

OWNERSHIP STRUCTURE AND FINANCIAL PERFORMANCE OF SPANISH PORT SERVICE COMPANIES

Inmaculada Aguiar-Diaz, Maria Victoria Ruiz-Mallorqui, Lourdes Trujillo-Castellano

Faculty of Economics, Business and Tourism, University of Las Palmas de Gran Canaria,
Campus de Tafira, 35017 Las Palmas, Spain. Email: Victoria.ruiz@ulpgc.es.

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Abstract

The Spanish port system represents approximately 20% of the transport sector's GDP. We analyse the impact of ownership structure, in particular the *family* characteristics of Spanish port services companies, on profitability. Our study reveals that the ownership of these companies is highly concentrated, with more than 80% having a dominant shareholder, while over 60% are in the hands of a family, which in most cases is the only shareholder. Of the port services themselves, we find that the most profitable one is *pilotage*, with an average Return on Assets (RoA) of 26%, while the least profitable port service is cargohandling (7.8%); the rest have similar returns, ranging between 12% and 14%. In terms of the ownership-profitability relationship, the results lead us to conclude that companies with one- or a dominant shareholder are more profitable. We show that profitability declines when the sole shareholder is a member of the family. We also find that companies in which the family maintains ownership in second or successive generations are more profitable than those of the first generation. These results suggest that the existence of other, non-family, shareholders reduces the negative influence of the family, and that the alleged greater degree of professionalization of managers in second and successive generations contributes to improving the results of family businesses. We believe our results are applicable to other family businesses outside the port domain.

Keywords: ownership structure, family business, performance, profitability, ports, Spain.

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1. INTRODUCTION

Due to its geographical location, 80% of Spain's perimeter is surrounded by sea. The country has a large number of ports located along the long coast of the peninsula, as well as in the two archipelagos (the Canary Islands and the Balearic Islands) and on the coast of Ceuta and Melilla. In addition, the importance port activities represent to Spain is reflected in their contribution to the economy, which is around 20 percent of the GDP of the transport sector (Puertos del Estado, 2018, González and Collado, 2012).

Governance of the Spanish ports is based on the *landlord* model. According to this, the port authority (PA) is in charge of the infrastructure, while port services (towage, mooring, cargohandling, passenger services, pilotage and reception facilities, among others) are provided by private companies, which must obtain a license granted by the competent PA. As a result, the proper functioning of ports depends to a large extent on the effectiveness these companies perform their functions. As usual, selecting a concessioner is no easy job, requiring heightened expertise on behalf of the port authority, as well as the use of complex criteria, both quantitative and qualitative. Among the former criteria, the study of the financial performance of port companies stands out.

In this context, we analyse the financial performance (profitability) of Spanish port service companies which, similar to those of the neighbouring countries of Italy, France and Portugal, have ownerships characterized by concentration in one or just a few shareholders, and not listed on the stock market. Therefore, this study focuses on the influence of the ownership structure on the financial performance of these companies.

The ownership structure of companies is one of the main determinants of contractual relationships that define organizations, and as such it has a decisive impact on business behaviour (Thomsen and Pedersen, 2000; Cuervo, 2002). In addition, in the case of non-listed companies, account must be taken of the fact that the absence of a trading market means that share transactions in this type of corporation are logically limited. This implies that ownership is usually concentrated in the hands of a few shareholders. In this context, it is important to identify such shareholders in order to determine their characteristics. As Thomsen and Pedersen state (2000: 689): "The identity of the owners has implications for their objectives and the way in which they exercise their power, and this is reflected in the strategy of the company in relation to its objectives...". Among the various shareholders who may play a prominent role in corporate decisions, families have special relevance.

We argue that a study of this type, framed in the Spanish context, is an opportunity for two reasons. Firstly, because of the aforementioned importance of ports in the economy. Secondly, because the Spanish financial system is historically oriented towards banking, with lesser importance of stock markets in corporate financing. This fact also explains the predominance of unlisted companies, which is our subject here.

Regarding previous empirical evidence, to our knowledge, no studies exist relating to port service companies; in general, research has focused on port authorities as those responsible for port governance and operations. Numerous studies exist on the ownership structure of companies, mostly of listed ones, with fewer works relating to unlisted companies (e.g., Sciascia and Mazzola, 2008). According to Graves and Shan (2014), the characteristics of unlisted companies differ from those that are listed, implying that the results obtained for the latter should not be transferred to unlisted companies. In research related to unlisted companies, studies on ownership and *performance* are usually limited to one year since, in most cases, they are based on surveys. This is due to the difficulty of obtaining the necessary information on ownership structure. Similarly, in the studies of unlisted companies, the effect on the *performance of ownership* is made on the basis of accounting variables, mainly the Return on Assets (ROA), since it is not possible to use the company's market value (cf, Graves and Shan, 2014; Westhead and Howorth, 2006). In addition, the results obtained by previous empirical studies are not conclusive.

In addition, ownership in Spain, as in other neighbouring countries, such as France or Italy, is highly concentrated (Faccio and Lang, 2002). In this kind of companies, the traditional *principal/agent* conflict is practically non-existent, while conflict between shareholders, known as *principal/principal*, has greater relevance (Ginglinger and Lher, 2006). In a context of *agency theory*, in this work, we put forward different hypotheses regarding the influence of ownership structure on profitability, specifically with regard to the existence of a dominant shareholder, a single shareholder, or those that are family-owned. The study draws on a sample of 197 companies, with ownership and financial data obtained from the SABI database, for the 2008-2015 period. This has required individualized monitoring of the shareholders of each company in the said period. The results reveal that port services companies with a dominant shareholder, as well as those with a single shareholder, enjoy greater returns compared to companies without a dominant shareholder. It could thus be argued that the Spanish market for port services is not contestable. In addition, family-owned companies are less profitable whenever the family is the

sole shareholder. Finally, family businesses in second and successive generations enjoy higher returns than those in the first generation.

The work is structured as follows. The second section summarizes the port sector and its role in economic development. The third section examines the theoretical bases of the relationship between ownership structure, in particular of family businesses, and *performance*, and presents our hypotheses. The fourth section details the methodology. The fifth section focuses on the results of the empirical study. In the sixth and last section a discussion of the results obtained is presented, as well as the main conclusions.

2. THE PORT SECTOR AND ITS ROLE IN ECONOMIC DEVELOPMENT

More than 80% of world trade moves by sea (UNCTAD 2017). Therefore, it can be seen that the maritime transport network occupies a key place in the economic activity of countries. Ports, as a fundamental part of the maritime transport network, must be efficient, effective, and provide adequate infrastructure to meet the needs of the different modes of transport.

In Spain, the importance of ports as links in logistics and transport chains is obvious, as they serve 60 percent of the country's exports and 85 percent of its imports. This represents 53 percent of Spanish trade with the European Union, and 96 percent with third countries. On the other hand, the activities of the state port system (Puertos del Estado) contribute about 20% to the GDP of the transport sector, which represents 1.1% of Spanish GDP. According to the forecasts of the European Commission, cargo volumes are expected to increase by 50 percent by 2030, or even more if the rapid growth in container traffic is taken into account (Puertos del Estado, 2018; Muñoz, et al., 2017).

The Spanish port system comprises 46 ports of general interest and 28 Port Authorities (PA) that have the status of a public entity. All are coordinated by *Puertos del Estado*, a public body that reports to the Ministry of Development and is in charge of port policy. Ports are organised according to the *landlord* model whereby the PA carries out port planning, provides the infrastructure, and exercises its technical and regulatory tasks. Port services are provided by private companies (concessioners or licenced/authorized enterprises).

In Spain, companies that seek to operate in ports are basically companies not listed on the stock market, so they are not obliged to publish information that might be useful to the PA. Regarding such information, the Law of State Ports and the Merchant Navy (Royal Decree Law 2/2011) in its article 122, requires licensees to strictly maintain separate accounts for each of the services

provided in (or for) the PA. At present, not all companies comply with this duty (Permanent Observatory of the Port Services Market, 2017). Therefore, and despite the lack of available information, it is clearly useful to examine these companies more closely, with regard to their *performance* and how this could be affected by certain characteristics such as their ownership structure.

3. RESEARCH QUESTION: *OWNERSHIP AND PERFORMANCE* IN UNLISTED COMPANIES

According to *agency theory*, ownership structures characterized by the presence of a majority shareholder --who has incentives to exercise control of corporate decisions-- reduces conflict between shareholders and managers (Fama and Jensen, 1983). However, this may highlight the existence of another type of dispute, between majority and minority shareholders (Shleifer and Vishny, 1997, La Porta et al, 1998). In this conflict, controlling shareholders cannot be considered as agents external to the management, but as owners linked to the decision-making process (La Porta et al., 1999). Thus, the presence of large shareholders with a significant controlling role in companies is traditionally related to their extraction of private benefits derived from such control, which are not shared with minority shareholders (eg, Shleifer and Vishny, 1997; Claessens et al., 2002; Villalonga and Amit, 2006; López de Foronda et al., 2007).

Ownership structure and corporate performance

In the case of unlisted companies, where ownership is concentrated in one- or just a few large shareholders, the conflict between controlling and minority shareholders is not fully applicable, given the non-existence of the latter in most of the companies. In fact, there are a number of structures that differ by the ownership percentage of the main shareholder. Depending on this, two types of structure can be distinguished: with and without a dominant shareholder. In the latter case, there may be two or more shareholders with similar or different degrees of ownership. Conflicts may arise between them, the outcome of which depending on their interests and their ability to reach agreements. There may also be coalitions between some, in order to act against the main shareholder (there is an extensive literature on the issue of multiple large shareholders (MLS), mainly referring to listed companies; see Bennedsen and Wolfenzon, 2000; Maury and Pajuste, 2005; López de Foronda et al., 2007; Sacristán-Navarro et al., 2011).

In the former case, the ownership structure is characterized by a single shareholder, or group of shareholders (for example, in the case of members of a family) having more than 50% ownership. A particular case of this structure occurs when the dominant shareholder is also the single shareholder of the company, owning 100% of the shares. In this type of structure, the extraction of *private benefit* is not considered, since both benefits and costs are enjoyed/borne, in their totality, or to a great extent, by the controlling shareholder. This is so because the increase in the wealth they produce may be offset "by the costs that the shareholder would bear when the effects of the conduct revert to the company with an opposite sign, causing a decrease in the value of the company" (Bona et al., 2013: 376).

Therefore, the existence of a dominant shareholder, or of a single shareholder, with the capacity and incentives to exercise control over corporate decisions, should improve the profitability of the company. Thus, our first two hypotheses are stated in the following terms:

Hypothesis 1. The existence of a dominant shareholder increases profitability in unlisted companies.

Hypothesis 2. The existence of a single shareholder with 100% ownership increases the profitability of unlisted companies.

Family business and performance

The existence of a dominant shareholder, makes it necessary to focus on their characteristics, since as Cuervo (2002) states, the qualitative aspects of the so-called "core shareholders" may be especially significant in the behaviour and objectives of the company. As Galve and Salas (1995) affirm, the nature of the controlling shareholders can affect corporate results, because they may have different objectives. In the same way, Thomsen and Pedersen (2000: 689) argue that the identity of the owner represents an important dimension of the ownership structure, since, "*While the concentration of ownership measures the power of shareholders to influence managers, the identity of the owners has implications for their objectives and the way in which they exercise their power [...]* ". These assertions are supported by various studies that focus on the nature of the dominant shareholders (families, companies, institutions, State), when analysing their impact on the *performance* of companies (e.g, Gorton and Smith, 2000; Anderson and Reeb, 2003, Villalonga and Amit, 2006, Ruiz and Santana, 2011).

Among the unlisted companies, more than in listed ones, family structures prevail (Arosa et al., 2010). Several studies have revealed that family businesses are the most important type of

organization around the world (e.g., Faccio and Lang, 2002). "*The family business is characterized by ownership and control in the hands of a family, by a vocation of continuity of the company towards future generations and by a strong interdependence between family and business systems*" (Galve, 2002: 178). In the same line, Anderson et al. (2003) argue that families differ from other shareholders in two main aspects: the interest of the family in the long-term survival of the company, and the concern of the family for the reputation of the company and the family itself.

The literature has explored the advantages and disadvantages derived from the presence of a family in a company. As for the advantages, family businesses usually have a more long-term vision, due to their interest in transferring their wealth to successive generations. As family wealth is directly related to that of the company, families have strong incentives to control the management. In addition, the presence of a family member in the position of CEO (*Chief Executive Officer*) aligns the interests of the family with those of the managers, mitigating the possibility of agency conflict between shareholders and managers (Anderson and Reeb, 2003, Villalonga and Amit, 2006). On the other hand, Cabrera-Suárez et al. (2001) point out that family businesses have a set of unique resources and capabilities (such as commitment, shared values and reputation, among others), which allows them to obtain competitive advantage, compared to non-family companies. These advantages contribute to improving *performance*.

Galve (2002: 168) cites as the main costs of the family business [...] the transfer of conflicts from the family to the company, the brake on growth when it must accommodate the resources available within the family, the limited supply of talent and skills within the family, as well as altruism. In relation to the transfer of conflicts from the family to the company, on the one hand, some authors highlight the negative interference of the family in the management of the company (e. g, Carney et al., 2014; Arteaga and Menéndez-Requejo, 2017). Thus, families pursue non-financial objectives such as the placement of unskilled members in key positions (Cruz et al., 2010, Martin et al., 2016), which can inappropriately jeopardize decision-making. On the other hand, family businesses can produce a specific type of *conflict of interest* between family shareholders involved in the management of the company and those that are not (Villalonga et al., 2015). The alignment of interests between different parts of the family can generate a new agency conflict, reducing *performance*. Gomez-Mejia et al, (2001), find that Spanish family businesses put up with higher agency costs because they are not willing to fire managers who are members of the family. With regard to growth, dependence on family

(financial) resources is due to the preference of family businesses to maintain a low level of indebtedness.

Empirical studies on family business and *performance* have focused on listed companies and most of them find that family businesses have better *performance* than non-family businesses (Allouche et al., 2008).-Wagner et al. (2015) in their review of family business and *performance* studies conclude that, in general, there is a positive association between family business and financial *performance*, which is more pronounced in the case of listed and large companies, and when the definition of *family business* is based on ownership. According to Graves and Shan (2014), the characteristics of ownership and the legal requirements of listed and unlisted companies are very different, so the results obtained on the former are not generalizable to the latter. Despite the importance of unlisted companies, there are few studies comparing the performance of family and non-family-owned companies (Sharma and Carney, 2012), mainly due to the difficulty of obtaining the necessary information (Arosa et al., 2010). In addition, according to Nieto et al. (2009), the few studies on unlisted companies have had different results. Thus, Graves and Shan (2014), in a sample of small and medium-sized Australian companies, find that family businesses have better profitability (RoA) than non-family businesses. However, other studies find that family businesses do not obtain better returns than non-family businesses (Westhead and Howorth, 2006, United Kingdom; Castillo and Wakefield, 2006, United States; Sciascia and Mazzola, 2009, Italy).

The existence of arguments for and against the involvement of the family in company decisions, as well as the absence of conclusive results in previous studies relating to unlisted companies, leads us to propose the third hypothesis in a dual way:

H3a. Unlisted family businesses have higher returns than non-family businesses.

H3b. Unlisted family businesses have lower profitability than non-family businesses.

One of the causes of the discrepancy observed in previous studies that have analysed the influence of family character on *performance*, is the degree of ownership in the hands of the family. In this context, Sciascia and Mazzola (2009) argue that moderate levels of ownership and family involvement are associated with better *performance*. Anderson and Reeb (2003), using accounting measures, found that *performance* increases up to the level of approximately one third of family ownership, after which it decreases. In this line, Fernández and Nieto (2005: 113) affirm: "The family business that has external shareholders improves its possibilities of

developing a portfolio from its own resources, or accessing the resources of its partners, such as management capacity, technology, distribution channels or commercial knowledge". Furthermore, given the need to be accountable to another shareholder, it is to be expected that they will introduce more advanced management techniques that lead to more professional management.

On the other hand, Nieto et al. (2009) suggest that the existence of other large shareholders moderates the relationship between family ownership and *performance*. These authors argue that the *extraction of private benefit* is usually more common when there is no other controlling shareholder, other than the family. In the same vein, Wagner et al. (2015) argue that the negative influences of the family, such as in nepotism, altruism, managerial entrenchment or inefficiency in management, are reduced when the company is controlled by other large shareholders or by the capital market. Hence, the existence of other relevant shareholders, together with the family, can have a positive impact on results. However, "*a second shareholder of reference can generate additional costs and even put obstacles in the way of the initiative and business work that the family brings to the company*" (Nieto et al., 2009: 9).

The negative effect of a high degree of family ownership can grow when the family is the sole shareholder. In this sense, Graves (2006) reports that, in more than 90% of small and medium-sized family businesses, ownership is entirely in the hands of the owner family; there are no non-family shareholders, nor minority shareholders. The absence of other shareholders prevents control over the negative interference of the family in business decisions, as well as the existence of non-economic objectives, which result in lower profitability.

According to these arguments, the second hypothesis is moderated by family character although, given the ambiguity of the impact of family character on performance shown in hypothesis 3, the fourth hypothesis is presented in a dual form:

H4a. Companies with a single family shareholder are more profitable than other companies.

H4b. Companies with a single family shareholder have lower profitability than other companies.

A relevant issue in the study of the relationship between family business and *performance* is the consideration of possible heterogeneity among family businesses. In this sense, one of the main issues is the 'generational stage' in which the family finds itself; this, because the literature on family business has shown that the specific stage has an influence on the results

(Kallmuenzer et al., 2018). Thus, the first generation is characterized by a greater concentration of ownership and control in the founder, while in the second and successive generations ownership is dispersed among family members, something that has been called a “consortium of cousins” (Graves and Shan, 2014). This can lead to conflicts of interest that affect decision-making (Nieto et al., 2009, Eddleston et al., 2013, Arteaga and Menéndez-Requejo, 2017). Moreover, the dispersion of ownership means that less emphasis is placed on family goals, which may favour financial objectives (Westhead and Howorth, 2006).

Another aspect, in which differences are observed when considering the subsequent generations of family business, is the presence of non-family professional managers, as well as a possible higher level of training of the new generations. Sacristán-Navarro et al. (2011) argue that professional managers are more effective than family descendants. In this regard, some studies have shown that there is a significant decrease in *performance* when family managers are appointed instead of professionals (Bennedsen et al., 2007, Pérez-González, 2006). However, hiring professionals can also generate conflicts of interest with shareholders (Burkart et al., 2003). For their part, Cruz and Nordqvist (2012) argue that second-generation family businesses are more dynamic, and are more likely to take advantage of growth and opportunities within their sector, than those of the first generation.

Previous family business studies have found differences in *performance* depending on the particular ‘generation stage’ of the family. Thus, McConaughy et al. (2001) find that when the CEO is the successor, companies are more efficient than those still managed by the founder. In the same line, Nieto et al. (2009) conclude that it is advantageous for qualified professionals to be involved in the management side in family businesses in second and successive generations. On the contrary, Villalonga and Amit (2006) find that when the CEO is a descendant, ‘value is destroyed’. Andrés (2008) finds that the stock market values positively family businesses that are led by the founder. Finally, Westhead and Howorth (2006), as well as Sacristán-Navarro et al. (2011), do not find the influence of *generational stage* on the *performance* of family businesses significant.

Given the above contradictory evidence, and the limited empirical evidence in unlisted companies, the fifth and last hypothesis is proposed in a dual form:

H5a. The unlisted family businesses that are in second and successive generations have higher profitability than the first generation.

H5b. The unlisted family businesses that are in second and successive generations have lower profitability than the first generation.

4. METHODOLOGY

Analysis of ownership structure requires distinguishing between listed and unlisted companies, since this determines the level of information available, as well as its reliability. Listed companies must comply with demanding information requirements, among which is the obligation to report changes to their shareholders.¹ On the contrary, unlisted companies only have to communicate shareholder-related information to the Mercantile Registry of their registered office, which is why this information is dispersed and difficult to obtain (Graves and Shan, 2014).

However, the existence of databases such as SABI, compiled by Bureau van Dijk (BvD), allows ownership structure studies to be undertaken. At the same time, the analysis of ownership structure requires establishing a degree of control, which must be used as a reference to determine the existence of a controlling shareholder and, if applicable, the shareholder's identity. In this sense, BvD follows the criteria established by the IFRS (International Financial Reporting Standard), according to which an entity (company, private person, etc.) controls a company when it owns more than 50%. This criterion is especially applicable in the case of unlisted companies, since such controlling percentage would allow the dominant shareholder - in the absence of a trading market- to be in charge of decision- making. Köke (1999) argues that a level below 50% would be sufficient to control a company if ownership was dispersed, or if its statutes limit the voting rights of minority shareholders. For this reason, he proposes 50% as the best level of control in the case of unlisted companies.

Therefore, according to previous studies on ownership of unlisted companies² (Köke, 1999, Westhead and Howorth, 2006, Graves and Shan, 2014, Arteaga and Menéndez-Requejo (2017), we also use 50% as a level of control. It should be noted that the BvD shareholders' database in some cases does not provide precise data regarding the percentage of ownership in the hands of a specific shareholder, in which case it is sufficient to indicate that ownership is greater than 50%. In addition, the database distinguishes between direct ownership and total ownership. If both types of information are provided, total ownership is considered, whereas, if only direct

¹ When it represents at least 5% of the capital, as well as when it affects members of the board of directors.

² Dyck and Zingales (2004), in their study of listed companies, also consider the level 50%, to obtain the majority of shares.

ownership is known, it is understood that either it is a simple ownership structure or it has not been possible to complete the chain of ownership, as no further information exists on other possible links. Furthermore, when the main shareholder is a company, we have tried to follow the ownership chain in order to find out the presence or not of a family in the ownership of the company.

4.1. Sample and sources of information

The sample is drawn from the list of port services companies, obtained from the General Registry database of Port Services Providers, compiled and published by *Puertos del Estado*.³ The creation of this registry is established in article 120 of the Royal Legislative Decree 2/2011, although it is Order FOM/36/2014 that determines the data that should be included in the Registry and regulates the procedure for the registration of the companies in it. The initial sample was obtained at the end of 2016, and amounted to 357 companies. To determine the companies that operate in any of the ports in each year of the period analysed (2008-2015), the date at the beginning and end of the license to operate in each port was noted; this information is included in the registry.

From the initial sample, 40 companies were eliminated because they did not have a corporate legal form (individual companies) or had legal forms different from that of a public limited company, or a limited company (temporary unions of companies, associations, cooperatives, etc.). In addition, 13 companies were excluded as they did not have financial information in the SABI database, in the years they operated in some port. Likewise, 81 companies were eliminated for not offering ownership information in SABI. This reduced our sample to 207 companies (1,070 observations). Finally, 10 companies (94 observations) were eliminated for having presented negative equity. The final sample consisted of 197 companies (976 observations) that provided services in any of the Spanish ports, in any of the years in the 2008-2015 period, with financial and ownership information in the SABI database in the respective years. Since company information is available over a period of time, a panel regression model is used. The models are estimated using the STATA11 econometric package.

4.2. Variables

³ <http://www.puertos.es/es-es/Paginas/Consulta-Registro-General-Empresas-Prestadoras-de-Servicios.aspx>
Date accessed: November 2016.

The variables of interest in our research are *profitability*, as well as the different variables representing the ownership structure of companies. Furthermore, it is necessary to control for other possible determinants of profitability. In line with previous studies, the level of indebtedness, tangibility, size and age of company have been considered. Finally, the type of services provided by the company in the port area has been taken into account.

Dependent variable

Profitability. Following the line of previous research into ownership and financial performance, we consider the RoA, or economic return, calculated as the quotient between the EBITDA (results before interest, amortization and taxes) and total assets (e.g., Anderson and Reeb, 2003; Maury, 2006; Villalonga and Amit, 2006; Allouche et al., 2008; Kowalewski et al., 2010; Sacristán-Navarro et al., 2011; Graves and Shan, 2014).

Explanatory variables

According to the hypotheses made, we consider as explanatory variables the existence of a dominant shareholder; a single shareholder; the presence of several large non-dominant shareholders; family character; and the generation stage of the family. In addition, a variable interaction between *family nature* and the *existence of a single shareholder* has been considered.

Dominant shareholder (DomSha). The existence of a dominant shareholder is approximated by a binary variable assuming the value of 1 if the company has a shareholder that owns more than 50% of the firm and zero otherwise (Köke, 1999; Westhead and Howorth, 2006; Graves and Shan, 2014; Arteaga and Menéndez-Requejo, 2017).

Sole shareholder (Sha100%). An extreme case of a dominant shareholder occurs when 100% of the firm is owned by only one agent. This case is proxied by a binary variable that assumes the value 1, when there is only a single shareholder, and 0 when there is more than one shareholders.

Family business. To identify the family character of the company, a strictly financial criterion has been used. Accordingly, the binary variable ***Family*** was created, adopting the value of 1 if the company has as dominant shareholder an individual, or one or several families, and 0 if, as a dominant shareholder, it has a non-financial company, a financial institution or a public institution, as well as when there is no dominant shareholder. Following previous studies on unlisted companies, a company is considered as *family* if the ownership in the hands of the family is over 50% (e.g., Westhead and Howorth (2006); Graves and Shan, 2014; Duréndez et

al., 2016; Meroño-Cerdán et al. (2018). Among the studies that specifically consider the existence of several families as owners are Fernández and Nieto (2005) and Kallmuenzer et al. (2018).

Generational stage. Following Fernández and Nieto (2005) and Nieto et al. (2009), we consider that a family business is in second or later generation if it is more than thirty years old. The variable **Generation2** + assumes the value of 1 if the company is in second or successive generation and zero if it is in the first generation. Marín et al. (2017) also consider age as a proxy for generation in family businesses.

Activity of port companies. Performance studies usually take into account the sector (Westhead and Howorth, 2006; Kowalewski et al., 2010; Sacristán-Navarro et al., 2011; Arteaga and Menéndez-Requejo, 2017). In the present study, and according to the information provided in the *Puertos del Estado* database, the type of activity of port companies has been considered through the type of service they provide. For this, 6 binary variables have been created that assume the value of 1 if the company provides the mooring and unmooring service (**mooring**), cargohandling (**handling**), passenger services, **pilotage**, waste reception facilities (**waste**) and **towage**.

Debt. The level of indebtedness is computed as the book value of the total debt divided by total assets (leverage) (e.g., Arteaga and Menéndez-Requejo, 2017). According to ‘pecking order theory’ (Myers 1984; Myers and Majluf, 1984), companies prefer to use retained profits rather than, for debt, resorting ultimately to issuing shares. However, as Short et al. (2002) state, the possibility of the company exercising such preferences depends on the amount of internal funds available to finance its projects. According to these arguments, debt would be inversely related to profitability.

Tangibility. Tangibility is calculated by the quotient of fixed- to total assets and seeks to capture the effect of type of investment on profitability (Hamadi and Heinen, 2015).

Size. This is approximated by the logarithm of total assets (Arteaga and Menéndez-Requejo, 2017). The literature considers size as an inverse proxy of asymmetric information between internal and external agents, that is, large companies tend to offer more and better information than small companies. This facilitates access to capital markets, which favours investment and presumably profitability.

Age. The financial literature considers age as a reputation proxy, which is why most ownership and *performance* studies include the company's age as a control variable (e.g, Westhead and Howorth, 2006; Graves and Shan, 2014; Meroño-Cerdán et al., 2018). Age is computed as the logarithm of the number of years since the creation of the company.

Year. Since our study concerns the period 2008 to 2015, 8 binary variables have been created, one for each year (e.g, Kowalewski et al., 2010; Graves and Shan, 2014; Sacristán-Navarro et al., 2011).

Table A1 in the Appendix presents a list of the variables used, indicating their calculation method and the previous studies in which they were considered.

5. RESULTS

5.1. Descriptive Analysis

Usually, when dealing with unlisted companies, there is a high concentration of ownership in the hands of one or a few large shareholders. In a similar way to Ducassy and Guyot (2017), in the first place, we classify companies according to the type of ownership structure: 1) companies with a dominant shareholder whose ownership exceeds 50% of the capital; 2) companies without a dominant shareholder. Second, companies are classified in family and non-family firms. Table 1 shows the number and percentage of company-year observations corresponding to each type of structure in the period under study. As can be seen, 83.5% are companies with a dominant shareholder, and approximately in half of these, this shareholder has 100% ownership. Regarding identity, there is a predominance of family businesses that represent 60%, and about two thirds have a single shareholder. Finally, approximately 20% of family businesses are in second or successive generations.

Table 1. Ownership structure (2008-2015)

	Nº	% ^a
With dominant shareholder	814	83,50
DomSha 100%	474	48,56
Without dominant shareholder	162	16,50
Family	590	60,45
Family 100%	369	62,54
Second or later generations	121	20,50
Non family	386	39,55
Total	976	100

^a % calculated over the total, except in family firms' groups

Table 2 presents the descriptive statistics of profitability for the different groups analysed. As can be seen, companies with a dominant shareholder present higher returns than companies without a dominant shareholder. In addition, if the dominant shareholder is the single shareholder of the company, the return is even higher than when they share ownership with other shareholders. Regarding the identity of the dominant shareholder, family businesses have higher returns than non-family companies. In addition, family businesses in which the family is the sole shareholder are those that present the highest profitability among all groups.

Table 2. Ownership structure and profitability (RoA%)

Ownership structure	Profitability (RoA%)		
	Mean	Median	S.D.
With dominant shareholder	12,91	10,94	14,29
Without dominant shareholder	8,46	8,70	6,33
Means difference with/without DomSha		-3,3995***	
Dominant Shareholder = 100%	14,75	12,29	15,19
Dominant Shareholder < 100%	9,63	9,12	13,88
Means difference Dom. Shareholder =/<100%		-5,5060***	
Family	13,98	10,90	14,43
Non Family	9,28	9,74	14,72
Means difference Fam-Non fam		-4,9255***	
Family = 100%	15,56	12,31	15,68
Family < 100%	11,33	9,87	11,77
Means difference Fam =/< 100%		-3,4730***	
Family first generation	14,05	11,83	14,23
Family second or later generations	13,68	8,12	15,44
Means difference 1 ^a / 2 ^a and later generations		0,2472	

Table 3 shows the distribution of companies according to the type of port service they provide, as well as the profitability of each group. As can be seen, companies involved in cargo handling predominate, representing 47%, followed by waste reception facilities (21%). Passenger companies have the lowest representation, with 5% of the observations.

Table 3. Port services: Type and profitability (RoA %)

Port Service	Observations		Profitability		
	N°	%	Mean	Median	S.D.
Mooring	89	9.12	12.31	13.51	14.61
Cargohandling	459	47.03	7.80	8.29	12.53
Passenger Services	52	5.33	14.55	12.54	15.92
Pilotage	85	8.71	26.27	21.28	19.59
Waste reception facilities	206	21.11	13.92	11.45	10.20
Towage	85	8.71	14.16	12.76	18.19
	976	100	Chi-squared 108.598***		

*** : Significant at 1%,

Of the port services themselves, we find that the most profitable one is pilotage, with an average Return on Assets (RoA) of 26%, while the least profitable port service is cargohandling (7.8%); the rest have similar returns, ranging between 12% and 14%. These differences are statistically significant, according to the Kruskal-Wallis test.

Table 4 presents the descriptive statistics, as well as the correlation matrix of the variables included in our econometric models. In addition to the variables of ownership, type of service and profitability already mentioned, the companies in the sample have an average debt ratio of 53%, an average ratio of fixed- to total assets of 35%, and an average age of 24 years. No high correlations among the variables is found, except between age and generation; these two are not included together in the models as a result. Finally, as shown in Table 3, the values of the Variance Inflation Factor (VIF, less than 2), confirm the absence of multicollinearity.

The estimation of the econometric models, specified to test our hypotheses was undertaken through panel regression with the use of the STATA.14 program.

Table 4. Descriptive statistics, VIF and correlation matrix

	Mean	S.D.	VIF	1	2	3	4	5	6	7	8
1.ROA	12,11	14,75	--	1							
2.DomSha	0,83	0,37	1,15	0,11***	1						
3.Sha100%	0,48	0,50	1,23	0,17***	0,43***	1					
4. Family	0,60	0,49	1,18	0,15***	0,55***	0,34***	1				
5.Generac.2+	0,26	0,44	1,92	-0,02	-0,02	-0,11***	-0,16***	1			
6. Debt	0,53	0,25	1,16	-0,20***	-0,005	-0,08***	-0,10***	-0,08***	1		
7. Tangibil.	0,35	0,25	1,19	0,002	-0,14***	-0,11***	-0,16***	0,04	0,19***	1	
8. Size	8,92	2,02	1,56	-0,16***	0,05*	-0,17***	-0,12***	0,37***	0,12***	0,26***	1
9. Age	2,88	0,84	1,39	-0,02	0,05	-0,12***	0,003	0,66***	-0,18***	0,06	0,38***

Variables description in table A1 in the appendix; *, **, *** : significant at 10%, 5% y 1%, respectively

5.2. Econometric analysis

The results of the estimated models --in order to contrast the hypotheses proposed in the paper- are presented in Table 5. As mentioned above, the sample was first divided among companies with and without a dominant shareholder. The results of model 1 indicate that the *DomSha* variable is significant and positive, which indicates that the existence of a dominant shareholder improves the profitability of Spanish port service companies; this offers support to the first hypothesis. Regarding the second hypothesis, the results of model 2 indicate that the

representative variable of a dominant shareholder owning 100% of the firm is positive and significant. This indicates that companies with a single shareholder are more profitable than companies with a dominant shareholder whose ownership is less than 100%, as well as companies without a dominant shareholder.

Table 5. Dominant shareholder and profitability in port services firms
Dependent Variable: RoA; Estimation Method: Panel regression

Model	(1)		(2)	
	β	S.E.	β	S.E.
DomSha	4,2183**	1,81	-	-
Sha100%	-	-	2,3391*	1,37
Handling	Reference		Reference	
Mooring	2,2022	2,94	2,8214	2,91
Passenger	7,7125***	3,53	7,4707**	3,52
Pilotage	15,2216***	3,30	15,288***	3,32
Waste	5,9236***	1,96	6,0112***	1,96
Towage	5,2630*	3,02	5,0213*	3,02
Debt	-19,006***	2,46	-18,7798***	-7,62
Tangibility	4,9337**	2,51	4,4890*	2,51
Size	-0,3942	0,43	-0,2655	0,43
Age	-0,6280	0,93	-0,4854	0,93
2008	Reference		Reference	
2009	-5,5723***	1,46	-5,5248***	1,47
2010	-0,9248	1,46	-0,9805	1,46
2011	-3,8227***	1,47	-3,8285***	1,47
2012	-3,9281***	1,48	-3,9573***	1,46
2013	-5,3139***	1,47	-5,3338***	1,48
2014	-2,9401**	1,50	-2,9925**	1,51
2015	-1,8647	1,53	-1,8973	1,54
Constant	21,9602***	4,48	22,7553***	4,44
N° Observations	976		976	
R ²	0,1777		0,1765	

Variables: see table A1 in the appendix.

*, **, *** significant at 10%, 5% y 1%, respectively

The family character of the dominant shareholder is considered in model 3 (table 6), and as can be seen, the *family* variable is not significant. However, when considering this character together with the variable *Sha100%* (see model 4), a positive sign of the *family* is revealed, although the variable interaction between the family identity and the existence of a single shareholder is negative and significant.

Table 6. Dominant shareholder and profitability in port services firms
Dependent Variable: RoA; Estimation Method: Panel regression

Model	(3)		(4)		(5)	
	β	S.E.	β	S.E.	β	S.E.
Family	1,9933	1,56	3,9494**	1,94		
Sha100%			6,3893***	2,31		
FamxSha100%			-6,7121**	2,82		
Generation2+					4,1470**	2,05
Handling	Reference		Reference		Reference	
Mooring	2,4777	2,95	2,0974	2,97	5,0802	3,55
Passenger	7,3500**	3,51	7,7794**	3,54	12,5591**	6,57
Pilotage	15,5415***	3,34	15,2041***	3,42	15,3054***	3,79
Waste	6,2647***	1,95	5,7717***	1,99	8,4600***	2,64
Towage	5,1910*	3,01	4,9385*	1,99	7,0811*	3,83
Debt	-18,7457***	2,46	-18,640***	2,46	-16,1386***	2,89
Tangibility	4,9257**	2,51	4,1028*	2,53	5,5154*	3,19
Size	-0,2915	0,43	-3,3121	0,43	-1,2998**	0,59
Age	-0,5887	0,93	-0,6361	0,94	-	-
2008	Reference		Reference		Reference	
2009	-5,5824***	1,47	-5,6331***	1,46	-4,2412**	1,74
2010	-0,9198	1,46	-0,9968	1,46	-0,4834	1,74
2011	-3,7831***	1,47	-3,9173***	1,47	-3,3536**	1,72
2012	-3,8566***	1,49	-4,1503***	1,49	-4,3774**	1,72
2013	-5,2147***	1,48	-5,4953***	1,48	-7,4766***	1,70
2014	-2,8507**	1,51	-3,1448**	1,50	-4,4746***	1,72
2015	-1,7344	1,53	-1,9724	1,53	-4,3063**	1,73
Constant	22,9338***	4,45	22,2854***	4,49	29,4138***	5,96
N° Observations	976		976		590	
R ²	0.1773		0.1749		0,2119	

Variables: see table A1 in the appendix.

*, **, *** significant at 10%, 5% y 1%, respectively

Thus, consideration of the *family ownership* level model has allowed us to affirm the significance of the family variable with a positive sign. This indicates that, although family businesses with a level of ownership of less than 100%, as well as those with a single shareholder, show greater profitability, when the family company is the only shareholder, profitability is reduced. This implies that, in family businesses, the presence of another shareholder would contribute to improving performance, as hypothesized by H4b. Finally, as can be seen in model 5 (see table 6), the variable representing the second and successive generations has a positive and significant sign, which indicates that companies whose dominant shareholder is a second or later generation family company presents better profitability than first-generation family businesses, according to hypothesis H5a.

With respect to services offered by port companies, as can be seen in Tables 4 and 5, all services contribute significantly more to RoA than cargohandling (variable omitted in the models).

The pilotage service coefficient stands out (the high profitability of pilotage is discussed in the descriptive analysis above). Regarding the other control variables, *indebtedness* is negative and significant in all models, while tangibility is positive. Size and age are not significant. Finally, in terms of the years of analysis, all except 2015 were negative, reflecting the effect of the crisis, with 2008 being the year of reference in the models.

6. DISCUSSION AND CONCLUSIONS

In this paper, we have analysed the impact of *ownership structure* on the profitability of Spanish port services companies. The activity of these companies is of vital importance for the economic development of the country insofar as, due to its geographical location, Spain has an extensive network of ports, through which most of the international trade takes place.

Based on the arguments offered by *agency theory*, five hypotheses have been tested which predict a favourable impact of the existence of a dominant shareholder, as well as a single shareholder, on the profitability of the companies. Regarding the ‘family character’ of a company, the literature presents competing arguments and, sometimes, inconclusive results. This led us to hypothesize in a dual way. In this sense, as regards family character, as well as the existence of a single family shareholder and the generational stage, no specific prediction was made.

The descriptive analysis carried out on an unbalanced panel of 197 companies (976 observations) in the period 2008-2015, indicated that more than 80 percent of the companies have a dominant shareholder which, in more than half of the cases, is the only one. In addition, it has been seen that 60 percent of the companies are family businesses, the vast majority of them without another shareholder; 20 percent of which are in second or successive generations.

It appears that pilotage companies have exceptional profitability. In Spain, pilotage services are offered by corporations of ship captains which offer the service at various Spanish ports. In general, the pilotage market of Spain exhibits monopolistic characteristics, something that could explain the sector’s high profitability.

In the opposite, the least profitable port service seems to be cargohandling. Incidentally, stevedoring firms predominate in our sample, representing almost half of its observations. In Spain, stevedoring firms must contract workers from SAGEP, a company managing dock

workers. As a result, port workers have considerable market power (monopsony) so as to extract *economic rent*; in other words, and similarly to most European ports, port work enjoys comparatively much higher remuneration, something that reduces the profitability of stevedoring companies the cargohandling charges of which are limited by international competition.⁴

Next, we proceed to analyse the results obtained on the relationship between ownership structure and profitability, in light of the theoretical arguments raised. In first place, as regards the type of ownership structure, companies with a dominant shareholder obtain higher returns than companies without a dominant shareholder. This result supports the arguments that point to the advantages derived from the absence of expropriating practices due to the lack of minority shareholders, since the costs of these would be borne mostly by the dominant shareholder (Bona et al., 2013). This finding offers support to hypothesis H1. In addition, companies with a single shareholder obtain higher profits than other companies. This indicates that the absence of other shareholder favours decision-making and avoids conflicts by reducing agency costs, which is why H2 is not rejected.

Secondly, in relation to family businesses, in principle there are no significant differences in the profitability of these companies vis à vis non-family companies, so that hypotheses H3a and H3b are rejected. This can be interpreted in the sense that the advantages of family - derived from their long-term vision, competitive advantages (Cabrera-Suárez et al. (2001), etc. -, are countervailed by the negative interference of the family in the company (Carney et al., 2014; Arteaga and Menéndez-Requejo, 2017), and the higher agency costs that they carry for not being willing to dismiss family members (Gomez et al., 2001). This result is in line with those obtained in previous studies related to unlisted companies, such as Westhead and Howorth, (2006, United Kingdom), Castillo and Wakefield (2006, United States), Sciascia and Mazzola (2009, Italy).

⁴ The Official State Bulletin (BOE) dated May 13th 2017 published the [*Royal Decree – Law 8/2017 of May 12th*](#) which modifies the regulation of workers providing cargohandling services and operations, in order to comply with the sentence of the European Court of Justice of December 11th 2014, in the case C-576/13 (infringement proceeding 2009/4052). After several months of debates and negotiations with the affected sectors, and since the expectations of the previous RD-law 4/2017 were not fulfilled (it was revoked on March 16th, 2017), this Royal Decree is the second attempt of the Spanish Government to regulate the situation of cargohandling services and operations. There is an obligation for SAGEP to comply to market conditions prior to May 2020.

However, family businesses, where the family is the only shareholder, present lower profitability than other companies. This result is consistent with the arguments of Sciascia and Mazzola (2009), who maintain that moderate levels of ownership and family involvement are associated with greater performance. Likewise, as Nieto et al. (2009) state, the extraction of private benefits is usually more common when there is no controlling shareholder other than the family. Along the same lines, Wagner et al. (2015) argue that the negative consequences of the family are reduced when the company is controlled by other large shareholders, or by the capital market. In short, the presence of other shareholders reduces the negative interference of the family in business decisions; so the H4b hypothesis is not rejected.

In addition, companies in which family ownership is in the second or successive generations enjoy better profitability than companies in the first generation. Hypothesis H5a is therefore accepted. This result offers support to arguments regarding the dispersion of family ownership in the second or successive generations; something that reduces emphasis on family goals, favouring financial objectives instead (Westhead and Howorth, 2006). Likewise, the greater presence of professional managers in the second or successive generations improves profitability (Sacristán-Navarro et al., 2011). These results are in line with those obtained by McConaughy et al. (2001) and Nieto et al. (2009).

The results obtained allow us to broaden our knowledge of the financial performance of port service companies, a group that has been poorly studied to date. In practical terms, it is hoped that the evidence provided in our study would be useful to port authorities: the competent entities that grant licenses or concessions to these companies, in order to ensure the proper functioning of ports. We believe our results are applicable to other family businesses outside the port domain.

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Tabla A1. Definition of variables

Name	Description	Previous studies
Dependent Variable: ROA		
Profitability (RoA)	EBITDA/Total Assets	Andres (2008) Hamadi and Heinen (2015) Arteaga and Menéndez-Requejo (2017)
Explanatory Variables		
With dominant shareholder	DomSha: dummy=1 if there is a shareholder that owns more than 50% of the ownership	Westhead y Howorth (2006) Arteaga and Menéndez-Requejo (2017)
Family	Dummy=1 if the company has as dominant shareholder an individual or one or several families.	Westhead and Howorth (2006) Andres (2008) Graves and Shan (2014) Meroño-Cerdán et al. (2018)
Control variables		
Debt	Total Debt/Total Assets	Andres (2008) Hamadi and Heinen (2015)
Tangibility	Non current Assets/Total Assets	Hamadi and Heinen (2015)
Size	Log Total Assets	Andres (2008) Arosa et al. (2010) Hamadi and Heinen (2015) Meroño-Cerdán et al. (2018)
Age	Log number of years	Westhead and Howorth (2006) Andres (2008) Graves and Shan (2014) Meroño-Cerdán et al. (2018)
Year	8 dummies, one for each year from 2008 to 2015	Kowalewski et al. (2010) Graves and Shan (2014) Sacristán-Navarro et al. (2011) Hamadi y Heinen (2015)
Services	Mooring Dummy=1 if mooring and unmooring service and 0 otherwise Handling Dummy=1 if handling of goods service and 0 otherwise Passenger Dummy=1 if passenger services and 0 otherwise Pilotage Dummy=1 if pilotage service and 0 otherwise Waste Dummy=1 if reception of waste service and 0 otherwise Towage Dummy=1 if towage service and 0 otherwise	