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Understanding the Relationship between Insider Ownership and Performance in Europe.¹

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This paper discusses the impact of insider ownership on performance for two European regions: South and Central Europe. To our knowledge, no prior study has made a similar comparison. We confirm that performance increases as the firm's owner sustains its control because the interests of managers and owners are aligned. Furthermore we find that insider ownership is more valuable in South European countries due to the weaker enforcement of the legal system. However we also corroborate that corporate ownership varies in ways consistent with the maximization of the firm performance and these inferences may be affected.

JEL Classification: G32, G34 *Keywords:* Insider Ownership, Firm Performance, Endogeneity, Europe.

1. Introduction

Recent studies have analyzed the relationship between ownership and performance in Europe (Thomsen and Pedersen, 2000, and Lisboa, 2007). However, they studied Europe as a unit neglecting potentially significant regional specificities namely due to the macroeconomic scenario, institutional characteristics and investors' legal protection which can lead to different impact on performance. In order to verify if the differences across nations are related with the system of legal law each country faces, we divided Europe in two mains regions: South and Central Europe. The first region includes Portugal, Spain, France, Belgium, Italy and Greece, while Germany, Austria and Finland belong to the second region.

Analyzing the ownership data of these regions over the period between 2000 and 2004, we pretend to understand empirical relationships between the ways companies are owned and the value they create, and how these relationships can be related to similar developments of the financial market. Moreover we want to provide additional evidence of whether the differences in legal rules can explain the variations in corporate governance. Finally, we will also address the endogeneity problems in order to verify the consistence of our results.

We find evidence of a linear relationship between insider ownership and performance confirming the alignment effect. Therefore, managers may take decisions that lead to the firm's performance maximization and so, as they acquire the company' shares, the interests of both managers and shareholders are aligned. Moreover, we conclude that insider ownership is more significant to Southern European countries than to Central European ones. In fact, in South Europe the French civil law is dominant and consequently the enforcement of the legal law is weaker and investors are poorly protected from expropriation. Likewise, to avoid agency conflicts and increase the performance, the firm's owner needs to use internal Central Europe, where the German and the Scandinavian civil law prevail, the financial market is more developed and as a result managers are controlled by external mechanisms which limit them to invest in projects that maximize their self interests at the expense of shareholders. We also discover that there are other variables such as the firm's size and growth opportunities which influence the performance, and furthermore there may be other variables not included in the model that can contribute to explain it. Finally, we address the endogeneity problem as previous researchers did and conclude that, as insider ownership is an endogenous variable, our results can be affected. In fact, the firm' manager can be replaced in order to maximize the firm performance, which is the main aim of each firm, and consequently, not only insider ownership influence performance but the contrary is also true.

This paper is organized as follows: the theoretical background is present in section 2; section 3 documents the theory, hypotheses and model to test them; in section 4 we provide a description of the data and methodology; we present the results in section 5, followed by the discussion in section 6; and finally the conclusions and paths for future research are evident in section 7.

2. Theoretical Background

Each individual when decide to create a firm needs to establish contractual relations with other investors, employees, suppliers, creditors, customers, and so on. Furthermore he needs to decide whether to sustain the firm's control or to hire a professional manager. Maintaining the firm's control has private benefits, with the production of value to the shareholder, but it also generates costs because the shareholder has to acquire information about manager's effort to produce output (Dyck and Zingales, 2004). Likewise, some shareholders prefer to contract a manager, establishing with him a contract, which Jensen and Meckling (1976) define as "agency relationship"; The shareholder who acts as principal hires a person (the agent) to control the firm and, to increase his performance, while the agent receives a pecuniary salary and some other amenities for doing that job (Demsetz, 1983). With this contract, in which the parties define each other's rights and obligations, their protection and the accomplishment of their goals are guaranteed.

Furthermore, the company's performance may be affected by manager's decisions as he can use its resources to maximize his wealth at the expense of the firm. If for one side the manager receives a salary to do this function in ways consistent with the maximization of the performance, for another side, he may feel not fully compensated for the risk he faces and so he can take decisions that satisfy his self-interests, rather than the firm' ones (Lane *et al.*, 1999). To avoid a decline of the performance, the shareholder needs to use internal and external mechanisms to control managers. One way to align managers' interests with those of shareholders is to incentive them to acquire the firm' shares. In that case, as managers are at the same time shareholders, they may want to maximize the performance. Moreover, there are other mechanisms, external mechanisms, which depend on the market force to control manager, namely the importance of takeovers, the facility to replace managers, the enforcement of the legal law, and others (Fama and Jensen, 1983, Jensen and Ruback, 1983, Jensen, 1986, Morck *et al.*, 1989, and Agrawal and Knoeber, 1996).

2.1 Insider Ownership and Performance

The relationship between insider ownership and performance has been further studied by researchers in different national contexts. However, depending on the model defined, researchers found different conclusions. The majority of the studies were done to the U.S. and the U.K. markets, but there are already some studies from other countries around the world. The U.S. and the U.K. have the strongest legal law to protect investors, the common law. In these countries, as external mechanisms are important to control managers, insider ownership is not as important as it is in countries with civil law. Some researchers confirm that at low levels of insider ownership the performance increases because the interests of managers and shareholders are aligned and consequently the agency problems between the principal and the agent are avoided. However, after a certain level, as managers retain more of the firm' shares they can create a board difficult to monitor or even stay on the job when they are not competent or qualified for it, leading to a decline in the performance (Demsetz, 1983, Fama and Jensen, 1983, Faccio et al., 2001, Anderson et al., 2003). This quadratic relationship was found by Stulz (1988), McConnel and Servaes (1990), and Han and Suk (1998), who find a maximum at a level around 40-50 percent of insider ownership to the U.S. market and by Mudambi and Nicosia (1998) who find a maximum at 11 percent of insider ownership in the U.K. market. However, others researchers discovered a cubic relationship. Additionally to the previous conclusions, some researchers found that at higher levels of insider ownership, as the manager and the shareholder are the same person, the interests of both are aligned again and so the performance increases. This cubic relationship was confirmed by Morck et al. (1988), Cho (1998), and Holderness et al. (1999) to the U.S. market, and by Short and Keasey (1999), and Faccio and Lasfer (1999) to the U.K. It is important to refer that the maximum point found in the U.S. market is around 5-7 percent of insider ownership, which is different from the previous results found from the same country. This situation can be related with the database used, the structure of the sample analyzed, the model defined, the type of companies studied, around others. To other countries, which are mostly characterized by having civil law, the relationship found between insider ownership and performance is diverse. While Miguel *et al.* (2004) found a cubic relationship to Spain, Morck *et al.* (2000), and Lisboa (2007) found a positive and linear relationship to Japan and to Europe, respectively. Kumar (2003) confirmed a quadratic relationship to India. Likewise, we can conclude that insider ownership is significant to determine the firm performance but we can not affirm which is its impact as there are many reasons that can influence it.

2.2 Endogeneity

If the main aim of the shareholder is to maximize the firm performance, he can replace the manager in order to achieve it. Likewise, not only insider ownership can influence performance, but the contrary can be also true and in this case the results found by researchers who analyze this relationship can be spurious. Some researchers as Demsetz and Lehn (1985), Cho (1998), Himmelberg *et al.* (1999), and Demsetz and Villalong (2001) suggested that ownership variables are endogenously determined in equilibrium. In fact, investors can rearrange their portfolio in order to maximize the firm and their own wealth. Especially in countries where replace managers is an easy task, insider ownership can quickly change. Moreover, is easier to remove a professional manager than an owner-manager from its position (Hillier and McColgan, 2005, and Hermalin, 2005). It may also be complex to reach a common agreement on corporate structure modifications. Consequently, if on one hand it is logic for the ownership structure to change over time in order to satisfy investors' main aim, on the other hand investors' inertia blocs the firm portfolio rearrangement.

2.3 Legal Law and Performance

According to La Porta *et al.* (1998) the differences in investors' legal protection can explain the variations about how firms are financed and owned. Moreover, some researchers, as La Porta *et al.* (2002), Gompers *et al.* (2003), and Albuquerque and Wang (2008), found a positive relationship between the firm value and investor protection, since in this case minorities' wealth expropriation is avoided. Dahya *et al.* (2008) also conclude that, especially

in countries with weak legal law to protect investors, the firm corporate value increases when the board is made up of directors not affiliated with the major shareholder.

There are different legal law systems around the world. The civil law is the most influential and more familiar around the world, but is also the weakest law. It can be divided into French, German and Scandinavian origin. French civil law is familiar in Argentina, Belgium, Brazil, Chile, Colombia, Ecuador, Egypt, France, Greece, Indonesia, Italy, Jordan, Mexico, Netherlands, Peru, Philippines, Portugal, Spain, Turkey, Uruguay and Venezuela. In these countries minorities are not protected neither there are creditors. To surpass these problems mandatory dividends are defined in the majority of the countries. Moreover, not only legal rules but also the quality of its enforcement is weak, and so managers can abuse from their importance in the firm by expropriating investors (La Porta et al., 1998). Consequently, concentrated control is needed to avoid these expropriations and to increase the performance. For another side, German civil law is in the middle of common and French civil law. Austria, Germany, Japan, South Korea, Switzerland and Taiwan are countries with this legal system. In these countries minorities are not protected by law, but creditors are secured. Moreover the enforcement of the legal law is a substitute of the weak rules. Denmark, Finland, Norway and Sweden are countries with Scandinavian civil law, which have the better quality of law enforcement to surpass the weak rules to protect investors (La Porta et al., 1998 and 2000). Furthermore, comparing with the previous legal systems, investors in countries with this legal system are the most protected by law as well as creditors. Likewise, the concentration of ownership is not required to increase performance, since the interests between the principal and the agent are aligned due to the market for control and discipline managers' actions. Finally, the rest of the countries have a common law system, which is the law that better protect investors, minorities and creditors. As a result, in these countries the ownership structure of the firms is characterized by diverse minority investors who normally contract a professional manager to control the firm.

3. Theory, Hypothesis and Model

3.1 Theory and Hypotheses

Initially we hypothesize that the differences in the relationship between insider ownership and performance around Europe are related with the country legal law. Additionally we address the endogeneity problem in order to confirm the robustness of the results.

3.1.1 Insider Ownership and Performance

As managers are the responsible for the definition of the firm's strategy and investments, they influence its performance. As Lisboa (2007) found a positive and linear relationship between insider ownership and performance in Europe we expect to find the same type of relationship. However the power of the relationship may depend on the country legal law and its enforcement to protect investors. While in countries with French civil law insider ownership is important to align the interests of managers and shareholders, in countries with Germany and Scandinavian origin investors are more protected by law from expropriation and so insider ownership is not a necessary mechanism to control managers' actions.

Hypothesis 1: The relationship between firm performance and insider ownership is more relevant in South European countries than in Central European ones.

3.1.2 Endogeneity

We addressed the endogeneity problem in order to verify if the results found in this study are consistent. The importance of endogeneity and simultaneity was stated by several researchers when analyzing the influence of ownership on performance (Demsetz, 1983, Demsetz and Lehn, 1985, Cho, 1998, Himmelberg *et al.*, 1999, and Demsetz and Villalonga, 2001). Investors can rearrange their portfolio, changing managers, in order to increase the firm performance. Likewise, not only insider ownership influence performance but the contrary can be also true and in this case our results can be false. However, find an agreement to change corporate ownership may be difficult to achieve and so shareholders' inertia can prevail. Besides, it is not easier to remove an owner-manager from his position (Hillier and McColgan, 2005, and Hermalin, 2005). In this case insider ownership may be an exogenous variable, which validate our previous results.

Hypothesis 2: Insider ownership is an exogenous variable and so all the results found are robust.

3.2 Model

To test the first hypothesis we will use the Ordinary Least Square method, and then to address the endogeneity we will use the Two Stages Least Square estimation.

3.2.1 Insider Ownership and Performance

The first hypothesis will be test using a linear relationship between insider ownership and performance in order to validate the alignment effect (equation 1). We make the test for each

$$Performance_{it} = \alpha_1 IO_{it} + \gamma_1 Size_{it} + \gamma_2 Age_{it} + \gamma_3 GO_{it} + \gamma_4 Debt_{it} + \varepsilon_{it}$$
(1)

3.2.2 Endogeneity

Finally, the relationship between insider ownership and performance is examined, in order to check whether it is a spurious one, injected by omitted variables. To do so, two equations will be estimated simultaneously (equation 2 and 3).

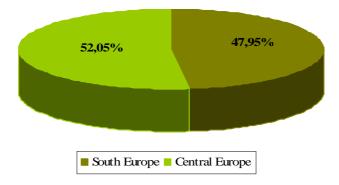
$$Performance_{it} = \alpha_1 IO_{it} + \gamma_1 Size_{it} + \gamma_2 Age_{it} + \gamma_3 GO_{it} + \gamma_4 Debt_{it} + \varepsilon_{it}$$
(2)

$$IO_{it} = \rho_1 Performance_{it} + \gamma_1 Size_{it} + \gamma_2 Age_{it} + \gamma_3 GO_{it} + \gamma_4 Debt_{it} + \varepsilon_{it}$$
(3)

4. Data and Methodology

4.1 Data Sources and Sample Selection

The sample includes all companies included in the WorldScope and Reuters database from 9 European Continental countries. We separate the countries into two groups attending to the origin of the legal law. The South European group (which has 409 firms) is composed of Portugal, Spain, Italy, France, Belgium, Italy and Greece, countries where the French civil law is familiar. The other group, Central Europe (which has 444 firms) is formed by Germany, Austria and Finland that are countries with German and Scandinavian civil law.



Picture 1: Structure of the Sample

4.2 Variables

To analyze the relationship between insider ownership and performance, we did not only use variables related to insider ownership and with performance, but we also included some control variables as they may influence the relationship in study.

4.2.1. Ownership Variables

The variable **insider ownership** (IO) was measured as the percentage of ownership held by the Chief Executive Officer, the Chairman and the Vice-chairman of the board and the Executive Director. This information was collected on Reuters database.

4.2.2. Firms' Performance Variables

To measure the performance we used the variable **Return on Assets** (ROA) which is an accounting-measure that evaluates the efficiency with which corporate assets are managed. This variable was obtained directly from DataStream's item of ROA.

4.2.3. Control Variables

As we referred before we include some control variables related with the firm' characteristics in order to better explain the relationship between insider ownership and performance. All these variables where directly taken or constructed using information from the DataStream database.

- Size: to measure the firm' size we use the natural logarithm of the company's sales (In Sale). We include this variable because it may influence the performance. If for one side larger firms have more difficulty in controlling all their activities, which can lead to agency problems and consequently to a decline in the performance, for another side they can benefit from economies of scale and better knowledge about the market, increasing the performance.
- Age: to measure the firm's age we count the number of years between the firm's foundation and the year in analysis. One more time, the firm's age has an ambiguous effect on performance because older firms can benefit from better knowledge, experience and reputation but can also be more inflexible which leads to a decline in the performance.
- Growth Opportunities (GO): are measured using year-over-year sales. As the growth
 opportunities increases the firm may be more innovative and can improve its
 efficiency. Moreover, when there are few growth opportunities managers can make

investments that maximize their self-interest at the expense of the company's value maximization, leading to a decline in the performance.

• **Debt Intensity** (Debt): is measured dividing the level of debt over total assets. We use this variable because firms with higher levels of debt tend to have better performance because it is an external mechanism to control managers' actions.

5. **RESULTS**

5.1 Correlations

To measure the linear relationship between two quantitative variables and to identify potential problems of multicolinearity we used the *Pearson R* correlation.

	ROA	ΙΟ	Age	Size	GO	Debt
ROA	1.0000					
ΙΟ	0.1226	1.0000				
Age	-0.0338	-0.1507	1.0000			
Size	0.0805	-0.1086	0.3094	1.0000		
GO	0.9332	0.0823	-0.0491	0.0206	1.0000	
Debt	-0.0170	-0.0706	0.1336	0.1749	-0.0130	1.0000

 Table 1: Correlation Matrix for the South European region

The variables are the following: ROA- Return on Assets, IO- percentage of insider ownership, Age- firm age, Size- firm size, GO- growth opportunities, Debt- debt intensity

The table 1 reports the correlation matrix for the South European region. The variable ROA and GO are highly correlated (*Pearson R* = 0.9332), which means that as the variable ROA increases the firm's opportunity to grow also raise, and vice versa. 0.3094 is the correlation between size and age, indicating that the older firms are normally larger than the young firms. None of the remaining variables are highly correlated.

	ROA	ΙΟ	Age	Size	GO	Debt
ROA	1.0000					
ΙΟ	0.0874	1.0000				
Age	0.2125	-0.1046	1.0000			
Size	0.2821	-0.0585	0.3884	1.0000		
GO	0.0781	-0.0241	-0.0282	-0.0732	1.0000	
Debt	0.1267	0.0225	0.0597	0.1527	-0.0264	1.0000

Table 2: Correlation Matrix for the Central European region

The variables are the following: ROA- Return on Assets, IO- percentage of insider ownership, Age- firm age, Size- firm size, GO- growth opportunities, Debt- debt intensity

The variables' correlations for the Central European region are reported in table 2. As we have stated before the variable firm's age and size are positively correlated (Pearson R = 0.3884). Moreover none of the remaining variables are correlated to a significant extent.

5.2 The Regional Impact

Additionally, we compare the medium value of the variable ROA, which measures the firm performance, in order to verify if there are significant differences between the two regions. We also divided each region in companies with insider ownership and in firms where manager and shareholders are separate. The results are shown in table 3.

	South Europe	Number of firms	Central Europe	Number of firms
With IO	6.566	196	0.373	149
Without IO	1.813	213	0.670	295
Difference	4.752	-	-0.296	-
All sample	4.091	409	0.570	444

Table 3: medium ROA

In both regions there are more firms with separation of ownership and control than firms where the owner is also its manager, although in South Europe the difference is not so relevant. This indicates that the majority of shareholders look for a professional manager to control the firm in order to benefit from his better knowledge about the job and the market, which can lead to the performance maximization. Moreover, as we expected in South European countries the performance is higher in firms where insider ownership is present due to the alignment effect between shareholders and managers. Conversely, to Central European countries, the situation is the opposite as firms with professional managers have a higher performance than the remaining firms. In fact, since the market for corporate control is more effective in this region, and investors enjoy better legal protection, the internal mechanisms to avoid agency conflicts between the agent and the principal are not as important as in French civil law countries. Likewise, the legal law influences the corporate ownership of the firms.

5.3 **Regression Results**

5.3.1. Insider Ownership and Performance

To analyze the relationship between insider ownership and performance and test our first hypothesis we make a regression of the performance, measured by the variable ROA, against insider ownership. The results of the cross-sectional Ordinary Least Square Regression of each of the two groups of countries are displayed in table 4.

	South Europe	Central Europe
С	-8.9180 ***	-25.9451 ***
Ю	5.5546 ***	8.9364 **
Age	0.0001	0.2618 ***
Size	0.8812 ***	1.7975 ***
GO	1.6764 ***	0.5455 **
Debt	-0.0199	0.0747 *
\mathbb{R}^2	87.75% ***	12.24% ***
Log Likelihood	-1471.900	-1832.967

 Table 4: Ordinary Least Squares regressions of ROA and insider ownership

*, **, *** Significant at the 10%, 5% and 1% levels, respectively

87.75 percent (\mathbb{R}^2) of the performance of South European companies is explained by the model described. As we expect, insider ownership affect positively and significantly the firm performance, which means that as managers acquire the firm' shares, the interests of owners and managers are aligned and so the performance increases. We also confirm that the variables size and growth opportunities positively affect the performance at 1 percent level of significance. May be there are other variables, different from the ones used in the model,

which explain the performance, as for example the law, the macroeconomic scenario and the industry's influence.

Analyzing the firms from Central European countries, we verified that insider ownership also positively and significantly affects the performance, at 5 percent of level o significance. However the model described only explains 12.24 percent of the variable ROA. Additionally, the firm's age and size influence the performance at 1 percent of level of significance, GO at 5 percent and debt at 10 percent. Finally, other variables not included in the model can also help to explain the performance in a negative way.

Furthermore, we confirm our first hypothesis which states that the relationship between performance and insider ownership is more relevant in South European countries than in Central European ones. In fact, there are differences in the performance of European companies. In South European countries the concentration of ownership and control is more familiar as investors are poorly protected by law. Likewise managers are incentive to acquire the firm' shares in order to the interests of owners and managers become aligned and to avoid the investors' wealth expropriation. For another side, in Central European countries the judicial system is more efficient, which award to investors' protection. Consequently, as the market is more developed, investors do not need to sustain the firm's control, but there are some external mechanisms which gives them more welfare.

5.3.2. Endogeneity

To test our second hypothesis we apply the Two Least Square Regression by estimating in simultaneously the equation 2 and 3. The results are shown in table 5.

	South Europe	Central Europe
С	0.3422 ***	0.1856 **
ROA	0.0039 ***	0.0017 **
Age	-0.0039 **	-0.0029 **
Size	-0.0112 *	-0.0057
GO	-0.0052 **	-0.0028
Debt	-0.0005	0.0002
R ²	5.55% ***	2.77% **

Table 5: Two Least Squares regressions of ROA and insider ownership

Instrument list: ROA, C, IO, Age, Size, GO, Debt

*, **, *** Significant at the 10%, 5% and 1% levels, respectively

Contrary to our expectations insider ownership is not an exogenous variable. In fact, we confirm the same results as Demsetz and Lehn (1985) and Himmelberg *et al.* (1999) who state that not only insider ownership influences performance but the contrary is also true. This means that the corporate ownership varies in ways consistent with performance maximization. Likewise there may be other instruments than insider ownership that the shareholder can use to align his incentives with those of managers. In fact, when the firm's performance falls short of expectations, the shareholder can replace the manager in order to maximize his wealth. Consequently, our previous results may be affected.

Furthermore, in South European countries, insider ownership is predominant in young and small firms with few growth opportunities. These firms have a relatively high failure risk because their survival is threatened by the few opportunities to invest in innovative projects. The manager/owner tends to preserve the firm's control to avoid the agency conflicts and declining performance, giving the firm the equilibrium it needs to grow. Moreover the owner may have difficulty in finding a professional manager who might overburden the firm's limited financial resources. In Central European countries only the young firms are important to explain insider ownership, since shareholders are trying to acquire more information about the firm and the market. Finally, there may be others unobserved variables which can explain insider ownership in Europe.

6. Discussion

Consistently with Morck *et al.* (2000) and Lisboa (2007), we found a positive and significant relationship between insider ownership and performance, which means that as managers acquire the firm' shares their interests are aligned with those of shareholders and consequently, as agency conflicts are avoided, the firm performance increases. Moreover, we divided Europe into two regions attending to legal and environmental specificities. The first region, called South Europe, includes Portugal, Spain, France, Belgium, Italy and Greece, where French civil law is predominant. The second region - Central Europe - includes Germany, Austria and Finland, countries with a legal system with German and Scandinavian roots. We found evidence that insider ownership is more significant in South European countries because as the enforcement of the legal system is weaker, investors need to look for internal mechanism to control managers. In fact, in these countries not only investors, but also creditors enjoy a weak legal protection, allowing managers' wealth expropriation with a

negative impact on firm performance. Insider ownership was found as an efficient institution to circumvent this problem, only in the South Europe region. By contrast, the better legal protection predominant in Central Europe rendered this institutional mode more costly than the inherent benefits. Better legal protection and more efficient financial markets provide efficient and economical tools to control managers' actions. Likewise, shareholders in Central European countries do not need to sustain the firm's control but can look for a professional manager which may have a better knowledge about the market and the job, leading to an increase in the performance. Finally, we address the endogeneity problem and concluded that not only insider ownership influence performance but the contrary is also true. Furthermore, our previous results can be affected as there is a causal relationship between the two variables in analysis.

7. Conclusion

7.1 Main Results

Our results illustrate that insider ownership influences the firm performance in a positive way, due to the alignment effect of the interests of both shareholders and managers. Additionally we prove that the origin of the legal law is important to explain that influence. In countries with a French legal system, as investors are poorly protect by law, insider ownership is an important mechanism to control managers' actions and so the performance increases when shareholders and managers are the same person because it guarantees a coincidence of the interests of both. By contrast, the legal system of Central European countries provides a better protection from expropriation. Therefore, shareholders do not need to use internal mechanisms to control managers, leaving that task to more efficient financial markets. However, these inferences may be affected since insider ownership is an endogenous variable, which means that shareholders can replace the firm's manager in order to increase the firm performance.

7.2 Study' limitations

Since there is limited information about the firms' ownership, we could not use all firms from the Worldscope database, as we expected. The final number of firms was substantially reduced to match the ownership information from Reuters Database.

7.3 Suggestions for further analysis

For future analysis we propose to analyze the relationship between family and non family firms and performance in order to understand if there are substantial differences among them. In fact, shareholders of family firms pretend to pass the firm onto the next generations and consequently they need to sustain the firm' presence in the market (Anderson and Reeb, 2003). Likewise, it seems that family business leads to an increase of the performance. However, these shareholders are also more prone to be risk averse and so they may invest in more conservative projects in detriment of the firm performance.

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