference was found with reference to ANOVA concerning group belonging and multinationality as an independent variable.

#### 4.3. The effect of the number of retail pharmacies

Our last proposition concerns the performance of companies based on the number of retail

pharmacies managed, in particular, with regards to those companies that own one pharmacy and those that own more than one pharmacy. The results in Table 4 provide evidence that companies with one or more than one store perform differently. In fact, when profitability ratios are taken into account, a highly significant difference emerges: companies with one retail pharmacy performed better than those with more than one. For example, ROS reported  $r = .004$  (2-tailed test) significance and higher performance for companies in the sample with one store ( $mean = 6.608$ ,  $s.d. = 4.916$ ) compared to companies that own more than one store ( $mean = 4.221$ ,  $s.d. = 3.218$ ). Further, the mean EBTDA margin of companies with one retail pharmacy ( $mean = .085$ ,  $s.d. = .050$ ) was significantly higher than the mean of EBTDA margin of companies with more than one store ( $mean = .065$ ,  $s.d. = .034$ ), with a 2-tailed significance level of .018.

**Table 4.** Analysis of variance (number of retail pharmacies)

		<i>Sum of squares</i>	<i>df</i>	<i>Mean square</i>	<i>F</i>	<i>2-tailed sig.</i>
ROS	Between Groups	159.241	1	159.241	8.564	.004
	Within Groups	2119.656	114	18.593		
	Total	2278.897	115			
EBTDA margin	Between Groups	.011	1	.011	5.771	.018
	Within Groups	.223	114	.002		
	Total	.235	115			
Cash conversion cycle (days)	Between Groups	16.238	1	16.238	.007	.932
	Within Groups	151915.023	69	2201.667		
	Total	151931.261	70			
Short-term debt to total debt (%)	Between Groups	.037	1	.037	1.571	.213
	Within Groups	2.689	114	.024		
	Total	2.726	115			
Long-term debt to total debt (%)	Between Groups	.037	1	.037	1.571	.213
	Within Groups	2.689	114	.024		
	Total	2.726	115			

## 5. DISCUSSION

The findings are discussed considering the effects of the three independent variables separately and following the results presented in Section 4.

### 5.1. Ownership type

Concerning ownership type, our results only partially supported the hypotheses.

Analyses showed that non-SOEs performed better than the local-SOEs in terms of EBTDA margin, short-term debt to total debt, and cash conversion cycle, confirming what has been found elsewhere for the two groups (DeWenter & Malatesta, 2001). When considering short-term debt to total debt and cash conversion cycle, non-SOEs managing retail pharmacies are less indebted than the other type of governance of retail pharmacies and are able to adequately cope with short-term debt as they bear a relatively lower cash conversion cycle compared to public pharmacies. However, when considering long-term debt to total debt ratio, local-SOEs perform better than non-SOEs.

Further investigations should be done with reference to the factors affecting the cash conversion cycle of different companies' typologies. In this sense, these companies' credit may be highly affected by delays in payments from the healthcare system, related to the prescription products delivered by the retail pharmacies they own. Italian healthcare system payment times range from 20 to 120 days on average and can affect the capability of a company to face repayments of short-term debt (Federfarma, 2016).

When comparing non-SOEs to MOEs, the former performed better on short-term debt to total debt ratio and cash conversion cycle compared to the latter. This result may allow non-SOEs to face short-term debt repayment better than MOEs. By contrast, MOEs performed better than non-SOEs when considering long-term debt to total debt ratio. The literature suggests that MOEs compared to local-SOEs and non-SOEs are the worst performers due to conflicts arising from different interests affecting their management (e.g., Boardman & Vining, 1989). The results of our study tell us that no significant difference between MOEs and non-SOEs and local-SOEs were found with reference to profitability (EBTDA margin). Indeed, the profitability of MOEs could stem from the combination of private and public investments for the management of retail pharmacies. The presence of a private investor in the company could bring managerial expertise, limit the effect of the political influence on management, and satisfy both social and economic goals. For such reasons, MOEs have been discussed as a valid alternative to SOEs (Monteduro, 2014), and in some cases, perform as well as the non-SOEs (Rakhman, 2018).

### 5.2. Group belonging and multinationality

Differences in performance concerning ROS, EBTDA margin, and leverage ratios were not found between independent companies and those companies belonging to a group, thus not supporting the hypothesis. This suggests that independent companies managing retail pharmacies are able to use their assets and capital as effectively as groups

in the generation of profit. The result was almost surprising. Indeed, one could expect groups to be able to offer differentiated and superior quality services because of investments in assets derived from efficiency savings (Singleton & Nissen, 2014). However, our sample showed that the capacity to exploit economies of scale to invest in productive assets for companies belonging to a group was not sufficient to ensure a higher ROS and EBTDA margin. In addition, pharmacies chains' efficiency is often reflected in offering standardized pharmaceutical services (Harding & Taylor, 1997). However, standardization does not mean quality enhancement from the customers' perspective and, in turn, it can negatively affect profitability; whereas independent companies tend to offer personalized and professional services through effective assets management which are well perceived by communities and may bring interesting revenues.

Concerning the hypothesis that companies belonging to a foreign group present better financial performance than companies belonging to a domestic group, our results showed that this is not the case. Foreign groups support a worse cash conversion cycle than domestic groups. Indeed, the lower the index, the more the group is able to collect revenues from customers before paying suppliers. In our analysis, having a high cash conversion cycle, foreign groups may face criticalities linked to inefficient stock management, tight time of payment of suppliers, and deferred times for collection of commercial credits. These results disconfirm arguments (Douma et al., 2006) concerning domestic groups' inefficiency. Given the absence of studies investigating the effect of multinationality in the retail pharmacies context and the recent development of the legislative framework that allows foreign companies to enter the pharmacies market, we were not able to support our results with literature and practical evidence. Further research is needed to investigate factors pertaining to the cash conversion cycle within multinationals managing retail pharmacies.

### 5.3. Number of retail pharmacies

Considering the number of retail pharmacies managed by each company, companies with one store presented better profitability both in terms of ROS and EBTDA margin, which were significantly higher than those of groups with more than one store. This is in contrast with our hypothesis and with recent literature (Ciftci et al., 2019).

Our sample is composed of companies managing retail pharmacies. However, in order to explain the results, we sought to consider relevant factors that can affect the performance and that are related to the characteristics of the stores managed by the companies. To this end, the location of the managed retail pharmacies (Schommer, Singh, Cline, & Hadsall, 2006) could explain different companies' performances. For instance, retail pharmacies located in low competitive areas have higher monthly revenues, employ a limited number of human resources, and generally face demands from elderly patients (Martins & Queirós, 2015). Whereas retail pharmacies located in a more competitive urban area are more prone to implement additional health services (Martins & Queirós, 2015).

A second factor that can explain the results obtained can probably be ascribed to customer satisfaction, which is described as the customers' perception of the role of independent versus chain pharmacists. In other studies, single retail pharmacies were found to be rated higher by patients compared to chains, due to the independent pharmacists' greater emphasis on personal services (Briesacher & Corey, 1997) and professionalism (Schommer et al., 2006). These intangible assets often impact customers' willingness to pay (Singleton & Nissen, 2014), which, in turn, affects business performance. Further research should focus on the interaction between group belonging and the number of managed retail pharmacies in order to develop a complete view of the phenomenon.

Third, companies that are able to adopt an entrepreneurial orientation (Jambulingam & Doucette, 1999) and develop core competencies in every area of the business tend to show higher performance. Thus, according to the literature (Singleton & Nissen, 2014), one can expect that the higher performance of the independent companies of our sample may be due to their capacity to develop multiple competitive advantages to face competition.

## 6. CONCLUSION

The paper deepens the performance differential among SOEs, non-SOEs, and MOEs, concerning companies that manage retail pharmacies. The results of the study can inform policymakers about the most appropriate governance they may have to assume in view of institutional change, consistent with Watkins (2000). This work adds knowledge to a field that is quite under-investigated and requires investigation in view of its particular nature of public service. The results indicate that in a regulated market, such as one of the retail pharmacies, private ownership can guarantee a higher capacity to sustain short-term debt compared to state ownership. By contrast, mixed ownership tends to allow major capital solidity with reference to the management of long-term debt compared to private ownership. Moreover, MOEs perform as well as local-SOEs and non-SOEs with regard to profitability, which suggests that the combination of private and public capital can represent a key success factor in the management of these companies allowing a positive commercial margin. Consistently with literature in the field (Monteduro, 2014; Rakhman, 2018), these results can shed some light for practitioners, in particular municipalities and policymakers, when considering the most appropriate ownership type for companies managing retail pharmacies. In this study, and in line with the literature, MOEs can be seen as a valid alternative to local-SOEs, as they do not perform differently in terms of leverage ratios, cash conversion cycle, and EBTDA margin. As argued by Rakhman (2018), the participation of a private

investor in SOEs can introduce a culture of professionalism limiting the political influence on management and allow for better monitoring of the managers' performance.

On the other hand, our study shows that non-SOEs outperform local-SOEs when the cash conversion cycle, short-term debt to total debt, and EBTDA margin were taken into account. This is consistent with studies that found non-SOEs' higher profitability and capability to repay debts compared to their public counterparts (DeWenter & Malatesta, 2001; Goldeng et al., 2008; Li et al., 2009). However, SOEs, such as publicly owned retail pharmacies, may pursue a social mission rather than profit, which may explain their poorer performance, as argued by DeWenter and Malatesta (2001). From a broader perspective, the national context has recently experienced some changes: retail pharmacies can now be owned by those who have not been trained as pharmacists, which has opened the sector to major changes and to the building of chains of retail pharmacies. In this regard, the paper brings some findings and related reflections that are of interest to the sector's major players, as its findings conflict with literature that reports that groups perform better than independent companies. These latter are often perceived as a unique port of call for the local territory due to pharmacists' perceived professionalism and ability to construct a remarkable relationship of trust with patients. Then, the paper suggests that key factors in the context of retail pharmacies should not be ascribed to the standardization of services through economies of scale, but to the personalization of them, since they are able to generate greater profitability through major customer satisfaction. To this end, management accounting should also address patients' perceptions in order to determine which kind of ownership is more appropriate to generate value for the recipients of the service.

Further analysis suggested that the geographical locations of the retail pharmacies included in the sample should be considered in order to verify possible monopolistic positions in the market that can also contribute to explain differences between groups and independent companies.

The limitations of the study are related to the sampling and the database used, which only includes capital companies and does not consider those companies in which the shareholders respond with their personal assets to the company's obligations. Moreover, the results cannot be generalized and require additional testing on larger samples.

For further research, it is suggested to widen the sample to also include companies that operate in drug manufacturing and wholesale, in order to check the effect of additional activities on performance. In this case, in order to detect performance differences, future research should identify the most appropriate financial ratios (Gombola & Ketz, 1983).

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