DEPARTMENT OF IMPRESA E MANAGEMENT

The impact of board capital breadth and depth on strategic change in Italian public companies

SUPERVISOR
Prof. Alessandro Zattoni

CO-SUPERVISOR
Prof. Giovanni Fiori

CANDIDATE
Edoardo Manca Rizza
Student ID: 771121

ACADEMIC YEAR 2023-2024

Table of contents

Introduction

1.1 Relevance of the Topic and Theoretical Background

The current study examines the influence of board capital breadth on strategic change of Italian public firms, taking into account for the moderation effect of board capital depth. Strategic change can be defined as the "difference in the fundamental pattern of present and planned resource deployments" (Haynes and Hillman, 2010, p.1146).

The debate regarding the role of boards of directors in influencing the strategic change of the firm has typically been framed by alternative characterizations of boards. Boards have been seen for a long time as "tools" of the top management of the firm (Pfeffer, 1972, p.219). Over time, others increasingly started to see them as independent thinkers instead, with an active role in defining the strategic direction of their organization (Finkelstein and Hambrick, 1996) with respect to both the monitoring and resource provision roles. With respect to their monitoring role, which is grounded on the agency theory, directors surveil managers in the initiation and organization of innovation and strategic projects (Galia et al., 2015; Sarto and Saggese, 2021; Wu and Wu, 2014). When performing the resource provision role, which instead relies on the resource dependence theory (Hillman et al., 2000; Pfeffer and Salancik, 1978), directors bring advice on innovation projects and prompt the implementation of new business models, as well as the allocation of financial resources in innovation investments (Sarto and Saggese, 2021; Shapiro et al., 2015). It's important to consider both the agency and resource dependence theory, emphasizing that the board of directors could effectively and simultaneously fulfill the monitoring and resource provision tasks and that through this role directors influence the strategy decision making process by a continuous process of formal and informal influence (Hendry and Kiel, 2004).

Despite the influence of dimensional and structural features of the board on strategy has been deeply studied by the literature over time, studies showed that board members may also use their personal experience as a reference point or benchmark in formulating and evaluating strategic alternatives at the focal firm (Westphal and Garg, 2021). For these reasons, there's a substantial research branch that has been increasingly focusing on the directors' individual set of experiences and its effect on strategic decisions of the firm (Golden and Zajac, 2001; Haynes and Hillman, 2010; Westphal and Fredrickson, 2001). This stream of research relies on the concept of board capital, which is made up of

directors' individual set of skills, knowledge and perspectives (Sarto and Saggese, 2021). Board capital can be broken down into two main components: board breadth and board depth. Board breadth captures the heterogeneity of the directors' human and social capital and refers to the portfolio of directors' functional, occupational, professional intra and extra industry experiences. Greater board breadth is expected to positively influence strategic change of a firm. Board depth instead refers to the embeddedness of directors in the firm's primary industry through managerial positions or occupational experience in the primary industry of the firm. Depth boards are often associated with greater compelling to industry norms and greater inclination to maintain the *status quo*. Hence, greater board depth is expected to lead to less strategic change. Furthermore, these two dimensions of board capital are expected to interact with one another. More specifically, higher levels of board depth are expected to moderate the positive effects of board breadth on strategic change (Haynes and Hillman, 2010; Lungeanu and Zajac, 2018).

1.2 Thesis Objectives

In order to study the hypotheses, the study will present an empirical analysis based on a panel of public Italian companies whose strategic change and board capital features have been observed for a period of five years, from 2018 to 2022.

The aim of the study is to present an alternative view on the topic of board influence on strategic change. First; it will embrace the emerging view according to which directors' individual sets of experiences need to be taken into consideration when studying the influence of board on strategy decisions of the firm (Golden and Zajac, 2001; Haynes and Hillman, 2010). Second; while such phenomena have usually been examined with respect to North American listed firms, this study will instead focus on Italian public firms, which present different and unique characteristics that may result in different outputs with respect to past research. Third; it embraces the view according to which board capital breadth and depth are not independent dimensions but instead interact with one another and cannot be examined separately when assessing their influence over firm performance measures or strategic change.

The remainder of the paper is organized as follows. First, we review the research literature related to the board of directors' contribution to strategic change and the board capital construct and identify the aspects of human and social capital relevant to the board's

resource provision function. Then the dimensions of board capital breadth and depth are presented. This is followed by the hypotheses linking the two dimensions of board capital breadth and depth to strategic change. Finally, the description of the empirical methods and the results of the statistical analysis and discussion of findings are presented. Limitations, recommendations for future research, and the conclusions are then provided.

Chapter 2

Literature review on board's influence on strategic change

2.1 Board involvement in strategy formulation

In strategic management literature, the board of directors has been considered to be a fundamental element in the strategy formulation process of the firm (Zahra and Pearce, 1990; Golden and Zajac, 2001; Zahra, 1990). Even from a legal perspective, the board's fiduciary duty generally includes the review and monitoring of strategy (American Law Institute, 1994).

A significant body of academic work investigated more deeply how boards actually contribute to strategic decision making. Goodstein et al. defined the strategic role of the board as "taking important decisions on strategic change that help the organization adapt to important environmental changes" (1994, p. 242). Judge and Zeithaml defined it instead as "making nonroutine, organization-wide resource allocation decisions that affect the long-term performance of an organization" (1992, p. 770). According to Westphal and Garg (2021), the role of board of directors in strategic management comprehends setting strategic goals, identifying strategic alternatives, communicating the strategy with firm's stakeholders, monitoring and evaluating success.

Different views on the responsibilities of the board over strategies were formulated over time. At first, in the 1970s, as observed by Pugliese et al. (2009), US boards of directors had been mostly passive in defining strategy. At that time, the most popular view was the managerial hegemony theory, according to which boards are dominated by management. As such, they play a passive role in strategy and, generally speaking, in directing the firm. However, this theory shows lack of empirical support and its theoretical basis is strongly dependent on the definition of the term "control". Mizruchi (1983) argues that actually the board has ultimate control over management through its capacity to hire or fire the CEO. Furthermore, since the 1980s, an increasing incidence of independent directors within the boards has been observed (Kiel and Nicholson, 2003). Indeed, the continuous corporate governance reforms and the increasing influence of institutional investors led boards of directors to challenge more often CEOs, and to become more involved in strategy (Pugliese et al., 2009).

The involvement of board in strategy finds support in the agency theory, according to which top managers, if left to their own, tend to develop strategies that are beneficial to their own personal interests but fail to maximize shareholder returns. In this perspective, board's main function is to directly monitor decision-making processes and outcomes in order to constrain self-interested strategies (Fama and Jensen, 1983). Hence, in this view, boards are not expected to initiate and implement strategies, but they rather ratify and monitor strategic decisions (Pugliese et al., 2009). Nevertheless, agency theorists emphasize the crucial importance of the board's role in strategy, through the setting of guidelines for implementation and effective control of the chosen strategy (Zahra and Pearce; 1990). Although agency theory provided a simple model to assess the impact of boards on strategy, it was criticized for failing to describe social and psychological influences on director behavior, and for not incorporating variation in directors' strategic knowledge and experience (Westphal and Garg, 2021).

Despite most of the agency theory-based literature has focused on the ex-post monitoring and control role of the board (see Shleifer and Vishny, 1997), some researchers have instead examined the role of the board in advising, counseling and servicing. For example, Judge and Zeithaml (1992) were some of the first scholars to emphasize that board involvement in strategic decision making dealt with the ex-ante strategy formation process, and that this was followed by the ex-post strategy evaluation process. Stewardship theory and resource dependency theory resembled this view and established themselves over time as alternatives to the agency theory. Stewardship theory (Davis et al., 1997) criticizes the opportunistic self-interest assumption of agency theory. In fact, this theory recognizes a range of non-financial motives for managerial behavior, and it supports the active school, claiming that the strategic role of the board contributes to its overall stewardship of the company (Hendry and Kiel, 2004; Hung, 1998). Resource dependence theory derives instead from research in sociology and economics and argue that directors are appointed by the company as "it expects the individual will come to support the organization, will concern himself with its problems, will variably present it to others, and will try to aid it" (Pfeffer and Salancik, 1978, p. 163). In this sense the board's role is providing the firm with access to key human, physical and social resources. These include network of ties, communication channels and contacts with the external environment (Sarto and Saggese, 2021; Pfeffer and Salancik, 1978; Zahra and Pearce,

1990). Additionally, according to this theory, the role of directors consists of giving advice to the management, proposing strategic alternatives and contributing to address strategic matters (Brauer and Schmidt, 2008; Zahra et al., 2000).

While the passive school is supported by managerial hegemony theory, the active school relies on stewardship, agency and resource dependence theories. Over time the early perspective which saw boards as "rubber stamps" has been slowly overtaken by an active perspective, which sees boards independent and more involved in shaping the strategic direction of firms (Hendry and Kiel, 2004). While the passive view assumes strategic decisions to be separate and sequential, with managers that generate options from which the boards can choose and then implement the chosen option with the board monitoring and evaluating the outcomes (Fama and Jensen, 1983), the active view sees board and management collaborate in formulating the strategy, with the management that then implements it and both groups evaluate the results (Hendry and Kiel, 2004).

In reality, strategic decisions are often non-linear and fragmented processes (Mintzberg et al., 1976) and the board could be actively involved in strategy without being involved in its formulation (Hendry and Kiel, 2004). Hence, the extent to which the board actually determine the strategy formulation of the firm has been long debated in the literature. A common stream of research on top management is favorable top the view that top executives determine the strategic direction of the firm. Studies in the management literature appear to demonstrate that executive experience predicts the direction of strategic change, claiming that top executives determine the strategic direction of the firm. (Finkelstein and Hambrick, 1996). At the same time, recent findings of Westphal and Garg (2021) suggest how prior results that appear to show the influence of managers over strategy could actually mask the influence of boards. The study showed that strategy experience of new top executives at other companies predicts subsequent strategic change at the focal firm. However, these effects became non-significant after modeling the strategy experience of board members. Thus, what appear to be executive effects on corporate strategy may actually indicate board effects. For example, it can derive from the influence of board preferences on both executive selection and strategic change.

Based on the literature reviewed above, it is possible to conclude that, strategic control from the board is constituted by a continuous process of formal and informal influence

over management, starting from strategy development and involving consultation from development through to implementation and evaluation (Hendry and Kiel, 2004).

2.2 Strategic change

Having searched the dynamics of board-strategy relationship and given the multiple definitions and declinations of strategy in the strategic management literature, it's now fundamental to define the boundaries of the concept of strategic change.

Strategic change has been defined as "organizational changes that significantly break with a firm's operating history or cause it to deviate from its industry's *status quo*" (Carpenter, 2000, p. 1180). Sometimes firms are documented to avoid strategic change in favor of strategic persistence. This is because strategic persistence provides more predictability to govern the activities of the company (Sull, 1999). Furthermore, the learning curve is most likely to yield near-term operating efficiencies when a firm's strategy is relatively persistent and stable (Carpenter, 2000). Other theories on why firms avoid strategic change are often based on risk aversion, since engaging in new strategies requires increased effort and are perceived to be riskier than extant strategies (Holmstrom, 1982). Moreover, it has been theorized that firm evaluation by stakeholders becomes more difficult with increased deviation from accepted policies and strategic norms established by the industry (Carpenter, 2000).

On the other hand, the active alteration of the *status quo* makes a firm adapt to environmental changes and differentiate itself from competitors (Oehmichen et al., 2017). According to Carpenter (2000), to remain successful, firms must stay aligned with changes in the environment by responding quickly, or actively anticipating them. More specifically, an organization's alignment with its external environment can be seen as "present and planned resource deployments and environmental interactions finalized to the achievement of its objectives" (Hofer and Schendel, 1978, p. 41). Given this view, strategic change can also be defined as "a difference in the form, quality, or state over time" (Van de Ven and Poole, 1995, p. 512) in an organization's alignment with its external environment.

In order to further define the boundaries of the strategic change concept, it is important to make another distinction. In fact, corporate strategic changes can be internal or external (Klamer et al., 2023). Firms engage in external strategic change through acquisitions

and/or strategic alliances. The focus of this study will be instead on internal strategic change.

The next part of the chapter will explain how board of directors' features can help explain variation in the strategic change of a firm. As explained above, different theories suggest that is instead the CEO who has the primary role of setting strategic directions and plans for the firm. However, although a new CEO's strategic orientation can be a predictor of strategic change, this relation can ultimately be determined by the board's preferences regarding both the CEO's characteristics and the strategic direction for the firm. Apparent CEO's effects on strategic change may actually indicate board effects (Westphal and Fredrickson; 2001). Furthermore, CEOs often exhibit a general reluctance to initiate change, given the uncertainty that changing the prevailing strategy involves (Geletkanycz and Hambrick, 1997, Westphal and Fredrickson, 2001). For these reasons, the study will focus on the board of directors and its features as relevant elements in determining the strategic change of a firm.

2.3 Board features and strategic change

As discussed above, while boards of directors are recognized as playing a central role in governing corporate strategic change, there is considerable debate as to whether such potential is typically realized. In fact, the high levels of board involvement in strategy could be directed toward either more strategic change or the preservation of the *status quo*.

This study supports the argument according to which there might be a differential inclination of the board toward strategic change or preservation of the *status quo* depending on some features of boards of directors (Goodstein et al. 1994; Kiel and Nicholson, 2003). Research on internal strategic change (Baysinger & Hoskisson, 1990) shows that different elements of board composition and structure impact strategic change differently. This is because some demographic and processual features of boards of directors may imply a differential inclination of the board toward strategic change (Zahra and Pearce, 1992). At the same time, directors' individual sets of experiences have increasingly been studied by scholars (Golden and Zajac, 2001; Haynes and Hillman, 2010; Westphal and Fredrickson, 2001).

Starting with examining the structural characteristics of the board that can have an impact on strategic change, one first important element that can affect the working of the group of directors is its size. According to Zahra and Pearce (1992), board size is positively associated with breadth of perspectives in the strategy definition process. This is because larger boards are able to draw on a larger pool of expertise (Lorsch and MacIver, 1989). With respect to strategic change, this observation suggests that smaller boards can be characterized by insufficient variety of expertise, resulting in a poor acknowledgement of the need to initiate or support strategic change and a lack of a clear understanding of alternatives (Golden and Zajac, 2001). Therefore, a great portion of research suggests a lower inclination for strategic change for relatively small boards. On the other hand, social psychological studies on groups show contrasting results, In fact, large groups often suffer from the diffusion of responsibility problem, for which individuals discount the likelihood that their poor contributions will be detected by others (Janis, 1989). Similarly, large groups are also more easily characterized by the free riding problem. Moreover, Zahra and Pearce (1990) suggest that larger boards are susceptible to "factionalization" and in-fighting. The implication of these social psychological studies is that at high levels of board size, group dynamics may reduce the collective inclination for strategic change. As observed by Golden and Zajac (2001), these mixed results can be explained by the fact that researchers who have observed a positive relationship between group size and some decision making variable may have examined groups that are not so large as to lower their decision making capabilities Likewise, researchers who have observed the opposite finding may have examined groups sufficiently large so as to have a negative impact on their decision-making capabilities. Hence, when board size is very large, the disadvantages of diffusion of responsibility, free-riding, and factionalization are most critical. On the other hand, when board size is very small, the disadvantages of having a low breadth of perspectives is significant. Hence, increases in board size are likely to be a positive force for strategic change when boards are smaller, and a negative force when boards are larger. This suggests that the relationship between board size and strategic change is u-shaped, so that when board size increases, its effect on strategic change will negative for larger boards and positive for smaller boards (Golden and Zajac, 2001).

Another "structural" factor that is likely to indicate differential inclination of the board for strategic change is board tenure. Studies traditionally suggest that greater tenure is associated with increased commitment to established industry norms, and increased reluctance of new ideas (Pfeffer, 1983). Furthermore, empirical findings show a positive relationship between top management tenure and strategic persistence (Finkelstein and Hambrick, 1990) and a negative relationship between top management tenure and strategic change (Boeker, 1997). However, greater tenure, and consequently greater experience in the board, potentially provides individuals access to a much richer set of information. Golden and Zajac (2001) highlight that also in this case there's a potential nonlinearity in the relationship between board tenure and strategic change. A board with very low average tenure would have a much less rich information base from which to draw, suggesting a lower inclination for strategic change. Boards with very high average tenure, instead, are likely to be more rigidly committed to the strategic *status quo*. Hence, as average board member tenure increases, its effect on strategic change will be positive for boards with lower levels of tenure, and negative for boards with higher levels of tenure. This implies a u-shaped relationship between board tenure and strategic change.

Another structural factor to take into consideration is the average age of the board. Vroom and Pahl (1971) found a positive relationship between age of managers and the aversion to risk. Similarly, Hambrick and Mason (1984) theorized that younger manager favored more change and pursued growth strategies. Even if these studies were based on the age of managers, is it plausible to infer similar implications for directors (Golden and Zajac, 2001). Taken together these studies suggest that boards comprised of older board members are likely to be lower inclined toward changes in the firm's strategy.

Chapter 3

Theoretical Framework and Hypotheses Development

3.1 Board capital

Despite the influence on strategy of structural and "surface" features of the board has been deeply studied by the literature over time, other streams of research on strategic decision making have increasingly suggested that strategic choices are influenced also by the personal background and prior experiences of decision makers (Geletkanycz and Hambrick, 1997; Hambrick and Mason, 1984). The intuition is that individual experiences of directors can positively affect the counseling of the board on strategy matters and monitors executives' actions (Forbes and Milliken, 1999). In particular, studies showed that board members may use their personal experience as a reference point or benchmark in formulating and evaluating strategic alternatives at the focal firm (Westphal and Garg, 2021).

For these reasons, there's a substantial research branch that has been increasingly focusing on the effects of directors' individual sets of experiences on strategy (Golden and Zajac, 2001; Haynes and Hillman, 2010; Westphal and Fredrick- son, 2001). For example, a popular stream of research addressed the behavioral implications of group heterogeneity of the board along a variety of individual dimensions, such as functional or occupational background and its impact on strategic change (see Heyden et al., 2015).

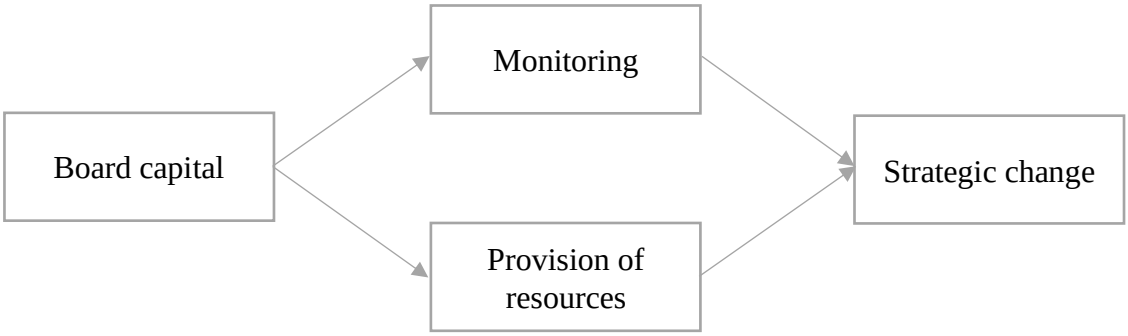
However, this is only one of the facets of a broader construct that reflect the behavioral dimension of the board and that can be referred as board capital. This concept has been introduced and defined in the literature by Hillman and Dalziel (2003) as a combination of the human and social capital of the board of directors and it can be seen as a proxy for the board's ability to provide resources to the firm. As explained above, board's resource provision function is based on Pfeffer and Salancik's (1978) studies in resource dependence theory according to which the board of directors has the role of facilitating the acquisition of critical external resources for the firm and provide its expertise and guidance in strategic changes. Hence, in order to advise the management on important matters, including strategic changes, boards of directors use their human and social capital as key resources (Haynes and Hillman, 2010). Board capital is then positively associated with the provision of resources by the board, which, in turn, is positively associated with

firm performance and, particularly, innovation (Hillman and Dalziel, 2003). If a board instead shows poor capital, it will also lack the ability to choose between strategic choices and accurately conduct performance evaluations (Zald, 1969).

Furthermore, board capital improves the monitoring function of the board as well. Board capital can actually be considered a proxy of monitoring ability, since the two are strongly correlated in both mathematical modeling and empirical testing (Becker, 1964). According to Carpenter and Westphal (2001), the monitoring function of the board is facilitated in contexts where directors have had experience in a particular situation facing the firm or have specific expertise that allows them to understand the firm organization better. Hence, experience, expertise, skills and knowledge of directors are likely to affect the effectiveness at monitoring the CEO, and, consequently, also in evaluating strategy implementation.

Figure 1: Model of board capital influence on strategic change

Source: Author



3.2 How to measure board capital: breadth and depth dimensions

From the studies presented above, it derives that by examining board capital, we can infer the ability of the board to provide resources and monitor the strategic change of the firm. However, one of the greatest challenges of the research on the board capital construct is defining a way to measure it. One solution is to focus on proxies of the board's human or social capital but that limit the understanding of the construct, since it's too complex to be approximated by only one measure. Furthermore, the use of structural features of the board does not capture the essence of board capital. As discussed by Hillman and Haynes (2010), dimensions such as board size can be a gross proxy for board capital. They

provide a purely hypothetical but effective example by arguing that "A hypothetical three-person board composed of Warren Buffett, Peter Lynch, and Michael Bloomberg would be deemed 'small' and judged inadequate based on size alone" (Hillman and Haynes, 2010, p. 1147). Hence, they propose that the board capital construct is made up of two dimensions: "breadth" and "depth", which facilitate a better understanding of the set of resources, skills, and ties the board can leverage to exercise its function and contribute to both its resource providing and monitoring functions.

3.2.1 Board capital breadth

Board capital breadth is a comprehensive measure of the different aspects grouped under the concept of heterogeneity of the board. This can include dimensions such as education, functional background, occupation and work experiences in other industries. Board capital breadth differs from a single measure of diversity or heterogeneity in the sense that it captures different aspects of heterogeneity of human and social capital, drawing from the directors' individual set of knowledge and experiences (Haynes and Hillman, 2010).

To better introduce the concept of board capital breadth, it's useful to first examine how, generally speaking, heterogeneity of directors can influence board functioning and strategic change. Group phenomena in homogeneous versus heterogeneous teams are different. Indeed, homogeneous group members often share similar perceptions, beliefs, and knowledge, thus leading to similar interpretations and solutions to environmental stimuli (Hambrick et al., 1993). Moreover, homogeneous group members are more likely to feel pressures toward uniformity and conformity because similarity provides positive reinforcement for one's attitudes and beliefs (Westphal and Stern, 2007). More specifically, Hambrick and Mason (1984) also argue for a "cohort effect," according to which groups whose members are linked by similar experiences will think similarly about problems. Commonality of experiences is a limit to the variety of strategic alternatives considered. Conversely, board heterogeneity implies different attitudes, problem-solving skills and knowledge and result in different perspectives and ideas in the board, which ultimately make decisions diverge from the *status quo* and group norms (Kim and Rasheed, 2013). Hence, heterogeneous groups tend to be more creative and make better decisions (Jackson et al. 1995). However, with group heterogeneity often comes a variety

of group process difficulties. For instance, group heterogeneity has been associated with uncoordinated group action, decreased group cohesion, and ineffective communication (O'Reilly et al., 1989). Thus, while heterogeneity on some dimensions may have important positive effects regarding strategic change, at very high levels of heterogeneity possible conflicts and ineffective communication can impede the decision-making process of the board (Golden and Zajac, 2001).

As explained above, since some studies showed contrasting results, with some suggesting that overly diverse boards face difficulties with reaching consensus on decisions, a greater importance should be given to studying different fine-grained measures of board capital diversity instead of aggregating it into a broader construct. According to Milliken and Martins (1996), there are two aspects of heterogeneity: surface- and deep-level diversity which reflects respectively differences in the biological and psychological characteristics of group members. Hence, as anticipated above, since we are interested in examining behavioral facets of group heterogeneity of the board along a variety of individual dimensions, we will focus on the deep-level dimension of diversity. Moreover, findings suggest that deep level heterogeneity appears to have a significantly larger influence on performance than the surface level and the same could be for strategic change (Maati and Maati-Sauvez, 2019).

Board breadth construct can help to address these issues. In fact, the board breadth construct focuses on behavioral and individual dimensions, measuring the heterogeneity of human capital of directors. The intuition behind is that board heterogeneity in human capital and cognitive behavior expands the breadth of knowledge, reduces biases in information processing, and enhances board independence in relation to the CEO, contributing to greater organizational rationality. It would be less likely for a CEO to dominate the decision-making process of the board if the board members' cognitive orientations are diverse (Kim and Rasheed, 2013). In this study occupational background heterogeneity will be used as a proxy of board breadth. This is because, heterogeneity of human and social capital of a board is associated with diversified directors' professional experiences and expertise, which in turn have been documented to be positively associated with strategic change (Haynes and Hillman, 2010).

Expertise breadth allows directors to recognize problems and offer informed but differing viewpoints, regardless of their tenure in the firm. In the particular case of occupational

heterogeneity, directors whose experiences vary widely are most likely to generate and consider a broad set of strategic options (Golden and Zajac, 2001). Hence, board's occupational background heterogeneity is expected to be a source of advantage for firms operating in uncertain environments because it can enable firms to anticipate and respond to competitive moves, industry opportunities, and trends in macro environments. Conversely, homogeneous board membership would result in narrow-mindedness and redundancy in knowledge and information, which in turn would undermine comprehensiveness in decision making (Kim and Rasheed, 2013).

In conclusion, greater board capital breadth leads to greater likelihood of strategic changes due to a heterogeneous board and greater access to valuable resources outside the firm.

H1: more board breadth is associated with more strategic change.

3.2.2 Board capital depth

Board capital depth refers to the embeddedness of directors in the firm's primary industry through occupational experience, interlocking directorships or managerial positions (Haynes and Hillman, 2010). It can be seen as a proxy of the directors' intra-industry human and social capital. More specifically, industry embeddedness can be defined as "a result of directors' current or former industry work experience, also considering supporting service roles such as industry-specific legal counsel or consulting" (Haynes and Hillman, 2010, p. 1148).

Board capital depth also captures the industry-based shared mental models of the directors at the board level. Industry embeddedness within the board results in similar backgrounds, common life experiences and values that facilitate the interaction among board members. On the other hand, board members with strong embeddedness within the industry likely hold similar beliefs and perceptions regarding various aspects of strategic decision and, therefore, this shared knowledge of the industry becomes 'taken for granted' (Hambrick, Geletkanycz and Fredrickson, 1993). Thus, as industry embeddedness increases, strategic changes recommended and approved by the board will compel the firm to take strategic actions similar to the ones in its industry (Prahalad and Bettis, 1986). Indeed, with respect to the resource provision role, when directors strategically advise executives, a high level

of industry expertise can make them anchored to sector norms and rules and limit the board's skills to identify and propose strategic changes (Lungeanu and Zajac, 2018). The more a person is embedded in industry, the more difficult it is for that person to consider alternative solutions or to question the correctness of their ideas (Huff, 1982). For these reasons, background similarity within the board can lead to an information overload and limits the heterogeneity of the information pool available, thus reducing the decision comprehensiveness, as well as hampering the evaluation of company innovation options and opportunities (Finkelstein and Hambrick, 1996).

Furthermore, commonality of backgrounds derived from a high level of embeddedness in the focal industry within the board can be a source of reinforcement for one's attitudes and beliefs and produce biases in terms of board monitoring decisions (Westphal and Zajac, 1995). For example, embeddedness within the industry is potentially associated with "groupthink" (Forbes and Milliken 1999), meaning that board members with strong embeddedness within the industry likely hold similar beliefs and perceptions, providing reinforcement for one' s attitudes and beliefs, with dissimilarity seen as punishment (Haynes and Hillman, 2010). Thus, the similarity of directors' individual cognitive schema can limit the debate among the parties and result in narrow-mindedness and poor problem-solving attitude, hampering the resolution of critical problems, among which the strategic change ones (Hillman and Haynes, 2010, Sarto and Saggese 2021).

For these reasons, board expertise in the firm's focal industry within the board can be detrimental both to the resource provision and monitoring role of the directors and can ultimately make the board more anchored to the *status quo* and norms of the industry, thus reducing the strategic change of the firm.

H2: the higher board depth the lower strategic change.

3.3 Depth moderation

While it's been suggested above that board capital breadth has a direct positive effect on strategic change, board depth is expected to moderate this relationship. With respect to directors' professional background, organizational research on managerial cognition has historically tended to assume a depth vs. breadth tradeoff (Lungeanu and Zajac, 2018). Some studies show that for some industries there's negative correlation between depth

and breadth of knowledge (see Farazi et al., 2024). If board depth is high the board will likely be attached to the *status quo* and industry norms despite the variety of each directors' background. This could hamper the exchange of opinions and different points of view in the board (Haynes and Hillman, 2010). For these reasons the positive influence of board professional background heterogeneity on strategic change could be hampered by a high level of embeddedness of directors within the firm's focal industry. More specifically, higher board depth may increase the costs of the exchange of opinions among board members (Haynes and Hillman, 2010) and such costs may obstacle and moderate the positive influence of heterogeneity of backgrounds within the board on strategic change.

H3: Board depth moderates the relationship between board capital breadth and strategic change, such that under high board depth, board capital breadth produces less strategic change.

Chapter 4

Analysis and results

4.1 Context of the Analysis

4.1.1 The Italian context

The importance of the context in which the firm operates and the environment that the board faces while being involved in strategic decisions should not be undervalued. There are a range of other external contingencies that affect board involvement in strategy.

The extension to which these contingency factors are likely to impact on the board's role in strategy is both complex and dynamic (Hendry and Kiel, 2004). Several studies have indicated that there are specific contingencies that particularly influence the influence of the board in strategic decisions. In fact, some studies documented a higher active involvement at times of crisis such as a sudden decline in performance, CEO succession or some other major organizational change, (McNulty and Pettigrew, 1999; Westphal and Fredrickson, 2001). Other studies examined board features and strategic change in different firm types and country settings leading to different results. For instance, there is evidence of a positive (Sena et al., 2018), a negative (Osma, 2008), or none at all (Choi et al., 2019) relationship between board independence and innovation. The conflicting findings result from the different time periods and environments studied and the same discrepancies in results in different contexts could be possibly applied to the study of board capital and strategic change.

Most research on the relationship between board capital and strategic change has focused on North American listed firms (see Golden and Zajac, 2001; Haynes and Hillman, 2010; Oehmichen et al., 2017). In different countries, the board functions may vary due to the ownership structure (e.g., dispersed, family, state), formal requirements (e.g., one-tier versus. two-tier, mandatory committees), and composition (e.g., outsider ratio, gender quota). North America presents unique institutional characteristics relevant to corporate governance (Klamer et al., 2023), such as ownership dispersion, legal origin and employer flexibility that can influence how the board influence the strategy of the firm. In particular, in common-law countries, shareholders are privileged, while in civil law countries executives and directors have greater responsibility towards stakeholders' interests (Klamer et al., 2023).

The Italian context represents an interesting environment to study the impact of board capital on strategic change. Italy is usually described in the literature as a country that presents inefficient law enforcement and high ownership concentration (Volpin 2002). Moreover, in Italy the presence of institutional investors is less widespread than in the Anglo-Saxon context (Rossi and Cebula, 2015). The role of the State in the Italian economy is significant and a great portion of the companies are State-controlled, with their top managers being political appointees with careers and with pays less subject to market forces. Furthermore, companies are often organized as pyramidal groups with a holding company at the top controlling one or more subsidiaries that, in turn, control other subsidiaries. As it's often the case, a family exercises close monitoring on the managers and controls the holding company of the pyramid through voting trusts and cross shareholdings (Di Pietra et al., 2008). Outside directors are very rare and the members of the Board of Directors mainly represent the controlling shareholders, often having had previous strong ties with the firm, whereas minority shareholders are typically not well represented (Rossi and Cebula, 2015).

Similarly to Germany, the banking system is the main source of outside corporate financing in Italy. However, there are significant differences between Italy and other bank-oriented countries. In Italy, for example, banks do not perform an important monitoring role and therefore the bank governance is often ineffective (Di Pietra et al., 2008). The reasons for that are that the banks in Italy generally have an independent relationship with their corporate clients and are not involved in monitoring activity. The consequence of such system is that the agency problem between managers and controlling shareholders is smaller with comparison to Anglo-Saxon model, but another type of agency problem arises, between controlling and minority shareholders. Moreover, in Italy the legal protection of minority investors is weak (La Porta et al. 1997).

This context can provide contrasting results with respect to research results based on US firms. For example, the research of Baglioni and Colombo (2013) in the Italian context shows firm performance is negatively affected by the share of independent members on the board and positively affected by the share of executive members in contrast to the findings of Anderson et al. (2004) in the US context.

The particularity of the Italian context may play a role also with respect to the influence of board capital on strategic change of the firm. The particular composition of Italian

companies' board of directors, whose members are directly or indirectly linked to owners, and the lower influence of institutional investors and banks make Italy particularly suitable for this kind of investigation. In fact, in such context directors might have to take charge of complex questions and monitoring and possibly have a great impact on strategic change.

4.1.2 Covid-19

Since the early studies on board influence on strategic change, the world has changed profoundly. In recent times Covid-19 changed the context in which companies operate, bringing higher economic volatility and geopolitical tensions (Rossi and Cebula, 2015). According to Golden and Zajac (2001), an ideal empirical context for studying board's influence on strategic change would be when the organizations under study face changing environmental conditions and are therefore reconsidering traditionally accepted strategies. Furthermore, there would be some controversy surrounding the appropriateness of changing strategies in such contexts. In general, when firm performance is poor, as it can during recessions, boards are reported to have a direct influence over the formulation of strategic decisions (Judge and Zeithaml, 1992; Westphal and Garg, 2021). Moreover, Cannella et al. (2008) provide empirical evidence that the benefit of functional diversity among top executives becomes stronger as environmental uncertainty increases.

4.2 Data and Methodology

4.2.1 Sample

The analyses focus on Italian companies listed on the Italian stock market (Borsa Italiana). Differently to precedent studies (see Sarto and Saggese, 2021) the analysis didn't focus on any particular sector or any specific kind of company. First, to construct the sample, all Italian companies that are listed on the Italian stock market have been extracted from the AIDA database (Bureau Van Dijk). Later, some companies were excluded due to the lack of fundamental data for the analysis. The resulting sample is a panel made up of 111 Italian listed companies observed between 2018 and 2022, for a total of 555 observations.

To collect the needed information on strategic change and organizational feature, I obtained data from the AIDA database (Bureau van Dijk). On the other hand, information on the governance of those companies has been retrieved from BoardEx and additional documents from the companies' website.

4.2.2 Dependent variable

The dependent variable is strategic change and has been calculated as the change in a firm's financial resource allocation profile (Oehmichen et al., 2017; Finkelstein and Hambrick, 1990; Quigley and Hambrick, 2012; Zhang and Rajagopalan, 2010). Originally, I tried to follow the existing literature (Oehmichen et al., 2017; Haynes and Hillman, 2010) and construct a composite measure of four ratios: (1) plant and equipment newness (net P&E/gross P&E); (2) nonproductive overhead (SG&A expenses/sales); (3) inventory levels (inventories/sales); (4) financial leverage (total debt/equity); and (5) R&D investments (R&D/Sales). In fact, "a change in these ratios across years indicates a departure from a firm's prior profile and suggests strategic change" (Oehmichen et al., 2017, p. 649). However, Inventory levels and R&D presented a problem of lacking data. For this reason, only net P&E/gross P&E, SG&A expenses/sales and total debt/equity have been used. More specifically, I calculated the absolute value of the differences between two sub-sequent years in these ratios. Then, I standardized the resulting values across the three ratios for each year. Finally, I calculated the average of these three measures and come up with a composite variable of strategic change for each firm in each year.

4.2.3 Independent variable

Board's heterogeneity of backgrounds captures the differences in the occupational history of directors. It's a subcomponent of the higher-order board capital breadth construct (Hillman and Haynes, 2010) and it captures significant aspects of the heterogeneity of board capital. To create an occupational background heterogeneity measure, I classify each director's background employment experience into one of twelve major categories (see Haynes and Hillman, 2010): general management, finance/accounting, sales/marketing, academic, legal, information systems, operations, engineering, human resources, medical, military and politics. BoardEx provides comprehensive director

employment history. In this way I obtained for each firm's board in each year a comprehensive view of the kinds of background of the directors. The diversity measure for the directors' occupational background for each board is calculated using the Blau's heterogeneity index (2017). Boards with a high Blau index measure are the ones with a more heterogenous board in terms of occupational backgrounds of its directors.

4.2.4 Moderator variable

Board capital depth measures industry embeddedness and expertise in industry (Haynes and Hillman, 2010). Board depth has been constructed by identifying individual industry experts among the directors on the board. To qualify as an industry expert, a person must be embedded in the industry of the focal firm (Haynes and Hillman, 2010; Oehmichen et al., 2017). In particular, a value has been assigned to each director with respect to the number of past and present experiences as executive (and not director) in other firms operating in the same sector of the focal one. A director who has occupied one or more posts as executive in the target industry has been considered to be embedded in the firm's focal industry., In line with previous studies (Kroll et al., 2008; Tian et al., 2011), for each firm in each year, board industry-specific experience was measured as the percentage of board members who are highly experienced in the same industry as the focal firm.

The choice of considering only past and present experiences as executives and not as directors differs from some previous studies. However, in evaluating corporate strategy, the most directly relevant experience available to board members derives from their experience at their home companies where they served as an executive (Westphal and Garg, 2021). The strategy of a manager director's home firm can be viewed as an important proxy of their attitudes and beliefs about strategy. Such experience will likely reflect the director's pre-existing beliefs about strategy and, to the extent that the director was involved either in the initial formulation of the strategy or in the implementation, it will influence future strategic orientation in similar contexts. According to research in social psychology, individuals tend to develop attitudes that justify their prior behavior (Festinger and Carlsmith, 1959; Fiske and Taylor, 1991). Thus, by implementing a strategy, managers are likely to develop attitudes that validate the strategy and these attitudes can also be reflected once they become directors (Pfeffer and Salancik, 1978).

Corporate strategies also lead to the development of beliefs and ideologies at the group level that justify the strategy and facilitate implementation. Managers become part of a belief system that, through the social influence from other members of the top management team and from the social context within the larger organization, endorse the corporate strategy adopted. So, it will be easier for a manager or an executive to be influenced by the strategic orientation of the firm and it will be probable that once director it will reflect the ideology of the home firm to the board's strategic change decisions (Pfeffer and Salancik, 1978).

4.2.5 Control variables

To strengthen the confidence of the analyses, come control variables suggested by literature have been included. Therefore, in the regression model are incorporated: (1) board qualification level ("Qual"), measured as the proportion of highly qualified directors in the board, with a high qualification defined by a number of qualification superior or equal to two; literature suggests that such qualification helps directors to interpret the dynamics and evolving conditions of the sector (see Sarto and Saggese, 2021); (2) the board size ("Board_Size"), since larger boards can cause greater levels of conflict and influence board's functioning (Merendino and Melville, 2019); (3) the CEO power, proxied by the CEO-duality ("Ceo_Dual") and measured as a dummy variable with value equal to one if the CEO of the company has a separate role with respect to chairman of the board and a value of zero if there's a dual role. Indeed, Ceo duality can affect the ability of CEO to determine the direction of firm's strategic decisions (Haynes and Hillman, 2010); (4) firm performance ("ROA"), measured as the average ROA in the years considered, since there's supposed to be a correlation between the performance of a firm and strategic change (Zhang and Rajagopalan, 2010); (5) board's average tenure ("Avg_Tenure"), (6) directors' average age ("Avg_Age"), (7) the firm size ("Company_size").

The means and standard deviations of variables are reported in Table 2.

Table 1 - Variables' description and data sources

Source: Author

Variable (p/year)	Code	Description	Data source
Strategic Change$_i$	SC	Yearly variation of a composite measure of three ratios: P&E/gross P&E, SG&A expenses/sales and total debt/equity.	AIDA database (Bureau van Dijk)
Board Breadth	B_Breadth	Blau's heterogeneity index of different industries covered by directors' occupational background.	BoardEx Database; Companies' Official Websites
Board Depth$_i$	B_Depth	Equal to 1 if the board is highly embedded in the focal industry of the firm.	BoardEx Database; Companies' Official Websites
Qualifications$_i$	Qual	Proportion of highly qualified directors in the board.	BoardEx Database
Board Size$_i$	Board_Size	Number of directors in the board.	BoardEx Database
ROA$_i$	ROA	Average ROA.	AIDA database (Bureau van Dijk)
Board Tenure$_i$	Avg_Tenure	The average tenure of board members of the firm.	BoardEx Database
Board Age$_i$	Avg_Age	The average age of board members of the firm.	BoardEx Database
Firm Size$_i$	Company_size	Natural logarithm of Total Assets.	AIDA database (Bureau van Dijk)
CEO duality$_i$	Ceo_Dual	Equal to 1 if the CEO of the company has a separate role with respect to chairman of the board and a value of 0 if there's a dual role.	BoardEx Database

Table 2: Summary statistics

Source: Author

	count	mean	std	min	max
SC	555.0	0.02	0.48	-0.48	3.31
B_Breadth	555.0	0.72	0.08	0.37	0.85
B_Depth	555.0	0.49	0.50	0.00	1.00
B_BreadthxB_Depth	555.0	0.35	0.36	0.00	0.85
Company_size	555.0	12.45	5.37	0.00	20.59
Board_size	555.0	10.83	2.83	5.00	22.00
Avg_Tenure	555.0	6.07	3.29	0.10	15.45
Avg_Age	555.0	57.46	4.08	42.50	67.40
ROA	555.0	2.40	6.41	-25.47	52.14
Ceo_Dual	555.0	0.47	0.50	0.00	1.00
Qual	555.0	0.50	0.19	0.08	1.00

4.3 Correlation Analysis and Multicollinearity Test

Table 3 shows correlation coefficients for all the research variables. Board capital breadth and depth are not strongly and significantly correlated with one another indicating that they capture different dimensions of the overall board capital construct.

The Variable Inflation Factor Test (VIF) and Tolerance Test (1/VIF) were performed to avoid multicollinearity issues among independent variables. Multicollinearity may occur when two or more independent variables are highly correlated. Problems of multicollinearity occur when VIF's result is higher than five and when the value of Tolerance is less than 0,2. As shown in Table 4, for each independent variable VIF result is lower than five and Tolerance ones are higher than 0,2. This confirms the absence of multicollinearity issues among independent variables.

Table 3: Correlation matrix
Source: Author

	SC	B_Breadth	B_Depth	B_BreadthxB_Depth	Company_size	Board_size	Avg_Tenure	Avg_Age	ROA	Ceo_Dual	Qual
SC	1.000000	-0.143745	-0.029847	-0.026654	0.169159	-0.152704	-0.117483	-0.059775	-0.039323	0.013743	0.032517
B_Breadth	-0.143745	1.000000	0.039591	0.141207	0.163494	0.201715	-0.129031	-0.110812	0.006167	-0.082332	0.221794
B_Depth	-0.029847	0.039591	1.000000	0.989410	-0.005352	-0.041576	0.072323	0.037131	0.055138	-0.078372	0.083379
B_BreadthxB_Depth	-0.026654	0.141207	0.989410	1.000000	0.021996	-0.029361	0.047960	0.029895	0.064979	-0.100162	0.085538
Company_size	0.169159	0.163494	-0.005352	0.021996	1.000000	0.059387	-0.265630	-0.065798	0.042200	-0.195695	0.078486
Board_size	-0.152704	0.201715	-0.041576	-0.029361	0.059387	1.000000	-0.025622	0.191926	-0.011043	-0.119877	-0.123714
Avg_Tenure	-0.117483	-0.129031	0.072323	0.047960	-0.265630	-0.025622	1.000000	0.332364	-0.090656	0.295401	-0.190708
Avg_Age	-0.059775	-0.110812	0.037131	0.029895	-0.065798	0.191926	0.332364	1.000000	-0.024214	-0.057415	-0.116168
ROA	-0.039323	0.006167	0.055138	0.064979	0.042200	-0.011043	-0.090656	-0.024214	1.000000	-0.042258	-0.195418
Ceo_Dual	0.013743	-0.082332	-0.078372	-0.100162	-0.195695	-0.119877	0.295401	-0.057415	-0.042258	1.000000	-0.141573
Qual	0.032517	0.221794	0.083379	0.085538	0.078486	-0.123714	-0.190708	-0.116168	-0.195418	-0.141573	1.000000

Table 4 - Multicollinearity Test for Independent Variables

Source: Author

	VIF	1/VIF (Tolerance)
B_Breadth	1,159	0,863
B_Depth	1,035	0,966
Company_size	1,113	0,898
Board_size	1,152	0,868
Avg_Tenure	1,377	0,726
Avg_Age	1,225	0,816
ROA	1,072	0,933
Ceo_Dual	1,181	0,847
Qual	1,204	0,831

4.4 Regression

4.4.1 Empirical approach

The main effect of heterogeneity of backgrounds of the board as well as the effect of board depth on strategic change were tested using linear regression. The empirical models have been based on Ordinary Least Squares (OLM) estimators.

4.4.2 Results

Table 5 presents the results of the regression. Two models are presented: Model 1 is the simple regression of board breadth on strategic change, while Model 2 includes the moderating effect of board depth. Both models include the same control variables introduced above.

Hypothesis 1 tests whether greater board capital breadth is associated with greater strategic change. As indicated by both Model 1 and 2 in Table 5, board capital breadth has a significant relationship ($p<0.01$) with strategic change. However, the coefficient is negative (-1.033 in Model 1 and -2.117 in Model 2), suggesting that, for the panel observed, greater board capital breadth is associated with lower strategic change. Thus, Hypothesis 1 is not supported by the results.

Hypothesis 2 suggests greater board capital depth is associated with less strategic change. Model 2 (Table 5) shows a significant negative relationship ($p<0.01$) between board capital depth and strategic change. Thus, the results provide support for Hypothesis 2.

Finally, Hypothesis 3 suggests a negative moderating effect of board depth on board breadth. The interaction effect of board depth on the board capital breadth and strategic change relationship is positive and significant ($p<0.01$). Hypothesis 3 is not supported. The results indicate that higher board depth weakens the negative effect of board capital breadth on strategic change. Figure 2 illustrates the relationship between board capital breadth and strategic change under high and low board breadth. The slope of board capital breadth on variation is negative and steeper under low board depth, indicating that the negative impact of the board's occupational heterogeneity on departure from past strategic choices is greater when the depth of the directors in the firm's focal industry is less. Instead, when a board is highly embedded in the industry the negative effect of board capital breadth is significantly weakened.

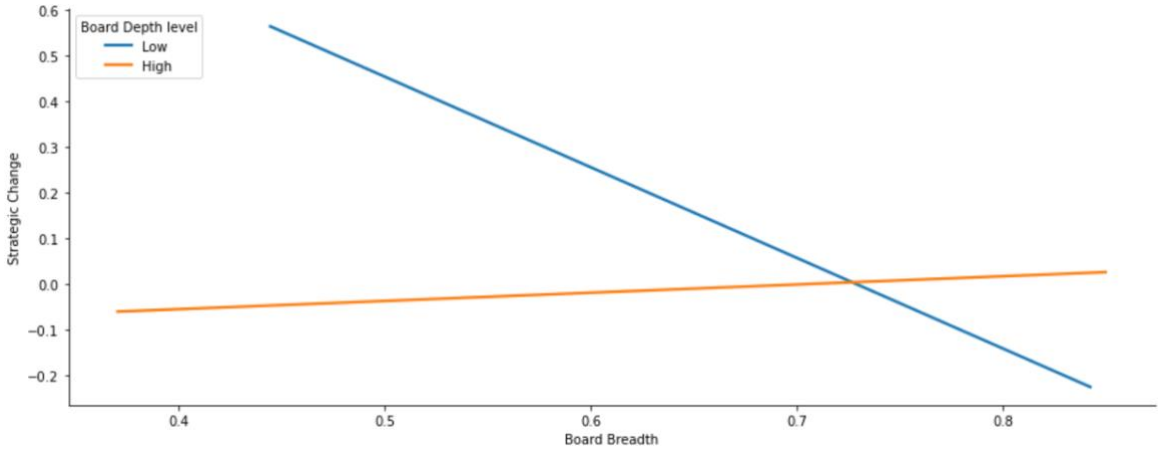
Table 5: Results of moderated regression of board breath on strategic change

Source: Author

	Dependent variable:	
	SC	
	(1)	(2)
B_Breadth	−1.033***	−2.117***
	(0.281)	(0.401)
B_Depth		−1.492***
		(0.394)
B_BreadthxB_Depth		2.064***
		(0.547)
Qual	0.037	0.145
	(0.114)	(0.117)
Board_size	−0.021***	−0.017**
	(0.007)	(0.007)
Avg_Tenure	−0.016**	−0.013*
	(0.007)	(0.007)
Avg_Age	−0.0002	−0.002
	(0.005)	(0.005)
Company_size	0.017***	0.016***
	(0.004)	(0.004)
ROA	−0.004	−0.004
	(0.003)	(0.003)
Ceo_Dual	0.052	0.072*
	(0.043)	(0.043)
Constant	0.855**	1.614***
	(0.367)	(0.415)
Observations	555	555
R^2	0.090	0.113
Adjusted R^2	0.077	0.097
Residual Std. Error	0.462 (df = 546)	0.457 (df = 544)
F Statistic	6.754*** (df = 8; 546)	6.959*** (df = 10; 544)
Note:		*p<0.1; **p<0.05; ***p<0.01

Figure 2: Moderating effect of board depth on board breadth influence on strategic change

Source: Author



Chapter 5

Discussion and Conclusions

5.1 Discussion

We proposed the view according to which board breadth, proxied by occupational background heterogeneity of directors, leads to a higher variety of perspectives that are used in decision-making processes, resulting in the evaluation of more alternatives and more careful exploration of the consequences of the strategic alternatives. However, the results show that, during the period taken into consideration, boards with a higher heterogeneity among the past occupational experiences of the directors have been characterized by a lower strategic change. Hence, for the Italian public companies taken into consideration higher board breadth led to lower strategic change.

In order to understand why it's been possible to have such a result, it's useful at first to have a closer examination at the alternative literature on the effects of heterogeneity on strategic change. In fact, on one hand boards characterized by heterogeneous functional background knowledge can be expected to devise a broader range of possible actions to choose from and trigger collective information processing as members articulate, communicate, and justify their interpretations of opportunities and threats and potential solutions during informational debate (Goodstein et al., 1994). On the other hand, alternative stream of research holds that group diversity could instead lead to behavioral disintegration among group members and subsequent loss of process efficiency, causing issues such as delays in managerial initiatives and, possibly, a lower level of strategic change (Li and Hambrick, 2005; Kim and Rasheed, 2013). Individuals from different occupational backgrounds may have difficulty in sharing a common understanding of industry change, and may therefore not agree on means and objectives, resulting in a board less inclined to reach a commonly agreed strategic change (Zajac, Golden, and Shortell, 1991). Hence, board breadth comes with come costs, which are mainly related to the coordination of the members of the board and that can potentially result in detrimental decisions and inefficiency. In other studies, heterogeneity in director industry expertise is associated with lower firm value which underscores the costs of coordination (Knyazeva et al., 2009).

Another possible way to explain the results obtained consists into taking into consideration the particularities of the Italian context and other contingencies during the years studied. Studies show that the institutional context in which firms operate can influence the involvement of the board in the strategic change of the firm. In particular, board equity ownership and institutional ownership concentration encourage the directors to be more active in the discussion of strategic choices, thus increasing the impacts of board heterogeneity on firm's strategic change (Golden and Zajac, 2001). Hence, board heterogeneity in functional backgrounds is more strongly related to strategic change when firm's ownership structure is concentrated on a small number of institutional investors in the firm. (Kim and Rasheed, 2013). However, Italian firms' ownership structure is mostly characterized by a less widespread presence of institutional investors with respect to the Anglo-Saxon context (Rossi and Cebula, 2015).

In addition, organizations with more diverse boards of directors are less likely to initiate strategic changes during periods of environmental turbulence (Goodstein et al., 1994). The period taken into consideration (2018-2022) is affected by the Covid-19 crisis and the post-Covid phase and, for these reasons, it's characterized by a high degree of environmental turbulence. Diversity within a group may significantly constrain a group's efforts to take decisive action, especially in the context of the board and their efforts to initiate strategic change in times of environmental turbulence. Board members bring their individual and constituencies' interests and commitments to the board. Differences among these interests, especially those that are based on occupational and professional affiliations are likely to lead to varying conceptions about proposed strategic changes. these considerations may become particularly salient when the board of directors confronts the complex and ambiguous issues that surround strategic decisions.

Finally, another reason that can explain the observed negative influence of occupational background heterogeneity on strategic change is the presence of factions inside the boards. In fact, although the assumption that members arrive as independent actors may be accurate for most groups, there are many instances in which members do not come to a group as individuals, but rather come as representative factions (Li and Hambrick, 2005). A factional group consists of members representing a small number of social entities that exist outside the boundaries of the group. Factions may generate conflict and contribute to behavioral disintegration, resulting in a decrease of interaction, exchange,

and collective effort (Li and Hambrick, 2005). In such context proposals for strategic change can create a high degree of uncertainty and conflict (Mintzberg, 1983) and intensify differences between diverse individuals or coalitions. As a result, it may become increasingly difficult to develop a consensus on strategic changes. The more heterogenous a board, the greater the diversity of board interests could be and the greater the potential for conflict and factions to develop (Goodstein, 1994). Hence, higher heterogeneity in a board may actually be related with the phenomena of factionalization, which is detrimental to the strategic decision-making process of the board.
In summary, persuasive arguments exist for greater director heterogeneity creating both costs and benefits to firms. If greater board heterogeneity improves advising and monitoring effectiveness, we expect shareholders to directly benefit through better firm performance. However, if greater heterogeneity increases conflict levels and communication costs, firms may potentially experience less strategic change levels (Anderson at al., 2011).

Another discrepancy between the results obtained in the analysis and the theoretical model used for the formulation of the hypothesis concerns the moderating effect of board depth on board breadth influence on strategic change. In fact, the interaction term between the two variables is positive, meaning that, as board depth increases, the effect on strategic change of board breadth increases, or such in this case the negative effect on strategic change of board breadth decreases. Figure 2 shows that the slope of the effect of board breadth on strategic change goes from being steep and negative to being slightly positive. The reason for this kind of moderation effect observed may be attributed to the lower costs of communication when board depth is high. In fact, a board highly embedded in the industry has a strong shared knowledge that allows easy communications and talks. In such context, board heterogeneity limits in the Italian context presented above that may undermine board's capability to properly advise on strategic changes are likely to be countered by the easier communication and can leave the place for more beneficial effects of board breadth on strategic change.

5.2 Limitations of the study and conclusion

This study examines the effect of board capital breadth on strategic change of Italian public firms, and how this relationship is influenced by board capital depth. The study and results presented come with limitations. First; the linear regression model presented may not be the most suitable to express the relationship between board breadth and depth and strategic change. In fact, other studies (see Golden and Zajac, 2001) assume a u-shaped relationship between board capital dimensions and strategic change. According to this view, as occupational heterogeneity increases, its effect on strategic change will be positive for less heterogeneous boards, and negative for more heterogeneous boards. This would be coherent with the discussion above. In fact, low levels of board heterogeneity may not trigger communication costs while higher levels do. Second; board breadth and board depth variables have been build using proxies. More accurate independent variables could be built in future studies. Third; no CEO influence effect has been properly included in the model. In fact, according to previous studies CEO preferences are expected to moderate board capital depth and breadth influence on strategic change (see Haynes and Hillman, 2010; Sarto and Saggese, 2021). Fourth; Italian firms are often controlled by family members and the extent to how this can influence the relation between board capital dimensions and strategic change decisions has not been taken into account. Fifth; the board has been examined as a whole but other studies focused instead on broad and deep directors' individual contribution to strategic change (see Lungeanu and Zajac, 2018). Sixth; the sample was made up of Italian public companies from different industries and sectors, while board breadth and depth may impact strategic change differently depending on the industry of the firm (see Sarto and Saggese, 2021).

Despite the limitations presented above, the work presents an alternative view on the topic, which has usually been examined with respect to North American listed firms. The discrepancies in results with previous studies demonstrate that the context is a major. factor influencing directors' influence over strategy in a firm. Moreover, it embraces the view according to which board capital dimensions, breadth and depth, are not independent dimensions but instead interact with one another and cannot be examined separately when assessing their influence over firm performance measures or strategic change.

References

Adams, R.B., and Ferreira, D. (2007), "A theory of friendly boards", *Journal of Finance*, 62 (1): 217–250.

American Law Institute, "Principles of Corporate Governance: Analysis and Recommendations", Parts IV-V (1994).

Anderson, R., and Reeb, D. (2004), "Board composition: balancing family influence in S&P 500 firms", *Administrative Science Quarterly*, 49: 209-237.

Anderson, Reeb, D., Upadhyay A., Zhao W. (2011), "The Economics of Director Heterogeneity", *Financial Management*, 40 (1)

Baglioni, A., and Colombo, L. (2013), "The efficiency view of corporate boards: Theory and evidence", *Applied Economics*, 45: 497-510.

Baysinger, B. D. and Hoskisson, R. E. (1990), "The Composition of Boards of Directors and Strategic Control: Effects on Corporate Strategy", *Academy of Management Review*, 15: 72–87.

Becker, G.S. (1964), "Human Capital", *Columbia University Press: New York*.

Blau, P.M. (1977), "Inequality and Heterogeneity: A Primitive Theory of Social Structure", *Free Press: New York*.

Boeker, W. (1997), "Strategic change: the influence of managerial characteristics and organizational growth", *Academy of Management Journal*, 40: 152–170.

Brauer, M., and Schmidt, S.L. (2008), "Defining the strategic role of boards and measuring boards' effectiveness in strategy implementation", *Corporate Governance: The International Journal of Business in Society*, 8 (5): 649-660.

Cannella, J.R., Park, J.H., Lee, H.U. (2008), "Top management team functional background diversity and firm performance: examining the roles of team member colocation and environmental uncertainty", *Academy of Management Journal*, 51(4): 768-784.

Carpenter, M.A. (2000), "The price of change: the role of CEO compensation in strategic variation and deviation from industry strategy norms", *Journal of Management*, 26: 1179–1198.

Carpenter, M.A., and Westphal, J.D. (2001), "The strategic context of external network ties: Examining the impact of director appointments on board involvement in strategic decision making", *Academy of Management Journal*, 44 (4): 639–660.

Choi, J., Rhee, M., and Kim, Y.C. (2019), "Performance feedback and problemistic search: the moderating effects of managerial and board outsiderness*", Journal of Business Research*, 102: 21–33.

Davis, J. H., Schoorman, F. D., and Donaldson, L. (1997), "Toward a Stewardship Theory of Management", *Academy of Management Review*, 22: 20–47.

Di Pietra, R., Grambovas, C.A., Raonic I., Riccaboni A. (2008), "The effects of board size and 'busy' directors on the market value of Italian companies", *Journal of Management and Governance*, 12 (1): 73-91.

Fama, E. F., and Jensen, M. C. (1983), "Separation of ownership and control", *The Journal of Law and Economics*, 26: 301–325.

Farazi, M.S., Arasti, M.R., Esfandyarpour, A., and Miremadi I. (2024), "Revisiting the Relationship Between Depth & Breadth of Technological Knowledge and Firm Performance", *Academy of Management*.

Festinger, L., and Carlsmith, J.M. (1959), "Cognitive consequences of forced compliance", *Journal of Abnormal and Social Psychology,* 58: 203–210.

Finkelstein, S., and Hambrick, D.C. (1990), "Top management team tenure and organizational outcomes: the moderating role of managerial discretion", *Administrative Science Quarterly*, 35: 484–503.

Finkelstein, S., and Hambrick, D.C. (1996), "Strategic Leadership: Top Executives and Their Effects on Organizations", West: Minneapolis, MN.

Fiske, S.T., and Taylor, S.E. (1991), "Social Cognition", *McGraw-Hill: New York*.

Forbes, D.P, and Milliken, F.J. (1999), "Cognition and corporate governance: understanding boards of directors as strategic decision-making groups", *Academy of Management Review*, 24: 489–505.

Galia, F., Zenou, E., and Ingham, M. (2015), "Board composition and environmental inno- vation: does gender diversity matter?", *International Journal of Entrepreneurship and Small Business*, 24 (1): 117-141.

Geletkanycz, M.A., and Hambrick, D.C. (1997), "The external ties of top executives: implications for strategic choice and performance", *Administrative Science Quarterly,* 42: 654–681.

Golden, B.R., and Zajac, E.J. (2001), "When Will Boards Influence Strategy? Inclination x Power = Strategic Change", *Strategic Management Journal*, 22: 1087-1111.

Goodstein, J., Gautam, K., and Boeker, W. (1994), "The effects of board size and diversity on strategic change", *Strategic Management Journal*, 15 (3): 241–250.

Hambrick, D.C., Geletkanycz, M.A., and Fredrickson, J.W. (1993), "Top executive commitment to the status quo: some tests of its determinants", *Strategic Management Journal*, 14 (6): 401–418.

Hambrick, D.C., and Mason, P. (1984), "Upper echelons: the organization as a reflection of its top managers", *Academy of Management Review*, 2: 193–206.

Haynes, K.T., and Hillman, A. (2010), "The effect of board capital and CEO power on strategic change", *Strategic Management Journal*, 31 (11): 1145-1163.

Hendry, K., and Kiel, G.C. (2004), "The role of the board in firm strategy: Integrating agency and organizational control perspectives", *Corporate Governance: An International Review*, 12: 500– 20.

Heyden, M. L., Oehmichen, J., Nichting, S., and Volberda, H.W. (2015), "Board background heterogeneity and exploration-exploitation: The role of the institutionally adopted board model", *Global Strategy Journal*, 5: 154–176.

Hillman, A.J., Cannella, A.A., and Paetzold, R.L. (2000), "The resource dependence role of corporate directors: strategic adaptation of board composition in response to environmental change", *Journal of Management Studies*, 37 (2): 235-256.

Hillman, A.J. and Dalziel, T. (2003), "Boards of Directors and Firm Performance: Integrating Agency and Resource Dependence Perspectives", *Academy of Management Review*, 28: 383–396.

Hofer, C.W., and Schendel, D. (1978), "Strategy Formulation: Analytical Concepts", West Publishing Company: St. Paul, MN.

Holmstrom, B. (1982), "Managerial incentive problems: A dynamic perspective", *Essays in Economics and Management in Honor of Lars Wahlbeck*, Swedish School of Economics.

Huff, A.S. (1982), "Industry influences on strategy reformulation", *Strategic Management Journal*, 3 (2): 119 –131.

Hung, G. (1998), "A typology of the theories of the roles of governing boards", *Corporate Governance: An International Review*, 6: 101-111

Jackson, S.E., May K.E., and Whitney, K. (1995), "Understanding the dynamics of diversity in decision making teams", *Jossey-Bass: San Francisco, CA*: 204–261.

Janis, I. (1989), "Crucial Decisions", *Free Press: New York*.

Judge, W.Q., and Zeithaml, C.P. (1992), "Institutional and strategic choice perspectives on board involvement in the strategic decision process", *Academy of Management Journal*, 35: 766–794.

Kiel, G.C., and Nicholson, G.J. (2003), "Board Composition and Corporate Performance: How the Australian Experience Informs Contrasting Theories of Corporate Governance", *Corporate Governance: An International Review*, 11: 189- 207.

Kim, K., and Rasheed, A.A. (2013), "Board Heterogeneity and Stability in Firm Performance: an Empirical Study Utilizing Multi-Theoretic Approach", *Corporate Board: Role, Duties & Composition*, 9 (1): 26-39.

Klamer, P., Yu, Q., Yoshikawa, T., Hitt, M. (2023), "Board governance of strategic change: An assessment of the literature and avenues for future research", *International Journal of Management Reviews*, 25 (3): 467-494.

Knyazeva, A., Knyazeva, D., and Raheja, C. (2009), "The Benefits of Focus vs. Heterogeneity: An Analysis of Corporate Boards", *AFA 2010 Atlanta Meetings Paper*.

La Porta, R, Lopez-de-Silane, F, and Shleifer A. (1999), “Corporate ownership around the world”, *Journal of Finance*, 54 (2): 471–517.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., and Vishny, R.W. (1997), “Legal determinants of external finance”, *Journal of Finance*, 52 (3): 1131–1150.

Levin, D.Z., and Cross, R. (2004), “The strength of weak ties you can trust: the mediating role of trust in effective knowledge transfer”, *Management Science*, 50 (11): 1477–1490.

Li, J.T., and Hambrick, D.C. (2005), "Factional groups: a new vantage on demographic faultlines, conflict, and disintegration in work teams", *Academy of Management Journal*, 48 (5): 794–813.

Lorsch, J.W., and MacIver, E. (1989), “Pawns or Potentates: The Reality of America’s Corporate Boards”, *Boston: Harvard Business School Press*.

Lungeanu, R., and Zajac, E.J. (2018), “Thinking Broad and Deep: Why Some Directors Exert an Outsized Influence on Strategic Change”.

Maati, J., and Maati-Sauvez, C. (2019), “Surface- and deep-level diversity of directors and financial performance of French listed firms”, *Recherches en Sciences de Gestion*, 133: 81-115.

McNulty, T., and Pettigrew, A. (1999), “Strategists on the board”, *Organization Studies*, 20(1): 47–74.

Merendino, A., and Melville, R. (2019), “The board of directors and firm performance: empirical evidence from listed companies”, *Corporate Governance: The International Journal of Business in Society*, 19 (3): 508-551

Milliken, F.J., and Martins, L.L. (1996), "Searching for Common Threads: Understanding the Multiple Effects of Diversity in Organizational Groups", *Academy of Management Review*, 21 (2).

Mintzberg, H. (1983), "Power In and Around Organizations", *Prentice-Hall: Englewood Cliff*, NJ.

Mintzberg, H., Raisinghani, D., and Theoret, A. (1976), "The Structure of "Unstructured" Decision Processes", *Administrative Science Quarterly*, 21: 246-275.

Mizruchi, M.S. (1983), "Who controls Whom? An Examination of the Relation Between Management and Boards of Directors in large American Corporations", *Academy of Management Review*, 8: 426-435.

Oehmichen, J., Schrapp, S., and Wolff, M. (2017), "Who needs experts most? Board industry expertise and strategic change - a contingency perspective". *Strategic Management Journal*, 38: 645– 656.

O'Reilly, C.A., Caldwell, D.F., and Barnett, W.P. (1989), "Work group demography, social integration, and turnover", *Administrative Science Quarterly,* 34: 21–37.

Osma, B.G. (2008), "Board independence and real earnings management: the case of R&D expenditure", *Corporate Governance: An International Review*, 16: 116–131.

Pfeffer, J. (1972), "Size and Composition of Corporate Boards of Directors: The Organization and its Environment", *Administrative Science Quarterly*, 17: 218–228.

Pfeffer, J. (1983), "Organizational demography", *Research in Organizational Behavior*, 5: 299–357.

Pfeffer, J., and Salancik, G.R. (1978), "The External Control of Organizations: A Resource Dependence Perspective", *Harper & Row: New York*.

Prahalad, C.K., Bettis, R. A. (1986), "The dominant logic: a new linkage between diversity and performance", *Strategic Management Journal*, 7 (6): 485–501.

Pugliese, A., Bezemer, P. J., Zattoni, A., Huse, M., Van den Bosch, F. A., and Volberda, H.W. (2009), "Boards of directors' contribution to strategy: A literature review and research agenda", *Corporate Governance: An International Review*, 17, 292–306

Quigley, T.J., and Hambrick, D.C. (2012), "When the former CEO stays on as board chair: effects on successor discretion, strategic change, and performance", *Strategic Management Journal*, 33 (7): 834–859.

Rajagopalan, H., and Spreitzer, G. (1997), "Toward a theory of strategic change: a multi-lens perspective and integrative framework", *Academy of Management Review*, 22: 48-79.

Rossi, F., and Cebula, R.J. (2015), "Does the Board of Directors Affect the Extent of Corporate R&D? Evidence from Italian listed companies", *Economics Bulletin*, 35(4): 2567-2580

Sarto, F., and Saggese, S. (2021), "Board industry expertise and innovation input: evidence on the curvilinear relationship and the moderating effect of CEO", *European Journal of Innovation Management*, 25 (6): 775-803.

Schwartz, D.L., Bransford, J.D., and Sears, D. (2005), "Efficiency and innovation in transfer", *Transfer of learning from a modern multidisciplinary perspective*, 1-51.

Sena, V., Duygun, M., Lubrano, G., Marra, M., and Shaban, M. (2018), "Board independence, corruption and innovation. Some evidence on UK subsidiaries", *Journal of Corporate Finance*, 50: 22–43.

Shapiro, D., Tang, Y., Wang, M. and Zhang, W. (2015), "The effects of corporate governance and ownership on the innovation performance of Chinese SMEs", *Journal of Chinese Economic and Business Studies*, 13 (4): 311-335.

Shleifer, A., and Vishny, R. (1997), "A survey of corporate governance", *Journal of Finance*, 52: 737–784.

Sull, D. (1999), "Why good companies go bad", *Harvard Business Review*, 77(4): 42–51.

Van de Ven, A.H., and Poole, M.S. (1995), "Explaining development and change in organizations", *Academy of Management Review* 20 (3): 510–540.

Volpin, P.F. (2002), "Governance with poor investor protection: Evidence from top executive turnover in Italy", *Journal of Financial Economics*, 64: 61–90.

Vroom, V.H. and Pahl, B. (1971), "Relationship between age and risk-taking among managers", *Journal of Applied Psychology*, 55: 399–405.

Wang, C., Xie, F., and Zhu, M. (2015), "Industry expertise of independent directors and board monitoring", *Journal of Financial and Quantitative Analysis*, 50 (5): 929-962.

Westphal, J.D. and Fredrickson, J.W. (2001), "Who Directs Strategic Change? Director Experience, the Selection of New CEOs, and Change in Corporate Strategy", *Strategic Management Journal*, 22: 1113–1161.

Westphal, J.D., and Garg S. (2021), "Boards of Directors and Strategic Management in Public Firms and New Ventures", *Strategic Management Journal*, 7: 411-426.

Westphal, J. D., and Stern, I. (2007), "Flattery will get you everywhere (especially if you are a male Caucasian): how ingratiation, boardroom behavior, and demographic minority

status affect additional board appointments at US companies", *Academy of Management Journal,* 50 (2): 267–288.

Westphal, J.D., and Zajac, E.J. (1995), "Who shall govern? CEO/board power, demographic similarity, and new director selection", *Administrative Science Quarterly*, 60-83.

Wu, J., and Wu, Z. (2014), "Integrated risk management and product innovation in China: the moderating role of board of directors", *Technovation*, 34 (8): 466-476.

Zahra, S.A. (1990), "Increasing the board's involvement in strategy", *Long Range Planning*, 23 (6): 109-117.

Zahra, S.A., Neubaum, D.O., and Huse, M. (2000), "Entrepreneurship in medium-size companies: exploring the effects of ownership and governance systems", *Journal of Management*, 26 (5): 947-976.

Zahra, S.A., and Pearce, J. (1990), "Determinants of Board Directors' Strategic Involvement", *European Management Journal*, 8: 164-173.

Zajac, E.J., Golden, B.R., and Shortell, S.M. (1991), "New Organizational Forms for Enhancing Innovation: The Case of Internal Corporate Joint Ventures", *Management Science*, 37: 170-184.

Zald, M.N. (1969), "The power and function of boards of directors: a theoretical synthesis", *American Journal of Sociology,* 75: 97-111.

Zhang, Y., and Rajagopalan, N. (2010), "Once an outsider, always an outsider? CEO origin, strategic change, and firm performance", *Strategic Management Journal*, 31 (3): 334–346.