

Full Length Research Paper

Change in the outside directors on the board affects strategy and performance of family Small and medium enterprise (SME)

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We selected a sample of 187 family-controlled, small- and medium-sized Italian companies and gathered financial information about them. Then, we collected data on the strategic change and the recruitment of members to the boards of these family-owned firms. First of all, through multiple regression analysis of the data collected, we demonstrated that recruitment of new outside directors (in substitution or addition) onto the board is positively associated with strategic change. Family SMEs, which facilitate change in corporate strategy through changes to the set of outsiders on their boards, are controlled by family owner-managers who select board members in response to the specific strategic requirements of their firms. Successively, we analysed the financial performances which are associated with the recruitment of outsiders to the boards of the SMEs in the sample and, in this way, we found that the simple presence of outsiders is not sufficient to increase the firm's financial performance since the firms which achieve the best results are those which are the most dynamic in making changes to the set of outsiders on their boards. Firms which choose outsiders to facilitate change in corporate strategy have greater capability to address changes in their environment and meet the challenges therein. In conclusion, from a dynamic perspective, addition/substitution of outsiders to boards can move the SMEs in the required direction, toward an efficient response to dynamic market conditions and, therefore, towards a more successful performance.

Key words: Strategy, governance, addition/substitution of outsiders

INTRODUCTION

Family SMEs are closely held and owner-managed. Individuals belonging to the main owner family are often members of both the board and the top management team of their firm. In this way, they have great latitude when taking the most important decisions for the firm, such as those regarding strategy or the recruitment (or not) of directors to the board from outside their family. In family firms, in which owner-managers decide not to recruit outside directors, there can be a lack of the knowledge, resources and competences which are necessary to bring about strategic change. This might reflect negatively on the competitive and financial performance of such family firms. Our contribution deals particularly with how small- or medium-sized family firms face up to challenges regarding the recruitment of outside directors, strategic change and performance improve-

ment. Selecting in Italy a sample of 187 family-controlled, small- and medium-sized companies (Società per Azioni and Società a Responsabilità Limitata), the paper shows that the board of directors is of significance within the variables which influence strategic change and, sometimes, the performance of SMEs.

Miller and Le Breton-Miller (2003: 127) define the family firm as one in which a family has enough ownership to determine the composition of the board, where the *chief executive officer* (CEO) and at least one other executive is a family member, and where the intent is to pass the firm on to the next generation. The CEO is the leader of the top management team (TMT), that is, the entire group of the firm's top executives (Wu et al., 2005), and dominates the distribution of responsibilities and tasks within the team itself (Haleblian and Finkelstein, 1993).

There are many different definitions of the family firm and the one adopted here is the most restrictive. As Lester and Cannella (2006) note, this definition helps avoid the mistake, made in many studies of family firms, of not differentiating “*between entrepreneur-controlled businesses (ECBs) and family controlled businesses (FCBs)*”. ECBs, by definition, have just a single owner-manager involved in the business, and are far less likely to have any intention of passing the company on to subsequent generations. While many FCBs start out as ECBs and make the transition only after the founder passes the firm on, for the purposes of our study, ECBs are not “*family businesses*” (Miller et al., 2005).

However, it might be added that recent research has shown that in Italy, unlike in other countries, the ownership-control-management combination of FCBs is normal for SMEs, as well as being common among large firms (Corbetta and Minichilli, 2005).

Members of a board of directors who are not firm employees, retired employees, or members of the SME's main owner family are here referred to as *outsiders*. We analysed how demographic variables regarding the participation on the board of outsiders influences the ability of family-controlled SMEs to introduce strategic change and improves the firms' financial performance.

In the following area, we will present theories on the (negative and positive) consequences that family ownership-management generates regarding SMEs' ability to promote strategic change.

We shall present the empirical research, together with description of the data, variables and methodology. The research will use econometric models which are able to quantify the effects on strategic change deriving from the governance variables within firms in a sample of 187 SMEs. These firms are all found within the same sector of activity (code no. 28, ATECO 2007) and their turnover is less than 50 million euro p.a. (this is the threshold to identify SMEs used by European Commission). The sample group was not formed randomly, but rather is composed of all of the Italian firms in the sector whose balance sheet and other company information are available for consultation through the AIDA data base (the Bureau van Dick) and whose CEOs were prepared to answer a questionnaire made up of questions regarding the corporate governance and strategies of their firms. The results would be discussed.

THEORETICAL BACKGROUND AND HYPOTHESES

Most studies which conclude that the performance of family firms is worse than that of their non-family counterparts (Morck et al., 2000) suggest that the family's desire for capital preservation, stability, and risk aversion keeps the firm from pursuing strategies that might otherwise improve performance, but would also threaten the family's continued control.

There also appears to be some broad agreement in the literature that family firms tend to pursue strategies that are more risk averse than those of regular public companies. For example, some studies show that family firms shun debt in order to avoid the risk of bankruptcy or the risk that sizable debt will pass into the control of third parties, thus threatening the family's control (Gorritz and Fumas, 1996; Mishra and McConaughy, 1999; Schulze et al., 2003). Furthermore, this risk aversion can limit the firm's ability to grow and innovate (Cho and Pucik, 2005). Family firms have also been found to pursue cautious investment policies that likewise tend to inhibit growth (Mustakallio et al., 2002).

Conversely, research suggesting that family firm performance is superior to that of other firms often explains this result by using the argument that families are better stewards of firm resources because of an overall aversion to managerial opportunism. Recent research seems to provide compelling evidence of superior family firm performance (Miller et al., 2005).

The negative and positive effects, of family ownership-management upon SME ability to develop strategic change will be described separately. Finally, we will formulate hypotheses regarding how the recruiting of outsiders to the boards of family firms can improve such firms' ability to develop strategic change and their performance since it is probable that outsiders are useful, on the one hand, to combat the negative effects and, on the other, to encourage the positive effects of family governance.

The consequences of family governance upon SMEs' ability to develop strategic change and competitive performance

The literature suggests that the more managers are also owners of their firm the more risk averse they are (Beatty and Zajac, 1994; Denis et al., 1997). Since strategic change is associate with taking risks, so family SMEs are at a disadvantage in terms of risk bearing and are more inclined to strategic inertia (Chandler, 1990; Schulze et al., 2002). In particular, a high concentration of ownership may lead to the taking of strategic decisions which avoid risk (Chandler, 1990) and change such as that regarding product innovation or expansion into international markets (Hill and Snell, 1988; Hoskisson et al., 2000). Given that they are main owner family members, managers are under less pressure from outside investors and other monitors who would request transparency, accountability and strategic change, all things that might give rise to a defensive attitude which may harm longevity and efficiency (Carney, 2005).

Controlling owner-CEOs may view their firms as personal fiefdoms (Salehi and Baezagar, 2011). They have the discretion to act—or not—without the board, and this can lead to risky decisions or, if the situation

holds for a long time, strategic stagnation (Finkelstein and Hambrick, 1996; Miller and Le Breton-Miller, 2006), both of which may be hazardous.

In the literature, there is no shortage of contributions which, instead, emphasise the benefits that a firm gains from a closer relationship between managers and controlling families. For example, stewardship Theory (Davis et al., 1997; Donaldson and Davis, 1991), presents the closer relationship between managers and controlling families as a positive feature since it leads to a stronger commitment to the firm. Managers operate with the expectation that they will have their position for a long period of time and this motivates them to be farsighted stewards of the business and to try to uphold the best interests of the organisation (Donaldson and Davis, 1991; Prencipe et al., 2008). Other contributions underline the benefits deriving from the fact that controlling families normally aim to maintain their investment in the long term. Indeed, founding families *“are a unique class of investors. The combination of undiversified family holdings, the desire to pass the firm onto subsequent generations, and concerns over family and firm reputation suggest that family shareholders are more likely than other shareholders to value firm survival over strict adherence to wealth maximization”* (Anderson et al., 2003: 265).

The board can contribute to strategic change and performance within SMEs

Boards of directors perform a service task and are supposed to bring different types of resources to the firm (Gabrielsson and Huse, 2005; Huse, 2005; Forbes and Milliken, 1999; Sirmon and Hitt, 2003). These resources, which include knowledge and relationships with third parties, may become indispensable for strategic change when the firm's environment alters significantly (Pfeffer, 1972; Pfeffer and Salancik, 1978; Gales and Kesner, 1994). For example, with regards the firm's innovation processes, Moran and Ghoshal (1996) and Tsai and Ghoshal (1998) state that, in order to create new or better products and services, firms need to exchange and combine new resources, or find new ways to do so with existing ones. Thus, giving access to the board to individuals with knowledge and experience or combinative capacities that are different from those of the family owner-manager may be associated with innovative strategies.

A board, which does not limit itself to controlling, but rather assists the management might reinforce the initiatives of strategic change undertaken by the family owner-manager (which develop within the good stewardship perspective) and/or may minimise or oppose tendencies towards stagnation, strategic immobility and poor innovation (which might be generated given the family owner-manager's likely risk aversion).

A board of directors may make an important contribution to a firm's strategy with regards, generally, the processes through which the firm makes its most important strategic decisions (Pugliese et al., 2009). Indeed, boards participate in various phases of strategic decision making through interacting with TMTs (Judge and Dobbins, 1995; Forbes and Milliken, 1999; Rindova, 1999; Yildirim and Usdiken, 2010; Yoo and Kim, 2012). This was not entirely new since the international literature had already shown the important influence of board insiders and outsiders in the choice of the firm's innovation strategies. Baysinger et al. (1991) and Hill and Snell (1988) were among the first studies to show board influence on the firm's innovation activity.

Fama and Jensen (1983: 311) have defined the board as the “apex of the firm's decision control system”. In family SMEs, however, owners have direct, detailed insights into the firm's internal processes (Cowling, 2003). In such circumstances, the role of the board is different, because there is no risk of opportunistic behaviour by the management (at least towards the owners). Therefore, the board can concentrate much more on service activities rather than on control activities. The result of this is greater effort on strategic development by the board (Brunninge and Nordqvist, 2004; Huse, 2000). A vital function of the board is to perform service tasks that is, to advice and counsel the family owner-manager. In an early review of boards of directors, studies applying resource dependency theory showed that directors' involvement in the strategic arena usually took the form of initiating strategic analysis and suggesting alternatives (Zahra and Pearce, 1989). Based on a practical view of board strategic involvement, other researchers have specified implementing strategies as one critical part of this involvement (Huse, 2005; Zahra, 1990). In short, board strategic tasks cover a set of activities that may range from initiating strategies to implementing them.

Authoritative literature asserts that boards should have outside members with the power to speak the truth to an entrenched family boss (Anderson and Reeb, 2004). Fiegenger (2005) finds that there are many SMEs which have active boards with outside members who have a role in strategy development. Outside board members are not tied to the day-to-day operations of the firm and, consequently, they are likely to think more freely with regards the strategic alternatives open to the firm (Forbes and Milliken, 1999). Therefore, outsiders recruited onto the boards of family firms can give an important contribution to the identifying of new strategic directions and also provide information and advice during a process of change (Borch and Huse, 1993).

Recruiting outsiders would facilitate growth in board capital (Hillman and Dalziel, 2003; Dalziel et al., 2011). This capital consists of both human and relational capital. Becker (1964) and Coleman (1988) define the directors' expertise, experience, knowledge, reputation and skills

as 'human capital'. Scholars define the board's directorate ties to external organisations as 'relational capital' (Hillman and Dalziel, 2003). Relational capital, sometimes called social capital, explicitly refers to 'the ability of actors to secure benefits by virtue of membership of social networks' (Portes, 1998: 6).

Outsider members of the board would take advantage of their networks to allow the firm to acquire new resources (Tian et al., 2011; Kim and Cannella, 2008; Lester and Cannella, 2006). Therefore, through their personal contacts, these directors can link the company with important stakeholders within the firm's environment and provide it with better access to essential external resources. Pfeffer and Salancik (1978) assert that the firm can receive further benefits from connecting its board to the external environment. These benefits might consist of improvement in reputation and legitimacy (Pfeffer and Salancik, 1978; Johannisson and Huse, 2000). All of these benefits are linked to favourable external conditions for change. What is more, the presence of outsiders on the board of a family SME may also create favourable internal conditions for strategic change. Indeed, the experience of outside board members gained from contexts external to the firm can increase the board's 'human capital' in terms of directors' expertise, experience, knowledge, reputation and skills. Outside directors who have different information acquisition and interpretation styles are likely to consider a wide array of data sources regarding their companies' markets, competitors, operations, and customers (Keck, 1997; Leonard and Sensiper, 1998). Cognitive diversity which derives from the recruitment of these outsiders could significantly improve SMEs' capacity to identify more needs and opportunities for strategic change.

Putting together the different contributions of the literature looked at, we believe it reasonable that the inclusion of non-family members on the board might increase the capability to interpret environmental change and extend those competences within the firm that are necessary for the development of new resources or, more simply, improve the understanding of how present resources may be combined differently so as to generate changes in strategy. Consequently:

Hypothesis 1: The presence of outside directors on the board is positively associated with strategic change (or, in the same way: the absence of outside directors on the board is negatively associated with strategic change).

Regarding cases where there are no outsiders on the boards of family firms (the set of outsiders is empty), there seems to be a more conservative approach which generates less positive strategic change. What is more, given that strategic change would be reflected by better financial performance, we formulate the following:

Hypothesis 2: The presence of outside directors on the board is positively associated with financial performance

(or, in the same way: the absence of outside directors on the board is negatively associated with financial performance).

Insights from resource dependency theory show how a change in the environment leads to a change in corporate strategy, which in turn may be facilitated through a change in the composition of the board of directors (Hillman et al., 2000). Resource dependence theory asserts that as a firm's external environment changes, so does the need for ties with that environment. Given that the members of the board serve to connect the firm with those external factors which generate uncertainty and external dependencies, so the composition of the board may be strategically changed in order to facilitate strategic change and to provide the benefits of reduced uncertainty for firms in a different environment (Pfeffer and Salancik, 1978). In particular, change in the boards' composition might deal with recruitment of new outsiders, either as an addition to or a substitution for others (Kim, 2012).

Unlike companies that are quoted on the stock market, SMEs are not subject to regulations or self-regulatory codes which impose the employment or substitution of outsiders on the board. Therefore, it may be assumed that SMEs employ (new) outsiders since they "*will come to support the organization, will concern themselves with its problems, will variably present it to others, and will try to aid it*" (Pfeffer and Salancik, 1978: 163). In particular, it is probable that new outsiders will be selected by family owner-managers in order to move SMEs toward an efficient response to dynamic market conditions. New outsiders bring new resources (knowledge, competence and relationships with third parties) and these could be indispensable for the making of strategic change when the firm's environment alters significantly. This leads to the following:

Hypothesis 3: Recruitment of new outside directors (in substitution or addition) onto the board is positively associated with strategic change

Since changes in the set of outsiders generate positive strategic change and given that it is expected that strategic change will reflect a better financial performance, we formulate the following:

Hypothesis 4: Recruitment of new outside directors (in substitution or addition) onto the board is positively associated with financial performance.

METHODS

Selection of the sample of family firms

We employed a method to identify small- and medium-sized family companies upon which it might be useful to test the hypotheses formulated. In an initial phase, through the AIDA data base of the Bureau van Dick (<https://aida.bvdep.com>), for 13th December 2009, we identified all of the Italian companies (Società per Azioni and

Società a Responsabilità Limitata) with a turnover of less than 50 million euro p.a. from activity sector 28 of Ateco 2007 (“machinery production sector and, more in general, of equipment for use in industry”) with head offices in Italy and which presented non-null values of capitalised Research and Development costs on their 2006, 2007 and 2008 balance sheets. The choice of a turnover threshold of 50 million euro p.a. was not casual. Indeed, this threshold is used by the European Commission (document of 6th May, 2003) to identify small and medium enterprises. Nor was the choice of sector 28 from the Ateco 2007 (“machinery production sector and, more in general, of equipment for use in industry”) casual. In this sector, knowledge resources are fundamental for the acquisition and maintenance of sustained competitive advantage. Frequently firms in this sector, even the small and medium sized ones, invest conspicuous amounts of resources in R&D to generate continuous innovation of products and productive processes. Moreover, this sector continuously experiences changes in environmental conditions, particularly with regards technology, given that the level of mechanical, electronic and automation technology in industrial machinery is high. This means that, in order to maintain competitive advantage, a firm in this sector needs the ability to change strategy in line with evolution in internal capability and change in environmental conditions. The AIDA data base generated a list of 391 companies which satisfied the requisites. AIDA provided a great deal of information regarding these companies, including addresses, e-mail addresses and telephone numbers.

Over a period of 18 months, from December, 2010 to May, 2012, we contacted the firms whose e-mail addresses we had obtained through AIDA in the previous phase. In the e-mail, we asked them for a telephone number for the company CEO, or for one of his/her direct collaborators/assistants, in order to carry out a telephone interview of no longer than 15 min. The firms that did not reply were sent an identical email after 6 months and, finally, we telephoned all of the firms which still had not replied in May 2012. In the end, we had received replies from 269 firms. This interview was organised around 20 questions and guaranteed anonymity. During the interviews, we asked, above all, for information regarding the presence among shareholders of at least two members of the same family and whether the CEO and at least one other manager were from that family too. We received a total of 187 positive answers to these opening questions. Therefore, we continued the interview in the cases of just these 187 firms and these made up the sample of analysed firms which were tested on the base of the research hypotheses. During the interviews, we gathered, on one hand, data regarding the dependent variables of strategic change and, on the other hand, data inherent to certain variables on which the former might depend (that is, independent variables). It should be made clear that the data regarding dependent variables refer to the years 2008, 2009, 2010 while those regarding independent variables and variables of control refer to 2006, 2007 and 2008.

The delay of two years was chosen for two principal reasons, both of which were well described in the previous literature (Melin and Hellgren, 1994; Pettigrew and Whipp, 1991):

1. Delay permits the firm to avoid making errors which derive from inverse causality relationships between the variables.¹
2. Efforts in strategic change need time to come to fruition.

Collection of data, variables and measures

Dependent variables

We used the “*CH. In Strategy*” variable to measure each firm’s

strategic changes during the reference period (2008, 2009 and 2010). There are numerous concepts of strategic change. For example, some studies take a narrow approach and define strategic change as divestitures and/or industry changes (Golden and Zajac, 2001; Goodstein et al., 1994). With regards Italian SMEs, such definitions of strategic change are too reductive and few events would be surveyed. As has been done for other important empirical studies of SMEs carried out in Europe, we subscribe to a broader view of strategic change and use a measurement method which is similar to that used by Brunninge et al. (2007). In particular, we asked whether, in the course of the three previous years, the firm had introduced changes in 11 areas of company policy, giving a dichotomous yes/no response format. The surveyed areas were: (a) planned reduction or increase in the numbers of dependent personnel; (b) planned cost reductions; (c) selling or closing down of inefficient parts of the firm; (d) investment to improve the management information systems; (e) planning and beginning of sales in a new country; (f) planning and beginning of sales in a new area of Italy; (g) substantial marketing changes; (h) early adoption of measures which the company, sooner or later, has to apply; and (i) application of changes so as to steal a march on rivals; (j) marketing of a significant new product or service or, somehow, modifying what the firm offers its customers; (k) initiating work on an important, brand-new product, service or similar. In measuring the *CH. In Strategy* variable, we used the following method for the aggregation of the aforementioned dimensions. Flag “1” was attributed to each area if the firm had introduced at least one change in this area; otherwise flag “0” was attributed. We measured the *CH. In Strategy* variable for each sample firm as a sum of the flags (“0” and “1”) attributed to the 11 dimensions. Then, we ran Cronbach’s alpha to validate the aggregation of items. Cronbach’s alpha of the scale was 0.61 and the value of alpha was within the limits of tolerance suggested in the literature (Nunnally, 1978; Malhotra, 1997). We thus considered the feasibility and coherence of the scales as valid.

Finally, we measured “*Performance*”, calculated as an average of the values of return on assets (ROA) over the three years (2008, 2009 and 2010). ROA is defined as the net operating income before extraordinary items divided by total assets.

Independent variables

As already stated, the data used to measure the following variables refers to the years 2006, 2007 and 2008. The variables were measured for each firm in the sample.

To find out about the presence of outside directors on the board, we asked whether there were any board components who are not firm employees, retired employees, or main owner family members. We gave a value of “1” to those firms that had at least one outside director on their boards for all of the years looked at and “0” for all of the others. This dummy variable was named “*Outsider Presence*”.

Next, we measured changes in the set of outside directors by using a dummy variable named *CH. In Outsider*. We gave a variable value of “1” for those firms that had changed the structure of their boards in at least one of the considered years, by adding at least one outsider (to the other outsider/s already present) or substituting at least one already present outsider with another new nominee. This dummy variable took a value of “0” in all other cases.

Control variables

The ability to introduce strategic change and to achieve a better financial performance on the part of the sample firms may also depend on their size and R&D. Therefore, for each firm, through the

¹ Valenti et al. (2011) suggest inverse causality relationships e.g. between the variables performance and corporate governance.

data gathered by AIDA, we include the following variable of control in the analysis:

1. "Firm Size", calculated as a natural log of the average value of turnover over the three years (2006, 2007 and 2008).

2. We measured the R&D variable by using data on the costs relating to applied research and development which were capitalised. R&D is calculated as an average of the values recorded as an asset on the balance sheet over the three years (2006, 2007 and 2008). In particular, R&D is expected to indicate new alternatives for the firm's future development and, therefore, is useful for adding alternative possibilities to strategy-making. R&D increases the number of options available for carrying out strategic change and, so, helps in the achieving of a better financial performance.

STATISTICS, HIERARCHICAL REGRESSION ANALYSES AND RESULTS

Table 1 presents the descriptive statistics for all variables identified in the previous area. The correlation statistics for the variables are presented in Table 2. Table 2 shows certain significant correlations. *Firm Size* with *CH. In Strategy* is significantly correlated ($p < 0.05$). The variables *Outsider Presence* with *CH. In Strategy*; *Firm Size* with *Outsider Presence*; *CH. In Outsiders* with *CH. In Strategy* and *CH. In Outsiders* with *Performance* are strongly correlated ($p < 0.01$). *Performance* with *CH. In Strategy*; *R&D* with *CH. In Strategy*; *R&D* with *CH. In Outsiders* and *Firm Size* with *R&D* are weakly correlated ($p < 0.1$).

In addition to the univariate tests that provide preliminary evidence about some hypothesised relationships, we employ multiple ordinary least squares regression analysis to examine the dynamic interaction among the variables and their relationship to strategic change and financial performance. With this aim, we ran two different hierarchical regression models. The first model, in Table 3, uses *CH. In Strategy*, as a dependent variable to test hypotheses 1 and 3 which focus upon strategic change. The second model, in Table 4, uses *Performance*, as a dependent variable to test hypothesis 2 and 4 which focus upon on financial performance.

Hierarchical regression models of the dependent CH. In strategy variable

In Table 3, the first thing we did was put in place just the control variables. The column named *Model I* in Table 3 presents the results. This model explains about 3% of the variance in the "strategic change" phenomenon, with *F* which is equal to 3.06 (significance at 0.05 level). *Model I* suggests that it is the larger firms and those that invest most in R&D which are most inclined to strategic change. In the next step, we analysed *Model II*, inserting the independent variable (*Outsider Presence*) which corresponded to the testing of hypothesis 1. The second column of Table 3 presents the results. *Model II* makes a

more significant contribution than *Model I* and the significant improvement in model fit is given by $\Delta R^2 = 0.05$ with *F change* equal to 10.912 and significance at $p < 0.01$. Within *Model II*, when the regression coefficients are examined, the findings suggest that the presence of outsiders is associated with higher performance ($p < 0.01$), as anticipated by hypothesis 1. Therefore, hypothesis 1 is supported. In the next step, we analysed *Model III*, inserting the independent variable (*CH. In Outsiders*) corresponding to the testing of hypothesis 3. The third column of Table 3 presents the results which show that *Model III* makes a more significant contribution than *Model II* and that the significant improvement in model fit is given by $\Delta R^2 = 0.06$ with *F change* equal to 11.294 and significance at $p < 0.001$. Within *Model III*, when the regression coefficients are examined, the findings suggest that changes in the set of outsiders recruited onto the boards (addition/substitution of outsiders) of family firms has positive effects on strategic change (highly significant given that $p < 0.001$), so supporting hypothesis 3. The full model is fit, particularly explains about 15% of the variance and is strongly significant since *F sign* = 7.79 (significance at 0.001 level).

In addition, we examined the variance inflation factor (VIF) of each independent variable in the regression models in order to detect potential problems with multicollinearity. VIF values were particularly low in models II and III (1.9 and 1.5 respectively) so multicollinearity is not a problem. Finally, we test the results of the multiple OLS regression analysis by using the Breusch-Pagan test (Breusch and Pagan, 1979). The Breusch-Pagan test is used to test for heteroscedasticity in the linear regression models. The results of this test show that the null hypothesis of homoscedasticity can be accepted in models II and III (Table 3), both on the basis of the F-Statistic and on the basis of the test statistic $N \times R^2$.

Hierarchical regression models of the performance dependent variable

In Table 4, the first thing we did was to put into place just the control variables. The column named *Model I* in Table 4 presents the results. This model explains only 2% of the variance in the "performance" phenomenon and it is not fit, indeed *F* is equal to 2.10 ($p > 0.05$). In the next step, we analysed *Model II* by inserting the independent variable (*Outsider Presence*) which corresponded to the testing of hypothesis 2. The second column in Table 4 presents the results. *Model II* does not make a more significant contribution than the base model, that is, *Model I* ($\Delta R^2 = 0.02$, *F change* = 3.61 is not statistically significant). *Model II* itself is not statistically significant since *F* is equal to 2.49 ($p > 0.05$). These findings suggest that there is no significant association between

Table 1. Descriptive statistics on all selected variables.

Variable	Observations 187				
	Mean	Median	SD	Maximum	Minimum
CH. In strategy	5.184	4	4.509	9	1
Performance	0.070	0.068	0.087	0.12	-0.078
Outsider presence	0.396	0	0.516	1	0
CH.In outsiders	0.289	0	0.422	1	0
R&D (in thousands of Euros)	696.070	701.662	853.167	1549.401	25.651
Firm size	17.094	17.101	1.375	17.705	14.581

Table 2. Correlation matrix.

	1	2	3	4	5	6
1 CH.In strategy	1					
2 Performance	0.103 †	1				
3 Outsider presence	0.186 **	0.061	1			
4 CH.In outsiders	0.219 **	0.228 **	0.067	1		
5 R&D	0.098 †	0.083	0.081	0.096 †	1	
6 Firm size	0.123 *	0.059	0.179 **	0.071	0.101 †	1

Pearson's product-moment correlation coefficients; N = 187; 1-tailed: † p < 0.10; * p < 0.05; ** p < 0.01.

Table 3. Results of hierarchical regression analysis of strategic change (CH.InStrategy).

Standardised regression coefficients are displayed in the table. N = 187	Model I	Model II	Model III
Control variable			
Firm size	0.082*	0.077*	0.075*
R&D	0.251*	0.223*	0.219*
Independent variable			
Outsider presence		0.288**	0.265**
CH. In outsiders			0.214***
R ²	0.03	0.08	0.15
F sign	3.06*	5.49**	7.79***
Adj R ²	0.02	0.07	0.13
ΔR ²	0.03	0.05	0.06
F change	3.06*	10.912**	11.294***

***, **, * , indicate significance at 0.001 and 0.01 or 0.05 level, respectively.

outsider presence on the board and performance and, therefore, hypothesis 2 is not supported by this analysis. In the next step, we analysed *Model III* by inserting the independent variable (*CH. In Outsiders*) which corresponded to the testing of hypothesis 4. The third column in Table 4 presents the results. *Model III* makes a more significant contribution than *Model II* with an improvement in model fit given by $\Delta R^2 = 0.03$ and *F change* equal to 4.21, significance at p < 0.05. Within *Model III*, when the regression coefficients are examined, the findings suggest that changes within the set of outsiders recruited onto the boards (addition/substitution

of outsiders) of family firms are statistically, albeit not strongly, associated with more strategic change (p < 0.05), so supporting hypothesis 4. The full model is fit, even though its significance is not statistically high, indeed *F sign* = 3.23 (significant only at a 0.05 level) and only 7% of the variance of the performance dependent variable is explained by the model itself.

In addition, we examined the variance inflation factor (VIF) of each independent variable in the regression model III in order to detect potential problems with multicollinearity. VIF values were equal to 1.9; therefore multicollinearity is generally not a problem in Model III.

Table 4. Results of hierarchical regression analysis of performance.

Standardised regression coefficients are displayed in the table. N = 187	Model I	Model II	Model III
Control variable			
Firm size	0.062	0.057	0.058
R&D	0.315	0.209	0.198
Independent variable			
Outsider presence		0.118	0.110
CH. In outsiders			0.101*
R ²	0.02	0.04	0.07
F sign	2.10	2.49	3.23*
Adj R ²	0.01	0.02	0.05
ΔR^2	0.02	0.02	0.03
F change	2.10	3.61	4.21*

***, **, *, indicate significance at 0.001 and 0.01 or 0.05 level, respectively.

Finally, we test the results of the multiple OLS regression analysis of Model III by using the Breusch-Pagan test. The results of this test show that the null hypothesis of homoscedasticity can be accepted in model III of Table 4 both on the basis of the F-Statistic and the test statistic $N \times R^2$.

DISCUSSION AND CONCLUSION

There are influential stakeholders, outside the organisation, who control external resources which are essential for strategic change. Our premise is that outsider directors who can bring strong links with these stakeholders may be particularly valuable (Kim and Cannella, 2008). These are further benefits which the presence of outsiders on the board might produce within an SME. Indeed, strategic change requires both the capacity to interpret a complex environment and the competence to mobilise and manage the resources necessary to respond to the competitive challenges that have been identified. Particularly in SMEs where strategic leadership often lies in the hands of a single person, there can be a lack of knowledge, resources and competences to bring about change (Brunninge et al., 2007). The inclusion of non-family members on the board might increase the capability to interpret environment change, extend the competences within the firm that are necessary for the development of new resources or, more simply, improve the understanding of how present resources may be combined differently. Since directors' involvement in the strategic arena usually takes the form of initiating strategic analysis and suggesting alternatives, the presence of outsiders on the board of directors is useful for increasing the number of alternative possibilities in strategy-making and improving successive analysis. Therefore, we hypothesise that the presence of outsiders helps strategic change.

Effective strategic change will make the firm's

competences more in tune with the environmental conditions so as to achieve a higher level of competitive performance which, in turn, will be reflected in a better financial performance by the firm. Therefore, we hypothesise that the presence of outsiders on the boards of family firms will equate to better performances by those firms.

In order to maintain competitive advantage, firms belonging to sectors which continuously experience changes in environmental conditions need dynamic capability and the ability to change strategy in line with evolution in internal capability and change in environmental conditions (Grant, 1996; Teece et al., 1997). However, changes in environmental conditions can quickly lead to a lack of the knowledge, resources and competences needed to bring about change even in family firms which already include outsiders on the board. Owner-managers of such family firms might turn to the recruitment of outsiders (in addition to or to substitute those already on the boards) as a response to the firm's strategic requirements to integrate, build, and reconfigure internal and external competences in order to address rapidly changing environments. Consequently, we hypothesise that changes in the set of outside directors (addition/substitution of outsiders) on family firms' boards are associated with more strategic change in those firms. Finally, we hypothesise that there is a positive relationship between addition/substitution of outsiders and the performances of family firms.

For the following analyses and testing of the hypotheses, we have used a sample of Italian firms belonging to the "machinery production sector and, more in general, of equipment for use in industry". This sector was chosen because:

a) In it knowledge resources are fundamental for the acquisition and maintenance of sustained competitive advantage. Moreover, this sector continuously experiences changes in environmental conditions, particularly with

regards technology, given that the level of mechanical, electronic and automation technology incorporated in industrial machinery is high.

b) This sector in Italy is made up of numerous small and medium sized firms.

c) Italian firms which belong to this sector are leaders in terms of sales in many international markets (for example, the international markets for machinery for ceramics, machinery for shoe manufacturing and others).

The advantage of analysing data from firms belonging to the same sector is the homogeneity that characterises the examples studied. This also permits the researcher to find correlations between variables through the use of simplified econometric models. However, the fact that the data comes from just one sector and, what is more, that the firms are all Italian also represents the principal limit to this study. Indeed, special attention should be given when generalising about our discoveries with regards both other productive sectors and other national contexts.

Results from the empirical analyses carried out support the majority of hypotheses. The results indicate that the presence of outside directors on the board has positive effects on the ability of SMEs to apply strategic change (hypothesis 1). With reliance on outside directors in decision-making, strategic leadership is no longer limited to just one or a few individuals who belong to the main owner family on the board and/or in the top management team. The additional strategists can facilitate strategic change:

1. By increasing the board's human capital and, particularly, its cognitive diversity (Forbes and Milliken, 1999; Rivas, 2012).
2. By taking advantage of their networks to link the firm to important external stakeholders and permit them to acquire the essential resources controlled by these stakeholders (Kim and Cannella, 2008; Lester and Cannella, 2006).
3. By increasing the reputation and legitimacy of the organisation (Johannisson and Huse, 2000; Pfeffer and Salancik, 1978).

Moreover, results indicate that in family firms which already include outsiders on their boards, changing these outsiders (substitution or addition) makes strategic change more likely to happen (Hypothesis 3). New strategists can contribute to change because they bring new types of resources to the firm which are essential to face up to the change. Indeed, these resources, which also include knowledge and relationships with third parties, may become indispensable for the making of strategic change when the firm's environment changes significantly (Pfeffer, 1972; Pfeffer and Salancik, 1978; Gales and Kesner, 1994). Finally, results from the analyses of the sample firms' performance show that:

1. The including of outsiders on the boards of family

SMEs does not always lead to improvement in the financial performance of that enterprise (hypothesis 2 is not supported).

2. there is an positive association between change in the set of outside directors (addition/substitution of outsiders) and financial performance (hypothesis 4 is supported), although this association is only statistically significant at the lowest level of the scale ($p < 0.05$) and the model (III, from Table 4) which envisages it explains only 7% of the variation in the whole "*Performance*" phenomenon.

The principal limits to this part of the analysis derive from the fact that the use of financial performance as a dependent variable poses certain problems. Indeed, the main owner family may set SMEs objectives other than a simple improvement in financial performance. For example, other objectives may be employee well-being and/or the welfare of the owner-family (Wiklund et al., 2003). Limits could be overcome by future research into the ways in which board members are selected by owner-managers of family firms in response to their firms' specific strategic requirements.¹ What is more, despite the limits mentioned, support for hypothesis 4, and not for hypothesis 2, might have further significance and may suggest other directions for future research. Family firms which include outsiders on their boards and foresee their substitution in line with strategic change are guided by their owner-managers who understand the importance that a board with an active role in the firm's economy may have. Such owner-managers select board members in response to specific strategic requirements that their firms have and, in this way, obtain better competitive performances which are reflected in their firms' better financial performances. Negative environmental conditions or eventual new opportunities require strategic change which is frequently difficult for family owner-managers to accomplish. This work suggests that expansion of the set of individuals involved in decision-making helps overcome these problems. Finally, in a dynamic vision of environmental change and shifting competitive landscape, the generic presence of outsiders might not be sufficient to improve the performance of family SMEs. Change in the set of the outside directors (addition or substitution of outsiders) may be necessary to reconfigure resources (knowledge, relationships with third parties, legitimacy) brought by board members and adapt them to changing market conditions in order to achieve a competitive advantage. In this way, change in the environment leads to an effective change in corporate strategy and this is facilitated through a change in the outside directors on the board of SMEs.

¹ This argument is hardly looked at in the literature on family firms, except for with regards the opportunity to choose some board members at specific critical moments for the firm, e.g. CEO retirement and the generational phase (Fiegenger et al., 2000; Voordeckers et al., 2007; Westhead et al., 2002).

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