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Bruno Buchetti

Corporate Governance and Firm Value in Italy

How Directors and Board Members Matter

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I dedicate this book to my parents

Preface

In this book, I investigate the relation between board composition and the performance of family-controlled firms. The literature on this topic overlooks the relation between heterogeneous director characteristics and performance in family-controlled firms, and this book is intended to fill this gap.

The Italian context, which is mainly composed of family-controlled firms, represents an optimal environment for studying this relation.

The element that makes this manuscript unique is that the database was entirely hand-collected, with the analysis covering the 3-year period from 2014 to 2016 for a total of 2661 directors analyzed and 28 variables extracted for each director.[1] The total number of hand-collected variables for all the board members is 69,186. The data collection process, realized using company reports and directors' curricula, lasted almost 2 years.

The board composition is measured using different variables extracted directly from the board members' characteristics and professional experiences. The board members' characteristics are measured in terms of previous work experiences (number of other companies at which the director has worked), specific connections with other companies (number of other boards on which director has sat), work experience in specific sectors (consulting, banking, law firms, accounting, universities, and politics), personal characteristics (gender, age, and nationality), level and type of education, international experience, role, and power on the board (executive, nonexecutive, appointed by minority or majority list, and appointment as lead independent director), and the relation with the family (family member or not). These variables are called "mandatory variables" when they are collected using the official mandatory tables[2] that Italian listed companies must publish every year in a report called "Corporate Governance report and ownership structure[3]" (art. 123-bis

[1]Chapter 4 provides a full explanation of the methodology adopted to extract these variables.

[2]In Chap. 4, the contents of these tables are analyzed in detail.

[3]The official name in Italian is "relazione sul governo societario e gli assetti proprietari."

TUF). In contrast, variables are considered "not mandatory variables" when they are collected using the information provided in the directors' curricula.[4]

I found a positive relation between the following variables and firm performance[5]:

- Global experience: this variable measures the presence of at least one director with experience in one of the following five areas: consulting, accounting, banking, law firms, and universities. This variable can have a value between 0 and 5. This positive relation shows that when the firms appoint directors with experiences in all these sectors, there is a potentially positive impact on performance.
- Directors' experiences in consulting and accounting companies (i.e., having a high number of directors with previous work experience in consulting or accounting companies) can positively affect the firm's performance.
- The presence of the lead independent director (i.e., appointing the lead independent director) can have a positive impact on the firm's performance.
- The percentage of directors with corporate experience abroad (i.e., having directors with previous work experience in foreign companies) can positively impact the performance.
- Directors with different levels of education (i.e., having directors with a different academic background) can improve the performance.

In contrast, I found a negative relation for the following variables:

- The number of family directors (percentage of family members sitting on the board), meaning that having a high number of family members on the board can have a negative impact on performance.
- Directors' age (i.e., having older than average directors negatively affects the firm's performance).
- Directors' tenure (i.e., having directors with longer than average tenure negatively affects the firm's performance).
- Degree type (i.e., having directors with different university degrees affects negatively the firm's performance).

To measure the heterogeneity[6] in the board composition, I used four specific multidimensional indices created by Anderson et al. (2011). These indices were appropriately expanded and modified in order to measure all the characteristic elements of the board members and consider the Italian context. Furthermore, for the first time, the international experience of every board member was measured using three different dimensions: experience of studying abroad, work experience abroad, and experience as a director on the board of foreign companies.

[4]These curricula were updated using all the sources available (LinkedIn and company websites).

[5]Using Tobin's Q as a proxy for measuring the performance.

[6]In this book, the word "heterogeneity" is used to express differences in directors' characteristics.

I found no relation between the following heterogeneity indices and firm performance: the heterogeneity index[7] (which considers gender, age, nationality, level of education, and board and professional experience), the global heterogeneity index (which also considers the international experience of the directors), and the social heterogeneity index (which considers the gender, age, and nationality of the directors).

I found a positive relation between the occupational heterogeneity index (which considers the education level, corporate experience, and number of external board seats of the directors) and firm performance.

Furthermore, I demonstrate that an increase in the number of independent directors can positively affect the global heterogeneity index, while an increase in the number of family members does not affect the global heterogeneity. Hence, family-controlled firms seem to use independent directors to create heterogeneity and utilize technical knowledge that is missing in family members.

Considering these aspects, I propose to the Italian regulator an optimized table[8] that family-controlled firms should present to the public each year. This table is composed of all the variables that are significantly correlated with the performance and should for this reason be disclosed to the public and investors.

Reference

Anderson RC, Reeb DM, Upadhyay A, Zhao W (2011) The economics of director heterogeneity. Financ Manag 40:5–38

Milan, Italy Bruno Buchetti

[7]Chapter 4 and the Appendix provide an explanation of the methodology adopted to calculate the index and the variables used.

[8]Chapter 4 shows the table that the Italian listed companies must provide on an annual basis. The goal is to identify the variables that affect performance and to show them in a new, specific table.

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About the Author

Bruno Buchetti received a Ph.D. in Management and Innovation at the Catholic University of Sacred Heart, Milan. He also received an MSc in Banking and Finance (summa cum laude) and a BSc in Economics and Business Administration. Thanks to a merit-based scholarship, he studied at Stanford University (US—California) where he specialized in banking and financial topics. He has worked at the European Central Bank (Frankfurt am Main—GE) as Supervision Analyst and in Credit Suisse (Zurich—CH) as Analyst. Currently, he is an independent consultant in Milan. His main research interests are focused on corporate governance, family business, and banking topics.

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Chapter 1
Introduction

In the last few years, the board composition of listed companies has been strongly affected by new laws and social equality pressure from media, stakeholders, and investors.[1] From a political perspective, the most important innovation is the gender quota, which has been introduced in eight countries starting with Norway in 2003.[2] This quota has strongly changed the board composition in countries that have adopted it. This binding quota is intended to promote gender diversity to improve social equality and increase firm performance; however, the last relation, which has been studied in depth in the last few years and in different countries, has not highlighted a clear relationship. We must also consider that differences in terms of age and nationality are also an important source of heterogeneity. The last two elements have been studied thoroughly by researchers around the world,[3] and in this case, the results are strongly in contrast. Researchers have also analyzed a different type of heterogeneity called "occupational heterogeneity." This heterogeneity seems to be one of the most important sources of competitive advantage[4] generated by a board of directors.

In this book, I combine insights from two main topics in the research literature. The first is the role of board members' experiences and characteristics in affecting board performance. The second is the role of ownership structure (corporate parent, institutional, and family-entrepreneur control) in determining a board's aim and composition. From this aspect, I use the Italian family-controlled listed companies as a proxy to effectively measure the relation between board members' characteristics and performance. Family business literature overlooks the importance of board

[1]For example, Legal & General Group plc (financial services company) has created a fund that sets the goal to promote gender equality by investing in companies that have made progress in eliminating glass ceilings for their female employees.

[2]Spain, France, Finland, Iceland, Belgium, the Netherlands, and Italy.

[3]Nationality heterogeneity has mainly been studied in terms of ethnic minorities.

[4]For a complete definition of "occupational heterogeneity," refer to the subsequent paragraphs.

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heterogeneity in affecting firm performance, and this research is intended to fill this gap.

I classify the single variables extracted by the board members as "mandatory" and "not mandatory" according to the source used to collect them (i.e., the mandatory tables for the "mandatory variables" and the curricula and other available sources for the "not mandatory variables"). These variables are individually regressed singularly on Tobin's *Q*, and each is operationalized in three groups[5]: a measure of the importance[6] of a specific factor on the board (e.g., is it important to have many directors with experience in consulting?), a measure of heterogeneity (either the Herfindahl index or a measure of dispersion, e.g., is it important to have many directors with different university degrees?), and quartiles, both heterogeneity and importance of the factor, are used.[7]

From these variables, I have created four multidimensional diversity indexes based on Anderson et al. (2011) in order to thoroughly analyze the relationship between board heterogeneity and performance. First of all, I analyze the relation between "social heterogeneity" (composed of age, gender, and nationality differences) and firm performance.[8] I show that this relation is not statistically significant. This brings into question the importance of introducing laws that set the goal of modifying the structure of the board of directors, especially if these laws are also intended to increase the value of companies. Second, I analyze the relation between "occupational heterogeneity" (a ratio composed of education, corporate experience, and external board seat heterogeneity) and performance. In this case, the relation is positive and statistically significant. Statically speaking, an increase in occupational heterogeneity improves performance, which could result from the increase of resources provided to the firms in terms of experiences, knowledge, and connections, which generates a competitive advantage for the family-controlled firms. In the third part, I analyze the role of the "overall heterogeneity" (ratio composed of gender, age, nationality, educational, board, and professional heterogeneity), which is a heterogeneity that considers social and professional aspects. Additionally, in this case, the relation is not statistically significant. Finally, I analyze the global heterogeneity index. This ratio represents the overall heterogeneity index plus the international heterogeneity experience index (composed of study experiences abroad, work experiences abroad, and the board's experience abroad). The aim of this ratio is to create the most comprehensive ratio to measure board heterogeneity and study a new dimension never previously studied. Additionally, in this case, the relation with performance is not statistically significant, which also means that heterogeneity seems to not affect firms' performance. In the last part, after checking the robustness

[5]Not all the variables have all the three dimensions (i.e., importance of the variable, heterogeneity, and quartiles). In Table Appendix 2, the operationalization process adopted for each variable is represented.

[6]This is usually the simple average of the specific variable (e.g., average directors' years).

[7]Chapter 4 provides a clear explanation of this concept.

[8]Measured using Tobin's *Q*. I use also ROA for testing the robustness of the results.

of the occupational index result, using ROA as a dependent variable, I analyze the role of independent directors in affecting the heterogeneity index. In fact, following the literature, family members select board members to provide the firm with the knowledge, experiences, and connections that family members lack. In this case, independent directors positively affect the global heterogeneity index, while family members do not seem to significantly affect the heterogeneity index. This confirms the theory that the families that control firms seek the resources they are missing through independent directors. In the final report, I explain the role and importance of what are here called "mandatory" and "not mandatory" variables.

Reference

Anderson RC, Reeb DM, Upadhyay A, Zhao W (2011) The economics of director heterogeneity. Financ Manag 40:5–38

Chapter 2
Board Composition and Its Heterogeneity

2.1 The Board of Directors

The board of directors is considered the most important decision-making body in a company (Fama and Jensen 1983); it has the powers of hiring, firing, and deciding the compensation of the senior management. It has four main functions: monitoring the CEO and executive directors, establishing connections with the external environment, providing resources to the firm, and advising the CEO. Its main goal is to reduce the conflict of interests between residual risk bearers and decision-makers (Baysinger and Butler 1985).

The board of directors' composition has been studied in different contexts. The main relationships investigated look at the association between the board of directors' composition and the following areas: capital structure (Maug 1997; Alves et al. 2015), environmental corporate social responsibility (Jamali et al. 2008; Post et al. 2011), corporate strategy (Baysinger and Hoskisson 1990), compensation (Cochran et al. 1985), corporate philanthropy (Wang and Coffey 1992), corporate fraud (Chen et al. 2006; Persons 2006), and performance (Tables 2.1–2.3). In this book, I study the relation between board composition and performance. This relation attracted the attention of many researchers in the last few years, but the difficulty of identifying the channel through which the board composition affects performance has left, still today, many open questions. Specifically, the goal of identifying good and bad governance through the analysis of directors' characteristics can collide with the peculiarities that characterize the firms investigated (e.g., different ownership structures, sectors of operativity, different goals, and so on); all these elements can affect the director's selection process and the related impact on performance.

In this chapter, I present the two main theories used in the literature to explain the relation between board composition and performance, i.e., the agency theory (Jensen and Meckling 1976; Zahra and Pearce 1989) and the resource dependency theory (Salancik and Pfeffer 1978). In the second part of this chapter, after having

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Table 2.1 Main studies on directors' characteristics and performance

Authors	Year
First dimension: gender	
Gregory-Smith, Main, and O'Reilly	2014
Liu, Yu, Wei, Zuobao, and Xie, Feixue	2014
Lückerath-Rovers, M. J Manag	2013
Ahern and Dittmar	2012
Adams and Ferreira	2009
Campbell and Minguez-Vera	2008
Caspar Rose	2007
Catalyst	2007
Farrell K. and Hersch	2005
Second dimension: social differences	
Shukeri, Shin, and Shaari	2012
Carter et al.	2010
Darmadi	2010
Miller T.	2009
Wang and Clift	2009
Bonn	2004
Erhardt et al.	2003
Carter et al.	2003
Third dimension: overall dimensions	
Bernile et al.	2018
Anderson, Reeb, and Zhao	2011
McIntyre et al.	2007

introduced the costs and benefits associated with the heterogeneity, I present a thorough literature review regarding the relation between board composition and performance. Based on this literature review, I present an innovative approach to classifying these studies. I identify three dimensions in which it is possible to classify the different studies on the basis of the type of heterogeneity analyzed (i.e., gender, social, and overall[1] heterogeneity).

2.2 Agency Theory and Resource Dependency

There are two main perspectives in the literature explaining the relation between board heterogeneity and performance. Both these theories have the aim of identifying the channel through which board heterogeneity can affect firms' performance.

Dependency theory affirms that firms depend on the resources in their external environments to survive, and this dependency also represents a source of risk for firms (Salancik and Pfeffer 1978). From a dependency theory perspective, directors'

[1]Usually, these types of research studies adopt multidimensional indexes.

Table 2.2 Main studies on gender diversity and performance

First dimension: gender					
Author	Year	Impact on perf.	Theory	Journal	Country
Gregory-Smith, Main, and O'Reilly	2014	*No association*	Res. depend. theory[a]	The Economic Journal	UK
Liu, Yu, Wei, Zuobao, and Xie, Feixue	2014	*Positive impact/ and not association*[b]	Res. depend. theory/agency theory	Journal of Corporate Finance	China
Lückerath-Rovers, M. J Manag	2013	*Positive impact*	Res. depend. theory/agency theory	Journal of Management & Governance	Holland
Ahern and Dittmar	2012	*Negative impact*	Agency theory	Quarterly Journal of Economics	Norway
Adams and Ferreira	2009	*Negative impact*	Agency theory	Journal of Financial Economics	US
Campbell and Minguez-Vera	2008	*Positive impact*	Agency theory	Journal of Business Ethics	Spain
Caspar Rose	2007	*No association*	Agency theory	Corporate Governanc: An Int. Rev.	Denmark
Catalyst	2007	*Positive impact*	Not defined	Catalyst Report	US
Farrell K. and Hersch	2005	*No association*	Benefits and costs	Journal of Corporate Finance	US

[a]The authors also suggest that optimizing gender composition can improve advice and counsel (Westphal 1999)
[b]No impact in State-controlled firms and positive impact in legal person-controlled firms

differences in terms of social or professional characteristics are habitually considered a resource to bring new competencies into the boardroom. Dependency theory sustains that directors' function is to bring their experiences and expertise to the firm, provide counsel and advice, and facilitate external connections (Pfeffer 1972; Salancik and Pfeffer 1978; Zahra and Pearce 1989; Lorsch and MacIver 1989; Hillman et al. 2000), which should positively impact corporate performance. This theory defines three potential benefits to board linkages: communication channels, advice and counsel, and legitimacy. Many researchers have used resource dependency theory as a theoretical framework for explaining the potential impact of directors' characteristics on firms' performance (Bonn 2004; McIntyre et al. 2007; Miller 2009; Carter et al. 2010; Anderson et al. 2011; Shukeri et al. 2012; Lückerath-Rovers 2013; Liu et al. 2014; Gregory-Smith et al. 2014; Bernile et al. 2018). In the literature at heterogeneous boards are associated also costs, the resources provided in this last case, could negatively impact a firm's operativity and could consequently generate a negative impact on the firm's performance.[2]

From an agency theory perspective (Berle and Means 1932; Jensen and Meckling 1976), which examines the role of monitoring mechanisms and incentives, including

[2]The next section lists the main benefits and costs.

Table 2.3 Main studies on social diversity and performance

Second dimension: social differences					
Author	Year	Imp. on perf.	Theory	Journal	Country
Shukeri, Shin, and Shaari	2012	*Positive/no association*	Res. depend. theory/agency theory	International Business Research	Malaysia
Carter et al.	2010	*No association*	Res. depend. theory/agency theory	Corporate Governance: An Int. Rev.	US
Darmadi	2010	*Negative impact (except for age)*	Benefits and costs	Journal Corporate Ownership and Control	Indonesia
Miller T.	2009	*Positive impact*	Res. depend.	Journal of Management Studies	US
Wang and Clift	2009	*No association*	Agency theory	Pacific Accounting Review	Australia
Bonn	2004	*Positive/no association*	Res. depend. theory/ Agency theory	Journal of the Australian and New Zealand Academy of Management	Australia
Erhardt et al.	2003	*Positive impact*	Benefits and costs	Corporate Governance: An Int. Rev.	US
Carter et al.	2003	*Positive impact*	Agency theory	The Financial Review	US

the board of directors, in limiting the potentially opportunistic behavior of managers[3] (Fama and Jensen 1983), heterogeneity is considered as a source that can affect the quality of the monitoring. The agency problem arises when managers' interests and shareholders' interests are in conflict. The risk that managers make decisions for their own interest can generate agency costs. The quality of monitoring is fundamental in mitigating these conflicts of interests and reducing the agency costs. Adams and Ferreira (2009) have shown that women are more likely to be appointed to monitoring committees, the authors suggest that on average, women offer more internal audit efforts compared to male directors, and they also show that in well-governed firms, gender diversity can have an opposite negative impact on firm's value because of an unnecessary over-monitoring. Carter et al. (2003) have suggested that boards with greater differences in terms of gender, ethnicity, and cultural background can increase board independence because these directors are more prone to ask relevant questions compared to directors with more traditional backgrounds, which increases monitoring, reducing agency costs. These authors have also outlined the risks of an opposite result due to a potential marginalization of

[3] In family-controlled firms, the agency costs are related to the opportunistic behaviors of the family members (not managers). Chapter 3 provides a clear explanation of the agency theory in the family-controlled contexts.

the minority on the board, which could generate a decrease in the quality of the monitoring. Additionally, in this case, many research studies have used the agency theory as a theoretical framework for explaining the potential impact of directors' characteristics on firms' performance (Liu et al. 2014; Lückerath-Rovers 2013; Shukeri et al. 2012; Ahern and Dittmar 2012; Anderson et al. 2011; Carter et al. 2010; Wang and Clift 2009; Adams and Ferreira 2009; Campbell and Minguez-Vera 2008; Caspar 2007; McIntyre et al. 2007; Bonn 2004; Carter et al. 2003).

2.3 Potential Benefits and Potential Costs Related to Heterogeneity

Heterogeneous boards are associated with a number of potential benefits and costs. This can help clarify why different studies have led to different and contrasting results. The literature identifies the following principal benefits of heterogeneity. First, it can increase creativity and innovation and can help, through different perspectives, to solve complex problems (Brammer et al. 2007; Carter et al. 2010). Second, it can give access to resources and connections (e.g., directors with experiences in the financial sector can help to find investors for the firm and improve the firm's financial structure) (Ferreira 2010). Third, diverse directors can be a signal to the market that the firm is engaged in policies of social responsibility, improving the firm's brand (Smith et al. 2006; Ferreira 2010). The primary potential costs are as follows: first, it can decrease communication and cooperation because different experiences or different demographic characteristics could reduce the amount of cooperation (Williams and O'Reilly 1998; Carter et al. 2003). Second, it can decrease the speed of reaction to changing conditions and increase management turnover (Hambrick et al. 1996). Third, there is the risk of choosing directors without the necessary experience or with inadequate characteristics. For example, in the case of a gender quota, the number of women in top executive positions is small, and therefore, the risk of choosing less experienced and younger directors is higher (Ferreira 2010). Farrell and Hersch (2005) have shown that the probability of appointing a woman director when a woman director steps down is far higher than the probability of hiring a male director, also if the market for women directors is far smaller than that for male directors.

2.4 Board Heterogeneity: A Literature Review

The debate on the role of heterogeneity in the composition of boards and performance has not manufactured definitive results. Research has measured heterogeneity by examining three increasing dimensions[4] (Fig. 2.1). Table 2.1 presents the main

[4]I created these three dimensions by analyzing the single research on this topic. This type of classification does not appear in the literature.

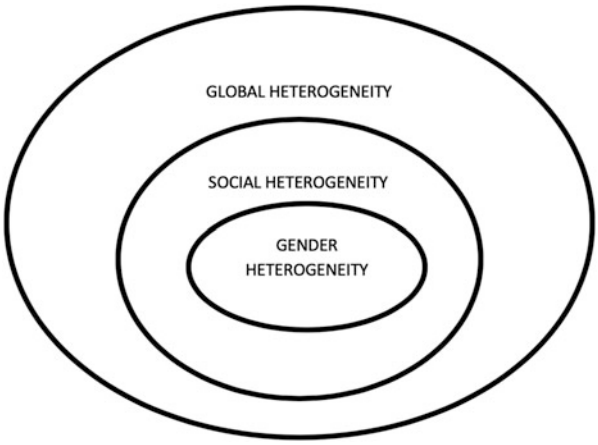

Fig. 2.1 The three heterogeneity dimensions

studies[5] that have analyzed the relation between directors' characteristics and firms' performance; I have successively classified these studies into three dimensions on the basis of the type of heterogeneity studied.

The first dimension considers the role of gender (Gregory-Smith et al. 2014; Liu et al. 2014; Lückerath-Rovers 2013; Ahern and Dittmar 2012; Adams and Ferreira 2009; Campbell and Minguez-Vera 2008; Caspar 2007; Joy et al. 2007; Farrell and Hersch 2005).

The second dimension principally examines the social differences that characterize board members in terms of age, gender, and ethnicity (Shukeri et al. 2012; Darmadi 2010; Carter et al. 2010; Miller 2009; Wang and Clift 2009; Bonn 2004; Erhardt et al. 2003; Carter et al. 2003).

The third dimension uses multidimensional indexes intended to measure overall heterogeneity (Bernile et al. 2018; Anderson et al. 2011; McIntyre et al. 2007), thus considering not only the social aspects but also professional characteristics (education and expertise). Since my aim is to provide the most comprehensive analysis of board diversity, I analyzed the third dimension that covers all the different types of heterogeneity.

Considering the relation between heterogeneity and firm performance, each specific dimension has presented different results, also in contrast. Studies that have focused on the relationship between gender and performance have found positive (Liu et al. 2014; Lückerath-Rovers 2013; Campbell and Minguez-Vera 2008; Joy et al. 2007), negative (Ahern and Dittmar 2012; Adams and Ferreira 2009), or modest results or no associations (Gregory-Smith et al. 2014; Caspar 2007;

[5]These studies were extracted using multiple sources, namely, Google Scholar, the Catholic university database, and SSRN. The following key words were used: board/directors diversity, board/directors' heterogeneity, board/directors' gender, board/directors' ethnicity, board/directors' minorities, board/directors' quota, board/directors' minority characteristics, and board/directors' performance. I selected only those articles published between 2000 and 2019 since older articles could be affected by different economic factors than those present in today's economy.

Farrell and Hersch 2005). Research that has considered the second dimension (i.e., social aspects) has found positive relations (Carter et al. 2010; Miller 2009; Erhardt et al. 2003; Carter et al. 2003) or no association or mixed results[6] (Shukeri et al. 2012; Wang and Clift 2009; Bonn 2004). When analyzing the third dimension, which also considers occupational characteristics, studies have generally found a positive relation with performance (Bernile et al. 2018; Anderson et al. 2011; McIntyre et al. 2007).

2.4.1 The First Dimension: The Role of Gender

The first dimension analyzed considers the gender diversity within a board of directors. The role of gender has been studied in different contexts in recent years. A strong increase in gender research is due to the introduction of mandatory quotas aimed at facilitating the presence of the less-represented gender (i.e., women directors[7]).

Below are the reported principal and most cited studies that analyze this relation.

The study of Gregory-Smith et al. (2014) used a sample of 350 UK firms from the period from 1996 to 2011. The authors have indicated that the presence of gender diversity has no association with performance. In particular, they used different measures of performance (i.e., total shareholder returns, ROA, ROE, and market-to-book value) and compared these with the percentage of directors that are female with no results. The authors adopted the resource dependency theory to investigate this relation.

Liu et al. (2014) analyzed the Chinese context using a sample of Chinese listed companies from the period from 1999 to 2011. The authors indicated that in state-controlled firms, there is no relation between gender and performance, while there is a strong positive relation when companies are not state controlled. The authors adopted both agency theory and resource dependency theory to investigate this relation.

Lückerath-Rovers (2013) have analyzed the firm performance of Dutch companies with and without women on their boards. These authors used a sample of 99 companies listed on the Dutch Female Board Index in 2008 and found that the firms with women directors outperformed those without women on the board. The authors used multiple measures of performance (i.e., ROE, ROS, ROIC, EBIT, and stock price growth). Agency theory and resource dependency theory were used to support this relation.

[6]"Mixed results" means that the research shows a different result according to either the variables used for measuring performance (e.g., ROA, ROI, and Tobin's Q have contrast results) or the variables analysed (e.g., gender positive and directors' minority negative, and so on).

[7]In Italy, the law 120/2011 on the gender quota (so-called "Golfo Mosca law" or "quote rosa") was introduced in 2011.

Ahern and Dittmar (2012) used a sample of 248 Norwegian corporations from 2001 to 2009 to analyze the impact, of the gender quota introduced in 2003 in Norway,[8] on the performance. They found that new female members were less experienced and younger than previous board members and that the gender quota negatively affects firm value in terms of Tobin's Q and board quality. The authors adopted the agency theory to investigate this relation.

Adams and Ferreira (2009) used a sample of 1,939 American corporations and 86,714 directors in the period from 1996 to 2003 in the US. They found that gender has a modest and negative impact on performance measures in terms of ROA and Tobin's Q, while the main important contribution of gender is in terms of governance quality (better attendance at meetings, more likely to fire an underperforming CEO, etc.). In this case, the authors used agency theory to support their results.

Campbell and Minguez-Vera (2008) investigated the connection between the gender diversity of boards and firm financial performance in Spain after the introduction of the gender quota. They found that gender diversity, measured by the Blau Index and the percentage of women on the board, had a positive effect on firm value (Tobin's Q). Agency theory was adopted.

Caspar (2007) studied a sample of Danish listed companies during the period from 1998 to 2001 and did not find any relation between proportions of women directors and Tobin's Q. Joy et al. (2007) have demonstrated that US companies with more women board directors in the period from 2001 to 2003 outperformed those with the lowest number of female board directors in terms of ROE, ROS, and ROIC. Agency theory was the conceptual framework.

The American study presented by Catalyst (2007), which is one of the most cited studies on this topic, shows that firms with more women directors outperformed those with fewer women directors in all the measures of performance adopted (i.e., ROE, ROS, and ROIC). In this case, there is no reference to a specific theory adopted to investigate this relation.

Using a sample of 30 US corporations in the period from 1990 to 1999, Farrell and Hersch (2005) found no evidence that the addition of a female to the board affects ROA or market returns to shareholders. These authors outline the role of benefits and costs associated with gender diversity without explicating the theory framework adopted.

Table 2.2 presents the research sorted by date, highlighting the authors' names, the publication year, the registered impact on performance, the supporting theory, the journal in which the article was published, and the country analyzed.

In conclusion, the research investigating the impact of directors' gender on performance is anything but definitive.

[8] In 2003, the Norwegian government passed a law that requires companies to have at least 40% female members (increased from 9% prior). This is the first time in the world that a quota has affected board composition.

2.4.2 The Second Dimension: Social Aspects

The research that has analyzed board composition in terms of gender, age, and ethnicity has also found mixed results in different contexts. Below are the reported principal and most frequently cited studies that investigate this relation.

Shukeri et al. (2012) analyzed the impact of gender diversity and ethnic diversity on 300 Malaysian public listed companies. The authors found a positive relation between ethnic diversity and performance and no relation between gender diversity and performance. In both cases, the authors used ROE as a proxy for measuring performance. The authors adopted both agency theory and resource dependency theory to investigate this relation.

Using a sample of 641 companies on the S&P500 during the period from 1998 to 2002, Carter et al. (2010) studied the impact that gender and ethnic diversity have on performance. They found that both positively affect ROA but do not affect the firm's value in terms of Tobin's Q (both the variables are endogenous). In this case, the authors also assumed both agency theory and resource dependency theory.

Darmadi (2010) has investigated the relation among gender, nationality, and age. This author used a sample of 169 firms listed on the Indonesia Stock Exchange (IDX) and found a negative relation between gender and performance, no association between nationality diversity and performance, and a positive relation between the number of young directors and performance. This author used Tobin's Q and ROA to measure the performance. This author outlined the role of benefits and costs associated with the diversity without explicating the theory framework adopted.

Miller (2009) analyzed a sample of Fortune 500 firms over the period from 2002 to 2005 to investigate the mediating roles of reputation and innovation in the relationship between ethnic diversity and female board members and firm performance, showing that ethnic diversity and female board members are positively correlated with innovation and hence performance. This author showed that innovation is a mediator of the relation between ethnic diversity and firm value. The author adopted resource dependency theory to investigate this relation.

Wang and Clift (2009) used a sample of 243 listed Australian corporations during the period from 2003 to 2006 and found that ethnic heterogeneity and gender diversity (tested separately) have no relation to firm performance (total shareholders return, ROE, and ROS). The authors used the agency theory to investigate this relation.

Bonn (2004) used a sample of large Australian companies to find a positive relation between the market-to-book-value ratio and ROE and gender diversity, but directors' age was not significant. Carter et al. (2003) found a significant positive relation between the fraction of minorities or women on the board and firm performance. In particular, they used a sample of 638 US corporations extracted by the publicly traded Fortune 1000 firms. These authors used both agency theory and resource dependency theory.

Erhardt et al. (2003) used a sample of 112 US corporations in the period from 1993 to 1998 and analyzed if the increase in board diversity (gender and ethnicity) is

associated with an increase in ROI and ROA measured at five-year intervals. They found a positive relation between diversity and performance. These authors outlined the role of benefits and costs associated with gender diversity without explicating the theory framework adopted.

Carter et al. (2003) used a sample of listed Fortune 1000 firms (from 1999) to show that board diversity represented by the percentage of women, Hispanics, African Americans, and Asians on the board of directors is positively correlated with performance measured using Tobin's Q. These authors adopted the agency theory to investigate this relation.

As above, Table 2.3 highlights the main results obtained by this research.

Additionally, in this case, different studies have not identified a clear relation between performance and social aspects (age, gender, and age).

2.4.3 The Third Dimension: Multidimensional Indexes and Overall Heterogeneity

The research that has used multidimensional indexes is more recent and has used complex variables to measure heterogeneity.

The first research that used indexes to investigate the relation between board heterogeneity and performance was conducted by Anderson et al. (2011). This research divided heterogeneity into social (gender, ethnicity, and age) and occupational components (education, experience, and profession) and measured this heterogeneity using these six separate dimensions. Using a sample of 615 industrial firms during the period from 2003 to 2005, these authors found a generally positive relation between performance and board heterogeneity; specifically, the Tobin's Q is positively related to social and occupational heterogeneity. The authors demonstrated that occupational heterogeneity has an almost 57% greater impact on performance than social heterogeneity does. The authors adopted both agency theory and resource dependency theory to investigate this relation.

The second study that analyzed global board heterogeneity and performance was conducted by Bernile et al. (2018). Using a multidimensional index, these authors found that greater board heterogeneity increases performance and decreases volatility. The researchers used the EBITA-to-assets ratio and asset valuation multiples (log of asset market-to-book value) to measure performance. Board diversity was calculated using a multidimensional index composed of the female board ratio, the mean number of other boards on which current directors serve, and the Herfindahl index calculated to measure diversity in terms of bachelor degree-granting institutions (Harvard, Yale, etc.), ethnicity differences, the number of directors with financial expertise, and/or experience and age difference. However, based on an instrumental variable that represented the variation in firm access to the supply of diverse nonlocal directors, the results show that this relation is causal. The authors adopted the agency theory to explain this connection.

Table 2.4 Main studies on overall diversity and performance

Third dimension: overall dimension					
Author	Year	Impact on perf.	Theory	Journal	Country
Bernile et al.	2018	*Positive impact*	Res. depend.	Journal of Financial Economics	US
Anderson, Reeb, and Zhao	2011	*Positive impact*	Res. depend. theory/agency theory	Financial Management	US
McIntyre et al.	2007	*Positive impact*	Res. depend. theory/agency theory	Corporate Governance: The Int. Journ. of Business in Society	Canada

McIntyre et al. (2007) used a sample of Canadian listed companies to show that appropriate team size, different ages, team tenures, and high levels of directors' previous experiences are positively correlated with performance. This author adopted both agency theory and resource dependency theory.

As above, Table 2.4 highlights the main results obtained by this research.

2.5 Conclusions

The literature regarding board compositions and performance is wide. This chapter introduces the concept of the board of directors and the two main theories that support the relation between board composition and performance, i.e., the agency theory and the resource dependency theory. The main research on this topic was classified on the basis of the type of heterogeneity investigated. As observed, the results of this research are different and contrasting. Particularly, those that investigate the "social aspects" show mixed results. Probably, the benefits and costs associated with social heterogeneity determine this. The research that investigates peculiar directors' characteristics in terms of education and corporate experience shows a general positive impact on performance. We can confirm that further investigation is needed.

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Chapter 3
Directors' Characteristics and Firm's Performance: Research Design and Hypotheses

3.1 Family Firm: Strengths, Weaknesses, and Main Theories

Family firms are the most common form of organizations in today's economy (La porta et al. 1999). One of the main concepts that differentiate family-controlled firms from other firms is the role of socioemotional wealth SEW (Gómez-Mejía et al. 2007). Gómez-Mejía et al. (2007) defined the SEW as "*non-financial aspects of the firm that meet the family's affective needs, such as identity, the ability to exercise family influence, and the perpetuation of the family dynasty*".[1] The primary objective of the family is to make decisions that preserve its SEW (Berrone et al. 2012). These decisions may not be guided by an economic logic if the risk to decrease the SEW is high, i.e., the risk to decrease the family endowment (Berrone et al. 2012). The stewardship theory is also present in the family context (Davis et al. 1997) and helps to clarify the potential relation between family members' behaviors and firm performance. This theory suggests that directors, managers, and owners are driven by more than simple economic-self-interest. In the family-controlled context, the family members acting as steward have the main goal of preserving the family SEW. An interesting point for this research is that family members, acting as stewards, may place outside directors on the board with the aim of obtaining their expertise and knowledge (Anderson and Reeb 2004). For this reason, we will expect that, in the family context, the higher the presence of independent directors, the higher the overall heterogeneity of the board should be.

Family-controlled firms are characterized from a lower diversification compared to other firms because, in the case of diversification, the family must appoint

[1]Gómez-Mejía, L. R., Haynes, K. T., Núñez-Nickel, M., Jacobson, K. J., & Moyano-Fuentes, J. (2007). Socioemotional wealth and business risks in family-controlled firms: Evidence from Spanish olive oil mills. Administrative Science Quarterly, 52(1), page 106.

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nonfamily directors in different businesses with the risk of reducing the monitoring and consequently the SEW (Gomez-Mejia et al. 2010). These make family firms a unique and peculiar setting.

Before introducing the research design and hypotheses, I investigate what main strengths and weaknesses characterize family firms and differentiate them from other companies.

Among the main strengths are (1) the family firm's ability to reduce the free rider problem (Fama and Jensen 1983), which is principally present when widely dispersed ownership structures are common. Family firms are characterized by a highly concentrated ownership structure; for this reason, family owners have higher incentive to monitor managers because managers' opportunistic behaviors directly and negatively affect the wealth of the family (Anderson et al. 2009; Villalonga and Amit 2006; Anderson and Reeb 2003). The other main strengths include, (2) long-term orientation and strategy (Lumpkin and Brigham 2011; Le Breton–Miller and Miller 2006; Stein 1989; James 1999; Casson 1999), (3) the ability to create strong preferential relations with financial supporters and suppliers (Anderson and Reeb 2003), and (4) the ability to obtain funding at lower costs (Anderson and Reeb 2003). In contrast, the weaknesses include (1) the risk of favoritism and nepotism (Bertrand and Schoar 2006; Gomez-Mejia et al. 2001; Barnett and Kellermanns 2006), (2) less access to capital markets (Grassby 2000), and (3) the fact that the agency problem can exist in terms of benefits extracted by family members against other shareholders (Lubatkin et al. 2005; Schulze et al. 2001), principally in terms of perquisites (Schulze et al. 2001) and executive entrenchment (Volpin 2002; Bertrand and Schoar 2006). Research has also shown that family firms generally outperform nonfamily firms under certain conditions (Anderson and Reeb 2003; Lee 2006; Villalonga and Amit 2006; Martinez et al. 2007; Van Essen et al. 2015).

3.2 Why Do We Study the Relation Between Directors' Characteristics and Family-Controlled Firms' Performance?

The previous research on this topic has generally focused on the relation between board of directors' characteristics and performance without considering the role of the ownership structure: generally, these studies have analyzed firms that are owned by different subjects such as institutional investors, corporations, families, states, and so on. However, the idea that "one size fits all" stands in contrast to the latest research on this subject. Over the last few years, research has shown that the ownership structure influences board composition (Denis and Sarin 1999; Jiatao 1994; Bartholomeusz and Tanewski 2006; Sur et al. 2013). In particular, Sur et al. (2013) have shown how the different profiles that characterize board members (in terms of independent, insider, and affiliated directors) are determined by the distinctive aims pursued by the different types of owners of the company (corporate

parent, institutional, and family-entrepreneur control). This research identifies a determining element, meaning that there is not a board that is suitable for all the proprietary structures, but the characteristics of a board's members are determined by the same ownership structure (according to the various purposes it has). This is so because each type of ownership has different goals that can be achieved through a specific choice of board members. For example, according to Sur et al. (2013), institutional owners are interested in protecting and increasing their financial investments when they control a company. The best way for them to mitigate systematic risk is to increase monitoring. Therefore, under this specific ownership structure, directors are selected and appointed with the aim of monitoring managers rather than providing resources. In contrast, family firms are oriented to the choice of directors on the basis of their expertise and contribution of resources to the company; for this reason, the function of the board in this case is to provide resources to the firm. Family owners, therefore, select directors to extract resources from them (Sur et al. 2013).

Hence, if the type of ownership structure influences the composition of the board (in terms of goals and director selection), we would expect that by focusing on a defined ownership structure—in our case the family-owned firm—the effect generated by variables to measure different "types of heterogeneity and different directors' characteristics" is circumscribed to the same variables. If we used a global approach not focused on a specific type of ownership structure, we would risk comparing boards that are intrinsically different due to the different ownership structure goals.

For this reason, family-controlled firms not only represent an innovative way to study this relation, but they have specific characteristics that make them an optimal proxy for analyzing which resources are important for family firms and how they affect performance.

3.3 Research Design and Hypotheses

This book connects two topics that have been studied independently in the literature, namely, the role of board heterogeneity in affecting board performance and the role of ownership structure (corporate parent, institutional, and family-entrepreneur control) in determining a board's aims and composition. From this aspect, I use the Italian family-controlled listed companies as a proxy to effectively measure the relation between board heterogeneity and performance.

According to the first main relation (i.e., board composition and ownership structure), the literature has highlighted how the composition of the board is affected by the different ownership structure according to the different goals pursued.

Considering that the first objective of the board of directors where the company has a family-controlled ownership structure is to provide resources (Sur et al. 2013) and that the heterogeneity should affect performance precisely through the contribution of new and specific resources generated within the board (stewardship theory and resource dependency theory), family-controlled firms are an optimal and unique

environment for studying the relationship between heterogeneity and performance. Considering also that the literature demonstrates that social heterogeneity can generate benefits as well as costs (Carter et al. 2010; Ferreira 2010) and that the studies that have tried to determine if the benefits are greater than the costs or vice versa have not been able to do so, we expect the following:

H1 Social board heterogeneity affects family-controlled firms' performance.

The second hypothesis refers to two main aspects. First, from a dependency theory perspective (Salancik and Pfeffer 1978), the occupational index represents a source of competitive advantage for the firms since they are a measure/dimension of the varieties of skills, knowledge, experiences, and external connections present in the boardroom. Following the dependence theory perspective, an increase of this index should generate a competitive advantage for the firms and thereby increase performance. Second, studies that have used an occupational heterogeneity index have shown that the benefits from occupational heterogeneity are higher than costs that this heterogeneity could generate (McIntyre et al. 2007; Anderson et al. 2011; Bernile et al. 2018). Therefore, we expect the following:

H2 Occupational board heterogeneity is positively associated with family-controlled firms' performance.

The heterogeneity index (and also the global heterogeneity index) merges two different areas, i.e., the "occupational heterogeneity" and the "social heterogeneity," but whilst for "occupational heterogeneity," the literature suggests a positive relation with firms' performance for the "social heterogeneity," the impact on firms' performance is far from clear.

Therefore, we could expect that

H3a Overall board heterogeneity is associated with family-controlled firms' performance.

Considering that the heterogeneity international experience is a new area never studied before and that this area could generate a positive or negative impact on firm's performance,[2] we could expect that

H3b Global board heterogeneity can have a positive or negative impact on family-controlled firms' performance.

Finally, since family-controlled firms appoint independent directors to obtain their expertise and knowledge (Anderson and Reeb 2004), we expect that the higher the presence of independent members on the board of family-controlled firms, the higher the overall heterogeneity will be. Therefore, how defined by the literature, we expect that family firms use independent directors to introduce the knowledge and expertise that are missing among family members. From this, I derived my final hypothesis:

[2]Through the impact generated on monitoring quality or resource provided to the firm.

H4 The higher the number of independent directors on the board of family-controlled companies (compared to family members), the higher the heterogeneity index.

In the final part of the analysis, I analyze the individual variables extracted by the board of directors (28 variables and 59 indicators) one by one. The aim is to identify a potential relationship between the individual, specific operationalized variables and performance.

In this case, the goal is to measure two different aspects,[3] namely, the importance of the specific variable under analysis (e.g., is it important to have a high number of directors with experience in consulting?) and the importance of heterogeneity (do directors with different experiences improve performance?). Each variable is a potential source of competitive advantage, which is through an improvement of the monitoring (agency theory) or resources provided to the firm (resource dependency theory). Considering that these variables can have a positive, negative, or modest impact on performance, in Chap. 4 for each variable, I investigated the previous research and the expected impact on firms' performance.

H5 The "mandatory or nonmandatory variables" have a positive, negative, or modest impact on family-controlled firms' performance.[4]

3.4 Definition of Family Firms

There are multiple definitions of family firms (Westhead and Cowling 1998). In this study, I classify a firm as family controlled when a family directly or indirectly (through financial holdings or family business agreements) owns a level of fractional equity holding that allows it to control the company (Lee 2006; Anderson and Reeb 2003). More specifically, I classify a firm as family controlled when a family owns at least 30% of the shares. This is in line with the characteristics of the Italian stock exchange in terms of average stock ownership and size (Corbetta and Minichilli 2006; Minichilli et al. 2010; Prencipe et al. 2011).

3.5 The Italian Family Firms

The Italian environment is particularly well adapted for measuring if heterogeneity and directors' characteristics influence family firms' performance because there are a large number of family-controlled firms: more than 60% of all listed Italian companies are families (Linciano et al. 2016). This percentage is far higher in Italy than in

[3] In Chap. 4 there is a clear explanation of the methodological approach adopted.

[4] In Chap. 4 each variable is investigated singularly.

Table 3.1 Sample selection

	Period (2014–2016)
Italian listed companies	234
Nonfamily firms (or financial firms)	−113
Firms not active in the whole period (2014–2016)	−28
Family firms (final sample)	93
—Family with more than 30% of the shares	87
—Family business agreements (>30%)	6
Average % held by family	
—2014	56.87%
—2015	56.44%
—2016	56.35%

the US where only 34% of firms in the S&P are family controlled (Anderson and Reeb 2003), while 45% of Fortune 1000 companies are family controlled (Miller et al. 2007).

The present study relies on data collected from various sources. I obtained financial data from "Thomson Reuters' Datastream Worldscope" for the econometric analysis.

Data regarding board composition were hand collected using the reports on corporate governance published by the companies each year. The individual directors' characteristics and experiences were collected using the curricula presented at the appointment date of the board directors, and I updated these using the corporate governance reports[5] as well as all the available free sources (e.g., LinkedIn and companies' websites).

The geographic and sectorial information used in this chapter was extracted directly from the CONSOB website and AIDA Bureau Van Djink database.

The final sample consists of 93 family-controlled firms listed on the Borsa Italiana (Italian stock exchange) for the period from 2014 to 2016 (3 years with a total of 279 observations) (Table 3.1).

In this research, I did not consider family-controlled firms that operate in the financial sector for two main reasons: first, it is not possible to compare accounting profit rate and valuation ratios for nonfinancial firms and financial firms, and second, in Italy, financial institutions are subject to specific legislation[6] that strongly differentiates them from Italian corporate firms.

Table 3.1 shows that 234 Italian listed companies were analyzed with the goal of describing them as either family or nonfamily-controlled firms. I excluded 113 nonfamily-controlled firms, 28 of which operate in the financial sector. I also

[5]Each year, Italian listed companies are obliged to submit an updated list of new positions held by board members in the report on corporate governance.

[6]As a European member state, Italy is generally subject to the EU banking regulatory system and Italian banking regulations (i.e., the "Testo Unico Bancario").

Table 3.2 Italy—family-controlled firms

Italian area	Number family-controlled firms	Number family-controlled firms (%)
North	70	75
Center	19	21
South	4	4
Grand total	93	100

excluded 28 companies because they were not active during the 3 years analyzed. Finally, I obtained the final number of family-controlled firms (i.e., 93 firms).

To achieve the goal of describing the characteristics of the family-controlled firms, I calculated the total number of firms that are not family controlled (113). From this amount, I excluded those that do not operate in the financial sector and were not active during the 3 years analyzed. In this way, I obtained 88 listed companies.[7] These firms were used to compare family-controlled and nonfamily-controlled results.

3.5.1 Geographical Distribution

In this section, I compare family-controlled and nonfamily-controlled firms in terms of geographic distribution in the Italian territory.

I identify the geographic distribution based on the official residence[8] of the firms analyzed.

Table 3.2 shows that family-controlled firms are mainly from the north of Italy[9] (75%) followed by the center of Italy (21%) and then south (4%).[10] In contrast, Table 3.3 shows the number of nonfamily-controlled firms in these three areas. The results are aligned with those for family-controlled firms with the north at 73%, central Italy at 24%, and the south at 3%. Therefore, we can observe that family-controlled firms are not relevantly different from nonfamily-controlled firms in terms of territorial distribution. As expected, the north of Italy is strongly predominant. In Italy, the difference between the north and the south in terms of economic prosperity has been thoroughly studied (Bagnasco 1977; Dunford and Greco 2006; Gonzalez

[7]This result is aligned with the assertion from the Linciano et al. (2016)—which represents the public authority responsible for regulating the Italian securities market—that more than 60% of Italian listed companies are family controlled.

[8]Official residence was extracted using the AIDA database. This database collects all the information about the Italian listed companies.

[9]The north of Italy is the most populated area in Italy; indeed, almost 46% of the Italian population resides in the north, followed by the south with 34% of the population and the center with almost 20% of the population (Eurostat website 2017).

[10]The percentage has been calculated on the total number of family-controlled firms, i.e., 70/93 = 75% north of Italy, 19/93 = 21% center of Italy and 4/93 = 4% south of Italy.

Table 3.3 Italy—nonfamily-controlled firms

Italian area	Number nonfamily-controlled firms	Number nonfamily-controlled firms (%)
North	64	73
Center	21	24
South	3	3
Grand total	88	100

Table 3.4 Regional distribution—family-controlled firms

No.	Regions	Part of Italy	Number family-controlled firms (FCF)	FCF on the total (%)
1	Lombardy	North	37	39.78
2	Emilia-Romagna	North	14	15.05
3	Piedmont	North	10	10.75
4	Lazio	Center	10	10.75
5	Veneto	North	6	6.45
6	Tuscany	Center	4	4.30
7	Marche	Center	3	3.23
8	Campania	South	3	3.23
9	Umbria	Center	2	2.15
10	Liguria	North	2	2.15
11	Sardinia	South	1	1.08
12	Friuli-Venezia Giulia	North	1	1.08
	Grand total	Total	93	100.00

2011). The research shows strong differences between the two areas in terms of wealth, industrial development, and inequality.

Table 3.4 shows the regional distribution of the family-controlled firms. One region is clearly prevalent; indeed, almost 40% of all Italian listed family-controlled firms officially reside in Lombardy[11] followed by Emilia-Romagna with 15% and Piedmont and Lazio with 10.75% each. Of the southern regions, only two are represented, namely, Campania with three firms and Sardinia with one. Table 3.5 shows the nonfamily-controlled firms with more or less the same results obtained for the family-controlled firms. It is interesting to observe that there are almost 10% fewer family-controlled firms based in Lombardy. This could be an indicator of better distribution of family-controlled firms throughout the Italian territory.

[11]We must consider that Lombardy is also the most populated region in Italy with 10.192 million inhabitants out of the total of 60.500894 million Italian inhabitants followed by the Lazio region with 5.898100 million inhabitants (Eurostat website 2017). Hence, Lombardy alone represents almost 16% of the Italian population.

Table 3.5 Regional distribution—nonfamily-controlled firms

No.	Regions	Part of Italy	Number nonfamily-controlled firms	Non-FCF on the total (%)
1	Lombardy	North	42	48
2	Lazio	Center	14	16
3	Emilia-Romagna	North	9	10
4	Tuscany	Center	7	8
5	Veneto	North	6	7
6	Piedmont	North	4	5
7	Friuli-Venezia Giulia	North	2	2
8	Sardinia	South	1	1
9	Puglia	South	1	1
10	Liguria	North	1	1
11	Campania	South	1	1
	Grand total	Total	88	100

In Figs. 3.1, 3.2, 3.3, and 3.4, it is possible to observe the results of Tables 3.4 and 3.5 using the Italian map. Figures 3.1–3.4[12] show the regional distribution of family-controlled firms in the Italian territory.

The stark division between the north and south of Italy is clear. It is also interesting to note that the family-controlled firms are more widely distributed in the Italian regional territory (e.g., four centers' regions for family-controlled firms versus two centers' regions for nonfamily-controlled firms).

Table 3.6 shows the provinces in which the family-controlled firms reside. We can immediately observe that two provinces stand out from the others, namely, Milan with 30.11% and Rome with 10.75%. We can observe similar results for the nonfamily-controlled firms (Table 3.7); in this case, almost 40% of firms have their official residence in Milan. Figures 3.5 and 3.6 show that there are also strong differences in the same regions. For example, in the southern part of Lombardy, the number of family-controlled firms is far lower than that in the northern part of the same region, and the same patterns exist for nonfamily-controlled firms. In other words, there are also strong differences in the same regions. This distribution follows the characteristics of the industrial district that characterizes the economic sector in Italy (Canello and Pavone 2016). Therefore, family-controlled and nonfamily-controlled firms are also characterized by similar distribution throughout the Italian territory, and this follows the peculiarities of the Italian economy.

We can, therefore, affirm that in the three areas of the Italian peninsula (i.e., north, central, and south), the family-controlled firms are mainly located in the north of Italy but are globally distributed similar to the nonfamily-controlled firms. In terms

[12]Figures 3.3–3.4 have the goal to highlight by color the regional distribution of family-controlled firms on the Italian territory. The percentage is calculated as: (family-controlled firm of the n-region)/(total number of family-controlled firms).

Fig. 3.1 Regional distribution—family-controlled firms

of regional distribution, the region with the highest number of family-controlled firms is Lombardy. In this case, the nonfamily-controlled firms also have a similar distribution (but in the second case, the percentage of family-controlled firms based in Lombardy is 10% lower than that of nonfamily-controlled firms). If we look at the provinces, the most important ones are Milan and Rome. In all these cases, family-controlled firms are not significantly different from nonfamily-controlled firms in terms of geographic distribution in the Italian territory.

Fig. 3.2 Regional distribution—nonfamily-controlled firms

3.5.2 Sectors and Industrial Districts

In this section, I analyze the differences between family- and nonfamily-controlled firms based on the sector in which they operate.[13] Table 3.8 shows that family-controlled firms principally operate in three sectors: industrial goods and services, fashion and products for houses and people, and construction and building materials. In contrast, the nonfamily-controlled firms mainly operate in three sectors: industrial goods and services, public services, and technology (Table 3.9). Considering that public services are mainly managed by government entities, this difference is not taken into consideration. The industrial goods and services sector is the largest sector

[13]I use the sectorial definition adopted by the CONSOB.

Fig. 3.3 Regional distribution %—family-controlled firms

in both cases, and considering that the majority of listed companies—both family and nonfamily controlled—are in the north of Italy, which is an area characterized by the so-called industrial districts (Sforzi 2010), this result aligns with expectations.

The most interesting difference is in the fashion and products for houses and people sector, where there is a difference of eight firms between family and nonfamily-controlled firms. Carcano et al. (2011) have showed that 8 out of 10 top global luxury and fashion brands are family controlled. These authors have also demonstrated that family-controlled firms are better able to manage luxury and fashion brands because they fulfill the four key factors of a successful strategy in business, namely, continuity, connections, community, and command (Miller and Le

Fig. 3.4 Regional distribution %—nonfamily-controlled firms

Breton–Miller 2005). The high number of family-controlled firms in the construction sector has been analyzed in a report produced by CERVED (2018). This report shows that in Italy, 75% of SMEs that operate in the construction sector are family-controlled. My results show that in the listed companies, the number of family-controlled companies in the construction sector is also very high.

Table 3.6 Province—family-controlled firms

No.	Province	Region	Part of Italy	Number family-controlled firms (FCF)	FCF on the total (%)
1	Milano	Lombardy	North	28	30.11
2	Roma	Lazio	Center	10	10.75
3	Bologna	Emilia-Romagna	North	8	8.60
4	Torino	Piedmont	North	6	6.45
5	Treviso	Veneto	North	4	4.30
6	Mantova	Lombardy	North	4	4.30
7	Firenze	Tuscany	Center	3	3.23
8	Brescia	Lombardy	North	3	3.23
9	Rimini	Emilia-Romagna	North	2	2.15
10	Modena	Emilia-Romagna	North	2	2.15
11	Genova	Liguria	North	2	2.15
12	Alessandria	Piedmont	North	2	2.15
13	Vercelli	Piedmont	North	1	1.08
14	Venezia	Veneto	North	1	1.08
15	Udine	Friuli-Venezia Giulia	North	1	1.08
16	Terni	Umbria	Center	1	1.08
17	Salerno	Campania	South	1	1.08
18	Reggio nell'Emilia	Emilia-Romagna	North	1	1.08
19	Pisa	Tuscany	Center	1	1.08
20	Pesaro Urbino	Marche	Center	1	1.08
21	Perugia	Umbria	Center	1	1.08
22	Padova	Veneto	North	1	1.08
23	Novara	Piedmont	North	1	1.08
24	Napoli	Campania	South	1	1.08
25	Monza e della Brianza	Lombardy	North	1	1.08
26	Forlì-Cesena	Emilia-Romagna	North	1	1.08
27	Fermo	Marche	Center	1	1.08
28	Caserta	Campania	South	1	1.08
29	Cagliari	Sardinia	South	1	1.08
30	Bergamo	Lombardy	North	1	1.08
31	Ancona	Marche	Center	1	1.08
	Grand total			93	100.00

Table 3.7 Province—nonfamily-controlled firms

No.	Province	Region	Part of Italy	Number nonfamily-controlled firms	Non FCF on the total (%)
1	Milano	Lombardy	North	35	39.77
2	Roma	Lazio	Center	13	14.77
3	Firenze	Tuscany	Center	7	7.95
4	Torino	Piedmont	North	3	3.41
5	Reggio nell'Emilia	Emilia-Romagna	North	3	3.41
6	Monza e della Brianza	Lombardy	North	3	3.41
7	Brescia	Lombardy	North	3	3.41
8	Venezia	Veneto	North	2	2.27
9	Treviso	Veneto	North	2	2.27
10	Forlì-Cesena	Emilia-Romagna	North	2	2.27
11	Bologna	Emilia-Romagna	North	2	2.27
12	Verona	Veneto	North	1	1.14
13	Udine	Friuli-Venezia Giulia	North	1	1.14
14	Trieste	Friuli-Venezia Giulia	North	1	1.14
15	Rieti	Lazio	Center	1	1.14
16	Parma	Emilia-Romagna	North	1	1.14
17	Padova	Veneto	North	1	1.14
18	Genova	Liguria	North	1	1.14
19	Ferrara	Emilia-Romagna	North	1	1.14
20	Como	Lombardy	North	1	1.14
21	Caserta	Campania	South	1	1.14
22	Cagliari	Sardinia	South	1	1.14
23	Biella	Piedmont	North	1	1.14
24	Bari	Puglia	South	1	1.14
	Grand total			88	100.00

3.6 Conclusions

This chapter has the dual goal of clarifying the connection between board heterogeneity and family-controlled firms' performance and introducing the sample and the main differences between family-controlled firms and nonfamily-controlled firms in Italy.

As observed in this chapter, familydirectors pursue different goals from nonfamily-controlled directors. In fact, the primary objective of the family is to

Fig. 3.5 Province—family-controlled firms

make decisions that preserve its SEW. A family firm can also make decisions that are not economically logic in order to reach this goal. This makes family firms a unique and interesting environment to study.

Also, the theories that try to clarify the connection between board characteristics and performance are partially different. Specifically, the role of the stewardship theory and the resource dependency theory becomes central; in contrast, the agency theory is less significant.

Regarding the geographic distribution, we have observed that family-controlled firms are mainly located in the north of Italy, followed by the center and the south. These results are aligned with those established for nonfamily-controlled firms. In terms of regional distribution, almost half of all the family-controlled firms are based in Lombardy followed by two other two northern regions: Emilia-Romagna and Piedmont. Moreover, family-controlled firms are less present in Lombardy than

Fig. 3.6 Province—nonfamily-controlled firms

nonfamily-controlled firms are. In terms of province of residence, family-controlled and nonfamily-controlled firms have the same distribution, with the provinces of Milan and Rome being the main areas.

In terms of sectorial distribution, family-controlled firms differ from nonfamily-controlled firms via the greater presence in the fashion industry.

Table 3.8 Sector—family-controlled firms

Sector	FCF	FCF (%)
Industrial goods and services	22	23.66
Fashion and products for house and people	17	18.28
Construction and building materials	11	11.83
Media	9	9.68
Food and beverage	6	6.45
Automotive	5	5.38
Technology	4	4.30
Healthcare	4	4.30
Travel and leisure	3	3.23
Public services	3	3.23
Oil and natural gas	3	3.23
Trade	2	2.15
Real estate	2	2.15
Telecommunication	1	1.08
Chemical	1	1.08
Total	93	100.00

Table 3.9 Sector—nonfamily-controlled firms

Sector	Non FCF	Non FCF (%)
Industrial goods and services	20	22.73
Public services	13	14.77
Technology	12	13.64
Real estate	9	10.23
Fashion and products for house and people	9	10.23
Media	5	5.68
Travel and leisure	4	4.55
Trade	3	3.41
Telecommunication	3	3.41
Food and beverage	3	3.41
Oil and natural gas	2	2.27
Healthcare	2	2.27
Raw material	1	1.14
Chemical	1	1.14
Automotive	1	1.14
Grand total	88	100.00

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Chapter 4
Family Firms' Board Characteristics

4.1 The Report on Corporate Governance and the Company's Ownership Structure

Pursuant to art.123-bis first paragraph, letters e) and l), and the second paragraph of the Consolidated Law on Financial Intermediation (TUF), each year, the Italian listed companies present a "Report on corporate governance and ownership structure." This report is available on the companies' websites.

This mandatory report provides a broad and comprehensive overview of the corporate governance system adopted by the Italian listed companies.

More precisely, each company must provide accurate information populating a specific template created by the Commissione Nazionale per le Società e la Borsa (CONSOB), which represents the public authority responsible for regulating the Italian securities market. This template follows exactly what is required by article 123 of the TUF. In the first part of the report, the company must provide information about the ownership structure (pursuant to article 123-bis, section 1, TUF). This part is composed of different subcategories: first, the "Restrictions on transfer of securities" (pursuant to art. 123-bis section 1, letter b), TUF), in which the company discloses potential restrictions on the transfer of securities; second, the "Significant equity interests" (pursuant to art. 123-bis, section 1, letter c), TUF) where the company reveals the main shareholders, namely, those that directly or indirectly hold equity investments exceeding 3% of the share capital through pyramid structures and cross-shareholdings—from this part, I extrapolated the ownership structure and defined which companies are family-controlled; and third, the "Securities conveying special rights" (pursuant to art. 123-bis, section 1, letter d), TUF) and the "Shareholders' agreements" (pursuant to art. 123-bis, section 1, letter g), TUF) where the company discloses any agreements about the shares. This part is important to define eventual agreements between family members.

B. Buchetti, *Corporate Governance and Firm Value in Italy*, Contributions to Finance and Accounting, https://doi.org/10.1007/978-3-030-56239-7_4

In the second part, the company must provide specific information about the board of directors. This part is the most important in my research and is composed of the following main subcategories: first, "Appointment and substitution of the board of directors" (pursuant to art. 123-bis, section 1, letter l), TUF) in which the company discloses the main events that characterized and influenced the composition of the board of directors during the year, and second, "Composition" (pursuant to art. 123-bis, section 2, letter d-bis), TUF), which represents the central point of my analysis and includes a mandatory table that all the companies must populate. In Fig. 4.1, it is possible to analyze a real table populated from "Saras SPA" (year 2015), a family-controlled firm that operates in the oil sector. Considering that the relevant information in Fig. 4.1 is disclosed pursuant to article 123-bis TUF and that it is exactly the same for all the Italian listed companies, we defined them as mandatory information and called the extracted variables mandatory variables because these variables are requested by the regulator through a specific mandatory table pursuant to article 123 TUF.

In Table 4.1, I present the 10 "mandatory" variables. They are called such because they are extrapolated directly from the information of the mandatory table of Fig. 4.1, namely, gender, age, director tenure, executive member, nonexecutive member, independent member, nomin. > list, nomin. < list, lead independent director (LID), and number of external boards on which the director sits.

Using the curriculum of each individual member,[1] I extrapolated the so-called not mandatory variables. In Tables 4.2 and 4.3, I defined these variables as not mandatory because if the information is disclosed to the market through the curricula, there is neither a specific table (or specific legal provision) defining how this information should be presented to the market nor a minimum amount of information to disclose through the curricula. In comparison, with the mandatory variables, we had a specific and defined amount of information to provide through a standardized table.

To make the research as thorough as possible, each curriculum was comatched with other available resources including LinkedIn, the company's website, and the curriculum presented at the date of presentation of the lists for the appointment of members of the board.

I extrapolated 16 "not mandatory" variables in Tables 4.2 and 4.3. Furthermore, the "international knowledge" of each individual member of the board is measured through three different dimensions: experience studying abroad, work experience abroad, and having sat on the board of foreign companies.

[1]Included in the corporate governance report. If not included, I used the curriculum compulsorily presented on the date of the appointment of the director.

CHART 1: STRUCTURE OF THE BOARD OF DIRECTORS AND ITS COMMITTEES AS AT 31/12/2015

Board of Directors													Internal Control and Risk Management Committee		Remuneration and Appointments Committee		Executive Committee (if any)	
Position	Members	Date of Birth	Date of First Appointment*	In office as from	In office until	Slate **	Exec.	Non-exec.	Independent Code	Independent TUF	No. of other offices ***	(*)	(*)	(**)	(*)	(**)	(*)	(**)
Chairman		1936	03/11/1962	28/04/2015	App. Fin. Stat. 2017	M	X					8/8						
Chief Executive Officer ◊		1945	26/06/1972	28/04/2015	App. Fin. Stat. 2017	M	X					8/8						
Deputy Chairman		1963	28/04/1993	28/04/2015	App. Fin. Stat. 2017	M	X					8/8						
Executive Vice President ·		1958	19/10/2006	28/04/2015	App. Fin. Stat. 2017	M	X					8/8						
Director ○		1939	30/04/1987	28/04/2015	App. Fin. Stat. 2017	M		X	X	X		8/8	5/5	P	3/3	P		
Director		1948	28/04/2015	28/04/2015	App. Fin. Stat. 2017	M		X	X	X		5/6	3/3	M				
Director		1973	28/04/2015	28/04/2015	App. Fin. Stat. 2017	M		X	X	X		6/6	3/3	M	1/1	M		
Director		1967	28/04/2015	28/04/2015	App. Fin. Stat. 2017	M		X		X		5/6	3/3	M				
Director		1973	30/05/2005	28/04/2015	App. Fin. Stat. 2017	M		X				8/8						
Director		1978	27/04/2010	28/04/2015	App. Fin. Stat. 2017	M		X				5/8						
Director		1938	27/04/2000	28/04/2015	App. Fin. Stat. 2017	M		X				8/8	5/5	M	3/3	M		
Director		1960	14/05/2013	28/04/2015	App. Fin. Stat. 2017	-		X			3	3/8						
DIRECTORS WHO HAVE LEFT DURING THE FISCAL YEAR																		
	-																	
No. of meetings held during the fiscal year:						Internal Control and Risk Management Committee: 5			Remuneration and Appointments Committee: 3						Executive Committee: 0			
Indicate the quorum required for submission of the slates by the minority shareholders in order to elect one or more members (pursuant to Art. 147 of the TUF): 1.0%																		

NOTE
The symbols set forth below must be included in the "Position" column.
• This symbol shows the director responsible for the internal control and risk management system.
◊ This symbol shows the main party responsible for the management of the issuer (Chief Executive Officer or CEO).
○ This symbol shows the Lead Independent Director (LID).
* The first date of appointment of any director is understood as the date on which the director was appointed for the first time (ever) to the Board of Directors of the issuer.
** This column shows the slate from which each director was taken ("M": list of majority shareholders; "m". list of minority shareholders; "CdA": list submitted by the Board).
*** This column shows the number of positions of director or statutory auditor held by the interested party in other companies listed on regulated markets, including overseas, in financial companies, banks, insurance companies or major companies.
(*) This column shows the attendance of the directors at meetings of the Board of Directors and of its committees (providing the number of meetings attended as compared to the total number of meetings that could have been attended; p.e. 6/8; 8/8 etc.).
(**) This column shows the capacity as adviser within the Committee:: "C": Chairman; "M": member

Fig. 4.1 Structure of the board of directors

Table 4.1 Example board—Saras Spa 2015—mandatory variables

	Gend.	Age	Director tenure	Exec	Nonexec	Indep.	Nomin. > list	Nomin. < list	LID	Extern. board
Dir.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	M	79	53	YES	NO	NO	YES	NO	NO	0
2	M	70	43	YES	NO	NO	YES	NO	NO	0
3	M	52	22	YES	NO	NO	YES	NO	NO	0
4	M	57	9	YES	NO	NO	YES	NO	NO	0
5	M	76	28	NO	YES	YES	YES	NO	YES	0
6	F	67	1	NO	YES	YES	YES	NO	NO	0
7	F	42	1	NO	YES	YES	YES	NO	NO	0
8	F	48	1	NO	YES	YES	YES	NO	NO	0
9	M	42	10	NO	YES	NO	YES	NO	NO	0
10	M	37	5	NO	YES	NO	YES	NO	NO	0
11	M	77	15	NO	YES	NO	YES	NO	NO	0
12	M	55	2	NO	YES	NO	NO	YES	NO	3

Table 4.2 Example board—Saras Spa 2015—not mandatory variables (1/2)

	Corp. exp.	Family member	Educ. lev	Degree type	Law firm	Consult	Banks	Account.	Polit.
Dir.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	2	YES	BD	Law	NO	NO	NO	NO	NO
2	3	YES	BD	Law	NO	NO	NO	NO	NO
3	6	YES	NOT BD	Not.	NO	NO	NO	NO	NO
4	6	NO	BD	Engin.	NO	NO	NO	NO	NO
5	4	NO	BD	Engin.	NO	NO	NO	NO	NO
6	2	NO	BD	Pol.Sci.	NO	NO	NO	NO	NO
7	1	NO	BD	Law	YES	NO	NO	NO	NO
8	5	NO	BD	Other	NO	NO	NO	NO	NO
9	5	YES	BD	Other	NO	NO	NO	NO	NO
10	2	YES	BD	Other	NO	NO	YES	NO	NO
11	2	NO	BD	Engin.	NO	NO	NO	NO	NO
12	1	NO	Ph.D	Econ.	NO	NO	NO	NO	YES

Table 4.3 Example board—Saras Spa 2015—not mandatory variables (2/2)

	Univ	Senior posit.	Stud. abroad	C. exp. abroad	Board. exp. abroad	Nationality (Italian)	CEO of other firms
Dir.	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1	NO	2	NO	NO	NO	YES	NO
2	NO	3	NO	NO	NO	YES	NO
3	NO	6	YES	NO	NO	YES	NO
4	NO	2	YES	NO	NO	YES	NO
5	NO	5	NO	NO	NO	YES	NO
6	NO	0	NO	YES	NO	YES	NO
7	NO	1	NO	NO	NO	YES	NO
8	NO	2	YES	YES	NO	NO	YES
9	NO	3	YES	NO	NO	YES	NO
10	NO	0	YES	YES	NO	YES	NO
11	NO	5	NO	NO	NO	YES	NO
12	NO	1	YES	YES	YES	NO	NO

4.2 Board Characteristics

In this section, the variables extracted from each board are individually analyzed. In Appendix A, it is possible to explore a true example of data gathering and index calculation using "Saras SPA" (in this case, for 2014). As previously mentioned, these variables are the individual board characteristics extracted from each family-

controlled firm. In total, I hand-collected 28 variables[2] from each board and operationalized[3] them in 59 indicators (on average, two for each variable) in Table 4.4. In Appendix B, it is possible to examine the variables' names, the methodology adopted to operationalize the individual variables, the control variables used in the final model, and the main research that has investigated these variables. As previously mentioned, each indicator was intended to operationalize a single variable. This was done with three main goals.

The first goal was to measure the importance of the specific variable under analysis. I usually did this by simply calculating the average number of directors with those specific characteristics based on the total number of directors. For example, if there is a relation between the number of women sitting on the board and performance, I calculated the total number of women directors divided by the total number of board members.

The second goal was to measure the importance of the heterogeneity (e.g., do directors with different ages improve the firm's performance?). This is not only useful for calculating the heterogeneity index but also to give an overview of possible changes during the 3 years analyzed. I have measured the variability using two methods. The first one is the coefficient of variation, and the second is the Herfindahl index.[4] The third goal was to represent the individual variables in quartiles (this can be done for both average and variability measures) for two main reasons. The first reason is that this approach makes it possible to create indexes[5] (i.e., the three heterogeneity indexes used in this analysis); second, this methodology gives a comparable dimension and eliminates possible distortions due to the presence of outliers.

Considering that in this research, I only study family-controlled firms, I used a specific report—the "relazione sulle società quotate italiane"—to compare my results with those of all the Italian listed firms.[6] This report, realized every year by the CONSOB, gathers some of the information that I also show in this research. This aspect is important in that it allowed me to compare my results with those of all the listed Italian companies.

[2]Some of these variables have also been investigated in the following article: Rossignoli, F., Lionzo, A., & Buchetti, B. Beyond corporate governance reporting: the usefulness of information on board member profiles. J Manag Gov (2020).

[3]Operationalization is the process of strictly defining variables into measurable factors.

[4]In fact, for each company, I will have only four possible values, i.e., the first quartile (low variability or low presence of the specific variable), the second quartile, the third quartile, and the fourth quartile (high variability or high presence of the specific variable).

[5]In fact, for each company, I have only four possible values, namely, the first quartile (low variability or low presence of the specific variable), the second quartile, the third quartile, and the fourth quartile (high variability or high presence of the specific variable).

[6]I used the data from the report 2017.

Table 4.4 Variables and measures

Mandat. variable (1)	Mandat. variable (2)	Not mandat. V. (3)
Gender	Age	Nationality
% on the total	Average	Dummy
% on the total Q	Coef. V.	*% on the total*
	Coef. V. Q	*% on the total Q*
Not mandat. V. (4)	Not mandat. V. (5)	Not mandat. V. (6)
Educ level	Degree type	Senior positions
Low educ. index	Herfindahl	Average
Herfindahl	Herfindahl *Q*	Coef. V.
Herfindahl *Q*		Coef. V. *Q*
Not mandat. V. (7)	Not mandat. V. (8)	Not mandat. V. (9)
Law firm (prof. exp.)	Consultant (prof. exp.)	Banks (prof. exp.)
Dummy	Dummy	Dummy
% on the total	*% on the total*	*% on the total*
Not mandat. V. (10)	Not mandat. V. (11)	Not mandat. V. (12)
Accounting (prof. exp.)	University (prof. exp.)	Politic (prof. exp.)
Dummy	Dummy	Dummy
% on the total	*% on the total*	*% on the total*
Mandat. variable (13)	Not mandat. V. (14)	Mandat. variable (15)
CEO	Corporate experience	Director tenure
Dummy	*% on the total*	*% on the total*
% on the total	Coef. V.	Coef. V.
% on the total Q	Coef. V. Q	Coef. V. Q
Mandat. variable (16)	Not mandat. V. (17)	Not mandat. V. (18)
External board	Study abroad	C. exp. abroad
% on the total	Dummy	Dummy
Coef. V.	*% on the total*	*% on the total*
Coef. V. Q	*% on the total Q*	*% on the total Q*
Not mandat. V. (19)	Mandat. variable (20)	Mandat. variable (21)
Board exp. abroad	Exec.	Nonexec.
Dummy	*% on the total*	*% on the total*
% on the total		
% on the total Q		
Mandat. variable (22)	Mandat. variable (23)	Mandat. variable (24)
Independ. board members	Board size	List >
% on the total	LN board size	*% on the total*
Mandat. variable (25)	Not mandat. V. (26)	Not mandat. V. (27)
List <	Family members	Lead indep. director
% on the total	*% on the total*	*Dummy*
Mandat. variable (28)		
Global experience		
% on the total		
% on the total (for each area)		

The "not mandatory variables" are those variables extracted using the curriculum and the other information available. The "mandatory variables" are those variables extracted using the Relation on the corporate governance, i.e., the mandatory tables

Table 4.5 Gender—indicators

Variable name	Variable measurement	Reference
1. Gender	*1a.* Percentage of female directors within the total: $W = (N.Women/tot.\ board\ members)$; *1b.* Percentage of female directors within the total in quartiles: $W.Q = (N.\ Women/tot.board\ members) = quartile\ 1,2,3,4$	Gregory-Smith et al. (2014); Ahern and Dittmar (2012); Anderson et al. (2011); Campbell and Minguez-Vera (2008); Joy et al. (2007); Adams and Ferreira (2009); Farrell and Hersch (2005); Bonn (2004)

4.2.1 Gender, Age, and Nationality

Gender, age, and nationality represent the so-called social heterogeneity. For this reason, they were analyzed together. Both gender and age are considered "mandatory variables" because this information is disclosed in the mandatory table. The nationality of each board member is instead a "not mandatory variable" because it is extracted from external sources, curriculum, company websites, and other available sources. As mentioned in the first chapter, diversity in directors' gender can generate potential benefits and costs.

The first variable analyzed is "*gender*." Multiple studies have investigated this variable when analyzing board performance obtaining contrasting results in Table 2.1 (Gregory-Smith et al. 2014; Liu et al. 2014; Lückerath-Rovers 2013; Ahern and Dittmar 2012; Adams and Ferreira 2009; Campbell and Minguez-Vera 2008; Caspar 2007; Joy et al. 2007; Farrell and Hersch 2005). Considering that, as observed in Chap. 2, it is not possible to clarify if costs related to gender differences are higher than benefits that this heterogeneity can generate. We can expect:

H5.a The gender differences have a positive, negative, or modest impact on family-controlled firms' performance.

This variable has been measured based on two dimensions (Table 4.5). The first dimension is the percentage of women within the total directors' number (W). The second dimension is this ratio but represented in terms of quartiles ($W.Q$).

In Italy, the law 120/2011 on the gender quotas (the so-called "Golfo Mosca law" or "quote rosa") was introduced in 2011. This law had two main goals, the first of which was to reduce gender disparities in Italian listed companies[7] and the second of which was to align the Italian legislative system with those of other countries where the gender quotas have been law for several years.[8] In Europe, both the European Pact for Gender Equality (2011–2020) and the European Strategy for Equality Between Women and Men (2010–2015) have the aim of increasing female

[7] In 2012, this law was also extended to the firm majority owned by a government entity.

[8] Starting with Norway in 2003.

Table 4.6 Percentage of women directors in Italy and Europe

Gender	*%Women*			
	2014	2015	2016	2016 tot. firm
	19.43%	25.23%	28.06%	31.40%
	%Women Europe			
	2016 France	2016 UK	2016 Germany	2016 Spain
	40%	28.6%	27%	19%

representation in all the European economic sectors, ensuring a balanced attendance of the genderless represented on boards of directors, in committees, and in auditing roles.

The subjects opposed to the introduction of the gender quota regulation suggested that this law, which forces listed firms to appoint women directors, could increase tokenism and simply improve the image of the firm rather than positively affecting the firm's performance.

Italian law has required a mandatory gender quota for the three board appointments subsequent to August 2012 so that the less-represented gender will account for at least one-third of the board (one fifth for the first term).

Table 4.6 shows the percentage of women directors who sat on the board of family-controlled firms during the period of analysis from 2014 to 2016. There was a strong increase in the presence of women directors over these 3 years from 19.43% in 2014 to 28.06% in 2016. This is mainly due to the introduction of the aforementioned law 120/21 on the gender quotas. If we compare the number of women directors in family-controlled firms (28.06%) with the Italian listed firms' average (31.40%), we can observe that family firms have a lower percentage of women on the board.

In terms of the percentage of women directors in Europe, France has the highest percentage of women (40%), while Spain has the lowest (19%). The UK and Germany are in the middle with 28.6 and 27%, respectively.

The second variable is *age*. This variable has been analyzed in multiple studies (Gregory-Smith et al. 2014; Ahern and Dittmar 2012; Anderson et al. 2011; McIntyre et al. 2007; Joy et al. 2007; Farrell and Hersch 2005; Bonn 2004). The previous research on this topic found different results, specifically Gregory-Smith et al. (2014) found a positive relation between age and performance,[9] Ahern and Dittmar (2012) and McIntyre et al. (2007) find no association with performance,[10] and Darmadi (2010) found a positive relation between the number of young directors and performance. The main aspect related to age heterogeneity is that different ages should bring different perspectives and problem-solving skills to the board (Anderson et al. 2011). Higher director age could be correlated not only with higher risk aversion and better connections (Ahern and Dittmar 2012) but also with less risk

[9]The authors also investigate the age-squared finding a negative relation with performance.

[10]The variation (STD) in age is instead positively correlated with performance.

Table 4.7 Main studies on directors' age and performance

Average age					
Author	Year	Imp. on perf.	Theory	Journal	Country
Gregory-Smith, Main, and O'Reilly	2014	*Positive*	Res. depend. theory	The economic journal	UK
Ahern and Dittmar	2012	*No association*	Agency theory	Quarterly journal of economics	Norway
McIntyre et al.	2007	*No association/positive impact*	Res. depend. theory/ agency theory	Corporate governance: the int. journ. of business in society	Canada
Darmadi	2010	*Positive*	Benefits and costs	Journal corporate ownership and control	Indonesia
Bonn	2004	*No association*	Res. depend. theory/ agency theory	Journal of the Australian and New Zealand academy of management	Australia

Table 4.8 Age—indicators

Variable name	Variable measurement	Reference
2. Age	*2a.* Average age of the directors: *AVage* = (age/n.director); *2b.* Coefficient of variation of directors' age: *CVAge = (SD age/mean age)*; *2c.* Coefficient of variation of directors' age in quartiles (index): *CVAge. Q = (SD age/ mean age)*	Gregory-Smith et al. (2014); Ahern and Dittmar (2012); Anderson et al. (2011); McIntyre et al. (2007); Joy et al. (2007); Farrell and Hersch (2005); Bonn (2004)

aversion and energy that characterize younger directors (Anderson et al. 2011). Also, in this case, the relation with performance is anything that clear, as we can observe in the Table 4.7. Hence, we can expect:

H5.b The age differences have a positive, negative, or modest impact on family-controlled firms' performance.

This variable was measured by considering three dimensions, namely, the coefficient of variation, the simple average (average age), and the coefficient of variation in terms of quartiles (useful for calculating the index and giving a comparable dimension; see Table 4.8).

Table 4.9 presents the average director age during the 3 years observed. Family-controlled firms' boards of directors have the same average age as all Italian listed companies (57 years). During the 3 years analyzed, the average age remained stable. Family firms do not seem to differentiate themselves from other companies. The coefficient of variation remained stable during the 3 years (Table 4.10).

Table 4.9 Age—average

Avg. age (av)			
2014	2015	2016	2016 tot. firm
57	59	57	57

Table 4.10 Age—coeff. of variation

Age (coeff.var)		
2014	2015	2016
0.205	0.207	0.204

Table 4.11 Main studies on directors' ethnicity and performance

Ethnicity					
Author	Year	Imp. on perf.	Theory	Journal	Country
Shukeri, Shin, and Shaari	2012	*Positive impact*	Res. depend. theory/agency theory	International business research	Malaysia
Darmadi	2010	*No association*	Benefits and costs	Journal corporate ownership and control	Indonesia
Carter et al.	2010	*Mixed results*	Res. depend. theory/agency theory	Corporate governance: an int. rev.	US
Miller T.	2009	*Positive impact*	Res. depend.	Journal of management studies	US
Wang and Clift	2009	*No association*	Agency theory	Pacific accounting review	Australia
Erhardt et al.	2003	*Positive impact*	Benefits and costs	Corporate governance: an int. rev.	US
Carter et al.	2003	*Positive impact*	Agency theory	The financial review	US

The third variable analyzed is nationality. Also, in this case, the research found mixed results, specifically. An important element is that usually—particularly in the American context—this variable is represented by directors' different ethnicity, meaning the proportion of board members with different ethnicity. This research usually compares the number of directors with a Caucasian ethnicity and the proportion of minorities on the board (African Americans, Native Americans, and Asiatics). In the Italian context, this approach would be impractical because the number of directors of a different ethnicity is close to zero.

In Table 4.11, the main studies that investigated the role of ethnicity in affecting firm' performance are analyzed. Carter et al. (2003), Erhardt et al. (2003), Miller (2009), and Shukeri et al. (2012) found a positive relation between different directors' ethnicity and performance. Darmadi (2010) and Wang and Clift (2009) found no association with performance. Carter et al. (2010) found mixed results. Also, in this case, the previous research, which investigated the relation between director's ethnicity and performance, found contrasting results. Hambrick et al. (1996) highlight the main advantages of having directors with different ethnicity. Specifically, ethnic diversity should provide different points of view, ideas, knowledge, and

Table 4.12 Nationality—indicators

Variable name	Variable measurement	Reference
3. Nationality	*3a.* Dummy variable equal to 1 if there is at least one board member with different nationality/born abroad and 0 otherwise: *Nat.D* *3b.* Percentage of the total: *Nat = (N. memb.abr/ tot.board members)* *3c.* Percentage of the total (index). Expressed in terms of quartiles: *Nat. Q = (N.memb.abr/tot.board members)*	Carter et al. (2010); Miller (2009); Wang and Clift (2009); Anderson et al. (2011); Erhardt et al. (2003); Carter et al. (2003)

Table 4.13 Diff. nationality—average

%Directors with diff. nationality			
2014	2015	2016	2016 Italy
3.93%	4.69%	4.45%	11%

Table 4.14 Diff. nationality—average—Europe

2016 UK	2016 Germany	2016 France	2016 Spain
43%	27%	22%	19%

information in board, which is due to the diverse cultural background among the board members. Also, in this case, the results are contrasting; for this reason, we can expect:

H5.c The nationality differences have a positive, negative, or modest impact on family-controlled firms' performance.

This "not mandatory" variable was measured in three ways: first, as the dummy variable 0–1 with a value of 0 when no board members are of a different nationality and a value of 1 when at least one board member has a different nationality; second, as a percentage of directors with a different nationality; and third, as a percentage of directors with a different nationality expressed in terms of quartiles (Table 4.12).

Table 4.13 shows the percentage of directors with a different nationality in the 3 years analyzed. There was a general increase of directors with a different nationality with an average percentage of 4.45% in 2016. If we compare this percentage with the percentage of Italian listed companies, the percentage is far lower for the family-controlled firms (4.45 vs. 11%). This indicates that family-controlled firms appoint fewer directors with a different nationality than other Italian listed companies do. This shows that family firms look for Italian directors, which is probably due to various reasons. One possible explanation is that family-controlled firms appoint family members to the board, and these directors are obviously Italians, which consequently reduces the number of places on the board available to foreign directors.

Table 4.14 makes it possible to compare the percentage of directors with a different nationality at the European level. The country with the highest percentage

of directors of a different nationality is the UK, where almost half of the directors are foreign directors. The lowest number of foreign directors in Italy is 11%, which is half the percentage of foreign directors present in the countries with the lowest proportion of foreign directors, namely, France and Spain 23 and 19%, Italian boards are mainly composed of Italian directors, and in the family context, this is even more common.

In conclusion, based on the variables that represent the so-called social heterogeneity (gender, age, and nationality), family firms seem to have a lower presence of women on the board and a lower percentage of foreign directors. In the second case, the percentage of foreign directors is roughly half. On average, the family firms have a lower social heterogeneity than the Italian listed companies.

As observed in this paragraph, the relation between social directors' aspects and performance was studied extensively in the literature. The results of the previous studies are strongly in contrast, and this makes it difficult to identify the expected impact on firms' performance.

4.2.2 Level of Education

In the literature, the relation between directors' academic and professional background and performance has been studied extensively. If we look at the educational background, the general assumption is that directors' educational background is a proxy for their knowledge and skills (Upper Echelon Theory—UET) (Hambrick and Mason 1984). The UET affirms that managerial background characteristics can help to predict company performance. Regarding the level of education, Hambrick and Mason (1984) affirmed that the cognitive models adopted by directors with a degree in engineering are different from those used by directors with a degree in history or law. This study also shows that directors with a lower level of education have less-defined cognitive models when they make decisions, and this could generate less defined behavior than that of directors with the same degree. Brown and Caylor (2009) have measured the level of education on the basis of the participation of each director in specific education programs; these authors used neither the degree type nor the level or quality of the degree. The result of this research shows that firm performance is positively and significantly correlated with the level of education when ROE is used as the performance measure but is negatively though not significantly correlated when performance is measured using Tobin's Q. The study of Kaplan et al. (2012) that used SAT scores to measure the directors' education did not find any relation between education level and firm performance. The research of Gottesman and Morey (2015) did not find any relation between firm performance and CEOs with either MBAs or degrees from the most important universities. Adnan et al. (2016) used 52 Malaysian companies to analyze the relationship between education diversity and performance using ROE and ROA as proxies. In both cases, there was a negative relation with performance as shown in Table 4.15. In this research, I adopted variables that measure both different levels of education and

Table 4.15 Main studies on directors' academic education and performance

Level of education					
Author	Year	Imp. on perf.	Theory	Journal	Country
Adnan et al.	2016	*Negative association*	Upper echelon theory	Regional conference on science, technology and social sciences	Malaysia
Gottesman and Morey	2015	*No association*	Benefits and costs	Journal of applied finance	US
Kaplan et al.	2012	*No association*	Benefits and costs	The journal of finance	
Brown and Caylor	2009	*Mixed results*	Agency theory	Review of quantitative finance and accounting	US

Table 4.16 Education level—indicators

Variable name	Variable measurement	Reference
4. Educ. level	*4a.* Lowest educ. level; number of board members without a degree on the total: *LowED* *4b.* Herfindahl index (Q) (calculated as percentage of directors with college degree, bachelor's degree, master's degree, and MBA/PhD). Expressed in terms of quartiles: *EDL.H.Q*	Adnan et al. (2016); Ahern and Dittmar (2012); Anderson et al. (2011); Brown and Caylor (2009)

types of degrees. As investigated, in the literature, the impact generated of these variables on firms' performance is not clearly identified. For this reason, we can expect:

H5.d The directors' different levels of education and/or degree can have a positive or negative impact on family-controlled firms' performance.

The education of board members was measured using two dimensions: education level and degree type. Education level was measured using three variables: lowest education level and the Herfindahl index expressed in terms of quartiles (Table 4.16).

The lowest education level was calculated to identify a potential relationship between the directors' level of study and family-controlled firm performance. Instead of analyzing the relation between the highest level of education and performance, I decided to study the relation between the lowest level of education and performance because while it is easy to identify directors with a low level of education (i.e., those that do not have a degree), it is more difficult to identify those with the highest level of education. This is because considering a director with a bachelor's degree less educated than one with a master's degree is a strong assumption that is difficult to sustain. For this reason, I have not calculated a variable that measures a high level of education. In the literature, the level of education has been measured using different methods as previously mentioned.

Table 4.17 Low educ. level—average

2014	2015	2016
19.70%	19.10%	18.35%

Table 4.18 Low educ. level—Italy

Directors without a degree—Italy		
2014	2015	2016
11.10%	11.20%	10.30%

Table 4.19 Degree type—indicators

Variable name	Variable measurement	Reference
5. Degree type	*5a.* Herfindahl index (calculated as the percentage of directors with a degree in business administration & economics, political science, engineering, law, and others); *DT.H* *5b.* Herfindahl index (calculated as percentage of directors with a degree in business administration & economics, political science, engineering, law, and others). Expressed in terms of quartiles; *DT.H.Q*	Anderson et al. (2011)

The second variable is the level of education operationalized using the Herfindahl index. This index has been calculated based on the different levels of education within the board (college degree, bachelor's degree, master's degree, and MBA/PhD). Like in this book, Anderson et al. (2011) used a Herfindahl index to measure the heterogeneity within the board and used this variable to calculate the heterogeneity index.

Using Table 4.17, it is possible to analyze the proportion of directors without a degree; the percentage was 18.35% in 2016. Table 4.18 instead shows the proportion of directors without a degree in all the Italian listed companies to be 10.30%. We can immediately observe that the family-controlled firms have double the percentage of directors without a degree compared to the Italian listed firms. This means that the general level of education is lower on average. This is probably due to the fact that family-controlled firms appoint board members from the family itself. In this case, what is important is not the level of education but the relationship with the family. In the econometric part, I demonstrate that family-controlled firms use independent directors to obtain different knowledge that is missing from the family directors.

The heterogeneity in the type of university degree held by different directors was measured using the Herfindahl index (Table 4.19) because it would be difficult to give a different weight to the different university degrees on the basis of their potential impact on performance. For this reason, I decided to measure the heterogeneity of all the different university degrees within the board. The following types of degrees have been extracted singularly: business administration and economics, political science, engineering, law, and others. In Table 4.20, it is possible to observe the percentage of directors with a degree in business administration and economics, political science, engineering, law, and others. The degree in business administration and economics is by far the most common degree in family-controlled firm boards;

Table 4.20 Directors' university degrees

	2014 (%)	2015 (%)	2016 (%)	2016 Italy (%)
B.A. & economics	46	44	45	46
Law	13	14	15	18
Engineering	10	11	10	12
Pol. science	4	4	3	n/a[a]
Others	7	7	7	n/a

[a]The CONSOB provides information only about the percentage of directors with a degree in business administration & economics, law, and engineering

in fact, 45% of the directors in the board have this degree followed by the degree in law 15%, engineering 10%, political science 3%, and others 7%. As we can observe, the family-controlled firms do not differentiate themselves from the other Italian listed company in terms of directors' degrees. In fact, the percentage of directors with a degree in economics and law is similar for family-controlled and the other Italian listed companies.

4.2.3 Professional Experience

In this section, I describe two types of directors' professional experiences: the "technical professional experience" and "general professional experience".[11]

Both these areas should provide a competitive advantage to the firm, which should positively affect the firm's performance. In our case, as mentioned in Chap. 3, family firms should select directors (and particularly independent directors) to access their heterogeneity knowledge and experience that could be lacking in family members. Anderson et al. (2011) have considered the directors' experience in law firms, consulting companies, banks, and accounting companies as sources that should improve the monitoring and so reduce the agency costs and improve performance.

"Technical professional experience" includes directors' specific technical professional experiences that could bring a competitive advantage to the board, such as experiences in law firms, consulting companies, banks, accounting companies, and universities. For all these reasons, we can expect:

H5.e The "technical professional experience" has a positive impact on family-controlled firms' performance.

In contrast, "general professional experience" includes different professional experiences that are not classified in one of the aforementioned areas. More specifically, these variables are the number of senior positions held and different corporate

[11]This type of distinction is not adopted in the literature.

experiences had by each director during his or her career, the positions held by each director on other boards, and political experience. Also, in this case, we can expect:

H5.f The "general professional experience" has a positive impact on family-controlled firms' performance.

Using the classification adopted in this book, the technical professional experiences are all "not mandatory" variables, meaning that the information was extracted from the curricula and all the relevant sources available. The general professional experiences are also not mandatory variables except for the numbers of positions held by each director on other boards. These positions are in fact shown in the mandatory table presented each year by the Italian listed companies.

4.2.3.1 Technical Professional Experience

For each director, I calculated the so-called technical professional experience. I identified five potential areas that require advanced technical knowledge and could bring a competitive advantage to the listed firms. These five main areas are represented by directors' experiences in law firms, consulting companies, banks, accounting firms, and universities.

For each director, I used the curricula to check previous experiences in these areas (Table 4.21). Subsequently, I gave a value of 1 every time the director under analysis referred to a direct experience in one of these specific areas. This means that each director could have more than one professional experience (e.g., a director who is both a university professor and a lawyer).

I measured this professional experience using two dimensions. First, I calculated a dummy variable with a value of 1 if there was at least one director on the board with experience in one of the aforementioned professional areas. The idea behind this variable is that if one director has that experience, the board itself has acquired technical knowledge that could provide a competitive advantage over competitors. Hence, the number of directors with that specific experience is not important; what is important is that at least one member has had a previous experience in that area. Second, I calculated the percentage of directors with experience in one of the professional areas on the total. In this case, the goal was different: I wanted to measure the importance of the specific professional experience independent of which area it covers. Before introducing the descriptive statistics about these five areas, there are some important aspects to define. First, a director has accounting experience if he or she is either a chartered public accountant (i.e., in the Italian context, a "commercialista") or has direct experience in an auditing company (Deloitte, KPMG, Ernest & Young, PWC, or similar). Second, a director has university experience if he or she either is or was a university professor. Third, regarding the consulting strategy, I considered only experiences in strategy consulting (Mckinsey, BCG, Oliver Wyman, and so on).

Finally, I calculated the so-called global experience. This variable is represented by two dimensions. The first dimension includes the number of different

Table 4.21 Technical professional experience—indicators

Variable name	Variable measurement	Reference
6. Law firm (professional experience)	*6a.* Dummy variable equal to 1 if there is at least one board member with experience in law firms and 0 otherwise: *Law.F.D* *6b.* % of directors with experience in law firms on the total: *Law.F*	Ahern and Dittmar (2012)
7. Consultant firm (professional experience)	*7a.* Dummy variable equal to 1 if there is at least one board member with experience in consulting and 0 otherwise: *Cons.D* *7b.* % directors with experience in consulting on the total: *Cons*	Ahern and Dittmar (2012)
8. Bank firm (professional experience)	*8a.* Dummy variable equal to 1 if there is at least one board member with experience in banks and 0 otherwise: *Bank.D* *8b.* % of directors with experience in banks on the total: *Bank*	
9. Accounting firm (professional experience)	*9a.* Dummy variable equal to 1 if there is at least one board member with experience in accounting and 0 otherwise: *Acc.D* *9b.* % of directors with experience in banks on the total: *Acc*	Ahern and Dittmar (2012)
10. University (professional experience)	*10a.* Dummy variable equal to 1 if there is at least one board member with experience as a professor at the university and 0 otherwise: *Uni.D* *10b.* % of directors with experience as a professor at the university: *Uni*	Ahern and Dittmar (2012)
11. Global experience	*11a.* At least one member with corporate experience in one of the following sectors: consulting, accounting, banking, law firm, and university, (max. value 5): *G.Exp* *11b.* Number of total professional areas of expertise on the board divided by the number of board members (professional area of expertise defined as experience in consulting, accounting, banking, law firm, and/or university): *G.Exp.perc*	Anderson et al. (2011)

professional areas that are represented on the board (this variable can have a value between 1, if at least one director has experience in one of the five areas, and 5, if there is at least one director with experience in the different areas). The second dimension is the total number of professional expertise areas on the board divided by the number of board members. In this case, the goal was to consider that each director can bring a competitive advantage with his or her own experiences, and what is important is not the number of different areas covered but rather the quantity of the areas covered.

Table 4.22 shows that on average, 12% of directors have experience in law firms, and there was a general increase in the percentage during the 3 years under analysis (from 10 to 12%). This percentage is the second lowest percentage between the three areas.

Table 4.22 Law firm—average

Law firm	%Law firm experience		
	2014	2015	2016
	10.10%	11.80%	12.00%

Table 4.23 Consulting—average

Consulting firm	%Consulting firm experience		
	2014	2015	2016
	8.79%	9.15%	8.80%

Table 4.24 Bank experience—average

Bank firm	%Bank firm experience		
	2014	2015	2016
	16.70%	14.94%	14.99%

Table 4.25 Accounting experience—average

Accounting firm	%Accounting firm experience		
	2014	2015	2016
	20.62%	20.24%	20.11%

Table 4.26 University experience—average

University	%University experience		
	2014	2015	2016
	19.05%	19.91%	19.41%

Table 4.23 lists the percentage of directors with experience in consulting firms at an average of 8.8%. This percentage is very interesting for two main reasons. First, it is the lowest percentage among the five areas, and so the number of consultants on the boards of the family-controlled firms is rather low compared to the other areas. Second, this variable is also positively correlated with the performance (as is shown in Chap. 5).

Table 4.24 shows the percentage of directors with direct experience in a bank. The total percentage of directors with this professional experience is 15%.

Table 4.25 reveals the percentage of directors with accounting experience (21% in 2016). This percentage is the highest of the five areas and is twice the percentage of directors with experience in consulting. This means that family-controlled firms select directors with this specific experience. This variable, together with the consulting experience, is also positively correlated with performance. It seems that family firms are better able to understand the potential value added by directors with accounting experience than by those with consulting experience, also if the last one—as shown in the next chapter—is strongly positively correlated with performance.

Table 4.26 lists the average percentage of directors with experience in academia as professors. This variable is the only one of the technical variables that is possible to compare with all the listed Italian companies because each year, the CONSOB shows the percentage of academics sitting on the boards of listed companies. In the Italian context, in general, the percentage of academics is 8% compared to 19.41% in

Table 4.27 Global experience—average

Global experience	Global experience (1:5)		
	2014	2015	2016
	3.57	3.57	3.527
	%Global experience		
	2014	2015	2016
	81.15%	81.70%	80.61%

the family-controlled firms. After accounting experience, this variable is the second best represented professional area on the boards. This means that family-controlled firms look for directors with experience in academia more than other listed companies do. The reasons behind this choice could vary, but one aspect can be easily linked to this result. In fact, as we have seen before in Tables 4.17 and 4.18, family-controlled firms have a lower level of education compared to the Italian listed companies in general. The percentage of directors without a degree is 18.35% for family-controlled firms and 10.30% for the other companies. Family firms may look for university professors to supplement the education lacking in their family-controlled boards.

Table 4.27 is the last table that analyzes the professional experience in the five areas identified as potential sources of competitive advantage. The global experience (which measures how many professional areas are present in the boards on average) shows that on average, 3.53 professional areas are represented on the boards of family-controlled firms. This shows the importance of these professional areas; indeed, almost four or five areas are always represented in the boards. Another aspect shown in Chap. 5 is that global experience is positively correlated with performance. The *G.Exp.Perc.* shows that on average, 80.61% of directors on each board have experience in one or more of the five areas analyzed.

4.2.3.2 General Professional Experience

The general professional experience is represented by directors' professional experiences that are not classified into one of the five technical areas mentioned above. More specifically, these variables are the number of senior positions and different corporate experiences had by each director during his or her career, the positions held by each director on other boards, and direct participation in political parties. Anderson et al. (2011) have used the second and third variable to calculate the occupational heterogeneity index. The idea is that directors who have multiple experiences in different corporations and on external boards should generate a competitive advantage for the firm in terms of experiences and connections with other companies.

The number of senior positions has been measured using three variables (Table 4.28): the number of senior positions held by each director, the coefficient of variation of these positions, and the quartile of the coefficient of variation.

Table 4.28 Senior positions—indicators

Variable name	Variable measurement	Reference
12. Senior positions	*12a.* Average number of senior positions held by the board members; senior positions are defined starting from high managerial positions until the most senior positions: *AVSen.P* *12b.* Coefficient of variation of the number of senior positions held by the board members: *CVSen.P = (SD Sen.P/mean Sen.P)* *12c.* Coefficient of variation of the number of senior positions held by the board members. Expressed in terms of quartiles: *CVSen.P.Q = (SD Sen.P/mean Sen.P)*	Anderson et al. (2011)

Table 4.29 Senior positions—average

Senior positions (av)		
2014	2015	2016
3.286	3.28	3.243

Table 4.30 Corporate experience—indicators

Variable name	Variable measurement	Reference
13. Corporate experience	*13a.* Average number of corporate experiences of each director (number of other companies in which the individual administrator has worked): *AVCorp.Exp* *13b.* Coefficient of variation of the number of corporate experiences of each director during his or her career: *CVCorp.Exp = (SD N.Corp.Exp/mean N.Corp.Exp)* *13c.* Coefficient of variation of the number of corporate experiences of each director during his/her career. Expressed in terms of quartiles: *CVCorp.Exp.Q = (SD N.Corp.Exp/mean N.Corp.Exp)*	Anderson et al. (2011); McIntyre et al. (2007)

The goal of the first variable was to measure the potential impact generated by more experienced directors on firm performance. This variable measures the number of senior positions held by each director during his or her professional career. This takes into consideration all the managerial positions as proxies for measuring directors' experiences.

Table 4.29 makes it possible to analyze the average number of senior positions held by each director. On average, each director has held at least three senior positions. It is not possible to compare this variable using external resources because the CONSOB does not calculate this dimension in its public reports.

Corporate experience was measured using three variables (Table 4.30): the number of different corporations at which each director has worked, the coefficient of variation of these different work experiences, and the quartile of the coefficient of variation.

Table 4.31 Corporate experience—average

Corporate experience	Corporate experience (av)		
	2014	2015	2016
	3.65	3.64	3.68

Table 4.32 External board—indicators

Variable name	Variable measurement	Reference
14. External board	*14a.* Average number of boards on which directors sit: *AVExt.B* *14b.* Coefficient of variation of the number of boards on which directors sit: *CVExt.B = (SD N.externalBoard/mean N.externalBoard)* *14c.* Coefficient of variation of the number of boards on which directors sit. Expressed in terms of quartiles: *CVExt.B.Q = (SD N.externalBoard/mean N.externalBoard)*	Anderson et al. (2011); McIntyre et al. (2007)

Table 4.33 External board—average

External board	External board (av)		
	2014	2015	2016
	2.06	1.97	1.98

The first measure has the goal of gauging the standing of each director and the different experiences that each director brings to the board. Potentially, experiences in different corporations should provide a potential competitive advantage for firms.

Table 4.31 presents the average number of different corporations in which the director has worked during his or her professional career. We can observe a stable trend during the 3 years analyzed. On average, the directors have worked at 3.68 different corporations during their career.

External board experience was measured using three variables (Table 4.32): the number of different corporations at which each director sat on the board, the coefficient of variation of these different boards, and the quartile of the coefficient of variation.

The goal of this variable is to measure the potential advantage of an external connection with other corporations. Table 4.33 shows that on average, the directors sit on boards of two other companies.

The political experience has been studied in different research. Hillman (2005) used a sample of 300 US companies in 2000 to compare the boards of firms that operate in highly regulated sectors with those of firms that operate in less regulated sectors. In both cases, having a higher number of directors with political experience positively affects firm performance (ROA). Hillman used resource dependency theory to link the presence of politicians and firm performance (i.e., politicians should be able to create a link between the firm and the government and regulators, reducing potential costs and improving performance). Boubakri et al. (2011) used a sample of 234 firms with political connections, measured in terms of directors' (and shareholders') connections with political parties, to show that after the appointment

Table 4.34 Political experience—indicator

Variable name	Variable measurement	Reference
15. Political experience	*15a.* Dummy variable equal to 1 if there is at least one board member with experience as a politician and 0 otherwise: *Pol.D* *15b.* % of directors with experience as a politician: *Pol*	Boubakri et al. (2011); Hillman (2005)

Table 4.35 Political experience—average

Political	%Pol. experience		
	2014	2015	2016
	5.87%	5.66%	5.25%

of directors with these connections, there was an increase in both indebtedness and performance (ROA). These authors showed an easy access to credit for these politically connected firms. Another relevant aspect is that this research covers 11 different developed countries in the period from 1989 to 2003.

The political experience has been operationalized in two ways (Table 4.34): first, with a dummy with a value of 0 when there are no directors with experience in political parties and 1 otherwise, and second, with the percentage of directors with experience in political parties.

The number of directors with political experience remains very low at 5.25% (Table 4.35). This percentage is the lowest of the variables that were used to analyze the board characteristics.

4.2.4 International Experience

I measured directors' international experience using three variables: experience of studying abroad, corporate experience abroad, and board experience in a foreign company. I analyzed these variables together because they are part of the so-called international experience. This international experience is part of the global index calculated in Chap. 5. The idea behind these variables is that directors with international experience in an increasingly globalized world should provide a competitive advantage to the firm (e.g., knowledge of new markets, different languages, and connections with foreign companies). A limited number of research studies investigated the importance of directors' international experience in affecting firm performance. This is due to two main reasons. First, it is difficult to extract this type of information because it requires us to investigate directors' previous experiences, and this can be done only through an examination of directors' curricula. Second, it is difficult to operationalize and measure the international experience.

Table 4.36 International experience—indicators

Variable name	Variable measurement	Reference
16. Study abroad	*16a.* Dummy variable equal to 1 if there is at least one board member with an experience of study abroad and 0 otherwise: *Stud.A.D* *16b.* The percentage of directors who have studied abroad during their life divided by the total board size: *Stud.A* *16c.* The percentage of directors who have studied abroad during their life divided by the total board size. Expressed in terms of quartiles: *Stud.A.Q*	
17. Corp. exp. abroad	*17a.* Dummy variable equal to 1 if there is at least one board member with a corporate experience abroad and 0 otherwise: *Corp.Exp.A.D* *17b.* The percentage of directors who have worked abroad during their life divided by the total board size: *Corp.Exp.A* *17c.* The percentage of directors who have worked abroad during their life divided by the total board size. Expressed in terms of quartiles: *Corp.Exp.A.Q*	Daily et al. (2000); Volonté and Gantenbein (2016)
18. Board. exp. abroad	*18a.* Dummy variable equal to 1 if there is at least one board member with board experience abroad and 0 otherwise: *Board.A.D* *18b.* The percentage of directors who have sat on boards of foreign companies during their life divided by the total board size: *Board.A* *18c.* The percentage of directors who sat on boards of foreign companies during their life divided by the total board size. Expressed in terms of quartiles: *Board.A.Q*	

Daily et al. (2000) studying a sample of US firms found that the CEOs' international experience is positively correlated with firm performance.[12] Volonté and Gantenbein (2016) analyzing a sample of 560 swiss firms found that directors' international experience improves firm performance (measured by Tobin's Q). For all these reasons, we can expect:

H5.g The "international experience" has a positive impact on family-controlled firms' performance.

Table 4.36 presents the methodology adopted to operationalize the three international experiences. In this case, I calculated a dummy with a value of 0 or 1 for all three areas. When the dummy has a value of 0, no directors had international experience; otherwise, the dummy value is 1. The second method adopted was to calculate the percentage of directors with experience in one of the three areas by dividing this number by the total number of directors.

[12]Firm performance measured in terms of ROI, ROA, and Market-to-book ratio.

Table 4.37 International experience—average

Study abroad	%Study abroad		
	2014	2015	2016
	18.54%	19.82%	20.68%
Corp. exp. abroad	%Corp. exp. abroad		
	2014	2015	2016
	23.72%	24.92%	25.54%
Board exp. abroad	%Board. exp. abroad		
	2014	2015	2016
	19.65%	20.22%	20.01%

Table 4.37 shows the percentage of directors with experience in one of the three categories mentioned above. Additionally, in this case, it was not possible to compare my results with those of all the Italian listed companies because the CONSOB does not publish any similar information about directors' experiences in foreign countries.

As Table 4.33 shows, the percentage of directors with experience studying abroad increased over the 3 years. In 2016, 20% of all directors had at least one experience studying abroad. If we consider the second variable (i.e., corporate experience abroad), it is also possible to observe a general increase of the percentage of directors with work experience in another country during the 3 years (from 23.72% in 2014 to 25.53% in 2016). In this case, the total percentage of directors was 25.54%. This is the highest percentage of the three and is the highest percentage in absolute terms if we also consider the five professional areas. Family firms seem to search for directors with at least one experience in a foreign country. Finally, the percentage of directors with experiences on the board of foreign companies is 20%.

4.2.5 Family Members and Independent Directors

Considering that this book examines family-controlled firms, it was interesting to analyze the number of family members on the boards. Many studies investigated the relation between family ownership and firm performance by considering family involvement as top management and directors. In Chap. 3, I examined the two theories (i.e., agency theory and stewardship theory) that help to explain the potential impact that family members can have on firm performance.

Chu (2011) studying a sample of 786 Taiwanese firms found that when family members serve as directors, CEOs, and top managers, the firm performance improves. This positive impact is weaker in large corporations than in Small and medium-sized enterprises (SMEs). Villalonga and Amit (2006) using a sample of Fortune-500 firms during 1994–2000 found that family members create value only if the founder serves as chairman (and the CEO is hired externally) or as CEO of the firm. The impact is opposite if the second and later generation of the family serves as CEOs; in this case, there is a destruction of value. Mishra et al. (2001) using a sample

Table 4.38 Family members—indicator

Variable name	Variable measurement	Reference
19. Family members	*19a.* Number of family members in the board divided by the number of total board members: *N.Family M. Board*	

Table 4.39 Family members—average

Family board members	%		
	2014	2015	2016
	27.87%	26.88%	26.75%

of 120 Norwegian family-controlled companies found that founding family CEOs improves performance only if the family influence does not generate shareholder entrenchment. The entrenchment theory affirms that when the subjects with decision power have a very high level of inside control, the organizational performance decreases. Oswald et al. (2009) using a nationwide sample of 2,631 family firms showed that when family members occupy top management positions, all the measures of performance decrease. Oswald et al. (2009) used the entrancement theory to support their results.

The balance between the positive impact expected on the reduction of agency costs, the role of the stewardship theory, and the negative effect of the risk of family entrenchment is difficult to be evaluated. For this reason, we can expect:

H5.h The family members' involvement has an impact on family-controlled firms' performance.

As described in Chap. 3, family firms can be characterized from weaknesses and strengths. The percentage of family members out of the total number of directors is the variable used in this analysis (Table 4.38).

Table 4.39 shows that 26.75% of directors are family members. It seems possible to identify a slight decrease of family directors on the board during the 3 years analyzed. This percentage is the highest percentage observed from the variables analyzed during the 3 years, which means that family firms appoint almost 30% of directors from the family.

The second variable analyzed in this section is the number of independent directors. In this book, I investigated which of independent directors and family members most affect the heterogeneity index.[13] There are multiple studies that have

[13]In Chap. 5 paragraph 5.5, I analyzed which of these two categories has a significant relation with the heterogeneity index. Namely, I used the heterogeneity index as dependent variable and the percentage of family members and the percentage of independent directors as independent variables.

Table 4.40 Main studies on independent directors and performance

Independent directors					
Author	Year	Impact on perf.	Theory	Journal	Country
Gregory-Smith, Main, and O'Reilly	2014	*Negative*	Res. depend. theory/agency theory	The economic journal	UK
Adams and Ferreira	2009	*Negative impact*	Agency theory	Journal of financial economics	US
Anderson and Reeb	2003	*Positive impact*	Agency theory	Journal of finance	US
Bhagat and Black	2002	*No association*	Agency theory	Journal of corporation law	US

shown a relation between performance and the number of independent members[14] (Anderson and Reeb 2003; Adams and Ferreira 2009; Gregory-Smith et al. 2014).

Fama and Jensen (1983) suggested to appoint independent directors for monitoring potential opportunistic behaviors of agents (CEO and executive directors) reducing the agency costs. Anderson and Reeb (2003) found that most performant family companies are those in which the fraction of independent directors balances the number of family members on the board. These authors used a sample of 1992 Standard & Poor's 500 firms in the period from 1992 to 1999 to show that Tobin's Q is 16% higher for family firms with greater board independence (75% independent).

One interesting aspect in the literature that can help to explain the potential negative relation between independent directors and performance in family-controlled firms is the perception that family members can have regarding the independent directors. In fact, family members could perceive nonfamily directors as part of the "out-group"[15] directors and so not connected with the family values (Ashforth and Mael 1989). This could generate a potential conflict between the "in-group" directors and the "out-group," reducing cooperation and firm value. Bhagat and Black (2002) showed that firms with a higher number of independent directors do not perform better than the others. Adams and Ferreira (2009) and Gregory-Smith et al. (2014) used the fraction of independent directors as control variables in their research about board heterogeneity. Adams and Ferreira (2009) used a sample of US firms to show a negative relation between the fraction of independent members and firm performance measured in terms of Tobin's Q. Gregory-Smith et al. (2014) found a negative relation between performance (ROA, ROE, and logarithm of price-to-book ratio) and the number of independent directors. Also, in this case, the results are contrasting (Table 4.40). For this reason, we can expect:

[14]For "independence definition," I use the Italian classification of independent from the "Autodiscipline Italian listed companies code" and from "TUF", both fulfil the independent definition from Ferris et al. (2003).

[15]"in-group" directors are blood-related relatives, business partners, and family friends, while "out-group" directors are those who have no connections and prior relationship with the family.

Table 4.41 Independent directors—indicator

Variable name	Variable measurement	Reference
20. Independent board members	*20a.* Percentage of independent directors divided by the total number of board members: *Indep*	Anderson and Reeb (2003); Adams and Ferreira (2009); Gregory-Smith et al. (2014)

Table 4.42 Independent directors—average

Independent members	%Independent directors			
	2014	2015	2016	2016 Italy
	41.73%	42.25%	42.95%	58.7%
	%Independent directors in Europe			
	2016 UK	2016 France	2016 Spain	2016 Germany
	67.8%	51.4%	46%	15%

H5.i The number of independent directors has an impact on family-controlled firms' performance.

The number of independent directors out of the total number of independent directors is the ratio used in the regression models (Table 4.41).

Table 4.42 shows the percentage of independent directors for the 3 years analyzed. The first thing we can observe is a general increase in the percentage of independent directors from 41.73 to 42.95%. We can also note that the percentage of independent directors is far lower for family-controlled firms than the average of the Italian listed companies. This difference is almost 16% and could be related to many different factors. As we have previously seen, the percentage of family members on the board reduces the number of places available to other directors.

If we compare with other countries, after the UK, Italy has the highest percentage of independent directors, while Germany has the lowest.[16] The percentage of independent directors in family-controlled firms in Italy is similar to the percentage observed in Spain.

4.2.6 Lead Independent Director (LID)

The lead independent director is a figure requested[17] by the Italian legislator when the composition of the board of directors presents specific characteristics.

[16]Supervisory board.

[17]The final decision to appoint a LID is made by the listed firm. Indeed, the code is based on a concept called "comply or explain," meaning that firms that do not comply with the code's rules can justify their choice, explaining the reason behind their decision. In fact, Assonime (2016) has shown that when it is recommended by the corporate governance code (art 2.C.3), not all the firms are compliant with the LID rule. The listed companies that have not respected the specific rule have justified this choice in different ways (e.g., low number of independent directors, small dimension

Pursuant to the article 2.C.3/4 of the Italian "Corporate Governance code"[18]:

> The Board shall designate an independent director as lead independent director, in the following circumstances: (i) in the event that the chairman of the Board of Directors is the chief executive officer of the company; (ii) in the event that the office of chairman is held by the person controlling the issuer.
>
> The Board of Directors of issuers belonging to FTSE-Mib index shall designate a lead independent director whether requested by the majority of independent directors, except in the case of a different and grounded assessment carried out by the Board to be reported in the Corporate Governance Report. The LID (a) represents a reference and coordination point for the requests and contributions of nonexecutive directors and, in particular, those who are independent pursuant to Article 3 below; (b) cooperates with the Chairman of the Board of Directors in order to guarantee that directors receive timely and complete information.[19]

In our case, the LID was appointed when the chairman is also a member of the family, when the chairman and CEO are the same person (regardless of the fact that this person is also member of the family), and when the independent directors require it (therefore, on a voluntary basis).

Dalton and Dalton (2005) have explained that the LID goal is to create a barrier between firm management and nonexecutive directors. The LID represents a focal point for independent directors and gives them a clear representative. It acts as a liaison between independent and executive directors and the CEO. The literature also indicates that when the CEO and chairman are the same individual, this can generate agency conflicts (Dey et al. 2011), which can be mitigated by the introduction of the LID because he can monitor CEO behavior and take action accordingly (Lamoreaux et al. 2019).

The LID is also responsible to collect all complaints from the independent directors and present them at the board meeting. Generally, the literature highlights that this figure should improve the governance of the firm to avoid potential opportunistic behavior from the executive directors and controlling shareholders.

The figure of the LID has been studied in multiple studies. Lamoreaux et al. (2019) analyzed a sample of US firms from 1999 to 2015 to show that the LID presence increases the probability of terminating poorly performing CEOs, improving the quality of corporate governance, and positively impacting the firm's performance. Krause et al. (2017) have examined a sample of 1500 S&P firms to show that the presence of the LID positively affects firms' performance. These authors have also indicated that when a firm appoints the LID, this generally becomes a permanent solution, which means that it is perceived as a positive figure inside the board.

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of the board of directors, and presence of specific committees). Specifically, 81 Italian listed companies that were subject to the application of article 2.C.3, 21 decided not to appoint any LID (Assonime 2016).

[18] In Italy, 92% of listed companies adhere to the corporate governance code (source "la corporate governance in Italia: autodisciplina, remunerazioni e comply-or-explain, Assonime (2016)").

[19] Article 2.C.3/4 as reported in the Italian corporate governance code.

Table 4.43 Lead independent director—indicator

Variable name	Variable measurement	Reference
21. LID	*21a.* Dummy variable equal to 1 if there is the lead independent director and 0 otherwise; *LID*	Lamoreaux et al. (2019), Krause et al. (2017) and Larcker et al. (2007)

Table 4.44 %Lead independent director

LID	%Lead independent director		
	2014	2015	2016
	38%	39%	40%

Using a sample of 2106 US listed companies in the period from 2002 to 2003, Larcker et al. (2007) did not find an association between the LID presence and ROA but did find a positive relationship with future excess stock returns.

All these authors have highlighted that the presence of the LID should positively impact firms' performance by reducing opportunistic behaviors of executive directors and empowering the independent directors. For all these reasons, we can expect:

H5.l The presence of the LID has a positive impact on family-controlled firms' performance.

I operationalized the LID using a dummy variable. The variable is equal to 1 when there is an LID and 0 when the LID has not been appointed as shown in Table 4.43.

Table 4.44 shows that in 2016, 40% of family-controlled firms had appointed a LID. It is interesting to notice that there is a clear positive trend in the 3 years analyzed.

4.2.7 Other Directors' Characteristics

This section focuses on residual directors' characteristics, namely, all those variables that were not possible to classify in one of the other areas. These variables are the number of executive and nonexecutive members, the percentage of board members appointed by a majority or minority list, the number of outside CEOs, director tenure, and board size. All these variables are "mandatory variables".

The first variable analyzed is the average percentage of executive and nonexecutive members (Table 4.45). The literature on the relation between executive and nonexecutive directors and performance is wide and also covers the family-controlled firms. In the literature, family-controlled firms are characterized by a strongly concentrated shareholder base, and family members are usually appointed as active directors on the board (Lane et al. 2006), usually with executive positions (Mackie 2001), increasing the absolute value of executive directors. Family-controlled firms consequently have a lower number of nonexecutive directors.

Table 4.45 Executive and nonexecutive directors—indicators

Variable name	Variable measurement	Reference
22. Executive memb.	*22a.* Percentage of executive directors divided by the total number of board members: *Exec*	
23. Nonexecutive memb.	*22b.* Percentage of nonexecutive directors divided by the total number of board members: *NonExec*	Ahern and Dittmar (2012); Laing and Weir (1999); Mackie (2001); Grace et al. (1995)

Table 4.46 Executive and nonexecutive directors—average

Exec.	%Exec.			Listed
	2014	2015	2016	2016
	33.64%	32.80%	32.41%	19%
Nonexec.	%Nonexec.			
	2014	2015	2016	Listed
	66.10%	66.72%	67.00%	81%

In general, the research on this topic investigates the role of nonexecutive directors. Grace et al. (1995) analyzing a sample of 80 Australian listed companies showed no differences between the variation in nonexecutive directors and firm performance. Laing and Weir (1999) using a sample of UK listed companies found no evidence of the relation between nonexecutive directors and performance. For this reason, we can expect:

H5.m The presence of the nonexecutive directors has negative or modest impact on family-controlled firms' performance.

Table 4.46 shows a decrease in the percentage of nonexecutive members during the 3-year period analyzed. On average, 32.41% of directors are nonexecutive. In this case, the percentage of executive directors for the family-controlled firms is higher than the percentage of executive directors for all the Italian listed companies. This could be due to the fact that family-controlled firms appoint family members as executive directors. This obviously does not happen with nonfamily-controlled firms. This result is aligned with the literature.

The percentage of directors appointed by the majority and minority list is another variable used in this analysis. Research that investigates this topic mainly looks at the role of minority directors. Their role is to alleviate the agency costs that could arise from potential self-dealing transactions realized from the majority list directors. Moscariello et al. (2019) using a sample of Italian listed companies found a positive relation between the number of nonexecutive directors and firm performance using the agency theory as theoretical framework. Considering these aspects, we can expect:

H5.n The presence of the minority directors has positive impact on family-controlled firms' performance.

Table 4.47 Min. and majority list—indicators

Variable name	Variable measurement	Reference
24. Board mem. list>	*24a.* Percentage of directors appointed by the minority list: *Min*	Moscariello et al. (2019)
25. Board mem. list<	*25b.* Percentage of directors appointed by the majority list: *Maj*	

Table 4.48 Outside CEO—indicators

Variable name	Variable measurement	Reference
26. Outside CEO	*26a.* Dummy variable equal to 1 if there is at least one board member who is CEO of another company and 0 otherwise: *CEO.D* *26b.* % of the total number of directors who are CEOs of other companies divided by the total board size: *CEO* *26c.* % of the total (index) number of directors who are CEOs of other companies divided by the total board size. Expressed in terms of quartiles: *CEO.Q*	Ahern and Dittmar (2012); Anderson et al. (2011)

Table 4.49 Outside CEO—average

Outside CEO	%Outside CEOs		
	2014	2015	2016
	12.56%	13.13%	13.15%

The number of directors appointed by the minority list (and majority list) of the total number of directors is the ratio used in the regression models (Table 4.47).

The variables that represent the number of directors who are also CEOs of other companies were operationalized using two variables. The first is a dummy variable with a value of 1 when there was at least one director CEO of another company and 0 otherwise. The second variable is the percentage of CEOs of other companies on the total (Table 4.48). Also, this variable has the goal of identifying the potential effect generated by external connections with other companies on firms' performance and should generate a potential positive impact on firm performance. For this reason, we could expect:

H5.o The presence of external CEOs has positive impact on family-controlled firms' performance.

Table 4.49 shows that 13.15% of directors are also CEOs of other companies.

Another variable analyzed is director tenure. The previous research on this topic found different results, specifically Gregory-Smith et al. (2014) found a positive relation between tenure (number of years to date on the board) and performance, while McIntyre et al. (2007) found no association with Tobin's q and EVA but found a positive relation with ROA. We could expect:

H5.p The presence of directors with long tenure has modest impact on family-controlled firms' performance.

Table 4.50 Director tenure—indicators

Variable name	Variable measurement	Reference
27. Director tenure	*27a.* Average number of years during which directors have sat on the board: *AVTenure* *27b.* Director tenure is the coefficient of variation of the number of years that directors have sat on the board: *CV.Tenure = (SD Y.Tenure/mean Y.Tenure)* *27c.* Director tenure is the coefficient of variation of the number of years that directors sat on the board. Expressed in terms of quartiles: *CV.Tenure.Q = (SD Y.Tenure/mean Y.Tenure)*	Gregory-Smith et al. (2014); Anderson et al. (2011); McIntyre et al. (2007)

Table 4.51 Director tenure—average

Director tenure	Director tenure (av)		
	2014	2015	2016
	8.28	8.22	8.4

In this case, the variable has been operationalized in two ways. The first variable represents the average number of years the director sits on the board. The second variable instead considers the variability of the director's tenure on the board (Table 4.50).

Table 4.51 shows that on average, each director sat on the board for 8.4 years.

The last variable analyzed is board size. This variable has been investigated in a lot of research studies. Steiner (1972) and Hackman (1990) sustain that an increase in board size can reduce the effectiveness of the board because coordination problems can be higher than benefits of having directors with different background, characteristics, and experiences. Lipton and Lorsch (1992) and Jensen (1993) suggest limiting board members to seven or eight members. Jensen (1993) highlights the risk that large board can be easier to control for the CEO though too small boards reduce the possibility for directors to participate and critically monitor the CEO behavior reducing firm's performance. Pfeffer and Salancik (1978) suggest that larger board of directors is associated with higher external linkages.

Board dimension can affect the amount and quality of monitoring as well as the level of advising of the CEO (Yermack 1996). Specifically, Yermack (1996) found an inversion association between firm value and board size using a sample of 425 large US industrial corporations. Elsayed (2011) instead found that board size affects positively firm's performance when the CEO is not also the chairman and vice versa.[20] Kiel and Nicholson (2003) and Sofia and Vafeas (2009) found a positive relation between board size and performance.

Board size is usually present as control variable in the majority of research studies that have analyzed the relation between governance heterogeneity and performance (Adams and Ferreira 2009; Carter et al. 2010; Ahern and Dittmar 2012;

[20]Opposite situation if there is CEO duality, i.e., both CEO and Chairman.

Table 4.52 Main studies on board size and performance

Board size					
Author	Year	Imp. on perf.	Theory	Journal	Country
Gregory-Smith, Main, and O'Reilly	2014	*No association*	Res. depend. theory	The economic journal	UK
Ahern and Dittmar	2012	*Negative impact*	Agency theory	Quarterly journal of economics	Norway
Carter et al.	2010	*No association*	Res. depend. theory/ agency theory	Corporate governance: an int. rev.	US
Sofia and Vafeas	2009	*Positive impact*	Agency theory	The journal of management and governance	US
Adams and Ferreira	2009	*Negative impact*	Agency theory	Journal of financial economics	US
Kiel and Nicholson	2003	*Positive impact*	Agency theory, stewardship theory, resource dependence theory	Corporate governance: an int. rev.	Australia
Elsayed	2011	*Positive impact*	Res. depend. theory/ agency theory	The journal of management and governance	Egypt

Table 4.53 Board size—indicators

28. LNBoardSize	Logarithm of board size: LNBoardSize	Yermack (1996); Adams and Ferreira (2009); Carter et al. (2010); Ahern and Dittmar (2012); Gregory-Smith et al. (2014)

Table 4.54 Board size—average

Board size			
2014	2015	2016	2016 Italy
9.30	9.38	9.45	9.9

Gregory-Smith et al. 2014), and also in this book, I adopted the same approach. Additionally, we must consider that Carter et al. (2003) and Adams et al. (2003) have demonstrated that board diversity is positively correlated with board size.

The research that investigated the relation between board size and performance found mixed results as shown in Table 4.52.

Considering the contrasting results, we can expect:

H5.q The board size has an impact on family-controlled firms' performance.

In this case, I calculated the logarithm of the number of directors on the board as shown in Table 4.53. If we compare the average number of directors seating on the board of family-controlled firms with that of all the Italian listed companies shown in Table 4.54, we can observe roughly the same number of directors of 9.45 and 9.9, respectively.

4.3 Index Construction

The index construction followed the methodology[21] adopted by Anderson et al. (2011). All the indexes were adapted to the characteristics of the Italian listed companies. I measured heterogeneity by examining the specific characteristics of each individual director, namely, gender, age, nationality, education, professional experience, both technical and general, previous board experience, and international experience. Specifically, following the approach adopted by Anderson et al. (2011), I used four different indexes[22]: the social heterogeneity index, the occupational heterogeneity index, the overall heterogeneity index (composed of gender, age, nationality, education, and professional heterogeneity) that considers social and occupational ratios, and the global heterogeneity index (composed of the overall heterogeneity index plus international experience). Appendix A shows a full example of board analysis realized with the aim of extrapolating the variables used to calculate the indexes from each board of directors. These data were entirely hand-collected as mentioned earlier in this chapter. Not all 28 variables extracted were used.[23] Specifically for the mandatory variables[24]: gender, age,[25] director tenure,[26] and number of external board seats[27]; from the not mandatory variables[28]: nationality, educational level,[29] degree type,[30] number of senior positions,[31] direct experience in law firms, consulting firms, banks, auditor and accounting companies, university experience, studies abroad, corporate experience in foreign countries, and positions on boards of foreign companies; the last three variables represent the proxy used to measure the international experience.

[21]Explained in this chapter and in Appendix A.

[22]Anderson et al. (2011) adopt only the social, occupational, and overall heterogeneity indexes.

[23]In this chapter, the word "index" has the same meaning as "variable"; indeed, as explained in Appendix A, for each firm and consequently each board of directors, the different variables are expressed in quartiles, which transforms the variable into an index, allowing the calculation of the final index.

[24]All these elements are mandatory in the governance reports.

[25]More precisely, the date of birth, from which I have calculated the age for every director.

[26]The date of first appointment as a member of the board of director.

[27]The number of other board positions held by single director.

[28]As mentioned in Chap. 4, the curriculum of each individual member is included in the corporate governance report. In order to make the research as thorough as possible, it was comatched with other available resources, including LinkedIn, the company's website, and the curriculum presented at the date of presentation of the lists for the appointment of members of the board.

[29]Classified in terms of college degree, bachelor's degree, master's degree, and MBA/Ph.D.

[30]Degree in Business administration & economics, political science, engineering, law, and others.

[31]Number of senior positions occupied by the individual director within the other companies.

4.3.1 The Social Heterogeneity Index

The aim of the social heterogeneity index was to analyze the social dimension, meaning that the social differences characterize board members and their relations with performance. The social heterogeneity index includes[32] nationality, age, and gender heterogeneity variables.

In particular, I calculated the *nationality heterogeneity* as the percentage of directors sitting on the board who were not born in Italy (*Nat.Q*). I did not consider the directors' ethnicity because in the Italian context, the role of different ethnic groups is irrelevant.

Age heterogeneity was measured as the coefficient of variation of directors' ages across the entire board (*CVAge.Q*).

Gender heterogeneity is represented by the percentage of female directors out of the total (*W.Q*). I calculate the social heterogeneity index as the sum of such 3 indexes.

4.3.2 The Occupational Heterogeneity Index

Following the methodology adopted by Anderson et al. (2011), occupational heterogeneity is composed of the sum of the heterogeneity measures for director education, corporate experience, and external board experience. More precisely, the occupational level heterogeneity is composed of the following:

Corporate experience heterogeneity (CVCorp.Exp.Q) is the coefficient of the variation of the number of companies in which directors have worked. This is a measure of the different directors' corporate experiences.

Board seat heterogeneity (CVExt.B.Q) is the coefficient of variation of the number of boards on which directors sit. This is a measure of the different levels of external connections generated by directors.

Education level heterogeneity (EDL.H.Q) was calculated using the Herfindahl index.[33] It is composed of the education level index (i.e., the percentage of directors with a college degree, bachelor's degree, master's degree, and MBA/PhD). I classified each director on the basis of the different education levels and computed the index. A high index means that directors have different levels of education.

I calculated the occupation heterogeneity index as the sum of these three indexes.

[32] All the indicators are expressed in quartiles, This with the goal of creating the indexes.

[33] We must consider that the Herfindahl Index tells us that smaller (larger) values represent greater (less) heterogeneity.

4.3.3 The Overall Heterogeneity Index

The overall heterogeneity index measures the overall heterogeneity within the board of directors. Following the methodology adopted by Anderson, this index considers both social and occupational indicators. Overall heterogeneity is composed of the sum of the heterogeneity indexes for gender, age, nationality, and educational, professional, and board experience.

4.3.4 The Global Heterogeneity Index

Global heterogeneity considers all the heterogeneity indexes. It is composed of the overall heterogeneity index plus international experience. International experience is represented by the following three indexes: the percentage of directors who have studied abroad during their life (*Stud.A.Q*), the percentage of directors who have worked abroad during their life (*Corp.Exp.A.Q*), and the percentage of directors who have sat on the boards of foreign companies during their life (*Board.A.Q*).

4.4 Conclusions

In this chapter, I described the 28 individual variables extracted using the mandatory report presented each year by the Italian listed companies and directors' curricula. The variables extracted using the report are defined as "mandatory variables" because the information provided is standardized for all the firms; I instead defined them as "not mandatory" if the variable is collected using the directors' curricula. Each variable was investigated analyzing the main theories that try to explain the potential connection with firms' performance. These main theories are the stewardship theory, the agency theory, the upper echelon theory (UET), the resource dependency theory, and the entrenchment theory. As observed, also, if different theories have tried to explain this relation, the research results are mixed.

Analyzing the descriptive statistics, we observed that family-controlled firms are characterized by a lower number of foreign directors, independent directors, and female directors. We also overserved a lower level of academic education compared to the other Italian listed companies. In reverse, family firms have a higher number of professors sitting on their boards compared to nonfamily-controlled firms. If we look at the here called "technical professional experience," family firms have a high number of directors with experience in accounting (20%) followed by experience as professors (19%), bankers (15%), lawyers (12%), and strategic consultants (8.80%). The percentage of directors with political experience is very low (5.25%). Regarding the international experience on average, 21% have an experience of study abroad, 26% have worked in foreign corporations, and 20% have

experiences in board of foreign companies. In terms of social aspects, family firms have a lower number of directors with different nationality (4 vs. 11%), a slightly lower number of female directors (28 vs. 31%), regarding the age they show the same average (57 years). The level of academic education is lower for family firms; in fact, on average, 18% of directors do not have a degree compared to 10% of all the Italian listed companies. The percentage of independent directors is low if compared with all the Italian listed companies (43 vs. 59%) and the percentage of family members is 27%. This means that only 30% of directors are neither family members nor independent directors. The number of executive directors is higher than the other listed firms (33 vs. 19%). We can conclude that the board structure and composition of family-controlled firms is different compared to the other Italian listed firms. This supports the latest research that identifies a connection ownership structure and board composition. As observed, investigating the board composition without considering the ownership structure could generate misleading results.

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Chapter 5
Econometric Analysis

5.1 Dependent Variable: Performance

Generally, research that uses financial ratios to investigate the relation between governance (particularly heterogeneity) and financial performance can be categorized into those that use Tobin's Q (Campbell and Minguez-Vera 2008; Adams and Ferreira 2009; Anderson et al. 2011; Ahern and Dittmar 2012; Carter et al. 2010) and those that use an accounting measure—usually ROA (Erhardt et al. 2003; Farrell and Hersch 2005; Adams and Ferreira 2009; Gregory-Smith et al. 2014). To examine the relationship between heterogeneity and performance, I used Tobin's Q (Yermack 1996; Coles et al. 2008), and I also used ROA as a dependent variable to check the robustness of the results. I chose Tobin's Q for two main reasons. First, it is a suitable proxy for competitive advantage, which indeed reflects the market's expectations of future earnings (Montgomery and Wernerfelt 1988). Second, Tobin's Q measures expectations of future performance, while accounting results look at past events (Demsetz and Villalonga 2001). The present study calculates Tobin's Q as follows: (Total assets—common equity + market equity)/total assets.

5.2 Control Variables

The control variables now introduced were used in all the multivariate regression models, meaning those used to analyze the indexes and those used to analyze the individual directors' characteristics (i.e., mandatory and not mandatory, see Sect. 5.6).

The "independent director" ratio represents the first control variable as discussed in Chap. 4. Fama and French (1992) found a strong and significant correlation between market returns and firm size, and I used the natural log of total assets to

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control firm size (Erhardt et al. 2003; Campbell and Minguez-Vera 2008; Carter et al. 2010; Ahern and Dittmar 2012). I also controlled for board size as discussed in Chap. 4; this variable has been used extensively in previous research on this topic. I also used the standard deviation of monthly stock returns for the last five years as a proxy for firm risk (Adams and Ferreira 2009). Past performance can also affect actual performance; for this reason, I used ROA in t-1 (Anderson et al. 2011) as a control variable. I also used the ATECO two digits to control per different activity areas in which family firms operate. Inasmuch as the nature of the leadership structure can affect financial performance (Carter et al. 2010), I used the family ratio—that is, the number of family members on the board divided by the total number of board members—to control for family leadership and power. There is a second reason to use this control variable: as shown by Anderson et al. (2011), powerful board members measured in terms of CEO power (i.e., years of tenure and equity held by the CEO) can reduce the heterogeneity in the composition of the board. Considering that our analysis is based on family firms, to control for family power and his influence, I used the number of family members that sat on the board. Finally, I used leverage (Anderson et al. 2011; Frijns et al. 2016) to control for financial aspects that can also affect performance.

5.3 The Baseline Model

My baseline model to examine the effects of heterogeneity in board composition on firm performance is the following linear specification:

$$\textit{Tobin's } Q = \beta_0 + \beta_1\,(\textit{Board Heterogeneity index}) + \beta_2\,(\textit{ln Board Size}) + \beta_3\,(\textit{Board Independence ratio}) + \beta_4\,(\textit{N. Family Board}) + \beta_5\,(\textit{ROA } t-1) + \beta_6\,(\textit{ATECO 2 digits industry fixed-effects}) + \beta_7\,(\textit{Firm Leverage}) + \beta_8\,(\textit{Volatility}) + \beta_9\,(\textit{Firm Size}) + \beta_{10}\,(\textit{Year Dummies}) + \varepsilon.$$

I used the same model but changed the reference index each time.

5.4 Heterogeneity Index Analysis

The first regression concerns the social heterogeneity index. The social heterogeneity index represents the sum of gender, age, and nationality heterogeneity. This is a measure of the social characteristics of the board members; a high value of this indicator means that the company has a social heterogeneity level higher than that of other family companies, meaning that it has a board composed of directors of different ages, nationalities, and genders. I used an OLS regression using Arellano cluster-robust standard errors, and I checked for multicollinearity problems with the FIV test. The social heterogeneity index is slightly positive but not statistically significant. This means that social aspects do not seem to affect family-controlled

firms' performance. Wang and Clift (2009) have simultaneously studied gender and ethnicity diversity and have not found an association with performance, which is consistent with these results. In terms of the social heterogeneity index, our results are globally in contrast to those of Anderson et al. (2011), who found a positive and statistically significant relation between performance and social heterogeneity. Our results support the first hypothesis that in fact, the social heterogeneity has no association with firm performance. As analyzed in Chap. 2, the previous research on this topic found different and contrasting results. This is due to the difficulty to measure if benefits associated with social heterogeneity aspects are higher than costs that this heterogeneity can generate. We can also confirm in a family-controlled context that the impact of social aspects on firm's performance is anything but clear. This result also casts doubt on the importance of introducing laws that set the goal of placing social aspects at the center of directors' appointment, for example, affecting the selection process with mandatory quotas. These mandatory quotas should be carefully evaluated particularly if they have the goal of impacting positively firm's performance.[1]

If we consider the control variables, it is apparent that the board dimension represented by the control variable LNBoardSize is positive and significant, which means that the largest boards of directors positively affect the performance of family-controlled firms. This could be related to many factors. First, as described in the Chap. 4, larger board are associated with higher external linkages. These linkages according to the resource dependency theory (RDT) can be a source of competitive advantage. Second, family members acting as stewards could increase the number of directors and, in particular, the number of outside directors with the goal of taking advantage of their expertise and knowledge (Anderson and Reeb 2003). These results are aligned with those obtained from Kiel and Nicholson (2003), Sofia and Vafeas (2009), and Elsayed (2011). Hence, we can confirm the H.5.q hypothesis, i.e., board size has an impact on family-controlled firms' performance. In our case, we have a positive impact.

The board independence ratio is negative and statistically significant, which means that the proportion of independent directors on the board affects negatively the firm's value of family-controlled firms. These results are aligned with those obtained from Adams and Ferreira (2009) and Gregory-Smith et al. (2014).

The number of family board members sitting on the board negatively affects the performance of family-controlled firms. Having a board of directors composed mainly of family members can generate a reduction in the value of the company, which could be generated by two main aspects. First, one of the most important critiques of family firms is the risk of favoritism and nepotism toward the family members (Gomez-Mejia et al. 2001; Bertrand and Schoar 2006; Barnett and

[1]The goal of these rules is not always creating a positive impact on firm's performance. For example, in case of gender quotas the goal can be to give access to female directors to senior positions increasing the market of experienced female directors. This market in Italy is still small if compared to the males' directors market (CONSOB et al. 2018).

Table 5.1 Panel model—social heterogeneity index

Variable	Dependent variable Tobin's Q
Constant	2.106***
Social heterogeneity index	*−0.005*
LNBoardSize	0.427**
Board independence ratio	−0.779**
N. family board	−0.916**
ROA t − 1	0.042***
Firm leverage	−0.327
Volatility	0.279
Firm size	−0.090***
Temporal dummy	YES
Industry fixed-effects	YES
$R^2_{adj} = 0.64$	
F*** FIV < 10 N.obs: 269	

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

Kellermanns 2006). A high number of family members sitting on the board of directors could be a signal of strong nepotism adopted by the family, and this could damage the performance of the company. Second, this effect could be generated by misappropriation of firms' resources by family members; indeed, an increase in family involvement in the board could potentially enhance the agency theory problem (Minichilli et al. 2010) and increase the family entrenchment. The variable representative of firm size (log of total assets) is negative and statistically significant. This is consistent with the results of Campbell and Minguez-Vera (2008) and Carter et al. (2010). Firm leverage and volatility results are not statistically significant (Table 5.1).

The second regression (Table 5.2) considers the occupational heterogeneity index. The occupational heterogeneity index is composed of differences in terms of education, corporate experience, and external board seats. This is a measure of the different knowledge, experiences, and external connections generated by board members. This variable should have a more relevant role than social heterogeneity, particularly if we think in terms of advising (Anderson et al. 2011). Indeed, differences in terms of education, corporate experience, and external connections should provide the firm with a competitive advantage, and this should be reflected in terms of better performance.

I used an OLS regression using Arellano cluster-robust standard errors. We observe that the occupational heterogeneity index is positive and statistically significant (95%). Statistically, an increase of 10% in occupational heterogeneity increases Tobin's Q by 4.79%. The presence of directors with differences in terms of education, corporate experience, and external board seats positively affects the performance of family-controlled firms. This is in line with our second hypothesis (H2) that occupational heterogeneity is positively associated with family firm

Table 5.2 Panel model—occupational heterogeneity index

Variable	Dependent variable Tobin's Q
Constant	1.600***
Occupational heterogeneity index	*+0.048***
LNBoardSize	0.391**
Board independence ratio	−0.876***
N. family board	−0.940**
ROA t − 1	0.040***
Firm leverage	−0.390
Volatility	0.650
Firm size	−0.067**
Temporal dummy	YES
Industry fixed-effects	YES
$R^2_{adj} = 0.65$	
F*** FIV < 10 N.obs: 269.	

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

Table 5.3 Panel model—overall heterogeneity index

Variable	Dependent variable Tobin's Q
Constant	2.106***
Overall heterogeneity index	*+0.007*
LNBoardSize	0.425**
Board independence ratio	−0.832**
N. family board	−0.952**
ROA t − 1	0.042***
Firm leverage	−0.327
Volatility	0.278
Firm size	−0.088***
Temporal dummy	YES
Industry fixed-effects	YES
$R^2_{adj} = 0.64$	
F = *** FIV < 10 N.obs: 269.	

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

performance and is also consistent with Bernile et al. (2018), Anderson et al. (2011), and McIntyre et al. (2007).

The third regression (Table 5.3) concerns the overall heterogeneity index. The heterogeneity index represents the sum of gender, age, nationality, educational, professional, technical, and general and board experience heterogeneity. This indicator represents the heterogeneity level of the boards of directors of family-controlled firms.

Table 5.4 OLS—global heterogeneity index

Variable	Dependent variable Tobin's Q
Constant	2.135***
G. heterogeneity index	*+0.005*
LNBoardSize	0.419**
Board independence ratio	−0.837**
N. family board	−0.951**
ROA t − 1	0.041***
Firm leverage	−0.324
Volatility	0.273
Firm size	−0.090***
Temporal dummy	YES
Industry fixed-effects	YES
$R^2_{adj} = 0.64$	
F = *** FIV < 10 N.obs: 269	

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

I used an OLS regression using Arellano cluster-robust standard errors. The heterogeneity index is slightly positive but not statistically significant. This means that a higher level of heterogeneity seems to not affect family-controlled firms' performance. This result is not consistent with our H3a hypothesis, i.e., "overall heterogeneity" does not have impact on performance.

The fourth regression (Table 5.4) analyzes the global heterogeneity index that also considers the international experience, meaning heterogeneity in terms of international studies, corporate experience abroad, and positions on boards of foreign companies. I used an OLS regression using Arellano cluster-robust standard errors. The global heterogeneity index is not statistically significant. We have to consider that the variation between the heterogeneity index and the global heterogeneity index is insignificant. Additionally, in this case, the results are not consistent with our H3b hypothesis that global heterogeneity has impact on performance.

5.4.1 Robustness Test

I tested the robustness of my results using ROA as a dependent variable (Table 5.5). In particular, I tested the occupational heterogeneity index because it is the only "heterogeneity index" that is statistically significant.

We can see that the occupational heterogeneity index is positively and significantly correlated with ROA at 95%. This means that these results are consistent with the idea that occupation heterogeneity affects positively financial performance.

Table 5.5 OLS—robustness test—ROA

Variable	Dependent variable ROA
Constant	−15.236*
Occupational H. index	+0.507**
LNBoardSize	6.345*
Board independence ratio	1.748
N. family board	0.938
Firm leverage	−2.275
Volatility	−32.55
Firm size	−0.605
Temporal dummy	YES
Industry fixed-effects	YES
$R^2_{adj} = 0.32$	
F = ***	

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

Table 5.6 OLS—independent ratio

Variable	G. Heterogeneity index
Constant	12.579
LNBoardSize	1.579
Board independence ratio	*5.516***
N. family board	3.273
ROA t − 1	0.058
Firm leverage	0.815
Volatility	−2.139
Firm size	−0.266
Temporal dummy	YES
Industry fixed-effects	YES
$R^2_{adj} = 0.13$	
F = ***	

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

5.5 Independent Directors and Heterogeneity Ratio

Next, I estimated an OLS regression model (Table 5.6) to verify the relationship between heterogeneity and the number of independent directors. Based on the literature, we could expect that an increase in the number of independent directors could generate an increase in the heterogeneity index. Family members should select outside directors with the aim of importing their knowledge, experiences, and external connections. I studied this relationship using the global heterogeneity index because it reflects all the heterogeneity existing on the board. The OLS regression (Table 5.6) shows a significant and positive relation between independent ratio and heterogeneity (i.e., an increase in the ratio of independent members increases the heterogeneity in the board). An increase in the number of family members is positive but is not statistically significant. This means that family members have a lower level of impact in terms of heterogeneity, for example, family

Table 5.7 Casual effect model—independent ratio

Variable	G. Heterogeneity index
Constant	11.504***
LNBoardSize	2.825***
Board independence ratio	*6.622***
N. family board	3.967
ROA t − 1	0.016
Firm leverage	0.957
Volatility	−7.934
Firm size	−0.376
Temporal dummy	YES
Industry fixed-effects	YES

*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$

members may have fewer corporate experiences, fewer external connections, lower education levels, and less technical and general area expertise. Considering the low level of R^2, I estimated the Breusch Pagan and the Hausman Test. These tests suggest that the casual effect model is more appropriate to investigate this relation. Table 5.7 shows that the board independence ratio is now positive and statistically significant to 99%. The board dimension affects the heterogeneity, which is in line with Carter et al. (2003) and Adams and Ferreira's (2002) findings. Generally, we can observe that independent members have a strong impact on the global heterogeneity of the board of directors, while family members do not seem to affect heterogeneity. This also shows how family members use independent directors by extracting their knowledge and experiences, even if this does not directly affect firms' family-controlled performance.

5.6 "Mandatory" and "Not Mandatory Variables"

In this final section, I individually analyze the variables presented in Chap. 4. Considering that I have three goals, namely, to measure the importance of the specific variables (mainly using the average number of directors with those specific characteristics out of the total number of directors), to measure the importance of the heterogeneity (either using the coefficient of variation or the Herfindahl index), and to represent the individual variables in quartiles (this can be done for both average and variability measurements).[2] I present three distinct models each one for one of the above-mentioned areas.[3]

[2]This final part allowed me to create the indexes also used in the previous analysis and eliminate potential distortions due to outliers.

[3]Some variables that do not cover all three dimensions (average, heterogeneity, and quartiles) were used in more than one model (e.g., the dummy variable that is equal to 1 if there is a LID and is otherwise equal to 0 appears in all three models.

Table 5.8 First area: variables' importance

	Variable name	Indep. var.
Control V.	Independent board memb.	*Indep.*
	ROA t − 1	*ROA t − 1*
	Firm leverage	*Firm leverage*
	Volatility	*Volatility*
	Firm size	*Firm size*
	LNBoardSize	*LNBoardSize*
Mandatory V.	Gender	*W*
	Age	*AVage*
	Director tenure	*AVTenure*
	NonExecutive memb. (fixed)	*NonExec.*
	Board mem. list< (fixed)	*Min.*
	External board	*AVExt.B*
	LID (fixed)	*LID*
	Board mem. list> (fixed)	*Maj.*
Not mandatory V.	Family members	*N.Family M. board*
	Nationality	*Nat*
	Educ. level	*LowED*
	Degree type	*DT.H*
	Senior positions	*AVSen.P*
	Global experience	*G.Exp.perc.*
	Global experience	*G.Exp*
	(prof. Exp.)	*Law.F*
	Consultant firm	*Cons.*
	Bank firm	*Bank.*
	Accounting firm	*Acc.*
	University firm	*Uni.*
	Political experience	*Pol.*
	Corporate experience	*AVCorp.Exp*
	Study abroad	*Stud.A.*
	Corp. exp. abroad	*Corp.Exp.A.*
	Board. exp. abroad	*Board.A.*
	Outside CEO	*CEO*

The initial part of the econometric model is always composed of what are here called mandatory variables, meaning that the variables are immediately available using the mandatory reports presented every year. In this econometric model, were added, one at a time, the not mandatory variables, meaning those collected using curricula and other available sources. The dependent variable is always Tobin's Q.

Table 5.8 shows the variables used to measure the relationship between directors' characteristics and firm performance regarding the first area (i.e., analyzing the importance of the specific variables). Hence, in this case, the importance of the heterogeneity is not taken into consideration. The regression models are reported in Tables 5.9–5.11.

Table 5.9 First area: variables' importance—regressions (1/3)

	Indep. var.	Model 1	Model 2	Model 3	Model 4	Model 5
Control V.	*Indep.*	−0.131	−0.131	−0.089	−0.134	−0.130
	ROA t − 1	*0.047***	*0.047***	*0.047***	*0.048***	*0.047***
	Firm.Leverage	*−0.427*	*−0.426*	*−0.432*	*−0.442*	*−0.425*
	Volatility	*0.233*	*0.230*	*0.255*	*0.350*	*0.238*
	FirmSize	*−0.108****	*−0.108****	*−0.104***	*−0.104****	*−0.108****
	LNBoardSize	*0.535****	*0.535****	*0.526****	*0.561****	*0.535****
Mandatory V.	*W*	−0.483	−0.483	−0.484	−0.448	−0.485
	AVage	*−0.001**	*−0.001**	*−0.001**	*−0.001*	*−0.001*
	AVTenure	*−0.023**	*−0.023**	*−0.024**	*−0.023*	*−0.024*
	NonExec.	−0.110	−0.111	−0.075	−0.042	−0.110
	Min.	0.530	0.530	0.516	0.467	0.529
	AVExt.B	−0.005	−0.005	−0.005	−0.006	−0.005
	LID	*0.341****	*0.341****	*0.346****	*0.335****	*0.341****
	Maj.	−0.285	−0.285	−0.285	−0.262	−0.284
Not mandatory V.	*Nat*		0.015			
	LowED			*0.111*		
	DT.H				*0.230*	
	AVSen.P					*−0.001*

*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$

Table 5.10 First area—variables' importance—regressions (2/3)

	Indep. var.	Model 6	Model 7	Model 8	Model 9	Model 10
Control V.	*Indep.*	−0.084	−0.256	−0.142	−0.255	−0.082
	ROA t − 1	*0.048***	*0.046***	*0.048***	*0.043***	*0.047***
	Firm.Leverage	−0.419	−0.447	−0.372	−0.516	−0.425
	Volatility	0.250	0.290	0.268	0.211	0.192
	FirmSize	*−0.106***	*−0.106***	*−0.107***	*−0.111***	*−0.106***
	LNBoardSize	*0.549***	*0.403***	*0.528***	*0.542***	*0.533***
Mandatory V.	*W*	−0.011	−0.506	−0.412	−0.699	−0.507
	AVage	*−0.001*	*−0.001**	*−0.001**	*−0.001*	*−0.001**
	AVTenure	−0.023	*−0.018**	−0.022*	−0.020	−0.023*
	NonExec.	0.229	−0.209	−0.150	−0.069	−0.096
	Min.	0.516	0.722	0.559	0.469	0.540
	AVExt.B	0.011	−0.012	−0.004	−0.010	−0.002
	LID	*0.336***	*0.322***	*0.343***	*0.281***	*0.334***
	Maj.	−0.284	−0.358	−0.307	−0.275	−0.279
Not mandatory V.	*G.Exp.perc.*	0.008				
	G.Exp		*0.090**			
	Law.F			*0.281*		
	Cons.				*0.992**	
	Bank.					*−0.163*

*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$

Table 5.11 First area—variables' importance—regressions (3/3)

	Indep. var.	Model 11	Model 12	Model 13	Model 14	Model 15	Indep. var.	Model 16	Model 17	Model 18
Control V.	*Indep.*	−0.153	−0.116	−0.048	−0.126	−0.228	*Indep.*	−0.220	−0.128	−0.153
	ROA t − 1	*0.048***	*0.047***	*0.046***	*0.047***	*0.046***	*ROA t − 1*	*0.047***	*0.047***	*0.047***
	Firm. Leverage	−0.413	−0.459	−0.376	−0.418	−0.443	*Firm. Leverage*	−0.352	−0.428	−0.470
	Volatility	−0.049	0.383	0.165	0.259	0.195	*Volatility*	0.283	0.261	0.274
	FirmSize	*−0.111****	*−0.105****	*−0.110****	*−0.108****	*−0.116****	*FirmSize*	*−0.121****	*−0.105***	*−0.104***
	LNBoardSize	*0.572****	*0.544****	*0.548****	*0.535****	*0.534****	*LNBoardSize*	*0.546****	*0.530****	*0.526****
Mandatory V.	*W*	−0.488	−0.476	−0.515	−0.486	−0.520	*W*	−0.465	−0.486	−0.533
	AVage	*−0.001*	*−0.001**	*−0.001*	*−0.001***	*−0.002***	*AVage*	*−0.001***	*−0.001**	*−0.001**
	AVTenure	*−0.020*	*−0.026**	*−0.023**	*−0.024**	*−0.023**	*AVTenure*	*−0.024**	*−0.023**	*−0.024**
	NonExec.	−0.141	−0.086	−0.139	−0.108	−0.101	*NonExec.*	−0.093	−0.116	−0.079
	Min.	0.546	0.470	0.414	0.527	0.408	*Min.*	0.532	0.512	0.556
	AVExt.B	−0.005	−0.008	−0.002	−0.003	−0.005	*AVExt.B*	−0.005	−0.004	−0.015
	LID	*0.350****	*0.345****	*0.346****	*0.340****	*0.340****	*LID*	*0.316****	*0.342****	*0.348****
	Maj.	−0.268	−0.276	−0.333	−0.280	−0.262	*Maj.*	−0.300	−0.283	−0.291
Not mandatory V.	*Acc.*	0.401					*Corp.Exp.A.*	0.333		
	Uni.		*−0.216*				*Board.A.*		*−0.050*	
	Pol.			*−0.591*			*CEO*			*0.287*
	AVCorp.Exp				*−0.005*					
	Stud.A.					*0.342*				

*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$

Table 5.12 Second area: heterogeneity's variables

	Variable name	
Control V.	Independent board memb.	*Indep.*
	ROA t − 1	*ROA t − 1*
	Firmleverage	*Firm.Leverage*
	Volatility	*Volatility*
	Firmsize	*FirmSize*
	LNBoardSize	*LNBoardSize*
Mandatory V.	Gender	*W.Q*
	Age	*CVAge*
	Director tenure	*CV.Tenure*
	NonExecutive memb. (fixed)	*NonExec.*
	Board mem. list < (fixed)	*Min.*
	External board	*CVExt.B*
	LID (fixed)	*LID*
	Board mem. list > (fixed)	*Maj.*
Not mandatory V.	Nationality	*Nat.D*
	Educ. level	*Low.ED*
	Degree type	*DT.H*
	Senior positions	*CVSen.P*
	Global experience	*G.Exp.perc.*
	Global experience	*G.Exp.*
	Law.F	*Law.F.D*
	Consultant firm	*Cons.D*
	Bank firm	*Bank.D*
	Accounting firm	*Acc.D*
	University firm	*Uni.D*
	Political experience	*Pol.D*
	Corporate experience	*CVCorp.Exp*
	Study abroad	*Stud.A.D*
	Corp. exp. abroad	*Corp.Exp.A.D*
	Board. exp. abroad	*Board.A.D*
	Outside CEO	*CEO.D*

Table 5.12 shows the variables used to measure the relationship between directors' characteristics and firm performance in terms of the second area (i.e., analyzing the importance of the variables looking at heterogeneity). Hence, in this case, the importance of the specific variables is not taken into consideration. The regression models are reported in Tables 5.13–5.15.

Table 5.16 shows the variables used to measure the relationship between directors' characteristics and firm performance in terms of the third area (i.e., analyzing the importance of the variables by representing them in quartiles, which was done for both average and variability measurements). Hence, in this case, the importance of both heterogeneity and the variables is taken into consideration. The regression

Table 5.13 Second area: heterogeneity's variables—regressions (1/3)

	Indep. var.	Model 19	Model 20	Model 21	Model 22	Model 23
Control V.	*Indep.*	−0.128	−0.137	−0.095	−0.144	−0.125
	ROA t − 1	*0.047***	*0.047***	*0.047***	*0.048***	*0.047***
	Firm.Leverage	−0.305	−0.289	−0.310	−0.342	−0.301
	Volatility	0.292	0.250	0.316	0.459	0.320
	FirmSize	*−0.105****	*−0.108***	*−0.102****	*−0.099****	*−0.104****
	LNBoardSize	*0.463****	*0.463****	*0.453****	*0.502****	*0.456****
Mandatory V.	*W.Q*	−0.013	−0.013	−0.013	−0.010	−0.013
	CVAge	*−0.302**	*−0.283*	*−0.308*	*−0.254*	*−0.314*
	CV.Tenure	*0.127**	*0.120*	*0.133*	*0.133*	*0.133*
	NonExec.	0.080	0.062	0.119	0.170	0.075
	Min.	0.466	0.477	0.450	0.369	0.437
	CVExt.B	0.065	0.064	0.065	0.077	0.062
	LID	*0.299****	*0.303****	*0.302****	*0.289***	*0.292***
	Maj.	−0.224	−0.217	−0.221	−0.188	−0.224
Not mandatory V.	*Nat.D*		0.037			
	Low.ED			*0.100*		
	DT.H				*0.315*	
	CVSen.P					*0.096*

*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$

Table 5.14 Second area: heterogeneity's variables—regressions (2/3)

	Indep. var.	Model 24	Model 25	Model 26	Model 27	Model 28
Control V.	*Indep.*	−0.301	−0.298	−0.136	−0.186	−0.104
	ROA t − 1	*0.048***	*0.046***	*0.047***	*0.044***	*0.047***
	Firm.Leverage	−0.303	−0.389	−0.271	−0.441	−0.305
	Volatility	0.102	0.366	0.290	0.298	0.261
	FirmSize	*−0.109***	*−0.102***	*−0.104***	*−0.110***	*−0.106***
	LNBoardSize	*0.473***	*0.328***	*0.420***	*0.434***	*0.477***
Mandatory V.	*W.Q*	−0.011	−0.019	−0.008	−0.030	−0.013
	CVAge	−0.158	−0.044	−0.237	−0.098	−0.290
	CV.Tenure	0.130	0.122	0.130	0.142	0.132
	NonExec.	−0.019	−0.095	−0.001	0.070	0.082
	Min.	0.556	0.678	0.560	0.438	0.469
	CVExt.B	0.068	0.073	0.061	0.079	0.064
	LID	*0.300***	*0.284***	*0.302***	*0.259***	*0.299***
	Maj.	−0.228	−0.311	−0.254	−0.246	−0.219
Not mandatory V.	*G.Exp.perc.*	0.201				
	G.Exp.		*0.103***			
	Law.F.D			*0.100*		
	Cons.D				*0.185***	
	Bank.D					*−0.032*

*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$

Table 5.15 Second area: heterogeneity's variables—regressions (3/3)

	Indep. var.	Model 29	Model 30	Model 31	Model 32	Model 33	Indep. var.	Model 34	Model 35	Model 36
Control V.	*Indep.*	−0.144	−0.148	−0.096	−0.103	−0.228	*Indep.*	−0.111	−0.106	−0.139
	ROA t − 1	*0.046***	*0.048***	*0.045***	*0.048***	*0.045***	*ROA t − 1*	*0.048***	*0.046***	*0.047***
	Firm. Leverage	−0.372	−0.313	−0.282	−0.295	−0.323	*Firm. Leverage*	−0.324	−0.269	−0.282
	Volatility	0.411	0.257	0.189	0.189	0.061	*Volatility*	0.366	0.485	0.297
	FirmSize	*−0.094***	*−0.106****	*−0.103****	*−0.108****	*−0.101****	*FirmSize*	*−0.098***	*−0.094***	*−0.107***
	LNBoardSize	*0.479****	*0.447****	*0.513****	*0.490****	*0.402***	*LNBoardSize*	*0.480****	*0.493****	*0.485****
Mandatory V.	*W.Q*	−0.010	−0.015	−0.014	−0.011	−0.013	*W.Q*	−0.016	−0.012	−0.013
	CVAge	−0.068	−0.290	−0.195	−0.252	−0.055	*CVAge*	−0.279	−0.351	−0.299
	CV.Tenure	0.116	0.129	0.112	0.113	0.093	*CV.Tenure*	0.123	0.127	0.130
	NonExec.	−0.037	0.064	0.054	0.072	0.109	*NonExec.*	0.079	0.020	0.079
	Min.	0.520	0.520	0.360	0.512	0.390	*Min.*	0.517	0.358	0.469
	CVExt.B	0.073	0.064	0.072	0.070	0.074	*CVExt.B*	0.063	0.063	0.062
	LID	*0.324****	*0.296***	*0.305***	*0.306****	*0.301****	*LID*	*0.321****	*0.321****	*0.297****
	Maj.	−0.267	−0.229	−0.273	−0.229	−0.247	*Maj.*	−0.201	−0.201	−0.224
Not mandatory V.	*Acc.D*	*0.268***					*Corp.Exp.A.D*	*−0.099*		
	Uni.D		*0.047*				*Board.A.D*		*−0.145*	
	Pol.D			*−0.124*			*CEO.D*			*−0.061*
	CVCorp.Exp				*−0.221*					
	Stud.A.D					*0.167*				

*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$

Table 5.16 Third area: variables in quartiles

	Variable name	
Control V.	Indep.	*Indep.*
	ROA t − 1	*ROA t − 1*
	Firm.Leverage	*Firm.Leverage*
	Volatility	*Volatility*
	FirmSize	*FirmSize*
	LNBoardSize	*LNBoardSize*
Mandatory V.	Gender	*W.Q*
	Age	*CVAge.Q*
	Director tenure	*AVTenure*
	Executive memb. (fixed)	*Exec.*
	Board mem. list< (fixed)	*Min.*
	External board	*CVExt.B.Q*
	LID (fixed)	*LID*
	Board mem. list> (fixed)	*Maj.*
Not mandatory V.	Family members	*N.Family M. board*
	Nationality	*Nat.Q*
	Educ. level	*EDL.H.Q*
	Degree type	*DT.H.Q*
	Senior positions	*CVSen.P.Q*
	Global experience	*G.Exp.perc.*
	Global experience	*G.Exp*
	Law firm	*Law.F.D*
	Consultant firm	*Cons.D*
	Bank firm	*Bank.D*
	Accounting firm	*Acc.D*
	University firm	*Uni.D*
	Political experience	*Pol.D*
	Corporate experience	*CVCorp.Exp.Q*
	Study abroad	*Stud.A.Q*
	Corp. exp. abroad	*Corp.Exp.A.Q*
	Board. exp. abroad	*Board.A.Q*
	Outside CEO	*CEO.Q*

models are reported in Tables 5.17–5.19. The results of each of these variables refer directly to the fifth hypothesis identified in Chap. 4.

Focusing on the three variables that make up the index, namely, age, gender, and nationality, we can observe which variables mainly affect the performance.

Gender has a negative coefficient in all three models but is only significantly negative in the third model (*W*). The last result is supported by the results obtained by Ahern and Dittmar (2012) and Adams and Ferreira (2009). The first two models (*W* and *W.Q*) are instead aligned with the results of Gregory-Smith et al. (2014) and Farrell and Hersch (2005). In fact, these authors have shown that gender has either a

Table 5.17 Third area: variables in quartiles—regressions (1/3)

	Model 37	Model 38	Model 39	Model 40	Model 41
Indep.	−0.257	−0.091	−0.006	−0.097	−0.091
ROA t − 1	*0.047***	*0.048***	*0.048***	*0.048***	*0.048***
Firm.Leverage	−0.325	−0.398	−0.461	−0.426	−0.401
Volatility	0.422	0.202	0.411	0.352	0.240
FirmSize	*−0.109***	*−0.108***	*−0.097***	*−0.105***	*−0.105***
LNBoardSize	*0.498***	*0.553***	*0.473***	*0.588***	*0.543***
W.Q	−0.007	−0.011	−0.033	−0.010	−0.010
CVAge.Q	*0.023*	*−0.001*	*0.011*	*0.002*	*−0.003*
AVTenure	*−0.016*	*−0.023**	*−0.024**	*−0.022*	*−0.024**
Exec.	0.220	0.239	0.111	0.176	0.231
Min.	0.462	0.511	0.469	0.508	0.480
CVExt.B.Q	0.000	0.010	0.001	0.011	0.007
LID	*0.355***	*0.337***	*0.331***	*0.333***	*0.328***
Maj.	−0.267	−0.279	−0.297	−0.265	−0.288
N.Family M. board	−0.570				
Nat.Q		0.008			
EDL.H.Q			*0.109***		
DT.H.Q				*−0.040***	
CVSen.P.Q					0.031

*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$

modest impact or no impact on performance. We can conclude that a higher number of women on the board can have a modestly negative to null impact on performance.

The age measured in terms of the coefficient of variation of directors' age (*CVAge*) and average ages (*AVage*) shows peculiar results. Specifically, the coefficient of variation of directors' age is not significant (third model). Hence, the main idea is that different ages should bring different perspectives and problem-solving skills inside the board (Anderson et al. 2011) does not seem to be supported by the empirical evidence from the family-controlled firms. The average age presents a negative and significant coefficient. This result is in contrast to Ahern and Dittmar's (2012) assertion that a higher directors' age should be correlated with higher risk aversion and better connections than a lower directors' age.[4]

A higher directors' age could instead be correlated with higher risk aversion and better connections than a lower directors' age (Ahern and Dittmar 2012).

The third variable, nationality, was operationalized using the three variables *Nat*, *Nat.D*, and *Nat.Q*. None of the three models in which these variables appear provided a significant result. This means that having directors with different nationalities does not seem to affect performance in the family-controlled firms in Italy. This is aligned with the results of Darmadi (2010) and Wang and Clift (2009) in which the higher presence of minorities does not impact performance.

[4]In any case also in their research also indicates that age is not significant.

Table 5.18 Third area: variables in quartiles—regressions (2/3)

		Model 42	Model 43	Model 44	Model 45	Model 46
Control V.	*Indep.*	−0.205	−0.223	−0.098	−0.112	−0.067
	ROA t − 1	*0.049***	*0.047***	*0.048***	*0.046***	*0.048***
	Firm.Leverage	−0.388	−0.451	−0.375	−0.495	−0.406
	Volatility	0.078	0.269	0.208	0.217	0.205
	FirmSize	*−0.109***	*−0.103***	*−0.105***	*−0.110***	*−0.107***
	LNBoardSize	*0.547***	*0.412***	*0.501***	*0.521***	*0.561***
Mandatory V.	*W.Q*	−0.007	−0.014	−0.006	−0.021	−0.010
	CVAge.Q	0.001	0.007	0.001	0.008	−0.001
	AVTenure	*−0.020**	*−0.017**	*−0.023**	*−0.020*	*−0.023**
	Exec.	0.265	0.284	0.287	0.210	0.229
	Min.	0.578	0.688	0.598	0.498	0.510
	CVExt.B.Q	0.011	0.014	0.010	0.014	0.010
	LID	*0.334***	*0.317***	*0.337***	*0.304***	*0.336***
	Maj.	−0.287	−0.356	−0.316	−0.307	−0.282
Not mandatory V.	*G.Exp.perc.*	0.150				
	G.Exp		*0.088***			
	Law.F.D			*0.104*		
	Cons.D				*0.147**	
	Bank.D					*−0.020*

*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$

Table 5.19 Third area: variables in quartiles—regressions (3/3)

		Model 47	Model 48	Model 49	Model 50	Model 51		Model 52	Model 53	Model 54
Control V.	*Indep.*	−0.110	−0.081	−0.059	−0.074	−0.178	*Indep.*	−0.208	−0.080	−0.084
	ROA t − 1	*0.046***	*0.048***	*0.045***	*0.048***	*0.046***	*ROA t − 1*	*0.047***	*0.048***	*0.048***
	Firm. Leverage	−0.456	−0.407	−0.391	−0.401	−0.399	*Firm. Leverage*	−0.270	−0.398	−0.419
	Volatility	0.302	0.235	0.114	0.161	0.150	*Volatility*	0.252	0.309	0.250
	FirmSize	*−0.097***	*−0.106****	*−0.104****	*−0.107****	*−0.112****	*FirmSize*	*−0.125****	*−0.098***	*−0.106***
	LNBoardSize	*0.545****	*0.558****	*0.602****	*0.566****	*0.543****	*LNBoardSize*	*0.542****	*0.539****	*0.549****
Mandatory V.	*W.Q*	−0.009	−0.010	−0.013	−0.012	−0.014	*W.Q*	−0.005	−0.012	−0.011
	CVAge.Q	*0.007*	*−0.001*	*0.005*	*−0.002*	*0.006*	*CVAge.Q*	*0.002*	*−0.001*	*−0.001*
	AVTenure	*−0.019*	*−0.023*	*−0.023*	*−0.023**	*−0.022**	*AVTenure*	*−0.023**	*−0.023**	*−0.023**
	Exec.	0.244	0.228	0.249	0.225	0.225	*Exec.*	0.209	0.241	0.229
	Min.	0.554	0.494	0.399	0.561	0.395	*Min.*	0.449	0.439	0.516
	CVExt.B.Q	0.014	0.010	0.012	0.010	0.009	*CVExt.B.Q*	0.007	0.007	0.011
	LID	*0.352****	*0.337****	*0.339****	*0.335****	*0.332****	*LID*	*0.292****	*0.343****	*0.336****
	Maj.	−0.320	−0.283	−0.331	−0.289	−0.261	*Maj.*	−0.294	−0.275	−0.284
Not mandatory V.	*Acc.D*	*0.242***					*Corp.Exp.A.Q*	*0.087**		
	Uni.D		*−0.013*				*Board.A.Q*		*−0.027*	
	Pol.D			*−0.128*			*CEO.Q*			*0.008*
	CVCorp. Exp.Q				*−0.028*					
	Stud.A.Q					*0.054*				

*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$

We must remember that it is not possible to exactly replicate the concept of minority in the Italian context.

Globally, we can confirm the results obtained with the social heterogeneity index.[5]

The education of the board members was measured using two dimensions: education level and degree type.

The level of education did not seem to affect performance. If we consider the variable that represents the level of education (*LowED*), having directors with a lower level of education does not impact performance. We have already seen that in the family-controlled firms in Italy, there is a lower level of education compared to the average level for all the Italian listed companies.

The variable that represents the different levels of education (*EDL.H/Q*) within the board is positive and significant. It seems that it is more important to have a board with directors with different academic backgrounds than with higher levels of education. This result is very interesting and is aligned with the results obtained by Anderson et al. (2011). According to Anderson et al. (2011), having directors with different education levels provides the board with different perspectives and different cognitive paradigms, which could impact performance. If we consider the variable "degree type" that measures the heterogeneity of degrees on the board (*D.T.H*), we can observe that it is negative and significant. It seems that having directors with different university degrees affects negatively the firm's performance. This result is aligned with the results obtained by Adnan et al. (2016).

Professional experience has been analyzed following the concepts introduced in Chap. 4, namely, distinguishing between "technical professional experience" and "general professional experience".

Beginning with the variables that represent the technical professional experience, we can immediately notice that one variable result is significant and positively correlated with the firm's performance. This variable is consulting experience, which is very interesting considering as seen in Chap. 4. It is also the less-represented technical experience on the board of family-controlled firms (on average, only 8.8% of directors have previous experience in this area). The variable that represents accounting experience is also positive and significant. In contrast to consulting experience, professional accounting experience is the best represented professional experience on the boards, which means that family-controlled firms are able to recognize the potential source of competitive advantage provided by directors with this experience. Family-controlled firms do not seem to recognize the importance of having directors with experience in consulting firms.

If we consider the global experience represented by two dimensions, namely, the number of different professional areas that are represented on the board (*G.Exp*), this variable can have a value between 1 if at least one director has experience in one of the five areas and 5 if there is at least one director with experience in all the different areas and the total number of professional areas of expertise represented on the board

[5]This index does not use all the variables that we use in this second part of the analysis

divided by the number of board members (*G.Exp.perc.*), we can observe that only the *G.exp* variable is positive and significant. This means that globally, it is more important to have directors with experiences in the different sectors than to have directors with many experiences all in the same sectors. This shows that all the technical professional experiences have a potentially positive impact on a firm's performance. Family-controlled firms should cover all five areas by appointing at least one director with direct previous experience in each specific sector.

The general professional experience represented by the number of senior positions (*Sen.P*) and different corporate experiences of each director during his or her professional career (*Corp.Exp*), the positions held by each director on other boards (*Ext.B*), and direct participation in political parties (*Pol*) are not significant. This means that directors who have filled multiple senior positions and have worked for different corporations do not seem to provide a competitive advantage for firms. Additionally, the variable that should represent the ability of the firm to generate external connections with other corporations does not show an impact on firm performance. Furthermore, having directors with previous political experience does not affect performance.

The third measure analyzed was international experience. This measure is composed of the following variables: (1) study experience abroad (*Stud.A.*), (2) corporate experience abroad (*Corp.Exp.A*), and (3) experience on boards of foreign companies (*Board.A*). All these variables are part of what is here called international experience. As we can see from the three models, only the variables expressed in terms of quartiles are significant—third model. Specifically, the corporate experience abroad is significant and positive, which means that having directors with experience in foreign companies can be a source of competitive advantage for the firm. In summary, the international experience seems to be only partially a source of competitive advantage for firms. Additionally, the variable that represents the percentage of independent directors is not significant and negative (*Indep.*).

The dummy variable that measures the presence of the LID is positive and significant in all three models. This result is aligned with those obtained by Krause et al. (2017), Lamoreaux et al. (2019), and Larcker et al. (2007). The LID seems to bring a competitive advantage to the board: as seen in Chap. 4, the family-controlled firms seem to perceive this positive impact in fact; as observed in Chap. 4 Table 4.44, during the three years analyzed, there is an increase in the number of LIDs in Italian listed companies.

The variables that represent the number of executive and nonexecutive directors, the number of directors appointed by the majority and minority list, and the presence of an external CEO do not show significance. The average number of years in which directors have seated on the board (*AVTenure*) is negative and statistically significant. This means that having directors with longer than average tenure negatively affects the firm's performance.

Finally, we observed that directors' characteristics can have an impact on firm's performance.

Considering all these aspects, Appendix E includes optimized table I created using all the significant variables shown in the regression models investigated in this

section. The goal is to provide an innovative table that family-controlled firms should present each year. This is a simple suggestion to the Italian regulator; in fact, the goal of the listed companies' reports should be to provide investors and stakeholders with the most valuable information possible.

5.7 Conclusions

In this chapter, I investigated the impact of heterogeneity on firm performance. As observed, the social heterogeneity index results are not significant. Also, the overall and global heterogeneities do not have impact on firms' performance. The only index that has an impact on performance is the occupational index. This shows that appointing directors with different corporate experiences, external board connections, and educational knowledge can potentially impact performance. I estimated a regression model to verify the relationship between heterogeneity and the number of independent directors. The results show that the family appoints independent directors with the goal of extracting their experiences, knowledge, and external linkages, which can be absent in family directors. In the last part, I verified the relation between the "not mandatory variables" and "mandatory variables" and firms' performance. As observed, the following variables have a positive impact on firms' performance: (1) global experience, which measures the presence of at least one director with previous work experience in the following areas: consulting, accounting, banking, law firms, and universities); (2) directors' experiences in consulting and accounting companies; (3) the Lead Independent Director presence; (4) directors' experiences in foreign companies; and (5) directors' different levels of education. In contrast, the following variables have a negative impact on firms' performance: (1) the percentage of family members' directors, (2) directors' age, (3) directors' tenure (i.e., having directors with longer than average tenure), and (4) degree type (i.e., having directors with different university degrees affects negatively the firm's performance).

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Chapter 6
Conclusions

This book extends the literature on boards' characteristics by focusing on family-listed companies. This book shows that family-controlled firms represent a characteristic and unique environment for studying the heterogeneity of the board; in fact, the first aim of the board in a family-controlled firm is to provide resources. Additionally, I introduced for the first time new variables such as the "heterogenous international experience" that, in today's globalized world, should represent a source of competitive advantage for firms. I also showed that family-controlled firms use independent directors to import their heterogeneity knowledge; indeed, the heterogeneity ratio is positively affected by the increase of independent directors, while family members do not seem to affect the ratio.

Chapter 3 shows that family-controlled firms have the same characteristics as nonfamily-controlled firms in terms of geographic distribution in the Italian territory. Therefore, differences from nonfamily-controlled firms are not related to the location of the firm; instead, family-controlled firms follow the classic representation of the Italian territory (i.e., a higher predominance of firms in the north of Italy). In terms of sectorial distribution, family-controlled firms are instead characterized by the higher presence in the fashion sector compared to nonfamily-controlled firms. This aspect is aligned with the results of Carcano et al. (2011).

In Chap. 4, I analyzed the 28 individual variables extracted using both the mandatory tables and curricula. I grouped these variables into two main categories: mandatory and not mandatory variables. The mandatory variables were collected using the official mandatory tables that Italian listed companies must publish every year in a report called "Corporate Governance report and ownership structure." Variables were considered not mandatory when they were collected using the information provided in the directors' curricula. The descriptive statistics regarding the mandatory and not mandatory variables show that family-controlled firms are characterized by a lower number of female directors, foreign directors, educated directors, and independent directors and have a higher number of professors sitting on their boards compared to nonfamily-controlled firms. Regarding technical

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professional experience (which measures directors' specific technical professional experiences that could bring a competitive advantage to the board, i.e., experiences in law firms, consulting companies, banks, accounting companies, and universities), family-controlled firms have a higher number of directors with experience in accounting and a lower number of directors with experience in consulting. Considering that both these variables are positively correlated with performance, family firms could potentially increase their value by appointing directors with consulting experience. Additionally, family firms seem to prefer to appoint directors with foreign experience. Finally, for each variable, I investigated the previous literature and I determined the expected impact on firms' performance. As observed, the literature on directors' characteristics and firms' performance used different theories to explain the potential relation with performance. The main theories considered are the agency theory, the stewardship theory, the resource dependency theory, the entrenchment theory, and the upper echelon theory (UET).

I found a positive relation between the following variables and firm performance: (a) global experience (this positive relation shows that when firms appoint directors with experience in consulting, accounting, banking, law firms, and universities, there is a potentially positive impact on performance), (b) directors' experiences in consulting and accounting companies, (c) the presence of the LID, (d) the percentage of directors with corporate experience abroad, and (e) directors with different levels of education.

In contrast, I found a negative relation for the following variables: (a) the percentage of family members seated on the board, (b) directors' age (i.e., directors who are older than average negatively affect the firm's performance), (c) directors' tenure (i.e., having directors with longer than average tenure negatively affect the firm's performance), and (d) degree type (i.e., having directors with different university degrees affects negatively the firm's performance).

Regarding the relationship between heterogeneity and performance, the social heterogeneity index is not correlated with performance. This should be considered when a policymaker proposes specific norms for introducing binding social quotas for boards (e.g., gender quota). Second, the occupational heterogeneity index is positive and statistically significant. This means that introducing directors with different educational knowledge, corporate experiences, and external board connections can positively impact performance. Third, heterogeneity, which considers different heterogeneity dimensions (gender, age, nationality, and educational, professional, and board experience), does not affect performance. Regarding the amount of heterogeneity in a board of directors, family-controlled firms select independent directors to increase the amount of heterogeneity and, more particularly, to extract their knowledge, experience, and external connections. All these aspects are very interesting and should guide companies to compose their own boards of directors under the consideration that a heterogeneous composition can positively influence overall performance.

The contribution of this book is threefold. For regulators, it provides a suggestion for improving the quality of the family-controlled firms reporting. Specifically, it suggests increasing the information that family-controlled firms should disclose to

the market. Appendix 6 proposes an optimized table that considers only the variables that significantly affect performance. The regulators should consider requiring this information to family-controlled firms and disclose them through the mandatory table present in the corporate governance report. For researchers, it might be interesting to analyze if directors' characteristics affect other aspects of family firm's characteristics, e.g., capital structure, environmental corporate social responsibility aspects, corporate strategy, and level of internationalization and compensation. For practitioners, this book shows that selecting directors with specific characteristics can have an impact on firms' value. This means that it is possible to improve the board of directors' composition looking at directors' characteristics.

Regarding the limitations of this research, this study does not consider endogeneity problems. There are two motivations for this choice. First, using an index related to different aspects makes it difficult to find an instrumental variable. Indeed, a variable correlated with heterogeneity indices and not correlated with performance is very difficult to obtain. Second, the use of indices representing different dimensions partially reduces the endogeneity problem, e.g., if we consider only gender, it is simple thinking that more social-oriented firms could increase women presence in the boards, creating an endogeneity problem; instead, considering elements strongly different from them, e.g., as gender, age, corporate experience, and board experience, reduces this problem. Regarding the single variables investigated, the goal is to show that the information provided through the report is relevant for investors and stakeholders, in general, and also if any of these relations are casual. The idea is that all the stakeholders should have access to this information because they can help to identify the most performing firms. For example, if investors select family-controlled firm with a high number of family members on the board, this could be a signal of potential risk. In contrast, investing in family-controlled firms with a high number of directors with previous experience in consulting and accounting firms could reduce the risk of selecting a potential underperforming firm.

As observed in this book, the relation between directors' characteristics and performance remains a very interesting topic to research. The theories that tried to identify the channel through which directors' characteristics can affect firm performance are manifold. This can help to understand why there are such contrasting results. Through this book, I tried to reduce potential misleading results focusing on a specific and peculiar environment, i.e., the family-controlled environment.

Reference

Carcano L, Corbetta G, Minichilli A (2011) Why luxury firms are often family firms? family 339 identity, symbolic capital and value creation in luxury-related industries. Univ Bus Rev 340(32):40–52

Appendices

Appendix A: Index Calculation and Variables

Appendix: Example board—Saras Spa 2014—mandatory variables

	Gend.	Age	Director tenure	Exec	Not exec	Indep.	Nomin. > list	Nomin. < list	LID	Extern. board
Dir.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	M	79	52	YES	NO	NO	YES	NO	NO	0
2	M	70	42	YES	NO	NO	YES	NO	NO	0
3	M	52	21	YES	NO	NO	YES	NO	NO	0
4	M	76	27	NO	YES	YES	YES	NO	NO	0
5	M	65	5	NO	YES	YES	NO	YES	NO	0
6	M	42	9	NO	YES	NO	YES	NO	NO	0
7	M	37	4	NO	YES	NO	YES	NO	NO	0
8	M	55	1	NO	YES	NO	NO	YES	NO	3
9	M	77	14	NO	YES	NO	YES	NO	NO	0
10	M	57	8	YES	NO	NO	YES	NO	NO	0

Appendix: Example board—Saras Spa 2014—not mandatory variables

	Corp. exp.	Family member	Educ. lev	Degree type	Law firm	Consult	Banks	Account.	Polit.
Dir.	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1	2	YES	BD	Law	NO	NO	NO	NO	NO
2	3	YES	BD	Law	NO	NO	NO	NO	NO
3	6	YES	NOT BD	Not.	NO	NO	NO	NO	NO
4	4	NO	BD	Engin.	NO	NO	NO	NO	NO
5	3	NO	BD	Law	NO	NO	YES	NO	NO

(continued)

B. Buchetti, *Corporate Governance and Firm Value in Italy*, Contributions to Finance and Accounting, https://doi.org/10.1007/978-3-030-56239-7

Dir.	Corp. exp. (11)	Family member (12)	Educ. lev (13)	Degree type (14)	Law firm (15)	Consult (16)	Banks (17)	Account. (18)	Polit. (19)
6	5	YES	BD	Other	NO	NO	NO	NO	NO
7	2	YES	BD	Other	NO	NO	NO	NO	NO
8	1	NO	Ph.D	Econ.	NO	NO	NO	NO	YES
9	2	NO	BD	Engin.	NO	NO	NO	NO	NO
10	6	NO	BD	Engin.	NO	NO	NO	NO	NO

Appendix: Example board—Saras Spa 2014—not mandatory variables

Dir.	Polit. (19)	Univ (20)	Senior posit. (21)	Stud. abroad (22)	C. exp. abroad (23)	Board. exp abroad (24)	Nationality (Italian) (25)	CEO of other firms (26)
1	NO	NO	2	NO	NO	NO	YES	NO
2	NO	NO	3	NO	NO	NO	YES	NO
3	NO	NO	6	YES	NO	NO	YES	NO
4	NO	NO	5	NO	NO	NO	YES	NO
5	NO	NO	3	NO	NO	NO	YES	NO
6	NO	NO	3	YES	NO	NO	YES	NO
7	NO	NO	0	YES	YES	NO	YES	NO
8	YES	NO	1	YES	YES	YES	NO	YES
9	NO	NO	5	NO	NO	NO	YES	NO
10	NO	NO	2	YES	NO	NO	YES	NO

Index calculation:

Gender heterogeneity (W.Q) = the percentage of female directors serving on the board. In this case, no women sit on the board; hence, company gender heterogeneity = 0. Based on the gender heterogeneity for the entire sample, Saras received a score of 1.0—first quartile.

First quartile	Second quartile	Third quartile	Fourth quartile	Final gender score
%F $\leq$ 0.143	0.143 $<$ %F $\leq$ 0.222	0.222 $<$ %F $\leq$ 0.286	%F $>$ 0.286	1.0

Age heterogeneity (CVAge.Q) = coefficient of variation of director's ages; (SD age/mean age) = 0.243. Based on the gender heterogeneity for the entire sample, Saras received a score of 4.0—fourth quartile.

First quartile	Second quartile	Third quartile	Fourth quartile	Final age score
Age $\leq$ 0.163	0.163 $<$ age $\leq$ 0.194	0.194 $<$ age $\leq$ 0.242	%age $>$ 0.242	4.0

Nationality heterogeneity (Nat.Q) = the percentage of directors with a nationality other than Italian serving on the board. I consider a director to have a different

nationality if he or she was not born in Italy: (1/12) = 0.08. Based on the gender heterogeneity for the entire sample, Saras received a score of 4.0—fourth quartile.

First quartile	Second quartile	Third quartile	Fourth quartile	Final nat. score
% Nat. ≤ 0.00	0.00 < % Nat. ≤ 0.01	0.01 < % Nat. ≤ 0.077	% Nat. > 0.077	4.0

Educational heterogeneity is composed of two factors: (1) education level and (2) degree type.

1. *Education level (EDL.H.Q)*: Herfindahl index based on the percentage of directors with a college degree, bachelor's degree, master's degree, and MBA or Ph.D. At Saras, one director has a college degree, eight directors have a bachelor's degree, and one has a Ph.D. $(1/10)^2 + (8/10)^2 + (1/10) = 0.660$. Based on the educational heterogeneity for the entire sample, Saras gets a score of 1.0—first quartile. We must consider that the Herfindahl index tells us that smaller (larger) values indicate greater (less) heterogeneity. For this reason, the largest values are represented by the lowest quartiles.

First quartile	Second quartile	Third quartile	Fourth quartile	Final edu. score
Educ. ≥ 0.660	0.660 < % Nat. ≤ 0.551	0.551 < % Nat. ≤ 0.460	% Nat. < 0.460	1.0

2. *Degree type (DT.H.Q)*: I used the Herfindahl index using the percentage of directors with a degree in business administration and economics, political science, engineering, law, and other subjects. At Saras, three directors have a law degree, one director has a business administration and economics degree, three directors have an engineering degree, two have other degrees, and one does not have a degree. $(3/(10-1))^2 + (1/(10-1))^2 + (3/(10-1))^2 + (2/(10-19)^2 = 0.284$. Based on the educational heterogeneity for the entire sample, Saras received a score of 4.0—fourth quartile.

First quartile	Second quartile	Third quartile	Fourth quartile	Final degree. score
Deg. T. ≥ 0.625	0.625 < Deg. T. ≤ 0.500	0.500 < Deg. T. ≤ 0.375	Deg. T. < 0.375	4.0

I added the educational heterogeneity variables (1 + 4) and calculated the educational heterogeneity for the entire sample. Saras received a score of 2.0—second quartile.

Professional heterogeneity is composed of four factors: (1) the number of senior positions of each director, (2) the number of technical areas of expertise of each director, (3) the percentage of outside CEOs, and (4) corporate experience

1. *Senior-level positions (CV.Sen.P.Q)*: The senior-level positions are the coefficient of variation of the senior positions held by each director during his or her career. Senior positions are defined starting with high managerial positions up to the most senior positions. At Saras, the average director has held three senior positions with a standard deviation of 1.89, and the coefficient of variation is (SD age/mean age) = 0.629. Based on the entire sample, Saras received a score of 2.0—second quartile.

First quartile	Second quartile	Third quartile	Fourth quartile	Final Senior score
Sen. L. $\leq$ 0.619	0.619 < Sen. L. $\leq$ 0.767	0.767 < Sen. L. $\leq$ 0.879	Sen. L. > 0.879	2.0

2. *The number of technical areas of experience for each director (G.Exp)*: The "technical area expertise" is the number of technical areas of expertise possessed by each director. Technical areas are defined as experience in consulting, accounting, banking, law firms, and universities. At Saras, only one director has a banking experience. Based on the entire sample, Saras received a score of 1.0—first quartile.

First quartile	Second quartile	Third quartile	Fourth quartile	Final function. score
F. Exp $\leq$ 1	1 < F. Exp $\leq$ 3	3 < F. Exp $\leq$ 4	F. Exp > 4	1.0

3. *The percentage of outside CEO (CEO.D)*: the number of directors who are CEOs of other companies divided by the total board size. At Saras, one director has a CEO position in another company, based on which (1/10) = 0.100. Based on the entire sample, Saras received a score of 2.0—second quartile.

First quartile	Second quartile	Third quartile	Fourth quartile	Final CEO score
CEO P. $\leq$ 0	0.00 < CEO P. $\leq$ 0.100	0.100 < CEO P. $\leq$ 0.182	CEO P. > 0.182	2.0

4. *Corporate experience (CVCorp.Exp.Q)*: Corporate experience is the coefficient of variation of the number of companies at which directors have worked. At Saras, the average director has worked for 3.40 different firms with a standard deviation of 1.78, and the coefficient of variation is (SD/mean) = 0.522. Based on the entire sample, Saras received a score of 1.0—first quartile.

First quartile	Second quartile	Third quartile	Fourth quartile	Final Corp.E. score
Corp. E. $\leq$ 0.523	0.523 < Corp. E. $\leq$ 0.645	0.645 < Corp. E. $\leq$ 0.771	Corp. E. > 0.771	1.0

I added the four professional heterogeneity measures as follows: 2 + 1 + 2 + 1 = 6. Based on the entire sample, Saras received a score of 1.0—first quartile.

Board heterogeneity is composed of two factors: (1) director tenure and (2) external board seats.

1. *Director Tenure (CV.Tenure.Q)*: The "Director Tenure" is the coefficient of variation of the number of years in which directors have seat in the board. For Saras, the average director has served for 18 to 30 years with a standard deviation of 17 to 23, and the coefficient of variation is (SD /mean) = 0.941. Based on the entire sample, Saras gets a score of 3.0—third quartile.

First quartile	Second quartile	Third quartile	Fourth quartile	Final. tenure score
Dir. T. $\geq$ 0.593	0.593 < Dir. T. $\leq$ 0.747	0.747 < Dir. T. $\leq$ 1033	Dir. T. < 1033	1.0

2. *External Board Seats (CVExt.B.Q)*: The "External Board Seats" is the coefficient of variation of the number of boards in which directors seat. For Saras, the average director seats in 0.30 board with a standard deviation of 0.95, the coefficient of variation is (SD age/mean age) = 3162. Based on the entire sample, Saras gets a score of 3.0—third quartile.

First quartile	Second quartile	Third quartile	Fourth quartile	Final. Ex. B. Score
Ext B. T. $\geq$ 0.879	0.879 < Ext B. $\leq$ 1186	1186 < Ext B. $\leq$ 1505	Ext B. < 3162	4.0

Next, I added the two board heterogeneity measures: 3 + 4 = 7. Based on the entire sample, Saras received a score of 4.0—fourth quartile.

Final heterogeneity index.

First quartile	Score
Gender heterogeneity	1
Age heterogeneity	4
Nationality heterogeneity	4
Educational heterogeneity	2
Professional heterogeneity	1
Board experience heterogeneity	4
Total heterogeneity score	16

In this book, I also considered international experience.

International heterogeneity experience is composed of three factors: *(1) study experience abroad, (2) corporate experience abroad, and (3) experience on boards of foreign companies*.

1. *Study experience abroad heterogeneity (Stud.A.Q)* = the percentage of directors who have studied abroad during their life divided by the total board size. In this case, five directors have studied abroad; hence, the company obtained the following ratio: 5/10 = 0.500. Based on the heterogeneity for the entire sample, Saras received a score of 3.0—third quartile.

First quartile	Second quartile	Third quartile	Fourth quartile	Final. study score
F. Study $\leq$ 0.067	0.143 < F. study $\leq$ 0.286	0.222 < F. study $\leq$ 0.636	F. Study > 0.636	4.0

2. *Corporate experience abroad heterogeneity (Corp.Exp.A.Q)* = the percentage of directors who have worked abroad during their life divided by the total board size. In this case, five directors have worked abroad; hence, the company obtained the following ratio: 2/10 = 0.200. Based on the heterogeneity for the entire sample, Saras received a score of 2.0—second quartile.

First quartile	Second quartile	Third quartile	Fourth quartile	Final. F.C.E. score
F.C. Exp $\leq$ 0.100	0.100 < F.C. Exp $\leq$ 0.200	0.222 < F.C. Exp $\leq$ 0.333	F.C. Exp > 0.333	2.0

3. *Board experience abroad heterogeneity (Board.A.Q)* = the percentage of directors who have sat on boards of foreign companies during their life divided by the total board size. In this case, one director has sat on boards of foreign companies; hence, Saras obtained the following ratio: 1/10 = 0.100. Based on the heterogeneity for the entire sample, Saras received a score of 1.0—first quartile.

First quartile	Second quartile	Third quartile	Fourth quartile	Final. score
F. Board $\leq$ 0.111	0.111 < F. board $\leq$ 0.182	0.182 < F. board $\leq$ 0.273	F. Board > 0.273	1.0

Next, I added the three international experience heterogeneity measures: 3 + 2 + 1 = 6. Based on the entire sample, Saras received a score of 2.0—second quartile.

The global heterogeneity index is as follows:

First quartile	Score
Total heterogeneity score	16
International heterogeneity experience	2
Global heterogeneity score	18

Following the methodology adopted by Anderson et al. 2011, the social heterogeneity index and the occupational heterogeneity index are composed as follows:

The *social heterogeneity index*:

First quartile	Score
Gender heterogeneity	1
Age heterogeneity	4
Nationality heterogeneity	4
Social heterogeneity score	9

The *occupational heterogeneity index* is.

First quartile	Score
Educational level heterogeneity	1
Corporate experience heterogeneity	1
External board seat heterogeneity	4
Occupational heterogeneity score	6

Appendix B: Variable Descriptions and Source

Variable name	Variable measurement	Reference
1. Gender	*1a.* Percentage of female directors within the total: *W = (N.Women/tot. board members)* *1b.* Percentage of female directors within the total in quartiles: *W. Q = (N.Women/tot.board members) = quartile 1,2,3,4*	Gregory-Smith, Main, and O'Reilly (2014); Ahern and Dittmar (2012); Anderson et al. (2011); Campbell and Minguez-Vera (2008); Joy et al. (2007); Adams and Ferreira (2009); Farrell and Hersch (2005); Bonn (2004)
2. Age	*2a.* Average age of the directors: *AVage = (age/n.directors)*; *2b.* Coefficient of variation of directors' age: *CVAge = (SD age/mean age)*; *2c.* Coefficient of variation of directors' age in quartiles (index): *CVAge. Q = (SD age/ mean age)*	Gregory-Smith, Main, and O'Reilly (2014); Ahern and Dittmar (2012); Anderson et al. (2011); McIntyre et al. (2007); Joy et al. (2007); Farrell and Hersch (2005); Bonn (2004)
3. Nationality	*3a.* Dummy variable equal to 1 if there is at least one board member with different nationality/born abroad and 0 otherwise: *Nat.D*; *3b.* Percentage of the total: *Nat = (N. memb.abr/ tot.board members)* *3c.* Percentage of the total (index). Expressed in terms of quartiles: *Nat. Q = (N.memb.abr/ tot.board members)*	Carter et al. (2010); Miller (2009); Wang and Clift (2009); Anderson et al. (2011); Erhardt et al. (2003); Carter et al. (2003)
4. Educ. level	*4a.* Lowest educ. Level; number of board members without a degree on the total: *LowED*	Adnan et al. (2016); Ahern and Dittmar (2012); Anderson et al. (2011); Brown and Caylor (2009)

(continued)

Variable name	Variable measurement	Reference
	4c. Herfindahl index (Q). (calculated as percentage of directors with college degree, bachelor's degree, master's degree, and MBA/PhD). Expressed in terms of quartiles: *EDL.H.Q*	
5. Degree type	*5a.* Herfindahl index (calculated as the percentage of directors with a degree in business administration & economics, political science, engineering, law, and others): *DT.H* *5b.* Herfindahl index (calculated as percentage of directors with a degree in business administration & economics, political science, engineering, law, and others). Expressed in terms of quartiles: *DT.H.Q*	Anderson et al. (2011)
6. 1.a Law firm (professional experience)	*6a.* Dummy variable equal to 1 if there is at least one board member with experience in law firms and 0 otherwise: *Law.F.D* *6b.* % of directors with experience in law firms on the total: *Law.F*	Ahern and Dittmar (2012)
7. Consultant firm (professional experience)	*7a.* Dummy variable equal to 1 if there is at least one board member with experience in consulting and 0 otherwise: *Cons.D* *7b.* % directors with experience in consulting on the total: *Cons*	Ahern and Dittmar (2012)
8. Bank firm (professional experience)	*8a.* Dummy variable equal to 1 if there is at least one board member with experience in banks and 0 otherwise: *Bank.D* *8b.* % of directors with experience in banks on the total: *Bank*	
9. Accounting firm (professional experience)	*9a.* Dummy variable equal to 1 if there is at least one board member with experience in accounting and 0 otherwise: *Acc.D* *9b.* % of directors with experience in banks on the total: *Acc*	Ahern and Dittmar (2012)
10. University (professional experience)	*10a.* Dummy variable equal to 1 if there is at least one board member with experience as a professor at the university and 0 otherwise: *Uni.D* *10b.* % of directors with experience as a professor at the university: *Uni*	Ahern and Dittmar (2012)
11. Global experience		Anderson et al. (2011)

(continued)

Variable name	Variable measurement	Reference
	11a. At least one member with corporate experience in one of the following sectors: consulting, accounting, banking, law firm, and university, (max. value 5): *G.Exp* *11b.* Number of total professional areas of expertise on the board divided by the number of board members (professional area of expertise defined as experience in consulting, accounting, banking, law firm, and/or university): *G.Exp.perc.*	
12. Senior positions	*12a.* Average number of senior positions held by the board members; senior positions are defined starting from high managerial positions until the most senior positions: *AVSen.P* *12b.* Coefficient of variation of the number of senior positions held by the board members: *CVSen. P = (SD Sen.P/mean Sen.P)* *12c.* Coefficient of variation of the number of senior positions held by the board members. Expressed in terms of quartiles: *CVSen.P. Q = (SD Sen.P/mean Sen.P)*	Anderson et al. (2011)
13. Corporate experience	*13a.* Average number of corporate experiences of each director (number of other companies in which the individual administrator has worked): *AVCorp.Exp* *13b.* Coefficient of variation of the number of corporate experiences of each director during his or her career: *CVCorp.Exp = (SD N.Corp.Exp/ mean N.Corp.Exp)* *13c.* Coefficient of variation of the number of corporate experiences of each director during his/her career. Expressed in terms of quartiles: *CVCorp.Exp.Q = (SD N.Corp.Exp/ mean N.Corp.Exp)*	Anderson et al. (2011); McIntyre et al. (2007)
14. External board	*14a.* Average number of boards on which directors sit: *AVExt.B* *14b.* Coefficient of variation of the number of boards on which directors sit: *CVExt.B = (SD N.externalBoard/ mean N.externalBoard)* *14c.* Coefficient of variation of the number of boards on which directors	Anderson et al. (2011); McIntyre et al. (2007)

(continued)

Variable name	Variable measurement	Reference
	sit. Expressed in terms of quartiles: *CVExt.B.Q = (SD N.externalBoard/ mean N.externalBoard)*	
15. Political experience	*15a.* Dummy variable equal to 1 if there is at least one board member with experience as a politician and 0 otherwise: *Pol.D* *15b.* % of directors with experience as a politician: *Pol.*	Boubakri et al. (2011); Hillman (2005)
16. Study abroad	*16a.* Dummy variable equal to 1 if there is at least one board member with an experience of study abroad, and 0 otherwise: *Stud.A.D* *16b.* The percentage of directors who have studied abroad during their life divided by the total board size: *Stud. A.* *16c.* The percentage of directors who have studied abroad during their life divided by the total board size. Expressed in terms of quartiles: *Stud. A.Q*	
17. Corp. exp. abroad	*17a.* Dummy variable equal to 1 if there is at least one board member with a corporate experience abroad, and 0 otherwise: *Corp.Exp.A.D* *17b.* The percentage of directors who have worked abroad during their life divided by the total board size: *Corp. Exp.A* *17c.* The percentage of directors who have worked abroad during their life divided by the total board size. Expressed in terms of quartiles*: Corp. Exp.A.Q*	
18. Board. exp. abroad	*18a.* Dummy variable equal to 1 if there is at least one board member with board experience abroad and 0 otherwise: *Board.A.D* *18b.* The percentage of directors who have sat on boards of foreign companies during their life divided by the total board size: *Board.A.* *18c.* The percentage of directors who sat on boards of foreign companies during their life divided by the total board size. Expressed in terms of quartiles: *Board.A.Q*	
19. Family members	*19a.* Number of family members in the board divided by the number of	

(continued)

Variable name	Variable measurement	Reference
	total board members: *N.Family* *M. board*	
20. Independent board members	*20a.* Percentage of independent directors, divided by the total number of board members: *Indep.*	Anderson and Reeb (2003); Adams and Ferreira (2009); Gregory-Smith, Main, and O'Reilly (2014)
21. LID	*21a.* Dummy variable equal to 1 if there is the lead independent director and 0 otherwise; *LID*	
22. Executive memb.	*22a.* Percentage of executive directors divided by the total number of board members: *Exec.*	
23. NonExecutive memb.	*22b.* Percentage of nonexecutive directors divided by the total number of board members: *NonExec.*	Ahern and Dittmar (2012)
24. Board mem. list>	*24a.* Percentage of directors appointed by the minority list: *Min.*	
25. Board mem. list<	*25b.* Percentage of directors appointed by the majority list *Maj.*	
26. Outside CEO	*26a.* Dummy variable equal to 1 if there is at least one board member that is CEO of another company and 0 otherwise: *CEO.D* *26b.* % of the total number of directors who are CEOs of other companies divided by the total board size: *CEO* *26c.* % of the total (index) number of directors who are CEOs of other companies divided by the total board size. Expressed in terms of quartiles: *CEO.Q*	Ahern and Dittmar (2012); Anderson et al. (2011)
27. Director tenure	*27a.* Average number of years during which directors have sat on the board: *AVTenure* *27b.* Director tenure is the coefficient of variation of the number of years that directors have sat on the board: *CV.Tenure = (SD Y.Tenure/mean Y. Tenure)* *27c.* Director tenure is the coefficient of variation of the number of years that directors sat on the board. Expressed in terms of quartiles: *CV. Tenure.Q = (SD Y.Tenure/mean Y. Tenure)*	Gregory-Smith, Main, and O'Reilly (2014); Ahern and Dittmar (2012); Anderson et al. (2011); Adams and Ferreira (2009); McIntyre et al. (2007)
28. LNBoardSize	Logarithm of board size: *LNBoardSize*	Jensen (1993); Yermack (1996); Erhardt et al. (2003); Campbell and Minguez-Vera

(continued)

Variable name	Variable measurement	Reference
		(2008); Adams and Ferreira (2009); Carter, D'Souza, Simkins, and Simpson (2010); Ahern and Dittmar (2012); Gregory-Smith, Main, and O'Reilly (2014)
ROA t-1	Return on assets t-1. Datastream—WC08326. *ROAt-1*	Anderson et al. (2011)
ATECO 02 DIGIT	ATECO 5 digits (classification of economic activities) *ATECO2DIG*	
Firmleverage	Firm leverage (long-term debt divided by total assets). Datastream X (WC03251)/X(WC02999). *Firm. Leverage*	Anderson (2011); Frijns et al. (2016)
Volatility	Standard deviation of monthly stock returns for the last 5 years. *Volatility*	Adams and Ferreira (2009)
Firmsize	Natural log of total assets. Datastream Ln X(WC02999). *FirmSize*	
Tobin's Q	Total assets—common equity + market equity/total assets. Datastream ((WC02999−WC03501 + WC8001)/WC02999). *Tobin's Q*	Campbell and Minguez-Vera (2008); Adams and Ferreira (2009); Anderson et al. (2011); Ahern and Dittmar (2012); Carter, D'Souza, Simkins, and Simpson (2010); Yermack (1996); Coles, Daniel, and Naveen (2008)

Appendix C: Descriptive Statistics

	count	mean	Sd	min	max
TOBINSQ	279	1.404	0.741	0.334	4.286
INDEP	279	0.423	0.143	0	0.786
ROAT-1	275	2.194	6.993	−30.8	31.05
FIRMLEVERAGE	279	0.153	0.128	0	0.542
VOLATILITY	273	0.104	0.043	0.039	0.343
FIRMSIZE	279	13.134	1.621	9.698	17.437
LNBOARDSIZE	279	2.191	0.310	1.609	2.833
NFAMILYMB	279	0.272	0.1448	0	0.8
GENDER—W	279	0.2606	0.090	0	0.5
GENDER—WQ	279	2.394	1.107	1	4
AGE—AVAGE	279	57	14.9	47	66
AGE—CVAGE	279	0.205	0.0637	0.0343	0.407
AGE—CVAGE.Q	279	2.484	1.125	1	4
NAT—NAT.D	279	0.337	0.474	0	1

(continued)

	count	mean	Sd	min	max
NAT—NAT	279	0.047	0.0773	0	0.364
NAT—NAT.Q	279	1.910	1.307	1	4
EDUC—LOWED	279	0.205	0.180	0	0.8
EDUC—EDL.H.Q.	279	2.480	1.122	1	4
DEG.T.—DT.H	279	0.507	0.197	0.200	1
DEG.T.—D.H.Q	279	2.466	1.131	1	4
SEN.POS—AV.SEN.P	279	3.270	1.208	1.2	10.167
SEN.POS—CV.SEN.P	279	0.774	0.186	0.261	1.339
SEN.POS—CV.SEN.P.Q.	279	2.484	1.1245	1	4
LAW.F—LAW.F.D.	279	0.627	0.484	0	1
LAW.F—LAW.F	279	0.113	0.121	0	0.8
CONSULT—CONS.D	279	0.552	0.498	0	1
CONSULT—CONS.	279	0.089	0.103	0	0.444
BANK—BANK.D	279	0.756	0.430	0	1
BANK—BANK	279	0.1555	0.121	0	0.5
UNIV—UNI	279	0.195	0.147	0	0.67
GLOBEXP—G.EXP	279	3.556	1.204	1	5
GLOBEXP—G.EXP.PERC	279	0.812	0.353	0.125	2.143
POLEXP—POL.D	279	0.373	0.484	0	1
POLEXP—POL	279	0.056	0.089	0	0.429
OUTSIDE CEO—CEO.D	279	0.763	0.426	0	1
OUTSIDE CEO—CEO	279	0.129	0.138	0	0.6
OUTSIDE CEO—CEO.Q	279	2.337	1.188	1	4
CORPEXP—AVCORP.EXP	279	3.662	1.213847	1.4	10.67
CORPEXP—CVCORP.EXP	279	0.652	0.179	0.210	1.284
CORPEXP—AVCORP.EXP.Q	279	2.484	1.125	1	4
DIRECTEN—AVTENURE	279	8.300	3.879	3.879	18.3
DIRECTEN—CVTENURE	279	0.866	0.357	0.106	2.960
DIRECTEN—CVTENURE.Q	279	2.484	1.125	1	4
EXTBOARD—AVEXT.B	273	2.005	1.549	0	9.167
EXTBOARD—CVEXT.B	279	1.125	0.598	0	3.162
EXTBOARD—CVEXT.B.Q	279	2.427	1.142	1	4
STUDABR—STUD.A.D	279	0.749	0.434	0	1
STUDABR—STUD.A	279	0.197	0.171	0	0.778
STUDABR—STUD.A.Q	279	2.434	1.113	1	4
CORPEXPAB—CORP.EXP.A.D	279	0.814	0.390	0	1
CORPEXPAB—CORP.EXP.A	279	0.247	0.190	0	0.875
CORPEXPAB—CORP.EXP.A.Q	279	2.455	1.118	1	4
BOARDEXPAB—BOARD.A.D	279	0.817	0.387	0	1
BOARDEXPAB—BOARD.A	279	0.199	0.152	0	0.8
BOARDEXPAB—BOARD.A.Q	279	2.444	1.130	1	4
EXEC	279	0.330	0.155	0.067	0.8
NONEXEC	279	0.666	0.155	0.2	0.933
MIN	279	0.049	0.080	0	0.4

(continued)

	count	mean	Sd	min	max
MAJ	279	0.840	0.273	0	1
LID	279	0.387	0.488	0	1
ACCOUNT—ACC.D	279	0.821	0.384	0	1
ACCOUNT—ACC	279	0.203	0.161	0	0.857
UNIV—UNI.D	279	0.799	0.401	0	1

Appendix D: Correlation Matrix

	Indep	ROAT1	ATECO5DIG	FIRMLEVERAGE	Volati
Indep	1				
ROAT1	−0.0405	1			
ATECO5DIG	0.1382*	− 0.2817*	1		
FIRMLEVERAGE	0.1634*	−0.0574	0.1232*	1	
Volatility	0.0476	−0.3155*	0.2437*	−0.0933	1
FirmSize	0.1975*	0.2271*	0.1517*	0.3272*	−0.2902*
LNBoardSize	0.1356*	0.2702*	0.2354*	0.2320*	−0.2176*
WQ	0.1131	−0.0478	0.0268	−0.057	0.1625*
CVAge	−0.1662*	0.0591	−0.1615*	−0.1315*	−0.0904
CVTenure	0.3392*	0.031	−0.0536	0.1200*	−0.0254
Exec	−0.4613*	−0.0626	−0.2404*	−0.1865*	−0.0865
NonExec	0.4304*	0.0651	0.2322*	0.1930*	0.0749
Min	0.2450*	0.0643	0.1061	0.1442*	−0.1372*
Maj	−0.1714*	0.0828	0.0063	0.0337	−0.0024
CVExtB	0.063	0.0413	−0.0689	0.0129	−0.0047
LID	0.0249	0.1677*	−0.2099*	−0.1269*	0.0849
NFAMILYMBO	−0.4842*	−0.1275*	−0.0739	−0.1487*	0.1245*
NatD	0.2105*	0.1338*	−0.0018	0.0022	0.0349
LowED	−0.4908*	0.0323	−0.1028	−0.1417*	−0.0733
DTH	−0.0548	−0.1356*	−0.0528	−0.0369	−0.0411
CVSenP	−0.0147	0.0959	0.0173	−0.0417	−0.073
GExpPerc	0.4534*	−0.1633*	0.2689*	0.117	0.1822*
GExp	0.3062*	0.1632*	0.1691*	0.2160*	−0.0532
LawFD	0.0673	0.0964	0.0626	0.0169	−0.0073
ConsD	0.1806*	0.2515*	0.1230*	0.2280*	−0.0698
BankD	0.3126*	0.0586	0.1914*	0.117	−0.1498*
AccD	0.0805	0.0255	−0.0477	0.0966	−0.0159
UniD	0.2009*	−0.0256	0.1198*	0.1266*	0.1091
PolD	0.0736	−0.2586*	0.1929*	0.0957	−0.0408

(continued)

	Indep	ROAT1	ATECO5DIG	FIRMLEVERAGE	Volati
CVCorpExp	0.0731	0.1420*	0.0136	0.0343	−0.1601*
StudAD	0.2778*	0.2463*	0.1092	0.1263*	0.03
CorpExpAD	0.1047	0.1819*	0.1054	0.045	−0.0393
BoardAD	0.0513	−0.0645	−0.0347	0.1606*	0.095
CEOD	−0.0422	0.0572	0.0568	0.1237*	−0.0345

*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$

	FirmSize	LNBoardSize	WQ	CVAge
Indep				
ROAT1				
ATECO5DIG				
FIRMLEVERAGE				
Volatility				
FirmSize	1			
LNBoardSize	0.6582*	1		
WQ	−0.1231*	−0.0603	1	
CVAge	−0.1428*	−0.1867*	−0.0306	1
CVTenure	0.114	0.0879	0.2743*	−0.0993
Exec	−0.3283*	−0.3796*	−0.2284*	0.0188
NonExec	0.3163*	0.3797*	0.2252*	−0.0144
Min	0.1398*	0.0742	0.0171	0.005
Maj	0.0537	−0.0034	−0.0268	0.0549
CVExtB	−0.1312*	−0.048	0.046	−0.0217
LID	−0.0358	−0.045	0.0627	−0.1817*
NFAMILYMBO	−0.2936*	−0.3301*	−0.0609	0.4266*
NatD	0.2527*	0.2329*	0.1094	−0.101
LowED	−0.3373*	−0.1714*	−0.0753	0.1264*
DTH	−0.2659*	−0.3263*	−0.0833	−0.0132
CVSenP	0.0075	0.0778	−0.0219	0.0188
GExpPerc	0.1550*	0.1072	0.0533	−0.2091*
GExp	0.3516*	0.4731*	0.0834	−0.2350*
LawFD	0.1965*	0.3317*	−0.0402	−0.0996
ConsD	0.2883*	0.2759*	0.1584*	−0.2298*
BankD	0.2546*	0.3363*	−0.0392	−0.0504
AccD	−0.0362	0.0041	−0.0024	−0.099
UniD	0.2214*	0.3119*	0.1464*	−0.1506*
PolD	0.1223*	0.1799*	−0.0805	0.0026
CVCorpExp	0.0682	0.1563*	−0.0264	0.036
StudAD	0.2030*	0.3172*	0.0718	−0.2894*
CorpExpAD	0.3787*	0.3030*	−0.1291*	−0.0732
BoardAD	0.3329*	0.2623*	−0.0327	−0.2008*
CEOD	0.0777	0.2003*	−0.0227	−0.0203

*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$

	CVTenure	Exec	NonExec	Min	Maj
Indep					
ROAT1					
ATECO5DIG					
FIRMLEVERAGE					
Volatility					
FirmSize					
LNBoardSize					
WQ					
CVAge					
CVTenure	1				
Exec	−0.1905*	1			
NonExec	0.1863*	−0.9815*	1		
Min	0.1570*	−0.1564*	0.1744*	1	
Maj	−0.2980*	0.0587	−0.0484	−0.0803	1
CVExtB	0.1778*	0.1094	−0.1043	0.1106	−0.1194*
LID	0.1302*	−0.0292	0.0325	−0.0376	0.015
NFAMILYMBO	−0.2675*	0.2872*	−0.3042*	−0.2164*	0.1523*
NatD	0.1967*	−0.3030*	0.2709*	0.0326	−0.1533*
LowED	−0.3099*	0.4986*	−0.4846*	−0.1	0.0564
DTH	−0.0227	0.2926*	−0.2797*	0.0698	−0.1511*
CVSenP	−0.0503	−0.0197	0.0366	0.1225*	0.0236
GExpPerc	0.1332*	−0.3363*	0.3437*	0.0119	−0.055
GExp	0.1228*	−0.3873*	0.4256*	−0.0281	0.1583*
LawFD	−0.0688	−0.2245*	0.2620*	−0.1280*	0.1660*
ConsD	0.1039	−0.2108*	0.2243*	0.0867	0.0932
BankD	0.2146*	−0.2325*	0.2396*	0.1259*	0.0076
AccD	0.0339	−0.082	0.1423*	0.0002	0.0833
UniD	0.0601	−0.3014*	0.2891*	−0.1726*	0.0709
PolD	0.0061	−0.0371	0.0203	−0.0917	−0.2278*
CVCorpExp	−0.0209	−0.0514	0.0483	0.1371*	−0.0275
StudAD	0.2037*	−0.1896*	0.1745*	0.1382*	0.0164
CorpExpAD	−0.008	−0.1623*	0.1565*	0.1203*	0.1827*
BoardAD	0.0129	−0.0209	0.0318	−0.1590*	0.1408*
CEOD	0.0307	−0.0538	0.0386	0.0145	0.0029

*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$

	CVExtB	LID	NFAMIL	NatD	LowED
Indep					
ROAT1					
ATECO5DIG					
FIRMLEVERAGE					

(continued)

	CVExtB	LID	NFAMIL	NatD	LowED
Volatility					
FirmSize					
LNBoardSize					
WQ					
CVAge					
CVTenure					
Exec					
NonExec					
Min					
Maj					
CVExtB	1				
LID	0.1286*	1			
NFAMILYMBO	−0.1351*	0.0365	1		
NatD	0.011	−0.006	−0.2495*	1	
LowED	0.0231	−0.1095	0.4067*	−0.2547*	1
DTH	−0.0247	0.0182	0.1518*	−0.1546*	0.3727*
CVSenP	0.0953	0.1583*	−0.0412	−0.1117	−0.1563*
GExpPerc	−0.0688	0.0011	−0.4115*	0.0115	−0.4805*
GExp	−0.0898	0.0674	−0.4465*	0.0933	−0.4235*
LawFD	−0.0399	0.0191	−0.2653*	−0.0935	−0.1199*
ConsD	−0.0881	0.2129*	−0.2705*	0.2152*	−0.2596*
BankD	−0.0376	−0.063	−0.1803*	0.0337	−0.3124*
AccD	−0.0552	−0.1083	−0.2946*	−0.0228	−0.2356*
UniD	−0.0187	0.0859	−0.2082*	0.1111	−0.2430*
PolD	0.0298	−0.0648	0.0173	−0.079	0.0251
CVCorpExp	0.0841	0.0342	−0.074	−0.0593	−0.0795
StudAD	−0.007	0.1035	−0.2938*	0.4125*	−0.2351*
CorpExpAD	−0.0536	0.2670*	−0.0843	0.2827*	−0.2163*
BoardAD	−0.0706	0.1664*	−0.0414	0.1605*	−0.2074*
CEOD	−0.1464*	−0.0598	−0.0112	0.0399	0.0631

*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$

	DTH	CVSenP	GExpPerc	GExp	LawFD
Indep					
ROAT1					
ATECO5DIG					
FIRMLEVERAGE					
Volatility					
FirmSize					
LNBoardSize					
WQ					

(continued)

	DTH	CVSenP	GExpPerc	GExp	LawFD
CVAge					
CVTenure					
Exec					
NonExec					
Min					
Maj					
CVExtB					
LID					
NFAMILYMBO					
NatD					
LowED					
DTH	1				
CVSenP	−0.0091	1			
GExpPerc	−0.1132	0.1976*	1		
GExp	−0.2313*	0.1824*	0.5976*	1	
LawFD	−0.3961*	0.0508	0.3026*	0.5661*	1
ConsD	−0.0305	0.0458	0.2489*	0.6264*	0.1253*
BankD	−0.0462	0.0941	0.3322*	0.5126*	0.0285
AccD	0.0875	0.2140*	0.2960*	0.4571*	0.1616*
UniD	−0.2122*	0.1233*	0.4791*	0.5519*	0.1504*
PolD	−0.0727	−0.0505	0.2597*	−0.0418	−0.0649
CVCorpExp	−0.09	0.6232*	0.1499*	0.2278*	0.0362
StudAD	−0.065	−0.0471	0.0872	0.2400*	−0.0016
CorpExpAD	−0.1800*	0.0847	0.1017	0.2442*	0.1069
BoardAD	−0.1937*	0.0284	0.1131	0.2418*	0.0957
CEOD	−0.0921	−0.0348	−0.0739	0.0538	0.0418

*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$

	ConsD	BankD	AccD	UniD	PolD
Indep					
ROAT1					
ATECO5DIG					
FIRMLEVERAGE					
Volatility					
FirmSize					
LNBoardSize					
WQ					
CVAge					
CVTenure					
Exec					
NonExec					

(continued)

	ConsD	BankD	AccD	UniD	PolD
Min					
Maj					
CVExtB					
LID					
NFAMILYMBO					
NatD					
LowED					
DTH					
CVSenP					
GExpPerc					
GExp					
LawFD					
ConsD	1				
BankD	0.1768*	1			
AccD	0.1052	0.0395	1		
UniD	0.1963*	0.1741*	0.0458	1	
PolD	−0.0358	0.1096	−0.3162*	0.1827*	1
CVCorpExp	0.0636	0.2104*	0.1485*	0.1931*	0.0598
StudAD	0.3265*	0.1914*	−0.0333	0.1435*	−0.0668
CorpExpAD	0.3091*	0.1142	−0.0077	0.1048	−0.0308
BoardAD	0.1333*	0.1851*	0.0692	0.1797*	0.0194
CEOD	0.0243	0.0965	−0.1062	0.079	0.0803

*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$

	CVCorpExp	StudAD	CorpExpAD	BoardAD	CEOD
Indep					
ROAT1					
ATECO5DIG					
FIRMLEVERAGE					
Volatility					
FirmSize					
LNBoardSize					
WQ					
CVAge					
CVTenure					
Exec					
NonExec					
Min					
Maj					
CVExtB					
LID					

(continued)

	CVCorpExp	StudAD	CorpExpAD	BoardAD	CEOD
NFAMILYMBO					
NatD					
LowED					
DTH					
CVSenP					
GExpPerc					
GExp					
LawFD					
ConsD					
BankD					
AccD					
UniD					
PolD					
CVCorpExp	1				
StudAD	−0.0216	1			
CorpExpAD	0.0392	0.2326*	1		
BoardAD	0.044	0.0472	0.3452*	1	
CEOD	−0.0441	0.0669	0.0585	0.0204	1

*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$

Appendix E: Variable Impact on Performance

Variables		Impact on performance
H5.a. The gender differences have a positive, negative, or modest impact on family-controlled firms' performance		
1. Gender	*1a.* Percentage of female directors within the total: *W*	No association
	1b. Percentage of female directors within the total in quartiles: *W.Q*	No association
H5.b. The age differences have a positive, negative, or modest impact on family-controlled firms' performance		
2. Age	*2a.* Average age of the directors: *AVage*	Negative
	2b. Coefficient of variation of directors' age: *CVAge*	No association
	2c. Coefficient of variation of directors' age in quartiles (index): *CVAge.Q*	No association
3. Nationality	*3a.* Dummy variable equal to 1 if there is at least one board member with different nationality/born abroad, and 0 otherwise: *Nat.D*;	No association
	3b. Percentage of the total: *Nat*	

(continued)

Variables		Impact on performance
		No association
	3c. Percentage of the total (index). Expressed in terms of quartiles: *Nat.Q*	No association
H5.d. The directors' different level of education and/or degree can have a positive or negative impact on family-controlled firms' performance		
4. Educ. level	*4a.* Lowest educ. Level; number of board members without a degree on the total: *LowED*	No association
	4c. Herfindahl index (Q) (calculated as percentage of directors with college degree, bachelor's degree, master's degree, and MBA/PhD). Expressed in terms of quartiles: *EDL.H.Q*	Positive
5. Degree type	*5a.* Herfindahl index (calculated as the percentage of directors with a degree in business administration & economics, political science, engineering, law, and others): *DT.H*	No association
	5b. Herfindahl index (calculated as percentage of directors with a degree in business administration & economics, political science, engineering, law, and others). Expressed in terms of quartiles: *DT.H.Q*	Negative
H5.e. The "technical professional experience" has a positive impact on family-controlled firms' performance		
6. 1.a Law firm (professional experience)	*6a.* Dummy variable equal to 1 if there is at least one board member with experience in law firms and 0 otherwise: *Law.F.D*	No association
	6b. % of directors with experience in law firms on the total: *Law.F*	No association
7. Consultant firm (professional experience)	*7a.* Dummy variable equal to 1 if there is at least one board member with experience in consulting and 0 otherwise: *Cons.D*	Positive
	7b. % directors with experience in consulting on the total: *Cons*	Positive
8. Banks firm (professional experience)	*8a.* Dummy variable equal to 1 if there is at least one board member with experience in banks and 0 otherwise: *Bank.D*	No association
	8b. % of directors with experience in banks on the total: *Bank*	No association
9. Accounting firm (professional experience)	*9a.* Dummy variable equal to 1 if there is at least one board member with experience in accounting and 0 otherwise: *Acc.D*	Positive
	9b. % of directors with experience in banks on the total: *Acc*	No association
10. University (professional experience)	*10a.* Dummy variable equal to 1 if there is at least one board member with experience as a professor at the university and 0 otherwise: *Uni.D*	No association
	10b. % of directors with experience as a professor at the university: *Uni*	No association

(continued)

Variables		Impact on performance
11. Global experience	*11a.* At least one member with corporate experience in one of the following sectors: consulting, accounting, banking, law firm, and university (max. value 5): *G. Exp*	Positive
	11b. Number of the total professional areas of expertise on the board divided by the number of board members (professional area of expertise defined as experience in consulting, accounting, banking, law firm, and/or university): *G.Exp.perc.*	No association
H5.f. The "general professional experience" has a positive impact on family-controlled firms' performance		
12. Senior positions	*12a.* Average number of senior positions held by the board members; senior positions are defined starting from high managerial positions until the most senior positions: *AVSen.P*	No association
	12b. Coefficient of variation of the number of senior positions held by the board members: *CVSen. P = (SD Sen.P/mean Sen.P)*	No association
	12c. Coefficient of variation of the number of senior positions held by the board members. Expressed in terms of quartiles: *CVSen.P.Q = (SD Sen.P/mean Sen. P)*	No association
13. Corporate experience	*13a.* Average number of corporate experiences of each director (number of other companies in which the individual administrator has worked): *AVCorp.Exp*	No association
	13b. Coefficient of variation of the number of corporate experiences of each director during his or her career: *CVCorp.Exp = (SD N.Corp.Exp/mean N. Corp.Exp)*	No association
	13c. Coefficient of variation of the number of corporate experiences of each director during his/her career. Expressed in terms of quartiles: *CVCorp.Exp. Q = (SD N.Corp.Exp/mean N.Corp.Exp)*	No association
14. External board	*14a.* Average number of boards on which directors sit: *AVExt.B*	No association
	14b. Coefficient of variation of the number of boards on which directors sit: *CVExt.B = (SD N. externalBoard/mean N.externalBoard)*	No association
	14c. Coefficient of variation of the number of boards on which directors sit. Expressed in terms of quartiles: *CVExt.B.Q = (SD N.externalBoard/mean N. externalBoard)*	No association
15. Political experience	*15a.* Dummy variable equal to 1 if there is at least one board member with experience as a politician and 0 otherwise: *Pol.D*	No association
	15b. % of directors with experience as a politician: *Pol.*	No association
H5.g. The "international experience" has a positive impact on family-controlled firms' performance		

(continued)

Variables		Impact on performance
16. Study abroad	*16a.* Dummy variable equal to 1 if there is at least one board member with an experience of study abroad and 0 otherwise: *Stud.A.D*	No association
	16b. The percentage of directors who have studied abroad during their life divided by the total board size: *Stud.A.*	No association
	16c. The percentage of directors who have studied abroad during their life divided by the total board size. Expressed in terms of quartiles: *Stud.A.Q*	No association
17. Corp. exp. abroad	*17a.* Dummy variable equal to 1 if there is at least one board member with a corporate experience abroad and 0 otherwise: *Corp.Exp.A.D*	No association
	17b. The percentage of directors who have worked abroad during their life divided by the total board size: *Corp.Exp.A.*	No association
	17c. The percentage of directors who have worked abroad during their life divided by the total board size. Expressed in terms of quartiles*: Corp.Exp.A.Q*	Positive
18. Board. exp. abroad	*18a.* Dummy variable equal to 1 if there is at least one board member with board experience abroad and 0 otherwise: *Board.A.D*	No association
	18b. The percentage of directors who have sat on boards of foreign companies during their life divided by the total board size: *Board.A.*	No association
	18c. The percentage of directors who sat on boards of foreign companies during their life divided by the total board size. Expressed in terms of quartiles: *Board.A.Q*	No association
H5.h. The family members' involvement has an impact on family-controlled firms' performance		
19. Family members	*19a.* Number of family members in the board divided by the number of total board members: *N.Family M. board*	Negative
H5.i. The number of independent directors has an impact on family-controlled firms' performance		
20. Independent board members	*20a.* Percentage of independent directors divided by the total number of board members: *Indep.*	Negative
H5.l. The presence of the LID has a positive impact on family-controlled firms' performance		
21. LID	*21a.* Dummy variable equal to 1 if there is the lead independent director and 0 otherwise; *LID*	Positive
H5.m. The presence of the nonexecutive directors has negative or modest impact on family-controlled firms' performance		
22. Executive memb.	*22a.* Percentage of executive directors divided by the total number of board members: *Exec.*	No association
23. NonExecutive memb.	*22b.* Percentage of nonexecutive directors divided by the total number of board members: *NonExec.*	No association
H5.n. The presence of the minority directors has positive impact on family-controlled firms' performance		
24. Board mem. list>	*24a.* Percentage of directors appointed by the minority list: *Min.*	No association

(continued)

Variables		Impact on performance
25. Board mem. List<	*25b.* Percentage of directors appointed by the majority list *Maj.*	No association
H5.o. The presence of external CEOs has positive impact on family-controlled firms' performance		
26. Outside CEO	*26a.* Dummy variable equal to 1 if there is at least one board member who is CEO of another company and 0 otherwise: *CEO.D*	No association
	26b. % of the total number of directors who are CEOs of other companies divided by the total board size: *CEO*	No association
	26c. % of the total (index) number of directors who are CEOs of other companies divided by the total board size. Expressed in terms of quartiles: *CEO.Q*	No association
H5.p. The presence of directors with long tenure has modest impact on family-controlled firms' performance		
27. Director tenure	*27a.* Average number of years during which directors have sat on the board: *AVTenure*	Negative
	27b. Director tenure is the coefficient of variation of the number of years that directors have sat on the board: *CV.Tenure = (SD Y.Tenure/mean Y.Tenure)*	No association
H5.q. The board size has an impact on family-controlled firms' performance		
28. LNBoardSize	Logarithm of board size: *LNBoardSize*	Positive
ROA t-1	Return on assets t-1. Datastream—WC08326. *ROAt-1*	Positive
Firmleverage	Firm leverage (long-term debt divided by total assets): *Firm.Leverage*	No association
Volatility	Standard deviation of monthly stock returns for the last 5 years. *Volatility*	No association
Firmsize	Natural log of total assets. *FirmSize*	No association

Appendix F: Scheme Proposed

Appendix: Example board—Saras Spa 2014—proposed scheme (significant variables) (1/2)

Dir.	Age (1)	LID (2)	Extern. board (3)	Family member (4)	Consult (5)	Account. (6)
1	79	NO	0	YES	NO	NO
2	70	NO	0	YES	NO	NO
3	52	NO	0	YES	NO	NO
4	76	NO	0	NO	NO	NO

(continued)

Dir.	Age (1)	LID (2)	Extern. board (3)	Family member (4)	Consult (5)	Account. (6)
5	65	NO	0	NO	NO	NO
6	42	NO	0	YES	NO	NO
7	37	NO	0	YES	NO	NO
8	55	NO	3	NO	NO	NO
9	77	NO	0	NO	NO	NO
10	57	NO	0	NO	NO	NO

Appendix: Example board—Saras Spa 2014—proposed scheme (significant variables) (2/2)

Dir.	Univ. (7)	Law firm (8)	Banks (9)	Stud. Abroad (10)	C. exp. abroad (11)	Educ. lev (12)	Degree (13)	Tenure (14)
1	NO	NO	NO	NO	NO	BD	Law	52
2	NO	NO	NO	NO	NO	BD	Law	42
3	NO	NO	NO	YES	NO	NOT BD	NOT BD	21
4	NO	NO	NO	NO	NO	BD	Ing.	27
5	NO	NO	YES	NO	NO	BD	Law	5
6	NO	NO	NO	YES	NO	BD	Other	9
7	NO	NO	NO	YES	YES	BD	Other	4
8	NO	NO	NO	YES	YES	Ph.D	Economics	1
9	NO	NO	NO	NO	NO	BD	Ing.	14
10	NO	NO	NO	YES	NO	BD	Ing.	8

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