

Board diversity in family firms

Corresponding author: Anna Menozzi, Università del Piemonte Orientale “A. Avogadro”, Department of Economic and Business Studies, via Perrone 18, 28100 Novara. Tel: +390321375446, Fax: +390321375405. Email: anna.menozzi@eco.unipmn.it; Universidad Carlos III de Madrid, Getafe, Spain

Giovanni Fraquelli, Università del Piemonte Orientale “A. Avogadro”, Department of Economic and Business Studies, via Perrone 18, 28100 Novara. Tel: +390321375414, Fax: +390321375405. Email: giovanni.fraquelli@eco.unipmn.it; Ceris-CNR, Moncalieri, Italy

Jolanda de Novara, Università del Piemonte Orientale “A. Avogadro”, Department of Economic and Business Studies, via Perrone 18, 28100 Novara. Email: jolanda.denovara@gmail.com

Abstract

The paper deals with diversity as a key factor to improve the board of directors' decision process in family firms. The empirical literature about board diversity points at the positive impact of diversity on board functioning and firm performance. The paper uses a statistical diversity index to capture the heterogeneity of board of directors and put it in relation with firm performance, as measured by firm profitability. The empirical analysis is based on a newly collected panel of 327 family firms including data on their board of directors during the period 2003-2007. We find that firm performance is positively related to a global measure of board diversity. In particular, the presence of gender diversity and a good mix of executive and non-executive managers show the strongest econometric significance, suggesting that diversity is an important factor to improve board decisions.

Keywords: diversity, board composition, family firms
JEL classification: G30, J16

1. Introduction

Among all board characteristics, diversity has lately received increasing attention from the economic literature. Different directors are expected to differently exert their mentoring and counseling role so that the degree of differentiation of boards, defined by the mixture of the directors' sexual, cultural, professional and ethnic characteristics, finally affects the economic and governance performance of firms.

Both the agency and the resource dependence theories theoretically sustain this intuition. According to the agency theory, a heterogeneous board is a stronger monitor of managers because diversity in the directors' background guarantees a broader viewpoint and a penetrating understanding of the firm (Anderson *et al.*, 2009).

The resource dependence theory views directors as providers of peculiar resources to the firms, such as their personal experience and judgment, external connections and access to information (Pfeffer and Salanick, 1978). A great variety of resources, as assured by many different directors, enrich the board's mentoring and counseling skills.

The "business case" for diversity rests on the two claims: diversity improves performance (especially financial performance) and it improves the decision-making process, which in turn improves firm performance (Rhode and Packel, 2010).

Despite the increasing interest in board diversity, most of the research adopts a narrow definition of it and often focuses on gender diversity only. The bias in the literature is surely motivated by the recent political measures adopted by many European government to favor a greater representation of women in firm board of directors. In 2011, the Italian Parliament passed the 120/2011 Law imposing that women should account for 20% (in their first term) to 33% (in the subsequent two terms) of board directors of all listed and state-owned companies. In the UK, the department for Business Innovation and Skills has recently set a target of 25% to be attained in FTSE100 companies by 2015 (Davies, 2011). In 2003, Norway set a similar, initially voluntary, target of 40% to be attained by 2005. Only by later making compliance mandatory was this figure

finally attained in 2008. More recently, the EU has proposed a 40% female representation on the boards of all listed companies by 2020 (European Union, 2012).

Studies on gender diversity and firm performance show mixed results and the empirical analysis on the effects of diversity suffers from the shortage of researches on other types of diversity, like racial and ethnic ones.

This paper analyzes the impact of board diversity on economic performance of Italian family firms. In most studies, board diversity with respect to a given characteristic is defined by the incidence of that characteristic on the board, measured by the proportion of directors showing that characteristic. For example, gender diversity is measured by the percentage of women sitting on the board. This approach defines diversity as the prevalence of a particular feature. On the contrary, in this paper, a concrete, statistical measure of diversity (the Blau index), is used. In addition, this paper adopts a composite definition of diversity concerning not only gender and regional provenance (the mostly analyzed diversities in literature) but also other characteristics that may affect the director's ability to do her job, namely her age, her functional role as executive or non executive director and her membership to the firm ultimate owner. A diversity index is computed for any relevant characteristic together with a total, or comprehensive, board diversity index. To our knowledge, this is the first attempt to relate firm performance to such a complex definition of board diversity.

The reason why this paper focuses on family firms is twofold. First, most firms around the world have a dominant owner, in many cases the founding family. In Italy, during the last couple of decades, family ownership has been the dominant form of control, often exerted through pyramidal groups and shareholder pacts (Mediobanca, various years). In France, two thirds of listed firms are controlled either by the founder or his heirs (Sraer and Thesmar, 2007). Families control 45% of voting blocks of listed companies in Austria and 32% in Germany (Becht and Mayer, 2001). In the US, large listed corporations are family controlled (Perez-Gonzalez, 2006) and family hold large stakes in about one third of the Standard and Poor's 500 companies (Anderson and Reeb, 2003).

Family firms thus give a good representation of the Italian capitalism and provide a convenient sample for investigating the role of diversity in Italian corporate boards¹.

Second, family firms represent an interesting natural environment where to study the consequences of board diversity. The economic literature on family firms has mostly analyzed their governance issues on the basis of the principal-agent theory, concluding that more likely agency costs are lower in family than in non-family firms (Anderson *et al.*, 2003). In organization with reduced agency problems, board of directors is hardly conceivable as an endogenously determined solution to an organizational design problem (Hermalin and Weisbach, 1998). In this context, the monitoring role exerted by board of directors is less needed and the relationship between board characteristics, decision-making processes and firm performance is freed up from most, if not any, agency-related distortions. As a consequence, the empirical analysis on the effect of board diversity on economic performance is also less permeable to any omitted casual relationships that would make that correlation spurious.

The reminder of the paper is organized as follows. Section 2 presents the relevant literature, section 3 defines the diversity measures and describes the dataset, section 4 contains the econometric model, the empirical evidence and the discussion of results, section 5 concludes.

2. Literature review

Most economic and finance research has limited the analysis to gender and race diversities, considering them more influencing than other possible diversity measures.

The attention reserved to gender diversity is mainly linked to women's relational skills, monitoring capacity, business involvement and personal charisma. The agency theory predicts that female directors might enhance board independence of thought and its monitoring capacity (Adams

¹ It must be noted that family firms could not be a suitable sample when the actual situation of Italian women directors and the determinants of their representation (not diversity in its broader meaning) is under investigation. According to Bianco *et al.* (2011), in "47.3% of diverse-board companies [listed in the Italian Stock Exchange at the end of 2009], female directors are exclusively family members and in further 9.3% there is at least one family-affiliated woman" (page 10). In other words, female directors are over-represented in boards of family firms compared to non-family firms and the reason why female directors sit on family boards lays on the type of firm ownership itself.

and Ferreira, 2009).

Carter et al. (2003) study the relationship between the presence of female or Afro-American directors on Tobin's Q in a sample of 1000 Fortune American firms, finding a positive effect of diversity on economic performance. Diversity is also positively correlated to firm size and negatively correlated to the number of insiders in the board. The result is confirmed in a subsequent study on the composition of internal committees (Carter et al., 2010), in particular with reference to the compensation and audit committees.

Erhart et al. (2003) find a positive relationship between the incidence of female and/or black directors and performance, as measured by ROI, for a sample of 127 big American corporations.

Campbell and Minguez-Vera (2008) study the impact exerted on Tobin's Q by different measures of gender diversity and find that better results derive from a fair promotion of both genders. A "purely statistical" index, the Blau index, shows the highest econometric significance compared to diversity as a percentage (of a particular group of "different" directors), thus suggesting that a diversity measure should capture board heterogeneity².

Schwartz-Ziv (2013) examines relatively gender-balanced boards of eleven business companies in which the Israeli government holds a substantial equity interest. She finds that boards

² Harrison and Klein (2007) suggest three classes of diversity: diversity as a factor of "separation", diversity as "disparity or inequality", diversity as "variety". In the first case, the attribute upon which diversity is measured can be represented by a continuous variable whose different values only separate people and do not attribute them any status. Diversity is minimum when the attribute's level is the same for everyone (for example, they all have the same age) and maximum when the attribute assumes its minimum value for half the members and its maximum for the other half (for example, they are half minors and half octogenarians). Diversity as a "disparity or inequality" requires the attribute to be described by a continuous variable with vertical differentiation. For example, considering the capacity of control attribute, the difference is minimal when all members are equally powerful and maximum when all the power is in the hands of one person only. Diversity can be defined as "variety" in the presence of a categorical attribute (for example, type of degree). In this case, diversity is minimum if all the members belong to the same category and maximum if everyone belongs to a different category. Different measures of diversity are proposed as the most suitable to any specific definition of diversity itself. For diversity as separation, the most appropriate measures are the standard deviation and the average Euclidean distance. If diversity is related to quality attributes measured by categorical variables, the standard deviation can be useful only in the case of binomial variables. For multinomial variables, the indices of Blau (1977) and Shannon (1948) works better, since they reach the maximum value in the presence of an equitable distribution of the members among all the categories of the attribute. If the diversity is understood as "disparity or inequality", it is appropriate to measure it with the coefficient of variation. Being a ratio between the standard deviation and the average, the coefficient of variation captures the level of asymmetry, which is a fundamental characteristic of this type of diversity. Indeed, disparity reflects both the distance among the team members and the degree of "dominance" exerted by those who possess the greatest amount of attribute. The coefficient of variation is at its maximum when only one person owns the maximum quantity and the others the minimum quantity of the attribute. In this paper, the Blau index will be used as a diversity measure.

that included critical masses of at least three directors of each gender, and particularly of three women, were approximately twice as likely to request further information and to take an initiative, compared to boards without such critical masses. The ROE and net-profit-margin of these companies are also significantly larger if they have at least three women directors.

Adams and Ferreira (2009) conclude that gender diversity increases value only when additional board monitoring would enhance firm value, otherwise it decreases it.

Alternative source of diversity, mainly related to demographic characteristics, have been studied primarily by researchers in management and organization theory and increasingly in economics and corporate finance. Empirical papers in this tradition have looked both at the effects of demography on outcomes and at the determinants of demography in organizations.

Birth region, together with nationality, mother tongue and race, define a person's ethnic ties, that is, those aspects of social networks that are based on personal relationships. Firm manager could take advantage of such ethnic ties to improve their business connections with external stakeholders such as suppliers, customers, competitors, local government bodies (Gao, 2003).

Some authors suggest a positive relationship between diversity in functional background and profitability. According to Boone and Hendricks (2007), this relationship would be more pronounced in firms where the decision making process is largely decentralized, as it happens when many directors are executives. This configuration would lead to a higher decision quality and a better performance, as measured by Return On Sales.

Smith et al. (1994) consider the high-tech workers' previous experience in others industries, how long they have been employed in the high-tech sector, their academic and functional background and find that the employees' prior experience in other industries have a positive effect on their (actual) employer while heterogeneity in career and academic background have negative effects. Simons et al. (1999) add a measure of "age diversity" to the explanatory variables and find that it has a negative impact on performance.

Auden et al. (2006) find similar results when ROA is studied in relation to three diversity dimensions: age, functional background, educational background. Workers' age diversity is shown to exert a negative impact on performance through its effect, also negative, on the risk management capacity. Age diversity has been studied mainly at the level of individuals or groups (Williams and O'Reilly, 1998). Some authors say that older workers take advantage of the experience acquired over their long career to create social connections and develop a greater sense of belonging to the firm, compared to younger worker (Peterson and Spiker, 2005).

In the economics and finance literatures, Hermalin and Weisbach (1988) and Agrawal and Knoeber (2001) document that firms appear to choose directors for their personal characteristics. Coles et al. (2008), Linck et al. (2008), and Boone et al. (2007) find that some personal characteristics of the CEO (such as tenure and age) are related to board structure.

This paper analyzes diversity within a particular governance system, family firms. There are reasons to expect that concentration of property rights and control in the hands of a family provides better incentive and contribute to reduce the agency costs that typically arise in publicly held firms (Jensen and Meckling, 1976). Gomez-Mejia *et al.* (2001) identify an advantage of family-owned firms in the existence of emotional motivations that might induce the owner-manager to pursue long-term strategies and, ultimately, to preserve the firm survival. The positive relationship between family ownership concentration and performance has been proven by a large empirical literature based on performance differentials between family and non-family firms (Anderson and Reeb, 2003, for the U.S.; Sraer and Thesmar, 2007, for France; Favero et al., 2006, for Italy; Barontini and Caprio, 2006, for Europe, among others).

Lauterbach and Vaninsky (1999) and Barth et al. (2005) warn about the risks associated with owner-management. In owner-managed firms top managers are typically recruited from a restricted pool of individuals (perhaps, within the strict perimeter of the family) rather than from a more general market of managers. As a consequence, the management teams of owned-managed firms, and in particular of family-managed firms, are likely to present a lower quality and turnover as

compared to publicly held firms. A powerful owner-manager may pursue his/her own interest even to the detriment of the firm and of its minority shareholders (Jensen, 1998). For instance, an owner-manager may refuse new investments or ventures that can improve firm value if these may threaten the status quo or would imply too much effort to be realized. Sciascia and Mazzola (2008) find that the benefits deriving from lower agency costs induced by reduced information asymmetries, sense of belonging, high commitment among family members and possibly lower compensation, are insufficient to counterbalance the burden imposed by the lack of professional management competencies, internal conflicts and the seek for non-monetary returns by family members.

Several studies for the U.S. and Europe (Villalonga and Amit, 2006; Pérez-Gonzalez, 2006; Bloom and Van Reenen, 2007; Barontini and Caprio, 2006) find that family listed firms perform better only when the founder is the President or the CEO, whereas the presence of heirs would cause worse results. Anderson, Duru and Reeb (2009) find that founders and heirs in large, publicly traded U.S. firms, have an incentive to diminish corporate transparency and extract private benefits at the expense of minority investors. The CEO succession represents a peculiar factor for family firms. On the one hand, it can be advantageous to choose a family successor even if the family candidate is less qualified than a non-family executive (Bennedsen et al., 2007) because managers and owners are expected to abstain from opportunistic and myopic attitudes that may hinder firm's survival. On the other hand, however, the tendency of the family not to lose the firm control might ultimately have negative consequences when it prevents a value-added acquisition from an external, more talented, bidder (Caselli and Gennaioli, 2013; Bloom and Van Reenen, 2007). Cucculelli and Micucci (2008), for instance, observe how inherited management within a family has a negative effect on firms' performance, and especially for those firms that experienced good profitability before the founder stepped down.

In our sample, about 70% of the board Presidents belongs to the family and in 60% of cases he is an executive. Furthermore, the majority of family (and Italian) firms is now in its second or third generation. The presence of a family President who also has executive powers increases the

agency problem thus possibly reducing transparency, increasing family altruism and facilitating the acquisition of personal benefits.

Two papers have previously focused on board diversity in Italian firms. Schwizer *et al.* (2012) analyze the impact of gender and ethnic diversity (measured by the percentage of, respectively, women and foreign directors in the board) on firm performance on the basis of a sample of 246 Italian companies listed on the Italian Stock Exchange during the period 2006-2008. They find no relationship between diversity and market-to-book value. Bianco *et al.* (2011) describes the state of women representation in Italian corporate boards and investigates any possible relationships between gender diversity and some performance and governance outcomes. They find no statistically significant differences in the Tobin's Q of all the 262 Italian companies listed on the Italian Stock Exchange at the end of 2009.

3. Dataset and measures of board diversity

The empirical analysis is based on a data set including accounting and corporate information of 327 Italian family firms for the period 2003-2007. Data were manually retrieved from the database AIDA and from the company balance sheets.

Firms are considered family firms if they are: non-listed firms in which one or more families control at least 50% of voting rights; listed companies in which one or more families control at least 25% of voting rights; firms controlled by legal entities meeting the above requirements for family firms, in order to have a minimal representation of listed companies (which represent, in the end, 21% of the total sample). Ownership concentration is high: about 40% of firms are owned by one or two families and almost 80% of firms are owned by no more than five entities (persons or other firms).

Diversity can be understood as the difference found in the cultural identity and in the social and demographic characteristics of individuals acting within a group. Given these definitions, the question is how do we delineate the homogeneity or heterogeneity of a group. In quantitative terms,

diversity can be measured by the distribution of a particular attribute among the members of a community. While it seems obvious that the difference is null when all people in the group show the same attribute (for example, all men or all women when gender diversity is concerned), the concept of maximum diversity is harder to define. When the attribute can be owned by a different extent by different people, is diversity at its maximum when one-half of persons possesses the attribute in great quantity and the other half in tiny quantity, or when one person owns more of that attribute than all others? In this paper, diversity in board of directors is captured by a set of diversity indexes (“D.I.”) related to, respectively, gender diversity (variable “Gender D.I.”), geographical origin (“Region D.I.”), age (“Age D.I.”), executive powers (“Executive director D.I.”), family membership (“Family D.I.”), all computed as Blau indexes.

The Blau index is given by:

$$\text{Blau index} = 1 - \sum_{k=1}^K p_k^2 \quad (1)$$

where: k =attribute level, with $k=1, \dots, K$; p_k is the proportion of directors who show the attribute k . The Blau index varies from 0 to $(K-1)/K$. For example, if the attribute “gender” is considered, the Blau index would be at its maximum, equal to 0.5, when a team of 4 people were composed by 2 men and 2 women. Geographical diversity concerns the directors’ hometown and distinguishes between four different Italian macro-areas, the North-west, the North-east, the Center and the South (so that for the variable “Region D.I.”, $K=4$). In Italian family firms, ethnic diversity is mainly defined by the birth region, being most workers and directors Italians, thus sharing a common culture and ancestry and speaking the Italian language. Diversity in executives’ and directors’ birth region is often exploited by firms in their search for solid and differentiated commercial relations with domestic suppliers. The age diversity index, “Age D.I.” captures the directors’ age, by differentiating directors with less than 40 years from those between 40 and 65 years and those with more than 65 years ($K=3$). The two indexes “Executive director D.I.” and

“Family D.I.” register the equilibrium between directors with and without executive powers and belonging or not to the controlling family, respectively. For them, $K=2$. In particular, the difference brought by the executive title wants to measure both the degree of diversity in sharing responsibilities in the decision-making process and the director different professional contributions.

Diversity indexes can assume different maximum values K depending on the number of attribute levels, so that, in the analysis, each index has been normalized and divided by its maximum. As a result, all normalized indexes range between 0 and 1. The total diversity index “Total D.I.” is intended to emphasize the importance of the heterogeneity within the board, regardless the specific diversity sources, and computed as the sum of all the (normalized) diversity indexes. Table 1 reports some descriptive statistics for the considered diversity indexes.

Table 1. Diversity indexes

Variable	Observations	Mean	St. dev.	Minimum	25% percentile	Median	75% percentile	Maximum
Gender D.I.	1631	0.379	0.390	0	0	0.330	0.750	1
Region D.I.	1631	0.351	0.312	0	0	0.395	0.640	1
Age D.I.	1631	0.632	0.292	0	0.495	0.690	0.850	1
Executive director D.I.	1631	0.621	0.340	0	0.440	0.750	0.890	1
Family D.I.	1631	0.633	0.372	0	0.400	0.750	0.960	1
Total D.I.	1631	2.621	0.912	0	2.047	2.730	3.300	4.41

Descriptive statistics of diversity indexes: Gender D.I. is the index measuring the board’s diversity in gender; Region D.I. is the index measuring the board’s diversity in terms of the directors’ hometowns; Age D.I. is the index measuring the board’s diversity in age; Executive director D.I. is the index measuring the board’s diversity in executive powers; Family D.I. is the index measuring the board’s diversity in relation to their attachment to the family ownership; Total D.I. is the sum of previous diversity indexes. All indexes (but Total D.I.) have been normalized by dividing each index by its maximum.

Table 1 shows that boards have a relatively high degree of heterogeneity with regard to age (“Age D.I.”) and degree of involvement of the CEO (“Executive director D.I.”) and the family (“Family D.I.”). The difference is very small in relation to gender (“Gender D.I.”), because men dominate boards, and to the geographical origin of directors (“Region D.I.”).

Since sample firms are both listed and, in major part, non listed, firm performance is measured by the accounting ratios ROA, given by net operating income over total assets, and ROI, the return on capital invested in operating activities (see descriptive statistics in Table 2). On

average, sample firms show a ROI higher than ROA (11.6% vs 5.7%) but for both ratios the minimum is equal to -0.10. Table 3 shows the Pearson correlations between the two performance indicators and the diversity indexes. All diversity indexes are significantly and positively correlated with the ratios. ROA is highly correlated with ROI and therefore we alternatively use one of them as dependent variable in the estimation.

Table 2. Performance ratios

Ratio	Observations	Mean	St. dev.	Minimum	25% percentile	Median	75% percentile	Maximum
ROA	1635	0.057	0.064	-0.10	0.023	0.047	0.082	0.30
ROI	1635	0.116	0.126	-0.10	0.043	0.085	0.155	0.44

Descriptive statistics of performance ratios: ROA is return on assets (operating income over total assets); ROI is return on investment (operating income over operating assets).

Table 3. Correlation matrix

	ROA	ROI	Total D.I.	Region D.I.	Age D.I.	Executive director D.I.	Family D.I.	Gender D.I.
ROA	1							
ROI	0.702*** (0.000)	1						
Total D.I.	0.176*** (0.000)	0.101*** (0.001)	1					
Region D.I.	0.076*** (0.005)	0.048* (0.082)	0.448*** (0.000)	1				
Age D.I.	0.079*** (0.003)	0.028 (0.301)	0.506*** (0.000)	0.155*** (0.000)	1			
Executive director D.I.	0.101*** (0.000)	0.074*** (0.007)	0.521*** (0.000)	0.070*** (0.007)	0.046* (0.077)	1		
Family D.I.	0.077*** (0.005)	0.058** (0.033)	0.607*** (0.000)	0.120*** (0.000)	0.131*** (0.000)	0.159*** (0.000)	1	
Gender D.I.	0.125*** (0.000)	0.052** (0.061)	0.551*** (0.000)	-0.039 (0.129)	0.134*** (0.000)	0.104*** (0.000)	0.130*** (0.000)	1

Pearson correlation between diversity indexes and profit ratios (*p*-values in parenthesis). ROA is return on assets; ROI is return on operating capital; “Gender D.I.”, “Age D.I.”, “Region D.I.”, “Executive director D.I.”, “Family D.I.” are specific diversity indexes; “Total D.I.” is the sum of all diversity indexes.

4. Empirical evidence and discussion

We estimate the model:

$$Performance_{it} = \beta_0 + \beta_1 DIV_{it} + \beta_2 X_{it} + \beta_3 Z_{it} + \lambda_t + \eta_i + \varepsilon_{it} \quad (1)$$

for $i=1, \dots, 327$ and $t=2003, \dots, 2007$.

$Performance_{it}$ is the performance ratio (ROA or ROI) of firm i at time t ; DIV_{it} is a set of firm i board diversity Blau indexes, concerning board of director gender (variable “Gender D.I.”), geographical origin (“Region D.I.”), age (“Age D.I.”), executive powers (“Executive director D.I.”), family membership (“Family D.I.”). “Total D.I.” is the sum of previous (normalized) indexes. The regressor X_{it} represents a set of control variables capturing the firm governance structure: “Family President”, a dummy variable equal to 1 when the President of the board is a family member and 0 otherwise; “CEO duality”, a dummy variable equal to 1 when the President is also an executive director and 0 if he is not; “Size” is the number of board directors; “Family ownership” is the percentage of shares owned by the family members. Variable Z_{it} captures firm size and financial status, including the variables “ln(employees)” (the natural logarithm of total employees number³) and “leverage” (debt/equity ratio). Variable λ_t is a time effect common to all firms, η_i is a permanent but non-observable firm specific effect and ε_{it} is the error term.

As pointed out, the two performance indicators ROA and ROI are highly correlated and, as a consequence, the models where they alternatively appear as dependent variables lead to essentially identical results. We estimate a fixed effects and a random effects model (with ROA as dependent variable). The Hausman test suggests the former is preferable (Table 4).

Model 1 of Table 4 shows a positive and significant (with p-value lower than 1%) relationship between the degree of overall diversity of board members (“Total D.I.”) and profitability. The directors diversity in the broadest sense, that is the presence of male and female, young and old directors, possibly coming from different countries or Italian regions, with different executive powers and different relationships with the family owners, provides benefits in terms of profitability. Board diversity is good for performance and should be promoted to contrast the negative effect of any possible governance malpractices.

When specific definitions of diversity are considered, estimates show that their effect on firm performance is not homogeneous. Models 2, 3, 4, 5 and 6, showed in Table 4, test the relationship

³ Alternative measures of firm size (total assets, sales) have been tested and do not alter the results.

between each diversity index and ROA and in Model 7 all diversity indexes are included as regressors at a time. All kinds of diversity, both individually and simultaneously taken, have a positive effect on performance, but their impact, as expressed by the coefficients' value and statistical significance, is somewhat different.

The gender diversity index ("Gender D.I.") is significant at the 1% level both in Model 2, where it is the only diversity variable, and in Model 7, where others diversity indexes are included. It is worth noticing that, in Model 7, gender diversity shows the highest coefficient among all other diversity indexes. This is a strong result considering that about 50% of sample firms (and, accordingly to Bianco et al., 2011, of Italian firms) have no women on board and that in very few companies directors are experienced female professionals. This finding is somehow in contrast with Adams and Ferreira (2009), who find that the relationship between gender diversity and both Tobin's Q and ROA is negative but becomes positive when controlling for firm governance (as measured through the G Index, Gompers et al., 2003): in firms with weaker shareholders' protection, gender diversity positively affects performance while in well-governed firms, gender diversity negatively influences it. Adams and Ferreira (2009) conclude that gender diversity only increases value when additional board monitoring would enhance firm value. In this paper, firm governance is controlled for through the inclusion of variables "Family President", "Family ownership" and "CEO duality". The first two variables are never significant while "CEO duality" always has a negative effect on performance. Our estimates show that gender diversity positively affects performance and may reinforce the effect of family ties in adding further economic value to the firm (while contrasting the possible negative effect of having a President who is also the CEO).

The role of family in the firm governance, namely the directors' membership to the controlling family, is also captured by a diversity index, variable "Family D.I.", whose estimated coefficient is positive but not significant. Governance is also described by "Executive director D.I.", which has a positive and significant effect on ROA both in Model 5 and in Model 7. The coefficient is stable in value and significance: a balanced representation of directors with and without

operational duties contributes to the decision-making process by leveraging the director specific skills.

The question whether diversity by age and geographical origin is relevant for the board's decision making process does not find a convincing answer in the estimates. The positive sign of the coefficients of "Age D.I." and "Region D.I.", both in Model 3 and 4 (where they are, respectively, the only diversity indexes) and in Model 7 (where all diversity attributes are included), attests their positive contribution to firm profitability but their incidence is not statistically significant.

The estimates show that there is an inverse U-shaped relationship between performance and board size (the coefficient of Size is positive and the coefficient of Size² is negative): when the number of directors first goes up, profitability also improves but as long as the number of directors increases, profitability decreases, possibly because too many directors create coordination problems and communication difficulties that undermine directors' effectiveness in controlling and governing the business (Hermalin and Weisbach, 2003).

5. Conclusions

The paper investigates the relationship between board diversity and firm performance in family businesses. We define board diversity according to five different characteristics: directors' gender, age, geographic origin, executive position, family ties. We build five indicators of diversity according to each diversity dimension and a global indicator as the sum of the individual indexes. We find that "diversity" by itself exerts a positive impact on profitability. The result may support the idea that a heterogeneous board would benefit from a broader information set made available by the multiple networks they belong to. These connections would enhance the decision-making process, with positive effects on profitability.

When we consider board diversity as defined by specific characteristics, we find that they differently impact firm performance: in particular, executive powers and gender have the greatest effect. An appropriate mix of executives and non-executives directors and a fair representation of

men and women in the board generate a positive effect on profitability. A good balance of executives and non-executives directors would allow the formers to ameliorate management practices and the latters to act as supervisors in the decision process (Fama and Jensen, 1983).

Concerning gender diversity, the analysis suggests that increasing the participation of women in boards would produce not only a social but also an economic development. Under this point of view, the increase in female representation within boards of directors and statutory advisors induced by the Italian Law 120/2011 is definitely welcome. On June 28, 2011, the Italian Parliament passed the so-called “Golfo-Mosca” Law (named after the two deputies who promoted it), imposing that one-fifth (in the first appointment) to one-third (in the following appointments) of directors and statutory advisors of listed and state-owned firms, must be represented by women. Before 2011, the proportion of female directors in Italy was about one-third of that of Finland (27%), Sweden (25%) and France (22%). From 2011 to 2013, the percentage of women in Italian boards of directors passed from 7.4% to 17% (Consob, 2013). According to Bianco et al. (2011), without the Golfo-Mosca Law, it would have taken more than sixty years for the proportion of women on boards to get to that 33% imposed by law.

Nevertheless, Adams and Ferreira (2009) report a negative impact of the presence of female directors on economic performance when firms are induced or forced to recruit them by law or by the public opinion. As a consequence, the authors consider as premature the decision, taken at an institutional level, to force listed firms to include a certain percentage of women in their boards, especially in men-dominated sectors. For Italy, future research will take into account the changes in board composition induced by law to further analyze the consequences of gender diversity. However, as Schwarts-Ziv (2013) notices, analyses based on gender-balanced boards, as the ones created by legislation, will hardly be able to disentangle the effect of gender diversity from those of, for example, age and background diversity, that will be equally affected. This paper, being an analysis of “steady state” boards that have not experienced a recent shock in the demand and supply of the (minority) directors, may represent a valid reference to compare results before and after the

reform was taken. In addition, the adoption, in future studies, of a broader point of view, considering all possible source of diversity, like the ones considered in this paper, will help assessing the actual effect of gender on firm performance.

Table 4. Diversity indexes and profitability (ROA). Fixed effects model

Independent variables	Dependent variable: ROA						
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Total D.I.	0.019*** (0.001)						
Gender D.I.		0.052*** (0.000)					0.044*** (0.002)
Age D.I.			0.013 (0.180)				0.005 (0.540)
Region D.I.				0.004 (0.460)			0.001 (0.700)
Executive director D.I.					0.022** (0.033)		0.025*** (0.001)
Family D.I.						0.016 (0.200)	0.003 (0.490)
Family President	0.012 (0.540)	0.010 (0.440)	0.016 (0.300)	0.013 (0.360)	0.012 (0.310)	0.012 (0.410)	0.018 (0.360)
CEO duality	-0.020** (0.040)	-0.025*** (0.029)	-0.027** (0.024)	-0.025** (0.033)	-0.025** (0.032)	-0.027** (0.024)	-0.027** (0.032)
Size	0.010*** (0.006)	0.011** (0.020)	0.011*** (0.004)	0.012*** (0.004)	0.011*** (0.004)	0.010*** (0.003)	0.011*** (0.004)
Size ²	-0.0004** (0.034)	-0.0004** (0.027)	-0.0004** (0.023)	-0.0004** (0.022)	-0.0004** (0.024)	-0.0004** (0.022)	-0.0004** (0.027)
Family ownership	0.011 (0.540)	-0.009 (0.620)	-0.007 (0.560)	-0.007 (0.540)	-0.006 (0.590)	-0.007 (0.610)	-0.006 (0.590)
Leverage	-0.059*** (0.001)	-0.066*** (0.001)	-0.075*** (0.001)	-0.074*** (0.002)	0.070*** (0.001)	-0.073*** (0.001)	-0.070*** (0.001)
ln(employees)	-0.004 (0.190)	-0.003 (0.340)	-0.004 (0.160)	-0.004 (0.160)	-0.004 (0.120)	-0.004 (0.200)	-0.004 (0.12)
Constant	0.020 (0.250)	0.066** (0.023)	0.087*** (0.004)	0.90*** (0.002)	-0.082*** (0.006)	0.086*** (0.006)	0.019 (0.119)
<i>Time dummies</i>	<i>yes</i>	<i>yes</i>	<i>yes</i>	<i>yes</i>	<i>yes</i>	<i>yes</i>	<i>yes</i>
<i>Adj-R²</i>	<i>0.105</i>	<i>0.110</i>	<i>0.095</i>	<i>0.094</i>	<i>0.090</i>	<i>0.092</i>	<i>0.093</i>
<i>Observations</i>	<i>1264</i>	<i>1264</i>	<i>1264</i>	<i>1264</i>	<i>1264</i>	<i>1264</i>	<i>1264</i>

*** Significant at 1%; ** Significant at 5%; * Significant at 10%. P-values in parenthesis.

Dependent variable: ROA, fixed effect model. “Gender D.I.”, “Age D.I.”, “Region D.I.”, “Executive director D.I.”, “Family D.I.” are specific diversity indexes; “Total D.I.” is a sum of all diversity indexes. “Family President” is a dummy variable with value 1 when the President of the board is a family member, value 0 otherwise; “CEO duality” is a dummy variable equal to 1 when the President is also executive, and 0 if he is not an executive; “Size” is the number of board directors; “Family ownership ” is the percentage of family ownership; “Leverage” is the total assets/equity ratio; “ln(employees)” is the natural logarithm of the number of employees.

References

- Adams, R.B., Ferreira, D., 2009, Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics* 94(2), 291–309
- Agrawal, A., Knoeber, C., 2001. Do some outside directors play a political role? *Journal of Law and Economics* 44, 179-198
- Anderson, R.C, Mansi, S.A., Reeb, D.M., 2003. Founding family ownership and the agency cost of debt. *Journal of Financial Economics* 68, 263-285
- Anderson, R.C, Reeb, D.M., 2003. Founding family ownership and firm performance: evidence from the S&P 500. *Journal of Finance* 58(3), 1308-1328
- Anderson, R.C., Duru, A., Reeb, D.M., 2009. Founders, heirs, and corporate opacity in the United States. *Journal of Financial Economics* 92(2), 205-222
- Anderson, R.C., Reeb, D.M., Upadhyay, A., Zhao, W., 2009. The economics of director heterogeneity. *Financial Management* 40(1), 5–38
- Auden, W.C., Shackman, J.D., Onken, M.H., 2006. Top management team, international risk management factor and firm performance. *Team performance Management* 12(7/8), 209-224
- Barontini, R., Caprio, L., 2006. The effect of family control on firm value and performance: Evidence from continental Europe. *European Financial Management*, 12(5), 689-723
- Barth, E., Gulbrandsen, T., Schønea, P., 2005. Family Ownership and Productivity: The Role of Owner-Management. *Journal of Corporate Finance* 11(1-2): 107-127
- Becht, M., Mayer C. (2001). Introduction. In F. Barca and M. Becht, eds., “The Control of Corporate Europe”, Oxford University Press, Oxford, 1–45.
- Bennedsen, M.K., Nielsen, M.K., Pérez-González, F., Wolfenzon, D., 2007. Inside the family firm: the role of families in succession decisions and performance. *Quarterly Journal of Economics*, 109(4), 1125-1156
- Bianco, M., Ciavarella, A., Signoretti, R., 2011. Women on boards in Italy. *Quaderno di Finanza n. 70, Consob*
- Blau, P., 1977. *Inequality and heterogeneity: A primitive theory of social structure*. New York: Free Press.
- Bloom, N., Van Reenen, J., 2007. Measuring and Explaining Management Practices Across Firms and Countries. *Quarterly Journal of Economics* 122(4), 1351-140
- Boone, A., Field, L., Karpoff, J., Raheja, C., 2007. The determinants of corporate board size

and composition: an empirical analysis. *Journal of Financial Economics* 85, 66-101

Campbell, K., Minguez-Vera, A., 2008. Gender Diversity in the Boardroom and Firm Financial Performance. *Journal of Business Ethics* 83, 435-451

Carter, D.A. Simkins, B.J. Simpson, W.G., 2003. Corporate Governance, Board Diversity and Firm Value. *The Financial Review* 88, 33-53

Carter, D.A., D'Souza, F.P, Simkins, B.J., Simpson, W.G., 2010. The gender and ethnic diversity of US boards and board committees and firm financial performance. *Corporate Governance* 18(5), 396-414.

Caselli, F., Gennaioli, N., 2013. Dynastic Management. *Economic Inquiry* 51(1), 971-996

Coles, J., Daniel, N., Naveen, L., 2008. Boards: does one size fit all? *Journal of Financial Economics* 87, 329-356

Consob, 2013. 2013 Report on Corporate Governance of Italian listed companies, November 2013

Cucculelli, M., Micucci, G. (2008). Family succession and firm performance: Evidence from Italian family firms. *Journal of Corporate Finance*, 14(1), 17-31

Davies, E., 2011. Women on boards: An independent review into women on boards. Technical report, Department for Business Innovation and Skills BIS, London.

Erhardt, N.L., Werbel, J.D., Shrader, C.B., 2003. Board of Director and Firm Financial Performance. *Corporate Governance* 11(2), 102-111

European Union, 2012. Women in economic decision-making in the EU: Progress report. a Europe 2020 initiative. Technical report, European Union, Commission Staff Working Document, Luxembourg: Publications Office of the European Union, 2012

Fama, E.F., Jensen, M.C., 1983. Separation of Ownership and Control. *Journal of Law and Economics* 26(2), 301-325

Favero, C.A., Giglio, S.W., Honorati, M., Panunzi, F. (2006). The performance of Italian family firms. ECGI Finance Working Paper I27

Gao, T., 2003. Ethnic Chinese networks and international investment: Evidence from inward FDI in China, *Journal of Asian Economics* 14(4), 611-629

Gomez-Mejia, L.R., Nuñez-Nickel, M., Gutierrez, I., 2001. The role of family ties in agency contracts. *The Academy of Management Journal* 44(1), 81-95

Gompers, P., Ishii, J., Metrick, A., 2003. Corporate governance and equity prices, *Quarterly Journal of Economics* 118, 107-155

Harrison, D.A., Klein, K.J., 2007. What's the difference? Diversity constructs as separation, variety, or disparity in organizations. *Academy of Management Review* 32(4), 1199-1228

Hermalin, B.E., Weisbach, M.S., 1988. The Determinants of Board Composition. *RAND Journal of Economics* 19(4), 589-606

Hermalin, B.E., Weisbach, M.S., 2003. Boards of directors as an endogenously determined institution: a survey of the economic literature. *FRB New York, Economic Policy Review* 9(1), 7-26

Jensen, M.C., 1998. *Foundations of Organizational Strategy*. Harvard University Press, Cambridge, MA

Jensen, M.C., Meckling, W.H., 1976. Theory of the firm: Managerial behaviour, agency costs, and ownership structure. *Journal of Financial Economics* 3, 305-360

Lauterbach, B., Vaninsky, A., 1999. Ownership structure and firm performance: evidence from Israel. *Journal of Management and Governance* 3, 189-201

Linck, J., Netter, J., Yang, T., 2008. The determinants of board structure. *Journal of Financial Economics* 87, 308-328

Mediobanca, various years. *Annuario R&S*

Perez-Gonzalez, F., 2006. Inherited control and firm performance. *American Economic Review* 96(5), 1559-1588

Peterson, S. J., Spiker, B. K., 2005. Establishing the positive contributory value of older workers: A positive psychology perspective. *Organizational Dynamics* 34(2), 153-167

Pfeffer, J., Salanick, G.R., 1978. *The external control of organizations: A resource dependence perspective*, New York: Harper & Row

Rhode, D., Packel, A.K., 2010. Diversity on corporate boards: how much difference does difference make? Rock Center for Corporate Governance at Stanford University Working Paper No. 89

Schwartz-Ziv, M., 2013. Does the gender of directors matter? Mimeo

Schwizer P., Soana M.G., Cucinelli D. (2012). The advantages of board diversity: an empirical analysis of the Italian market. In Carretta A., Mattarocci G., "Financial systems in troubled waters. Information, strategies, and governance to enhance performances in risky times",

2012 Routledge Taylor & Francis

Sciascia, S., Mazzola, P., 2008. Family Involvement in Ownership and Management: Exploring Nonlinear Effect on Performance. *Family Business review* 21(4), 331-345

Shannon, C.E., 1948. A mathematical theory of communication. *The Bell System Technical Journal* 27, 379-423 and 623-656

Simons, T., Pelled, L.H., Smith, K.A., 1999. Making use of difference: diversity, debate and decision comprehensiveness in top management teams. *The Academy of Management Journal* 42(6), 662-673

Smith, K.A., Smith, K.A., Olian, J.D., Sims, H.P., O' Bannon, D.P., Scully, J.A., 1994. Top management team demography and process: the role of social integration and communication, *Administrative Science Quarterly* 39(3), 412-438

Sraer, D., Thesmar, D., 2007. Performance and behaviour of family firms: Evidence from the French stock market. *Journal of the European Economic Association* 5(4), 709-751

Villalonga, B., and Amit, R. H., 2006. How Do Family Ownership, Control and Management Affect Firm Value?, *Journal of Financial Economics* 80(2), 385-417

Williams, K. Y., O'Reilly, C. A., 1998. The complexity of diversity: a review of forty years of research. In B. Staw and R. Sutton (Eds.), *Research in Organizational Behavior* 21, 11-140. Greenwich, CT: JAI Press