



Good as Gold or Merely Glitter? Elite Board Members' Impact on Firm Performance

Veronika Timoschenko

Ludwig Maximilian University of Munich

Abstract

This thesis investigates the influence of elite supervisory board members on the performance of German firms. Following the transformation of the German business landscape post-reunification, elite board members, characterized by their exceptional social capital, continue to play a crucial role. Using resource dependence theory, the study explores the link between board members' social capital and firm performance. Leveraging a yearly ranking of the top 30 most powerful supervisory board members to identify elite members, this thesis analyses their influence on firm performance. Contrary to expectations, the results show a significant negative impact of elite board members on accounting-based performance and no significant effect on market-based performance. The expected stronger effect of having an elite board chair was not supported. These findings encourage a reevaluation of the assumed benefits of elite board membership, suggesting underlying complex dynamics. The thesis concludes with implications for corporate governance, limitations of the study, and directions for future research.

Keywords: corporate governance; elite board members; firm performance; social capital; supervisory board

1. Introduction

After the turn of the century, the German business landscape transformed drastically, responding to changing demands following the German reunification and global pressures of the internationalization of businesses (Ringe, 2015, pp. 493–494). Labeled “Germany Incorporated”¹, the previous system worked through thick entanglements of shareholdings between firms, ties between firms and politicians, and ties between supervisory board members in German firms. At the time, this system ensured a high performance

of the involved firms (Ahrens et al., 2013, p. 7; Bundeszentrale für politische Bildung, 2016). Similar to international equivalents (“Japan Incorporated” or “Austria Incorporated”), business practices changed after the turn of the century evidenced by German banks divesting into national firms and alteration of law and governance structures (Ahrens et al., 2013, pp. 10–11; Ringe, 2015, p. 494). By responding to the changing environment, German firms stayed competitive and profitable. One characteristic and enabler of the formed relationships that did not dissipate are the well-connected, respected supervisory board members. Even though “Germany Incorporated” dissolved to some degree, listed firms are still governed by an elite group of individuals. It is reasonable that firms aim for having the most valuable board members since the firm’s supervisory board and its composition influence organizational outcomes (Bonini et al., 2022, p. 1618; Post and Byron, 2015, p. 1559; Westphal, 1999, p. 17). Supervisory board members benefit the firm by using their knowledge, experience, and networks to advise the management, reduce uncertainty and dependencies on the environment, as well as transfer their reputation and legitimacy (Hillman and Dalziel, 2003, p. 386; Hillman et al.,

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¹ Translated from “Deutschland AG”

2009, p. 1405; Pfeffer and Salancik, 1978, pp. 162–163). In anticipation of reaping those benefits, firms aim to select those who can especially fulfill these functions: elite board members.

Davis and Greve (1997, p. 1) first introduced the term “elite” to governance research. Their study examined the link between the adaptation of governance practices and the decision-makers network. These networks, which the authors based on board memberships and geographic proximity of the executives, were labeled “corporate elite networks” (Davis & Greve, 1997, pp. 12–13). More recently, Jensen and Zajac (2004, p. 507) used the term “corporate elites” to refer to corporate executives and supervisory board members in general. The present study uses the term elite to refer to a differentiated group of the best-connected, most respected individuals among German board members. Narrowing in on the research question at hand, elite board members differ from non-elite board members as they have exceptional social capital, which refers to the board member’s network ties, status, and reputation. These attributes condition the board member’s ability to benefit the firm (Hillman and Dalziel, 2003, p. 383; S. Johnson et al., 2011, p. 1783; S. Johnson et al., 2013, pp. 243–246). The present study examines whether elite board members hold what they promise. When having an elite member on their supervisory board, do firms perform better, or *is not all that glitters gold*?

Legally, a firm’s supervisory board consists of individuals who are tasked with monitoring the top management team (Baysinger and Butler, 1985, pp. 108–109; Fama and Jensen, 1983, p. 303). Scholars of corporate governance acknowledge the supervisory board for having a more active role than the monitoring function would give it credit (Baysinger and Butler, 1985, pp. 108–109; Daily et al., 2003, p. 375; Pfeffer and Salancik, 1978, p. 170; Zahra and Pearce, 1989, p. 298). Specifically, the supervisory board provides resources, advises the top executives, and even has a role in strategic decision-making (Boivie et al., 2021, pp. 1648–1686; Daily et al., 2003, p. 375). Since the duties of the supervisory boards are complex, so are the requirements for their composition and characteristics (Zahra & Pearce, 1989, p. 298).

Previous research showed various analyses of how a board should be composed to benefit the organization it serves. Scholars do so by examining how group characteristics like board size (Dalton et al., 1999, p. 674) and diversity (Miller & del Carmen Triana, 2009, p. 755), as well as individual characteristics like the board member network (Zona et al., 2018, p. 589) or prior engagements (Hillman, 2005, p. 464), affect firm performance. These studies, for the most part, regard *aggregate* measures of *one* aspect of the board members’ characteristics. This approach considers the supervisory board as a whole entity and tries to isolate the effect of one specific attribute. Yet, using one aspect of the board members’ characteristics only allows for a narrow view of their ability to serve the firm and neglects the interdependent nature of the characteristics (Haynes & Hillman, 2010, p. 1147). Moreover, scholars argue that studying individual

board members, as opposed to aggregating the whole board, is more predictive of firm performance variations (Baysinger and Butler, 1985, p. 109; Hambrick et al., 2015, p. 325). Responding, Hambrick et al. (2015, pp. 329, 336) propose a model indicating several attributes for effective board monitoring that at least one supervisory board member should embody. Moreover, as advocates of the resource provision function of the board, S. Johnson et al. (2011, pp. 1782–1783) analyze individual board members and two attributes of their social capital. The authors argue that firms want to attract these individuals and empirically assess what firm or board characteristics motivate them to join a board.

The approach presented in this thesis introduces a measure that regards *several attributes* of social capital at once while focusing on an *individual* board member’s contributions. Advancing previous research, the present study analyzes whether having a board member who has superior social capital across several attributes impacts the performance of the firm they serve. To my knowledge, this relationship has not been tested empirically yet. Furthermore, I hypothesize and test whether this relationship is stronger if the firm has an elite chair(*wo*)man of the board. The board chair is of interest for this analysis due to their unique position among board members and the responsibilities that coincide with this position (Banerjee et al., 2020, p. 373; Regierungskommission Deutscher Corporate Governance Kodex, 2022, p. 13). In general, interest in the role of the board chair is growing in the field of corporate governance (Banerjee et al., 2020, p. 374). The majority of research in this area is focused on the consequences of CEO duality, which describes a governance structure in which the CEO and chairman of the board position are occupied by one individual (Banerjee et al., 2020, p. 390; for a review see Krause et al., 2014). However, recently scholars have indicated an interest in the board chair that goes beyond this configuration (Krause et al., 2014, pp. 1990–1991). The present study supports these efforts by analyzing the impact of the board chair’s social capital on firm performance.

Specifically, to analyze the impact of elite board members and elite board chairs on firm performance, I use a ranking of board members, published yearly in the renowned German business journal *Handelsblatt*. The journal provides a list of the 30 most powerful supervisory board members in Germany, based on the social capital attributes reputation, network, and status (Fockenbrock, 2011, p. 24). I characterize these top 30 as elite board members in the given year and analyze whether having them on the board impacts the firm’s accounting-based and market-based performance. The analyses’ underlying sample consists of listed German firms between 2011 and 2018. Due to the German two-tier system, the management and supervisory role of the upper echelons can be clearly distinguished (Regierungskommission Deutscher Corporate Governance Kodex, 2022, pp. 4–5). In this thesis, boards always refer to supervisory boards and elite board members to elite supervisory board members. In accordance with previous corporate governance research, I use the resource dependence theory to link social capital to

the provision of resources, and ultimately to superior firm performance (Hillman & Dalziel, 2003, p. 383). Using a panel data structure and regression analysis, this study finds a significant and negative impact of having an elite board member on accounting-based performance, opposed to expectation. The evidence does not support the hypothesis that the effect is stronger if the board has an elite chair. Testing either hypothesis, there is no significant relationship to market-based performance.

In the following, the present thesis briefly covers the functions of the supervisory board and discusses the relationship between the board's resource provision role and firm performance based on the resource dependence theory (Pfeffer & Salancik, 1978) and empirical evidence from corporate governance research. Next, using the established theory and empirical evidence, I derive the hypotheses that having an elite board member is positively associated with the firm's performance and that the impact is stronger if the board chair is elite. After presenting the applied method, results, and robustness tests, the sixth chapter offers a discussion of potential reasons for the surprising results. Concluding, I present the study findings' implications, the study's limitations, and avenues for future research.

2. Theoretical background

The corporate board is at the heart of corporate governance. Following Daily et al. (2003, p. 371), this thesis defines corporate governance "as the determination of the board uses to which organizational resources will be deployed and the resolution of conflicts among the myriad participants in organizations". In their central position, boards are actively involved in strategic decision-making and fulfill functions that are necessary for the firm's success and survival (Baysinger and Butler, 1985, pp. 108–109; Zahra and Pearce, 1989, p. 298). In the following subchapter, I present how boards and their members bring value to the firm and ultimately influence organizational outcomes like firm performance. To establish the theoretical underpinnings of this relationship, I introduce the central tenets of the resource dependence theory (Pfeffer & Salancik, 1978). The second subchapter builds on empirical evidence to demonstrate that the supervisory board influences firm performance through its resource provision role.

2.1. Resource dependence theory

The literature on board characteristics and their influence on performance is rich in empirical evidence. However, scholars often propose and find contradicting results (Boivie et al., 2021, p. 1684; Dalton et al., 1999, p. 676). One reason for these inconsistencies is the complexity of the board's functions (Hillman et al., 2000, p. 253).

Boards need to fulfill several functions at once, which have different requirements for the board members (J. L. Johnson et al., 1996, pp. 430–431). Therefore, a dimension of the board's composition may be beneficial for one function

and detrimental for another, for example the ratio of outside directors in Dalton et al. (1998, pp. 270–271).

Early streams of corporate governance research mainly focus on the board's monitoring role, which is the board's basic function from a strictly legal perspective (Baysinger and Butler, 1985, pp. 108–109; Hillman and Dalziel, 2003, p. 383). Although this is still the dominant approach to board research, alternative perspectives gain more relevance. Focusing on a rather external perspective, many scholars stress the importance of the resource provision role of the board, arguing that board members bring value to the firm in form of their knowledge, connections to stakeholders, or legitimacy (Hoppmann et al., 2019, p. 439). I choose to focus on the resource dependence perspective while recognizing that there are other functions prevalent in the literature since research findings suggest it to be the most promising one (Hillman et al., 2009, p. 5). Additionally, research on social capital, which characterizes elite board members in the present study, builds mostly on the resource dependence theory (Hillman & Dalziel, 2003, pp. 387–388).

Pfeffer and Salancik's (1978) seminal work "The external control of organizations: A resource dependence perspective" is the basis for many studies in the field of corporate governance (for a review see Hillman et al. (2009)). The resource dependence theory describes that organizations are part of an open system and are therefore always dependent on other parties to receive resources necessary for their survival (Pfeffer & Salancik, 1978, p. 2). Moreover, organizations that are more successful in managing these dependencies are more effective than others since they gain power over other parties and reduce their uncertainties (Pfeffer & Salancik, 1978, p. 37). The authors describe organizational effectiveness as "an external standard of how well an organization is meeting the demands of the various groups and organizations that are concerned with its activities" (Pfeffer & Salancik, 1978, p. 11). Therefore, either managers of organizations need to change the environment to the advantage of the firm, or the firm's activities have to be adapted to the constraints that the environment forces on it (Pfeffer & Salancik, 1978, pp. 18–19).

The seminal paper on the resource dependence theory describes five distinct ways in which organizations can manage their interdependencies with the environment (Pfeffer & Salancik, 1978, pp. 113–252): absorbing them through merger or vertical integration (113), coordinating them through inter-organizational relationships as trade associations or joint ventures (144), coordinating them through interlocking board members (161), creating a more favorable environment with political actions (189), and aligning the organization with the environment through executive succession (225). As described above, one function of the supervisory board and its members is to provide resources to the organization, i.e., to "provide linkage to the environment" (Boivie et al., 2016, p. 9; Boivie et al., 2021, p. 1666; Pfeffer and Salancik, 1978, p. 169). Following the learnings from the resource dependence theory the supervisory board can help the organization reduce uncertainties and manage

interdependencies through this role. Boards are used as a means to do so, especially if the other four options (i.e., merger, joint ventures, political actions, executive succession) are not possible or more costly for the firm (Pfeffer & Salancik, 1978, p. 167).

Pfeffer and Salancik (1978, pp. 162–164) justify the appointment of specific individuals to the supervisory board. They argue that board members have the ability and motivation to benefit the firms they serve. First, these individuals have superior management experience and skills from other executive or supervisory positions. Their advice can be valuable to the focal firm, especially if resources are missing or not under the firm's power. If a board member is associated with a party that the firm depends on, the connection through them reduces this dependence and therefore uncertainty through information sharing and conformity pressures. Finally, since the individual on the board is affiliated with the organization, it is in their interest to represent and advise it well. First, to make sure that the affiliation does not reflect poorly on them, and second, to keep the power over the organization's activities.

Scholars analyzing boards and their influence on firm performance frame the members' ability to fulfill their resource provision function as board capital (Hillman & Dalziel, 2003, p. 386). Board capital is a combination of the member's human and social capital. Human capital consists of attributes such as experience, skills, and knowledge that ultimately affect how valuable they are to the firm as well as the firm's decision-making process (Hillman and Dalziel, 2003, p. 383; S. Johnson et al., 2013, pp. 240–243). Social (or relational) capital encompasses the board member's network, status, and reputation. As with human capital, those attributes condition the resources provided by the board member. Additionally, they also shape the dynamics within the board and their decision-making process as a group (Hillman and Dalziel, 2003, p. 383; S. Johnson et al., 2013, pp. 243–246). Combining the resource dependence theory and its advances in the field of corporate governance, an individual who brings superior human and social capital to the board reduces the firm's dependencies and uncertainties by means of resource provision and therefore, ultimately, improves the firm's performance². In the following subchapter, I present empirical evidence supporting the link between the resource provision function of the board and firm performance. Chapter 3 then derives the relationship between board members' ability to provide resources, i.e., board capital, and firm performance.

2.2. The board-firm performance link

In their review of the resource dependence theory, Hillman et al. (2009, p. 1405) summarize Pfeffer and Salancik's (1978) description of how board members benefit the organization. They provide information to management through

advice and counsel, enable access to channels of information between the firm and environmental contingencies, allow preferential access to resources, and bestow legitimacy on the firm and its actions. The corporate governance literature shows empirical support for the link between these forms of resource provision and firm performance.

To begin with, Kor and Misangyi (2008, pp. 1349–1350) find that if there is a shortage of knowledge among the top management team, the firm employs a supervisory board with experience that allows for advice and counsel on these issues, suggesting that the board is used to reduce dependency and uncertainty. Supporting this argument further, other study findings suggest that if board members have ties to strategically relevant organizations, relevancy being dependent on the given environment, the interactions with the board on strategic issues increase (Carpenter & Westphal, 2001, pp. 651–653). Furthermore, Westphal (1999, p. 17) finds a positive effect of advice and counsel interactions between the board and the chief executive officer (CEO), and firm performance, suggesting that the board does improve firm performance through the resource provision role. Judge and Zeithaml (1992, p. 775) hypothesize that increased involvement of the board in strategic decision-making improves firm performance since the board members introduce more opinions and objectivity in the decision-making process. Their study finds empirical evidence for this relationship (Judge & Zeithaml, 1992, pp. 782–784). Moreover, board members' knowledge about the strategic decisions of the firm is positively related to firm performance and negatively related to financial risk (Judge & Dobbins, 1995, p. 54). Additionally, when it comes to initial public offering performance, young firms benefit from advice and counsel of their board members (Kroll et al., 2007, p. 1209). All these empirical results suggest that if the board is involved in decision-making, and therefore provides resources in the form of advice and counsel, firm performance improves.

Second, the board benefits the firm by creating a connection to its environment. Empirical evidence shows that board members who provide such connections enable the transfer of knowledge to the focal firm (Beckman and Haunschild, 2002, pp. 110–112; Howard et al., 2017, p. 2000; Powell et al., 1996, p. 137) and allow for higher levels of innovation (Ahuja, 2000, p. 443) or the establishment of new practices (Bizjak et al., 2009, pp. 4844–4848; Davis, 1991, pp. 604–605; Westphal and Zajac, 1997, pp. 173–177). Furthermore, scholars find support for the notion that firms use the board and the connections it creates specifically to reduce uncertainties (Beckman et al., 2004, p. 272; Boyd, 1990, pp. 426–427; Drees and Heugens, 2013, pp. 1682–1684). Consequently, as the resource dependence theory predicts, scholars find a positive impact of links between firms, established by board members, and firm performance (Drees and Heugens, 2013, p. 1685; Horton et al., 2012, p. 419; Phan et al., 2003, p. 348). As with the arguments concerning advice and counsel, this indicates that board members reduce environmental uncertainty and dependence through their resource provision role, ultimately improving firm performance.

² While this thesis has a resource dependence perspective, agency theory oriented scholars argue that board capital is also a determinant of the members' monitoring ability (Hillman and Dalziel, 2003, p. 389; Tian et al., 2011, p. 743).

Further, the resource dependence theory suggests that board members improve organizational effectiveness by supporting the firm in acquiring resources under more favorable conditions (Hillman et al., 2009, p. 1405; Pfeffer and Salancik, 1978, pp. 16–163). One aspect of this relationship is the access to capital through board members that reduce dependencies between firms and financial institutions (Lang and Lockhart, 1990, p. 120; Mizruchi and Stearns, 1988, p. 206; Stearns and Mizruchi, 1993, pp. 613–615). Furthermore, using a sample of airlines undergoing deregulation, Hillman et al. (2000, p. 252) find that the changing environment leads to changes in board composition, reflecting the industry's new dependencies. Additionally, a study on hospitals finds that physicians would join the board if the hospital was missing, or dependent on hiring, medical staff (Boeker & Goodstein, 1991, p. 821). These findings imply that firms adjust their boards according to the dependencies they face if environmental conditions change. Furthermore, firms that are successful in managing their dependence by changing the composition of their board perform better than other firms (Lang & Lockhart, 1990, p. 120). Based on the presented literature, boards can support the organization and improve firm performance by enabling favorable conditions in gaining the resources needed in the specific environment.

Finally, board members provide legitimacy to the firm (Gales and Kesner, 1994, p. 272; Pfeffer and Salancik, 1978, pp. 162–163). Inter-organizational relationships through board members are positively related to organizational legitimacy (Drees & Heugens, 2013, pp. 1684–1685). Hence, board members bestow legitimacy on the firm and its strategic decisions by connecting it to the environment. In the context of initial public offerings, Certo et al. (2001, pp. 41–43) find that firms with prestigious board members experience less underpricing, i.e., better firm performance. Other studies also suggest that legitimacy is an aspect that explains variations in firm performance (Chung and Luo, 2013, p. 354; Lin et al., 2009, p. 935). As board members legitimize an organization and its actions, having them on board can improve firm performance (Hambrick and D'Aveni, 1992, p. 1460; Pfeffer and Salancik, 1978, p. 145). Overall, the literature supports the resource dependence theory and the relationship between the benefits boards provide to a firm and the firm's performance.

3. Hypotheses

In this chapter, I use the discussed learnings from Chapter 2 and research on social capital to derive my hypotheses. I present research findings suggesting that social capital improves firm performance through the resource provision role. According to the contributions of this study, I argue for a combination of several board characteristics in one individual to explain variations in firm performance.

Board capital refers to both human and social capital. The focus of this thesis is social capital. According to the German corporate governance code (Regierungskommission

Deutscher Corporate Governance Kodex, 2022, p. 8), supervisory board members are selected based on human capital attributes such as knowledge, skills, and professional experience, suggesting that members do not predominately vary with regard to human capital attributes. Therefore, the difference in abilities between board members stems from their social capital that allows for superior resource provision and therefore better firm performance (Hillman and Dalziel, 2003, p. 383; S. Johnson et al., 2011, p. 1783). To uncover whether board members can improve firm performance, this thesis introduces elite board members, a group of supervisory board members that excel in terms of social capital, compared to their peers. Nahapiet and Ghoshal (1998, p. 243) define social capital as “the sum of actual and potential resources embedded within, available through, and derived from, the network of relationships possessed by that individual”. High social capital benefits the individual, as other parties in the environment are more willing to supply valuable resources to them, building on the environment's goodwill towards the individual (Adler & Kwon, 2002, p. 18). In turn, board members' high social capital benefits the firms they serve through the resource provision function (Hillman and Dalziel, 2003, p. 383; S. Johnson et al., 2011, p. 1783).

Scholars do not entirely agree on what attributes categorize as social capital. There is consensus on the two attributes that dominate the literature, network and status (S. Johnson et al., 2011, p. 1784). A board member's network includes ties to external organizations created through previous experiences or the individual serving on several boards simultaneously. As discussed in Chapter 2.1, board capital conditions the member's ability to provide resources. Concerning this particular attribute of social capital, board members with a superior network have more information sources, improving their ability to provide advice and counsel (Kor and Sundaramurthy, 2009, p. 997; Westphal, 1999, pp. 16–17). The network of a board member benefits the firm as it creates links to the environment and allows for preferential access to resources (Burt, 1980, pp. 577–578; Palmer, 1983, p. 40). Moreover, a board member's ties to legitimate organizations, can lead to the legitimization of the focal firm and its actions (Galaskiewicz, 1985, pp. 296–297; Mizruchi, 1996, p. 276).

Status refers to “a socially constructed, intersubjectively agreed-upon and accepted ordering or ranking of individuals” (Washington & Zajac, 2005, p. 284). High status, or prestige (S. Johnson et al., 2011, p. 1784), is established through being associated with elite circles (D'Aveni, 1990, p. 121), connections to other high-status parties (Pollock et al., 2019, pp. 25–26), sitting on several boards (D'Aveni, 1990, p. 121; Flickinger et al., 2016, p. 1109), or personal achievements (S. Johnson et al., 2011, p. 1785). Additionally, a long tenure can increase the status in the focal firm (Bonini et al., 2022, p. 1609). A high-status board member has an exceptional ability to provide resources. First, they bestow legitimacy upon the firm (Certo, 2003, p. 437; D'Aveni, 1990, p. 131; Pfeffer and Salancik, 1978, p. 145). Second, as high-status board members have several board memberships and connections to other high-status parties, they are better

providers of the other three forms of resources, advice and counsel, link to the environment, and preferential access to resources. Furthermore, high-status board members are motivated to provide resources to the firm they serve, as they want to protect their high status (Pfeffer & Salancik, 1978, pp. 162–164), and being affiliated with a poor-performing firm decreases their social capital (Certo, 2003, p. 437).

Another attribute that is referred to as social capital is reputation. Reputation is the awareness or opinion of the environment about an individual, based on past actions or behavior (Rindova et al., 2005, p. 1035)³. A board member's reputation depends on the reputation of the firms they serve (Lange et al., 2011, p. 177). Additionally, a good reputation is gained through media exposure, certifications, and affiliations with high-status entities (Rindova et al., 2005, p. 1044). Some scholars do not include reputation in the social capital category (Hillman & Dalziel, 2003, p. 383). However, reputation and status are not always clearly distinguished from one another and have overlapping antecedents (Washington & Zajac, 2005, p. 283). Second, social capital is created through relational interactions, which is fitting the assumed definition and antecedents of reputation (Coleman, 1988, p. 100). For these reasons, the present study considers reputation to be part of social capital following S. Johnson et al. (2013, p. 245). A highly reputable board member has a superior ability to provide resources to the firm they serve. As with high status, board members with a good reputation bestow legitimacy upon the firm (Bazerman and Schoorman, 1983, p. 211; Deutsch and Ross, 2003, p. 1104; Pfeffer and Salancik, 1978, p. 145), provide the other three benefits through the antecedents of a good reputation, and are especially motivated to provide resources to the firm they serve (Pfeffer & Salancik, 1978, pp. 162–164). After discussing the attributes of social capital and their influence on the benefits that board members provide firms, and recalling that these benefits have been previously linked to firm performance (see Chapter 2.2), I move on to the direct connection between social capital and firm performance.

High social capital improves the board's ability to perform the firm performance-improving function as resource providers described above (Daily et al., 2003, p. 372; Hillman and Dalziel, 2003, pp. 383–386). Scholars of corporate governance took various approaches to explore the relationship between board capital and firm performance. One stream of literature addresses structural characteristics such as the board size and the proportion of outsiders, arguing that more board members or more outsiders bring more social capital and therefore improve firm performance. A meta-analysis of the relationship between board size and performance finds a significant, positive association (Dalton et al., 1999, p. 678). Although the authors of the meta-analysis do not claim a causal relationship, Pfeffer and Salancik (1978, p. 172) convey that firms would increase the size of their boards to reduce uncertainty and dependencies. In another

meta-analysis, Dalton et al. (1998, pp. 278–280) find no systematic relationship between the proportion of outside board members and firm performance. Other scholars examine the demographic characteristics of board members and propose that a diverse board introduces more capital and therefore improves firm performance. Concise empirical evidence of the effect of board diversity on firm performance is limited (Carter et al., 2010, p. 399). Miller and del Carmen Triana (2009, pp. 771–773) do not find a significant relationship between gender diversity and firm performance, however, they do find a positive relationship between racial diversity and firm performance. Other scholars find no relationship between ethnic diversity and firm performance (Carter et al., 2010, pp. 410–411). In a meta-analysis of gender diversity, Post and Byron (2015, p. 1559) concluded that a higher ratio of female board members only influences certain aspects of firm performance. The corporate governance literature on structural or demographic characteristics of the board does not show a clear relationship to firm performance. Board research examining social capital attributes directly shows more concise evidence.

Research on corporate board interlocks indicates that the board's social capital influences performance by linking the firm to its environment, i.e., providing resources and reducing uncertainty (Hillman and Dalziel, 2003, p. 387; Mizruchi, 1996, p. 274). Board interlocks arise from board members serving on several boards simultaneously, creating linkages between organizations (Boyd, 1990, p. 420). In a meta-analysis, Drees and Heugens (2013, p. 1685) find that board interlocks are positively related to firm performance, this relationship is mediated by the reduction of dependencies, specifically increasing autonomy. Study findings from other analyses support this relationship further. For instance, firms that are better connected to the environment, through their executive and supervisory board members, perform better. Plus, members that create more links to the environment are compensated better, suggesting that firms value the benefits of the connections (Horton et al., 2012, p. 419). Especially in situations of uncertainty, ties to the environment that are aligned with the dependencies the firm is facing improve firm performance (Geletkanycz & Hambrick, 1997, p. 673). Likewise, in situations of crisis, interlocks decrease uncertainty and subsequently improve firm performance (Phan et al., 2003, p. 348). Zona et al. (2018, p. 607) also find that interlocks can improve firm performance, however, not necessarily for both firms that are being linked by a board member. The authors argue that the link is valuable only for the firm that has comparably fewer available resources. This finding does not contradict the other studies of this section, as it implies that firms that have dependencies will benefit from a board member that links them to other organizations. Nonetheless, focal firms that are rich in resources and therefore not dependent on the firm they are tied to might experience a decrease in performance.

Beyond board interlocks, the board member's social capital can also link the firm to governmental or financial institutions. When firms experience uncertainty due to changes

³ Definitions of reputation in management literature often refer to organizational reputation, and are applied to individuals here.

in their environment, boards that create links to financial institutions are positively related to firm performance (Lang & Lockhart, 1990, p. 120). Moreover, firms operating in regulated industries perform better when they have a former politician on their board, or a board member that has other connections to the government (Hillman, 2005, p. 477; Hillman et al., 1999, p. 75). Although a study by Fan et al. (2007, p. 353) reports results suggesting an opposite relationship, politically connected board members being negatively associated with firm performance, the authors acknowledge that this finding is attributed to the Chinese context of the study.

Furthermore, high social capital implies that the board member is sitting on several boards simultaneously, i.e., they are a busy board member. Board members are considered busy if they have several seats on other firms' executive or supervisory boards. The number of board memberships is negatively related to lawsuits against the firm (Kassinis & Vafeas, 2002, p. 413) and positively related to market reactions to board decisions (Tian et al., 2011, p. 743). Moreover, busy board members have more resources to offer the focal firm. Therefore, they should improve firm performance (Boivie et al., 2016, p. 9; Kor and Sundaramurthy, 2009, p. 994). Empirical analyses find support for the positive effect of busyness on performance indicators such as firm value (Bøhren & Strøm, 2010, p. 1296), firm growth, and gross profits (Kor & Sundaramurthy, 2009, p. 994). Even from a monitoring perspective, scholars argue that busy board members with high social capital have better monitoring abilities and have a reputation for good monitoring, which they are motivated to maintain (Kassinis and Vafeas, 2002, p. 402; Tian et al., 2011, p. 732).

The board member's status and reputation are positively related to the performance of the firms they serve. Certo et al. (2001, p. 41) hypothesize and find that young firms with highly reputable or prestigious boards experience less initial public offering underpricing. Other study findings suggest that young firms will recruit supervisory board members with a high reputation or status when the executive board lacks it (Chahine et al., 2011, pp. 331–332). The board's social capital also improves firm performance by legitimizing the firm and its actions (Certo, 2003, p. 437; D'Aveni, 1990, p. 131; Deutsch and Ross, 2003, p. 1104; Pfeffer and Salancik, 1978, p. 145). Especially when facing uncertainty, legitimacy is crucial for firms to get support from stakeholders and survive (Geletkanycz & Hambrick, 1997, p. 676). For instance, Marcel and Cowen (2014) find that following financial fraud, firms will keep board members with high social capital to signal their legitimacy to the environment, whilst dismissing board members with low social capital. As board members' social capital improves the reputation of the firm they serve, this firm will experience better performance (Bazerman & Schoorman, 1983, p. 145). Empirical findings suggest that firms with a high reputation experience better investor reactions when they perform better than expected and are penalized less when they perform worse than expected (Pfarrer et al., 2010, p. 1144). A high firm reputation is positively related to performance (Deephouse, 2000, p. 1106),

and specifically to sustainable high performance (Roberts & Dowling, 2002, p. 1090). Summarizing the study findings on social capital and its attributes, there is empirical support for the direct link between the board's social capital and firm performance.

Individual board members bring more than one attribute of social capital to the firms they serve and studying them collectively acknowledges their interdependencies (Haynes & Hillman, 2010, p. 1147). Although the determinants of the attributes often overlap or the attributes predetermine each other, they are still distinct constructs (S. Johnson et al., 2011, p. 1799). Consequently, some scholars measure several social capital attributes collectively with a single construct but regard the aggregated social capital of the board (Belliveau et al., 1996, p. 1577; Certo et al., 2001, p. 40; D'Aveni, 1990, p. 128). Evidence from S. Johnson et al. (2011, p. 1799) suggests that although this method might show high levels of social capital across the board, this does not necessarily mean that individual board members have high social capital concerning all attributes. This ignores that certain attributes are more valuable, or only valuable when combined in a single director as opposed to distributed among several (Hambrick et al., 2015, p. 328). Furthermore, research by Jensen and Zajac (2004, p. 518) supports that aggregate measures might disguise disaggregated effects.

While a single board member is part of a group that makes decisions collectively, the individual can be highly influential over the other members' opinions and consequently, the decision. This is achieved through their authority from superior abilities or motivation (Hambrick et al., 2015, pp. 335–336). Pfeffer and Salancik (1978, p. 167) argue that the power which board members have over the decision-making process can stem from better access to resources or soecifically, to resources that the focal firm currently needs, i.e., from high social capital. Supporting this notion, Belliveau et al. (1996, p. 1588) find that status affects the board's decision-making, for instance, on CEO compensation. Scholars using interviews with board members find that social capital is a determinant of the member's position within the board (Stevenson and Radin, 2009, p. 29; Veltrop et al., 2017, pp. 1101–1102). In line with the determinants of status discussed above, Bonini et al. (2022, p. 1609) argue that long tenure is another determinant of the status that creates this hierarchy. The informal hierarchy achieved by differences in status among members is associated with better firm performance, especially if the firm did not perform well in the past or operates in an uncertain environment (Bonini et al., 2022, p. 1618; He and Huang, 2011, pp. 1131, 1133).

Responding to the lack of research on individual board members (Bonini et al., 2022, p. 1628), some scholars used the individual board member as the level of analysis. For instance, in their study on board members' knowledge of strategic decisions of the firm and firm performance, Judge and Dobbins (1995, p. 44) only focus on the most involved board member. Bonini et al. (2022, p. 1618) find that having one independent board member with at least fifteen years of tenure on the board is related to better market-based per-

formance. And, having an individual on the board that is a politician or has connections to politicians, improves performance, given a dependence between the firm and the government is in place (Hillman, 2005, p. 477; Hillman et al., 1999, p. 75). Hence, individual board members that have the social capital to provide resources to the firm, can impact organizational outcomes (Baysinger & Butler, 1985, p. 109), and studying one board member that fulfills several desired attributes, i.e., an elite board member, might be more predictive than aggregating the whole board (Hambrick et al., 2015, p. 325; Stalnaker, 1986, as cited in Judge and Dobbins, 1995, p. 44). Based on the empirical support for attributes of social capital improving firm performance, evidence that individual board members influence organizational outcomes, and scholars promoting studying several characteristics in one board member, I derive the following hypothesis:

Hypothesis 1: Having an elite board member is positively associated with firm performance.

Above, I argue that board members with high social capital are at the top of the board's informal hierarchy. However, it may be that the board members also need to be at the top of the formal hierarchy to influence decision-making or be able to provide the resources they offer. Hence, they would need to be the chair of the board.

According to the German corporate governance code, the board chair's formal position gives them the responsibility to communicate to the executive board. Therefore, allowing them to influence decision-making. Additionally, the chair is the external representative of the board, and as such, they operate as a link to the environment (Regierungskommission Deutscher Corporate Governance Kodex, 2022, p. 13). Krause et al. (2016, pp. 1993, 1999) argue that, as the board chair has a unique role in managing environmental dependencies, their social capital is especially valuable for the firms they serve. They find that the firm values independent board chairs with high social capital as they are viewed as a resource. Moreover, previous research based on the resource dependence theory suggests that the board chair impacts firm performance, especially in complex environments (Withers & Fitza, 2017, pp. 1351–1352). As board chair, an individual with high-social capital is in a position to perform firm-performance-improving functions more effectively than other board members. For instance by advising the CEO and other top executives (Krause, 2017, p. 700) or legitimizing the firm and its actions (Lorsch & Zelleke, 2005, p. 72). Finally, reviewing work on board members and their ability to reduce dependencies and uncertainty, Pfeffer and Salancik (1978, p. 167) conclude that the board member that is best suited to manage dependencies will be the board member that has the control, or power, over the decision-making process, i.e., the board chair. Concluding this chapter, I derive the second and final hypothesis of this thesis:

Hypothesis 2: If the chair of the board is elite, the impact on firm performance becomes stronger.

4. Method

After deriving the two hypotheses, the following chapter describes the method for testing the relationships between having an elite board member and firm performance, as well as having an elite board chair and firm performance. Using secondary data from databases and press articles, a panel dataset is generated. Below, the underlying sample and its idiosyncrasies are elaborated, as well as the choice and operationalization of the variables used in the analyses. Lastly, the chapter is concluded with the final models.

4.1. Sample

Most studies in corporate governance research are conducted in a U.S. context (S. Johnson et al., 2013, p. 253; Zahra and Pearce, 1989, p. 328). This study differs as it has a German context. Corporate governance systems do vary across countries and the U.S. and Germany are no exceptions to that. The existing differences are, however, of benefit for this particular analysis. According to the German corporate governance code (Regierungskommission Deutscher Corporate Governance Kodex, 2022, pp. 4–5), boards must operate under a two-tier system, which separates the executive and supervisory board. Since the entities are divided, the managing and supervisory functions can be distinguished. The German corporate governance system does not differ from the U.S. context when it comes to the functions of the supervisory board. They include a monitoring as well as an advice and a strategic role. The German supervisory board consists of shareholder and employee representatives, with shareholder representatives being independent (Regierungskommission Deutscher Corporate Governance Kodex, 2022, pp. 8–9). Supervisory board members, in the context of this study, refer to shareholder representatives. For reasons of comparability to previous work, employee representatives are excluded from the sample. The board members elect the board chair. The board chair's primary roles are the coordination of the board's activities, communication with the management board, and external representation (Regierungskommission Deutscher Corporate Governance Kodex, 2022, p. 13). Furthermore, shareholder representatives, as well as the board chair, are selected based on the human capital attributes knowledge, skills, and professional experience. Therefore, variation in the quality of human capital characteristics among board members is not expected. Social capital requirements are not specified in the governance code. The only recommendation is that board members shall not hold more than five supervisory board memberships outside of the focal firm, to ensure sufficient time to fulfill the functions on the focal firm's board (Regierungskommission Deutscher Corporate Governance Kodex, 2022, p. 8).

The present sample includes listed German firms in the period from 2010 to 2018, resulting in 947 firm-year observations (147 firms). The start of the period is chosen based on the operationalization of the independent variable and the

end to avoid biased results due to the covid-19 pandemic⁴. There are three major groups of listed firms in Germany. One of them is the DAX, which includes the 30 largest German firms by market capitalization trading on the Frankfurt Exchange⁵ (Deutsche Börse Group, 2023a). Of the firms in the present sample, 20.41% were included in the DAX. The MDAX index includes the 60 largest firms after the DAX 30⁵ (Deutsche Börse Group, 2023b). About half (49.66%) of the included firms in the sample are part of this index. Finally, the TecDAX covers the 30 largest firms in the technology sector after the DAX 30 (Deutsche Börse Group, 2023c). 44 firms (29.93%) in the given sample are part of this index. The total 147 firms in the sample are active in 36 different industries, the most common being industrial and commercial machinery and computer equipment (22 firms), chemicals and allied products (14), electronic and other electrical equipment and components (13), and business service (12)⁶. On the individual level, the sample includes 11,172 firm-year-director observations (2,338 directors). Out of the entire data set, 8.76% of directors hold CEO positions, 34.24% other top management team positions, 8.76% are chairs of a board, and 48.24% hold other supervisory board seats.

The structure of the data is an unbalanced panel, in which the firm identifier and the year uniquely identify each observation. The panel variable is the firm identifier (147 units) and the time variable is the year (9 units). A panel data structure is appropriate for the present study since it allows controlling for unobservable variables that change between firms but not over time, therefore accounting for individual heterogeneity (Torres-Reyna, 2007, p. 3).

4.2. Variables

The choice of variables and their operationalization is based on corporate governance literature and the hypothesized relationships. This study applies two binary independent variables, i.e., whether there is an elite member or chair on the supervisory board in the given year, and two measures of the dependent variable firm performance, an accounting- and a market-based measure. Furthermore, I include several control variables on the firm, as well as the board level.

Independent variable. As stated in the previous chapters, in the context of this study elite board members excel in terms of several social capital attributes. Therefore, following previous studies, I measure several attributes collectively with a single variable (Belliveau et al., 1996, p. 1577; Certo et al., 2001, p. 40; D'Aveni, 1990, p. 128). Specifically, I use a ranking published yearly in the Handelsblatt to identify these

board members. Handelsblatt is the biggest business and finance newspaper written in German and has over 500,000 readers per issue (Handelsblatt Media Group, 2023; MDS, 2023). Since 2011, Handelsblatt publishes a ranking of the 30 most powerful supervisory board members in Germany, rating board members of all German listed firms. The publisher conducts this study in cooperation with Michael Wolff, a professor at the Georg-August University in Göttingen, and his team. They rate board members along three attributes: reputation, network, and status. In each of these attributes, board members can reach up to 100 points, resulting in a maximum of 300 points combined. The scores for each attribute are assessed using the firms' annual reports. The 30 best-rated board members are listed from first to 30th in the published articles. Corresponding to the published ratings, the Handelsblatt articles report descriptions of the operationalization of the three attributes. Reputation is evaluated with respect to each board membership based on three factors: whether the firm is part of an index, the size of the firm based on the number of employees, and the relevance of the firm operationalized by market capitalization. Here, the factor's score is weighted double if the board member is chair of the board. The points for the network depend on the quantity and quality of the board members' ties to other firms. To evaluate status, the study considers each firm the individual is serving looking at whether the member is the chair of the board, whether they were a board member in the focal firm before, their tenure, and the number of other board memberships (Fockenbrock, 2011, p. 25; 2012, p. 26; 2013, p. 5; 2014, p. 18; 2015, p. 5; 2016, p. 6; 2017, p. 4; 2018; 2019, pp. 4–5; 2020; Kewes, 2021, pp. 4–5).

The articles do not offer more insight into how they allocate the points to individual board members. Comparing the given information with established measures of reputation, network, and status reveals that the operationalization is in line with the literature. The Handelsblatt study uses secondary data to assign scores to board members. Scholars that do so, predominately measure reputation using the number of board memberships held (Certo et al., 2001, p. 40; D'Aveni, 1990, p. 128). This is in line with the given measurement, which even goes beyond the convention and evaluates size and relevance of the firms served, as well as the position of the board member. Other scholars use alternatives such as surveys or media coverage to operationalize (firm) reputation (Pollock et al., 2019, p. 21). Unfortunately, not much information is available on the operationalization of the attribute network. Assuming the authors of the Handelsblatt study followed other corporate governance scholars, the quantity of board ties would be measured as the number of boards that the member serves (S. Johnson et al., 2011, p. 1709; Tian et al., 2011, p. 738) or the number of interlocks created by the board member (Zona et al., 2018, p. 601). In line with the attribute reputation, quality might be dependent on the firm the board member is tied to. Lastly, status is measured using the number of board memberships, consistent with previous research (Certo et al., 2001, p. 40; D'Aveni, 1990, p. 128). The present measure-

⁴ Data for the independent variable is available from 2011 on, 2010 is included since a time lag is used on some of the control variables, this way less data is lost due to lagging.

⁵ In 2021, The Frankfurt Stock Exchange extended the DAX to include 40 companies. Consequently, the MDAX decreased to 50 companies (Mannweiler, 2022). However, this change occurred outside of the sample period.

⁶ For a list of industry representation in the sample, based on the database Worldscope, see Appendix 1.

ment also relies on tenure and position on the board, aligning with other scholars (Bonini et al., 2022, p. 1609). As with reputation, other authors use survey data instead of secondary data to establish a board member's status (Veltrop et al., 2017, p. 1088).

The present study is not the first to use rankings as an operationalization. One established method is using cutoffs, as the present study does with the top 30, and creating a binary variable (Pollock et al., 2019, p. 22). In the analysis of the first hypothesis, a board member is an elite board member if they are part of the top 30 in the year of observation (t). Following the example of multiple scholars (Bonini et al., 2022, p. 1614; Hillman, 2005, p. 475; S. Johnson et al., 2011, p. 1790; Kroll et al., 2007, pp. 1204–1205; Stevenson and Radin, 2009, p. 26), I operationalize my independent variable in the following way:

$$\text{Elite board member} = \begin{cases} 0; & \text{if none of the firm } i\text{'s supervisory board members is part of the top 30 in year } t \\ 1; & \text{if at least one of the firm } i\text{'s supervisory board members is part of the top 30 in year } t \end{cases}$$

Likewise, the independent variable for the second hypothesis is operationalized as a binary variable. A firm has an elite board chair if the chair of the board is part of the top 30 in the year of observation (t):

$$\text{Elite board chair} = \begin{cases} 0; & \text{if the chair of the supervisory board is not part of the top 30 in year } t \\ 1; & \text{if the chair of the supervisory board is part of the top 30 in year } t \end{cases}$$

When testing the second hypothesis, the relationship between having an elite board chair and firm performance might be attributed to the fact that there is an elite member on board. To segregate the impact of the elite board chair, a control for the number of elite board members is introduced when testing the second hypothesis. The elite control variable is simply the number of elite members on the board in the year of observation (t), subtracting the elite board member that is the chair.

Dependent variable. I use two different approaches to operationalize the variable firm performance. First, since there is no agreement among scholars on what measure is appropriate for board research, using two approaches increases the generalizability of the findings (Boivie et al., 2016, p. 3; J. L. Johnson et al., 1996, p. 430). Second, firm performance is multi-dimensional, and accounting-based and market-based measures of firm performance differ in their interpretation (Carter et al., 2010, p. 403; Keats, 1988, p. 154). Accounting-based measures such as return on assets, return on equity, or return on investment capital, reflect a past- and present-oriented measure of the firm's success (Keats, 1988, p. 154; Keats and Hitt, 1988, p. 576). In general, boards have more control over accounting-based firm performance (Hambrick & Finkelstein, 1995, p. 190).

However, considering that this thesis is based on resource dependence theory, a market-based performance measure could be a more appropriate choice since the theory argues for an external view of firms (Hillman, 2005, p. 477; Pfeffer and Salancik, 1978, p. 2; Zahra and Pearce, 1989, p. 276). Market-based performance measures such as Tobin's Q, stock performance, or market capitalization, are future-oriented and consider the environment of the market (Keats, 1988, p. 154; Keats and Hitt, 1988, p. 576). Mirroring the arguments for accounting-based measures, a problem with market-based measures is that the board might not have as much control over the external forces that the measure reflects (Hambrick & Finkelstein, 1995, p. 190). Finally, regarding the empirical evidence of board capital studies, there is no clear tendency as to which measure is supported more often⁷. Consequently, like other scholars in board research, I use accounting-based and market-based firm performance measures in my analysis (Hillman, 2005, p. 471; Post and Byron, 2015, p. 1547; Tuschke and Sanders, 2003, p. 640; Westphal, 1999, p. 13).

For the accounting-based measure, I choose return on assets (ROA). ROA is one of the most widely used operationalizations of firm performance in board research (Becerra, 2009, p. 263; Gomez-Mejia and Palich, 1997, p. 318). It indicates the profitability of a firm (i.e., net income) in relation to its total assets (Carter et al., 2010, p. 403). I collect the ROA of listed German firms between 2010 and 2018 through the database Orbis. Since accounting-based performance measures vary across industries (Meindl et al., 1985, p. 84), following Hillman (2005, p. 471), R. A. Johnson et al. (1993, p. 41), and Tuschke and Sanders (2003, p. 640), I adjust the accounting-based measure for the industry the firm operates in. Grouping the observations according to industry divisions⁸, I calculate the mean of the ROA in the given year. Next, I subtract each firm's ROA from the industry mean, resulting in the industry-adjusted ROA⁹. Following other scholars, I assume that changes in the firm's board do not immediately lead to changes in accounting results. It is reasonable to expect that an elite board member, or any board member, needs time to affect decision-making at the top of the firm by providing the previously discussed resources. Therefore, I measure ROA two years after the observation ($t+2$) (Carter

⁷ For instance Hillman (2005, p. 472) and Bøhren and Strøm (2010, p. 1303) only find a significant relationship using market-based performance measures. Kor and Sundaramurthy (2009, p. 996) only find a significant relationship using accounting-based measures.

⁸ The classification into divisions is based on the United States Department of Labor's classification of SIC codes, which is equivalent to the classification retrieved from the database Worldscope (Occupational Safety and Health Administration, 2023). The ten divisions are (A) Agriculture, Forestry, And Fishing, (B) Mining, (C) Construction, (D) Manufacturing, (E) Transportation, Communications, Electric, Gas, And Sanitary Services, (F) Wholesale Trade, (G) Retail Trade, (H) Finance, Insurance, And Real Estate, (I) Services, and (J) Public Administration. Public administration is excluded since no firm in the sample operates in this division.

⁹ See Appendix 5 for the industry and market means, as well as corresponding adjustments.

et al., 2010, p. 405; Westphal, 1999, p. 13; Zahra and Pearce, 1989, p. 277).

Tobin's Q is the second, market-based, measure of firm performance included in the analysis. It is defined as the ratio of the market value of the firm's assets to the replacement value of the firm's assets (Carter et al., 2010, p. 403; Tobin, 1969 as cited in Bonini et al., 2022, pp. 1613–1614). A Tobin's Q greater than one indicates that the firm's assets are overvalued and Tobin's Q smaller than one indicates that they are undervalued (Carter et al., 2010, p. 403). Using secondary data from Orbis, I calculate Tobin's Q as the firm's market capitalization divided by total assets. On average, the market value of German listed firms increases (Deutsches Aktieninstitut, 2019). To account for this, I use a market-adjusted measure of Tobin's Q. After calculating the mean of Tobin's Q of all firms in a given year (t), I subtract the firm's Tobin's Q from the market mean⁹. As it is a market-based performance measure and therefore future-oriented, Tobin's Q is measured without year adjustment (t).

Control variables. I include several control variables in the models, on the firm and the board level, to account for influences on the proposed relationships. Based on previous research and the theoretical foundation of the hypotheses, I include the variables prior performance, firm size, board size, board member busyness, relative CEO power, and industry. As indicated above, I control for the number of elite board members to test the second hypothesis.

Individuals are motivated to join a board by the subsequent increase in reputation and power (Certo, 2003, p. 437; Pfeffer and Salancik, 1978, pp. 162–164). Therefore, high-performing firms might be better at attracting elite board members. Although this relationship was not yet tested for high social capital in general, there is evidence suggesting that prior performance positively influences the number of other board memberships held by members, which is a determinant of high social capital (Ferris et al., 2003, p. 1098). Consequently, prior performance might bias the proposed relationships. Following the example of Tuschke and Sanders (2003, p. 640) and Zona et al. (2018, p. 603) I include performance in the previous year as a control for both measures of firm performance. To avoid high correlations with the dependent variable, I include prior market-based performance in the model predicting accounting-based performance and prior accounting-based performance in the model predicting market-based performance. I use industry and market adjustment according to the nature of the dependent variable. Specifically, in the model predicting industry-adjusted ROA two years after the observation ($t+2$), I control for the difference between market-adjusted Tobin's Q in the year of observation (t) and market-adjusted Tobin's Q one year before ($t-1$). In the model predicting market-adjusted Tobin's Q in the year of observation (t), I control for industry-adjusted ROA in the year before ($t-1$).

Corporate governance scholars argue that firm size could play a role in several matters concerning the board and the board's influence on organizational outcomes (Dalton et al., 1998, p. 273). In large firms, it is more difficult for board

members to prompt changes due to established routines and strategies (Boivie et al., 2016, p. 23; Cooper et al., 1986, pp. 255–256). Furthermore, a large firm implies more dependencies on external parties, which would increase the importance of the supervisory board but also the challenges of providing resources due to increased complexity (Dalton et al., 1998, p. 273; Pfeffer and Salancik, 1978, p. 168). Pfeffer and Salancik (1978, pp. 162–164) point out, that board members are motivated to provide resources for firms that enhance their reputation and power. Accordingly, elite board members are motivated to join larger, more complex firms (S. Johnson et al., 2011, p. 1797). Supporting this, (Ferris et al., 2003, p. 1093) report that individuals with high social capital serve predominantly in large firms. Following Hillman (2005, p. 471) I operationalize firm size as the number of employees of firm i in year t .

Pfeffer and Salancik (1978, p. 172) suggest that the size of a firm's board reflects the external dependencies it has. Therefore, firms that face more uncertainty might have larger boards. Additionally, board size should be included as a control variable because it has been previously linked to financial performance (Dalton et al., 1999, p. 676). As an additional advantage, board size accounts for the proportion of elite board members to all board members, if the firm has exactly one elite board member (Hillman, 2005, p. 471). Following the example of multiple scholars (Bonini et al., 2022, p. 1614; Combs et al., 2007, p. 1313; Oehmichen et al., 2017, p. 650), I include the variable board size and operationalize it as the number of shareholder representatives of the firm i in year t .

Board members are considered busy if they have several seats on other firms' executive or supervisory boards. As indicated in Chapter 3, corporate governance literature points to the effects of a board member having several positions on firm performance (Bøhren and Strøm, 2010, p. 1296; Kor and Sundaramurthy, 2009, p. 994). Additionally, (Adams et al., 2010, pp. 88–89) point to the problem of the selection effect, i.e., the most capable board members get more opportunities for other board mandates and are therefore rather busy. Hence, I expect elite board members to serve on more boards simultaneously than non-elite board members. The control variable busy board refers to the average number of directorships of all members of the supervisory board of firm i in year t (Oehmichen et al., 2017, p. 650).

Boivie et al. (2016, pp. 22–23) argue that a powerful CEO can hinder members of the board to execute influence over decision-making. Therefore, high CEO power might hinder the board's ability to provide resources. Supporting this argument, Pearce and Zahra (1991, p. 150) found that less powerful boards compared to the CEO were not as active in resource provision. However, this study also pointed out that performance benefits occur if both the CEO and the board are powerful. Payne et al. (2009, p. 720) found that a powerful board, relative to the CEO, positively impacts firm performance. Therefore, I include relative CEO power as a control variable. Power is generally measured by CEO duality, tenure, ownership, or a composite of the three (Can-

nella Jr and Shen, 2001, p. 259; Zajac and Westphal, 1996, pp. 74–75). CEO duality does not apply to a German context, due to the strict separation of the executive and supervisory board (Regierungskommission Deutscher Corporate Governance Kodex, 2022, pp. 4–5). Since the present study takes a resource dependence perspective, tenure is the better fit to operationalize power compared to ownership. To account for the power relationship between the CEO and supervisory board members, I create a relative CEO power variable, calculated by dividing the average tenure of supervisory board members by the CEO's tenure (Zajac & Westphal, 1996, pp. 74–75), both in year t . If this variable is greater than one, this indicates that the board is more powerful compared to the CEO. If relative CEO power is smaller than one, the CEO is more powerful than the board. Since the second hypothesis emphasizes the role of the board chair, I create a second relative CEO power variable, in which I divide the board chair's tenure by the CEO's tenure. As the variable for the first hypothesis, if relative CEO power is greater than one, this indicates that the board chair is more powerful compared to the CEO and vice versa.

The industry a firm operates in influences its need for resource provision. For instance, firms in regulated industries might need board members that can provide legal advice or connections to the government (S. Johnson et al., 2013, pp. 251–252). Creating dummy variables for all 36 industries represented in my sample, using four-digit SIC codes, would limit the model's degrees of freedom. Therefore, I create the industry control based on the ten industry divisions in the sample, which group the four-digit SIC codes⁸. Since the underlying data structure is a panel, year fixed-effects are also included in the model, in the form of a dummy variable for every year.

After describing the sample and presenting the variables and their operationalization, I conclude Chapter 4 with the final models. The present study tests two hypotheses, using two models each. Hypothesis 1 (H1) tests the impact of having an elite board member, and Hypothesis 2 (H2) tests the impact of having an elite board chair. The control variables included are essentially the same, except for the relative CEO power variable and the inclusion of the elite control variable in H2 only. Models (a) test the impact on accounting-based performance, and models (b) test the impact on market-based performance. Otherwise, (a) and (b) only differ in the operationalization of the prior performance variables:

$$\begin{aligned} \text{H1(a) Industry-adjusted ROA}_{i,t+2} \\ = \beta_0 + \beta_1 \cdot \text{Elite board member}_{i,t} + \text{CV}_{i,t} + \varepsilon_{i,t} \end{aligned}$$

$$\begin{aligned} \text{H1(b) Market-adjusted Tobin's } Q_{i,t} \\ = \beta_0 + \beta_1 \cdot \text{Elite board member}_{i,t} + \text{CV}_{i,t} + \varepsilon_{i,t} \end{aligned}$$

$$\begin{aligned} \text{H2(a) Industry-adjusted ROA}_{i,t+2} \\ = \beta_0 + \beta_1 \cdot \text{Elite board chair}_{i,t} + \text{CV}_{i,t} + \varepsilon_{i,t} \end{aligned}$$

$$\begin{aligned} \text{H2(b) Market-adjusted Tobin's } Q_{i,t} \\ = \beta_0 + \beta_1 \cdot \text{Elite board chair}_{i,t} + \text{CV}_{i,t} + \varepsilon_{i,t} \end{aligned}$$

i – firm; t – year; CV – control variables vector; ε – error term

5. Results

The following chapter includes elaborations and depictions of descriptive statistics of the underlying data. Next, I present inferential statistics from testing the proposed hypotheses using the models described in Chapter 4.2. Finally, Subchapter 5.3 includes additional inferential statistics, testing the robustness of the results.

5.1. Descriptive statistics

This subchapter covers summary statistics and pairwise correlations of all relevant variables included in the models. Furthermore, it includes descriptions of data transformation and the reduction of outliers to avoid biased results. First, I present demographic differences between elite board members and non-elite board members. Since, in creating the independent variable, I introduce a characterization of supervisory board members based on social capital criteria it is relevant to discuss in what other dimensions the two groups of supervisory board members differ.

In the given sample, 2.78% of all supervisory board members are elite. Comparing the demographics of elite and non-elite board members shows the following differences regarding gender, age, foreignness, and education (S. Johnson et al., 2013, p. 236). In the subgroup of non-elite board members, 14.12% are female, whereas, in the subgroup of elite board members, 12.31% are female. Elite board members are on average older than non-elite board members. The average age of non-elite board members is 54 years, and for elite board members, it is 61 years. 18.46% of elite board members are not born in Germany. For non-elite board members, 30.98% are not born in Germany. Moving on to education, in both subgroups, about ninety percent have a university degree. 35.00% of non-elite board members have a Ph.D. or habilitation. Among elite board members, 67.70% have at least one of these titles. The distribution of the type of education, distinguishing between specializations in business administration, engineering, law, and others does not differ between elite and non-elite board members. Based on the selection criteria for German supervisory boards discussed in Chapter 4.1, I do not expect human capital attributes to differ highly among elite and non-elite board members. The attribute of human capital available in the given data set is tenure (Kor & Sundaramurthy, 2009, p. 986). Elite board members have an average tenure of eight years. For non-elite board members, the average tenure is five years.

Table 1 includes summary statistics of the relevant variables for testing the hypotheses. The summary statistics do not show any inconsistencies with the definition and operationalization of the variables. The number of observations decreases from 947 to 900 due to missing data in creating the variables. The elite board member variables are binary, therefore the mean indicates that approximately one-third of the firms in the given sample have at least one elite board member, and 19.56% of the firms have an elite board chair. Excluding elite chairs, firms in the sample have between zero and five elite board members. On average, firms have around

Table 1: Summary statistics^a

	Variable	Obs.	Mean	SD	Min	Max
1	Elite board member	900	0.333	0.474	0	1
2	Elite board chair	900	0.196	0.397	0	1
3	Elite control	900	0.513	0.997	0	5
4	Firm size	900	50904.83	95779.27	4	636156
5	Board size	900	7.22	2.370	2	15
6	Busy board	900	1.255	0.265	1	2.4
7	Relative CEO power	900	1.587	1.700	0.096	14.33
8	Board chair/CEO power	900	1.598	2.098	0.4	19
9	Industry-adjusted ROA	900	0.000	6.213	-53.21	31.33
10	Market-adjusted Tobin's Q	900	0.000	1.173	-1.364	7.812
11	Prior performance model a	754	-0.008	0.466	-2.720	2.268
12	Prior performance model b	754	0.346	5.808	-40.41	31.33

^aIndustry and year controls are not included in the table for visualization purposes. Their summary statistics are as expected. For a complete table see Appendix 2.

fifty thousand employees, and one firm (Deutsche Euroshop) has four. The board size lies between two and fifteen board members, the mean being seven. Board members on the busiest board have 2.4 board memberships on average, the mean being 1.3 board memberships. No board member violates the German corporate governance code's recommendation of holding a maximum of five board memberships simultaneously¹⁰. In the given sample, on average, the board is more powerful than the CEO, as the mean of the relative CEO power variable is higher than one. The same conclusion can be drawn for the second relative CEO power variable that compares the power of the board chair and the CEO. As the performance variables are adjusted according to industry or market, their means are close to zero. Other than non-adjusted Tobin's Q, the adjusted variable has negative values. As prior performance variables are lagged and/or compare two years, there are missing values at the edges, explaining the smaller number of observations (754). There is no prior performance data available for the year 2010 since this is where the sample period starts. Therefore, the actual sample period considered for the hypothesis testing is 2011 to 2018, which aligns with the years when the Handelsblatt articles are available.

Pairwise correlations are reported in Table 2. Most of the pairwise correlations are below 0.5 and in the expected direction. Having at least one elite board member is positively correlated with firm size, the board size, the average number of board memberships, and to a small degree a relatively more powerful board. Against expectations, having at least one elite board member is negatively correlated with all firm performance measures. The correlations are similar for the elite board chair variable. Firm size is positively correlated with board size and the average number of board memberships but negatively correlated with the adjusted firm perfor-

mance variables. The average number of board memberships is negatively correlated with market-based performance and to a smaller degree with accounting-based performance. The accounting and market-based performance measures have a positive correlation. The busy board variable has a moderate to high correlation with the binary elite board member variable (0.635*) and the binary elite board chair variable (0.554*). To avoid multicollinearity issues, I create an alternative variable, which is the average number of board memberships of the non-elite members of the board. The correlations between the independent variables and the new control variable are lower and negative (-0.247* and -0.221*) due to the exclusion of elite board members, which have more board memberships than non-elite board members do¹¹. Therefore, I choose the alternative operationalization. The relatively high correlation (0.683*) between industry-adjusted ROA and the prior performance variable for model b (market-based performance) does not need to be addressed, since the two variables are not used in the same model. The same logic applies to the high correlations between the two independent variables, the elite board member and the elite control variable, and the two power variables.

Table 3 lists the frequencies of the number of elite members on firms' boards. Out of the 900 firm-year observations represented in the sample, one-third have at least one elite board member. About twenty percent have at least two elite board members, ten percent have at least three, and five percent have at least four. In nineteen observations (2.11%), a firm has five or six elite board members and no firm has more than six in any year.

Moving on to the dependent variables, detailed summary statistics do not show any outliers or inconsistencies with the operationalization. The histograms of either adjusted firm

¹⁰ In the given sample, 76% of all supervisory board members hold only one board seat, 15% hold two, 6% hold three, 2% hold four, and 1% hold five.

¹¹ In the given sample, 76.92% of elite board members sit on more than one board, whereas 3.34% on non-elite board members sit on more than one board.

Table 2: Pairwise correlations^a

Variable	1	2	3	4	5	6	7	8
1 Elite board member								
2 Elite board chair	0.690*							
3 Elite control	0.720*	0.486*						
4 Firm size	0.383*	0.275*	0.439*					
5 Board size	0.341*	0.259*	0.416*	0.482*				
6 Busy board	0.635*	0.554*	0.591*	0.336*	0.330*			
7 Relative CEO power	0.090*	0.117*	0.090*	0.062	0.016	0.120*		
8 Board chair/CEO power	0.050	0.088*	0.056	0.044	0.012	0.105*	0.788*	
9 Industry-adjusted ROA	-0.056	-0.072	-0.100*	-0.086*	-0.164*	-0.085	-0.038	-0.010
10 Market-adjusted Tobin's Q	-0.212*	-0.146*	-0.243*	-0.231*	-0.362*	-0.232*	-0.046	0.039
11 Prior performance model a	-0.054	-0.032	-0.037	-0.016	-0.034	-0.044	0.026	0.016
12 Prior performance model b	-0.095*	-0.090	-0.129*	-0.108*	-0.226*	-0.112*	-0.032	-0.018

Variable	9	10	11
9 Industry-adjusted ROA			
10 Market-adjusted Tobin's Q	0.446*		
11 Prior performance model a	0.004	0.272*	
12 Prior performance model b	0.683*	0.420*	-0.146*

*Correlation is significant at the 0.01 level.

^aIndustry and year controls are not included in the table for visualization purposes. Pairwise correlations are < 0.5. For a complete table see Appendix 3.

Table 3: Frequencies of the number of elite board members

Number of elite board members	Frequency	Percent	Cum.
0	595	66.11	66.11
1	141	15.67	81.78
2	67	7.44	89.22
3	46	5.11	94.33
4	32	3.56	97.89
5	17	1.86	99.78
6	2	0.22	100.00

performance measure do not represent a normal distribution. However, a transformation with logarithm or square root is not possible for variables that have negative values¹². Some control variables are altered to avoid biased results due to outliers or not normal distributions. The two variants of the past performance data are not transformed, since both have negative values. In both cases, no outliers are dropped and the histograms approach a normal distribution. For firm size, nine outliers are dropped, associated with a firm that has four to five employees during the sample period. Additionally, the variable is logarithmized. The board size variable is not transformed. As discussed above, the busy board variable is altered to avoid multicollinearity issues. There were no addi-

tional adjustments to this variable. Both relative power variables are logarithmized and afterwards, approach a normal distribution¹³.

Tables 4 and 5 include the summary statistics and pairwise correlations after the modifications described in this chapter. Dropping outliers reduces the number of observations to 891 (746 for prior performance). All pairwise correlations of variables that are used in the same model are low to moderate. To ensure that the models do not suffer from multicollinearity, I estimate variance inflation factors for all four models. As described in the last chapter, for both hypotheses the first model (a) predicts industry-adjusted ROA two years after the observation (t+2), and the second model (b) predicts market-adjusted Tobin's Q without time adjustment (t). If the industry controls are included in either model, one

¹² See Appendix 4 for detailed summary statistics of the dependent variables before adjustment and Appendix 6 for summary statistics after adjustment. For histograms and box plots of adjusted and non-adjusted dependent variables, see Appendix 7.

¹³ For histograms and box plots of control variables, see Appendix 8.

Table 4: Summary statistics after modifications^a

	Variable	Obs.	Mean	SD	Min	Max
1	Elite board member	891	0.342	0.475	0	1
2	Elite board chair	891	0.198	0.398	0	1
3	Elite control	891	0.519	1.000	0	5
4	Firm size	891	9.491	1.791	4.477	13.363
5	Board size	891	7.211	2.314	2	15
6	Busy board	891	1.100	0.193	0.684	2.4
7	Relative CEO power	891	0.082	0.836	-2.347	2.663
8	Board chair/CEO power	891	-0.057	1.040	-3.219	2.944
9	Industry-adjusted ROA	891	-0.025	6.236	-53.21	31.33
10	Market-adjusted Tobin's Q	891	0.007	1.177	-1.368	7.815
11	Prior performance model a	746	-0.010	0.468	-2.726	2.285
12	Prior performance model b	746	0.317	5.830	-40.41	31.33

^aIndustry and year controls are not included in the table for visualization purposes. Their summary statistics are as expected. For a complete table see Appendix 10.

Table 5: Pairwise correlations after modifications^a

Variable	1	2	3	4	5	6	7	8
1 Elite board member								
2 Elite board chair	0.688*							
3 Elite control	0.719*	0.484*						
4 Firm size	0.507*	0.389*	0.515*					
5 Board size	0.346*	0.263*	0.420*	0.624*				
6 Busy board	-0.247*	-0.221*	-0.352*	0.094*	0.069			
7 Relative CEO power	0.134*	0.128*	0.143*	0.148*	0.094*	-0.052		
8 Board chair/CEO power	0.059	0.091*	0.069	0.091*	0.064	0.013	0.757*	
9 Industry-adjusted ROA	-0.053	-0.070	-0.098*	-0.098*	-0.167*	-0.020	-0.071	-0.013
10 Market-adjusted Tobin's Q	-0.217*	-0.149*	-0.247*	-0.384*	-0.360*	-0.068*	-0.104*	0.036
11 Prior performance model a	-0.054	-0.032	-0.038	-0.037	-0.033	-0.023	0.016	0.012
12 Prior performance model b	-0.090	-0.088	-0.127*	-0.136*	-0.231*	-0.002	-0.045	0.008

Variable	9	10	11
9 Industry-adjusted ROA			
10 Market-adjusted Tobin's Q	0.450*		
11 Prior performance model a	0.005	0.272*	
12 Prior performance model b	0.683*	0.424*	-0.146*

*Correlation is significant at the 0.01 level.

^aIndustry and year controls are not included in the table for visualization purposes. Their pairwise correlations are < 0.5. For a complete table see Appendix 11.

individual variance inflation factor is slightly above the suggested threshold of ten. As the mean variance inflation factors are still rather low for all models and there are no exceedingly high pairwise correlations between divisions or with other variables, I do not exclude the industry controls from the models¹⁴. After describing the data, performing relevant

transformations, and ensuring that the models do not suffer from multicollinearity, I move on to testing the hypotheses.

5.2. Inferential statistics

In this subchapter, I test the hypotheses that (H1) having an elite board member is positively associated with firm performance, and that (H2) if the board chair is elite, this impact becomes stronger, using two operationalizations of firm performance.

¹⁴ As all models are tested using a fixed effects model that omits the industry control, the decision does not influence the results. For variance inflation factors, see Appendix 9.

Hypothesis 1a predicts adjusted accounting-based performance, two years after the observation ($t+2$). Using the Breusch and Pagan Lagrangian multiplier test, I reject the null hypothesis that there is no panel effect ($p = 0.000$). Subsequently, the result of the Hausman test suggests that the difference in coefficients is systematic ($p = 0.026$). Therefore, a fixed-effects regression is appropriate to test the model. Testing the assumption of homoscedasticity with the modified Wald test, the homoscedasticity null hypothesis is rejected ($p = 0.000$). This suggests using the robust function. Performing the tests for Hypothesis 1b that predicts market-based performance, renders similar results with the same conclusions. As expected, there is a panel effect ($p = 0.000$), the difference in coefficients is systematic ($p = 0.000$), and homoscedasticity cannot be assumed ($p = 0.000$). The tests discussed here as well as the variable modifications and multicollinearity tests in Chapter 5.1 suggest that the assumptions for fixed-effects regressions are fulfilled (Stock & Watson, 2003, p. 375). Therefore, testing the first hypothesis, I use fixed effects with the robust function to predict accounting- and market-based performance.

In Table 6, Models 1 to 2 report the fixed-effects regression results of testing Hypothesis 1a predicting adjusted accounting-based performance. Model 1 is a control model, which excludes the elite board member dummy. Model 2 includes all independent variables. Against expectations, the elite board member coefficient is negative and significant at the 10% level ($\beta = -0.932+$). This suggests that having an elite board member is negatively associated with accounting-based firm performance. Specifically, in the given sample firms with at least one elite board member have an industry-adjusted ROA that is on average about 0.9 units smaller, all else being equal. The coefficient of the prior performance variable is positive and significant at the 5% level ($\beta = 1.150^*$), suggesting that, on average, firms in the sample perform well if they performed well in the past. The other control variables in the model (firm size, board size, busy board, relative CEO power) are not significant, which may be attributed to the conservative approach of adding a past performance variable (Achen, 2001 as cited in Zona et al., 2018, p. 604). Except for 2015, year-fixed effects are not significant. The overall model is significant ($p = 0.009$) and the adjusted R-squared increases from Model 1 (adjusted R-squared = 0.036) to Model 2 (adjusted R-squared = 0.041), indicating that the variables included in Model 2 explain 4.1% of the variation in firm performance and that the elite board member variable partly explains variation in firm performance. The number of observations in the models predicting accounting-based performance decreased to 491 (108 firms), due to the lagging of variables for both the dependent variable and the prior performance variable.

The results for the second operationalization of firm performance, adjusted market-based performance, are reported in Table 6, Models 3 and 4. The results regarding elite board members do differ from the accounting-based performance model, as the coefficient is negative but not significant ($\beta = -0.069$). The prior performance control has a positive coeffi-

cient, which is significant at the 5% level ($\beta = 0.018$). Conclusions about the other control variables and the year-fixed effects are equivalent to Models 1 and 2. The overall model is significant at the 10% level ($p = 0.057$). The adjusted R-squared slightly increases from Model 3 (adjusted R-squared = 0.025) to Model 4 (adjusted R-squared = 0.026), indicating that the variables included in Model 4 explain 2.6% of the variation in firm performance. The number of observations in the models predicting market-based performance is 746 (132 firms).

Regarding the second hypothesis of the study, Hypothesis 2a predicts accounting-based performance two years after the observation year. The panel effect is significant ($p = 0.000$), as suggested by the Breusch and Pagan Lagrangian multiplier test. The difference in coefficients is systematic (Hausman test: $p = 0.000$), thus, fixed effects is the appropriate model to test the hypothesis. The modified Wald test rejects the homoscedasticity null hypothesis ($p = 0.000$), so the robust function is used. Similar results and conclusions are drawn for Hypothesis 2b, which predicts market-based performance. A panel effect ($p = 0.000$) and a systematic difference in coefficients ($p = 0.000$) suggest to use fixed effects. Homoscedasticity cannot be assumed ($p = 0.000$). As with Hypothesis 1, the assumptions for fixed-effects regressions are fulfilled (Stock & Watson, 2003, p. 375). I use fixed effects with the robust function for both models to test the second hypothesis.

In Table 7, Models 5 to 8 report the fixed-effects regression results of testing Hypothesis 2. The elite board chair coefficient is negative and non-significant for both measurements of firm performance (H2a: $\beta = -0.496$; H2b: $\beta = -0.025$). The coefficient of the prior performance variable is positive and significant at the 5% level (H2a: $\beta = 1.169^*$; H2b $\beta = 0.018^*$), suggesting that, on average, firms in the sample perform well, if they performed well in the past. The other control variables in the models (elite control, firm size, board size, busy board, board chair/power, and for the most part, year) are not significant. Model 6 is significant ($p = 0.005$), whereas Model 8 is not ($p = 0.127$). A non-significant model implies that there is no relationship between the independent variables and the dependent variable. Moreover, in both cases the adjusted R-squared decreases compared to the control models (H2a: from 0.043 to 0.042; H2b: from 0.021 to 0.020), indicating that the variables included explain 4.2% and 2% of the variation in firm performance and that the elite board chair variable does not add to the explanatory power of either model.

Concluding, under the specifications of the models reported here, the results do not support the hypotheses derived in this thesis. Testing the first hypothesis yields significant results. However, the results suggest that having an elite board member is negatively associated with firm performance. Moreover, this relationship is only observed if predicting accounting-based performance. This study does not find support for the second hypothesis. There is no significant relationship between the elite board chair and firm performance. Therefore, it cannot be assumed that an elite board

Table 6: Fixed-effects regression results for accounting and market-based performance (H1)

	Accounting-based performance (a)		Market-based performance (b)	
	Model 1	Model 2	Model 3	Model 4
Elite board member		-0.932+ (0.521)		-0.069 (0.110)
Prior performance model a	1.209* (0.533)	1.150* (0.534)		
Prior performance model b			0.018* (0.009)	0.018* (0.009)
Firm size	-1.382 (1.505)	-1.327 (1.486)	0.121 (0.130)	0.136 (0.131)
Board size	0.103 (0.199)	0.104 (0.199)	-0.000 (0.024)	0.000 (0.023)
Busy board	0.808 (1.487)	0.067 (1.634)	0.063 (0.196)	0.001 (0.190)
Relative CEO power	-0.111 (0.291)	-0.147 (0.292)	-0.043 (0.033)	-0.044 (0.033)
2011	0.932 (0.723)	0.932 (0.719)	0.131+ (0.077)	0.141+ (0.084)
2012	0.966 (0.628)	0.979 (0.623)	0.088 (0.075)	0.099 (0.084)
2013	0.702 (0.528)	0.717 (0.521)	0.072 (0.094)	0.082 (0.104)
2014	0.127 (0.432)	0.157 (0.430)	0.125 (0.082)	0.136 (0.091)
2015	0.687+ (0.347)	0.684* (0.344)	0.048 (0.080)	0.059 (0.088)
2016			0.011 (0.068)	0.020 (0.075)
2017			0.100 (0.068)	0.107 (0.074)
Constant	11.119 (14.683)	11.777 (14.609)	-1.301 (1.317)	-1.367 (1.324)
Observations	491	491	746	746
Number of firms	108	108	132	132
F-statistics	2.243	2.469	1.804	1.757
p-value	0.020	0.009	0.054	0.057
Adjusted R-squared	0.038	0.041	0.025	0.026

Robust standard errors in parentheses | *** p<0.001, ** p<0.01, * p<0.05, + p<0.1

chair impacts firm performance more strongly than an elite board member does.

5.3. Robustness tests

As reported in Chapters 4.2 and 5.1, I choose the operationalization of variables in accordance with corporate governance literature and partly transform the underlying data for testing the hypothesis. In this chapter, I report whether an alternative operationalization of the independent and dependent variables affects the results and whether the results

are driven by transformations of the underlying data¹⁵.

The reported results suggest that having an elite board member negatively impacts the accounting-based performance of the firm. I choose to construct the independent variable so that it is one if the firm has at least one elite board member. To test whether the specification of the binary variable affects the results, I test an alternative model of Hypothesis 1 where the elite board member variable is one if there are at least two elite members. 18.41% of firms in

¹⁵ The results of robustness tests not reported in this chapter are reported in Appendix 14 - 18.

Table 7: Fixed-effects regression results for accounting and market-based performance (H2)

	Accounting-based performance (a)		Market-based performance (b)	
	Model 5	Model 6	Model 7	Model 8
Elite board chair		-0.496 (0.489)		-0.025 (0.105)
Elite control	-0.276 (0.277)	-0.365 (0.302)	-0.001 (0.030)	-0.004 (0.031)
Prior performance model a	1.200* (0.541)	1.169* (0.543)		
Prior performance model b			0.018* (0.009)	0.018* (0.009)
Firm size	-1.194 (1.516)	-1.137 (1.500)	0.119 (0.135)	0.122 (0.134)
Board size	0.110 (0.212)	0.125 (0.216)	0.002 (0.024)	0.002 (0.024)
Busy board	0.226 (1.804)	-0.248 (1.940)	0.070 (0.224)	0.051 (0.213)
Board chair/CEO power	-0.287 (0.249)	-0.282 (0.250)	-0.015 (0.025)	-0.015 (0.025)
2011	0.989 (0.713)	1.009 (0.719)	0.128+ (0.076)	0.131 (0.080)
2012	1.021 (0.615)	1.030+ (0.616)	0.085 (0.075)	0.087 (0.078)
2013	0.706 (0.510)	0.721 (0.506)	0.068 (0.095)	0.070 (0.099)
2014	0.092 (0.418)	0.120 (0.420)	0.126 (0.082)	0.129 (0.087)
2015	0.685* (0.345)	0.711* (0.354)	0.049 (0.080)	0.052 (0.085)
2016			0.008 (0.068)	0.010 (0.071)
2017			0.096 (0.068)	0.098 (0.071)
Constant	10.030 (14.831)	10.052 (14.751)	-1.309 (1.360)	-1.318 (1.362)
Observations	491	491	746	746
Number of firms	108	108	132	132
F-statistics	2.708	2.542	1.589	1.480
p-value	0.004	0.005	0.096	0.127
Adjusted R-squared	0.043	0.042	0.021	0.020

Robust standard errors in parentheses I *** p<0.001, ** p<0.01, * p<0.05, + p<0.1

the given sample have at least two elite board members. As reported in Table 8, Models 9 and 10, accounting-based firm performance is not significantly affected by the elite board member variable ($\beta = 0.216$). Opposed to the main results (Model 2), the adjusted R-squared decreases when introducing the variable, suggesting that the original independent variable explains more variation in accounting-based firm performance across firms. Results for the model predicting market-based performance do not change. Furthermore, the

elite board member variable is operationalized as a binary variable, following the method of several scholars (Bonini et al., 2022, p. 1614; Hillman, 2005, p. 475; S. Johnson et al., 2011, p. 1790; Kroll et al., 2007, pp. 1204–1205; Stevenson and Radin, 2009, p. 26). To test whether this specification influences the results, I perform an additional test using a count variable, i.e., the number of elite board members in the given year, as the independent variable (Hillman, 2005, p. 470). The results (Models 11 and 12) suggest that there is

no significant relationship between the number of elite board members and firm performance for either firm performance measure.

Next, the model's robustness to variations in the dependent variables is tested. For the model predicting accounting-based performance, a time lag is introduced. It may be that the results are affected by the choice of this time lag. Testing the underlying hypothesis without a time lag, a one-year time lag, or the moving average for three consecutive years, the coefficient of the elite board member variable is positive, but not significant ($\beta = 0.604$, $\beta = 0.163$, $\beta = 0.085$). Therefore, this does not support the underlying hypothesis and suggests that the results in Model 2 are not robust to changes in the operationalization of the performance measure.

I adjust the accounting-based performance variable for the industry and the market-based performance variable for the overall market development. Concerning the first hypothesis, results are robust to changes concerning this operationalization. If the accounting-based variable is not adjusted, the coefficient of the elite board member variable is negative and significant on the 5% level ($\beta = -1.302^*$). Moreover, the model is now only significant at the 5% level ($p = 0.037$) and the adjusted R-squared is lower compared to Model 2, suggesting that using the adjusted accounting-based variable is a better fit for the data. Using a non-adjusted market-based performance measure allows a transformation of Tobin's Q. Taking the natural logarithm of the underlying values, results in a distribution that approaches normality. Using this specification, the results for the elite board member variable do not differ from Model 4, meaning that the coefficient is negative and not significant ($\beta = -0.025$). Most year controls are significant and positive, suggesting that, on average, the firm's market-based performance improves throughout the sample period. The overall model is significant ($p = 0.000$) and explains 30.6% of the variation in firm performance, suggesting that the non-adjusted measure might be a better fit for the underlying data¹⁶.

I modified some of the control variables (see Chapter 5.1). It should be noted that modifications to the controls are made to avoid biased results. Therefore, the results reported in this section should be interpreted with caution. First, I altered the busy board variable due to multicollinearity concerns. Using the original operationalization of the busy board variable, i.e., the average number of board memberships including elite board members, indicates that the results are robust to this specification. The coefficient of the elite board member variable is negative and significant at the 5% level ($\beta = -1.139^*$) when predicting accounting-based performance. The effect is stronger compared to the main results in Model 2. Otherwise, the results do not differ from the main models considerably. The firm size and relative CEO power variables are transformed to reach a distribution approaching normality. Performing regression analysis with a non-transformed

firm size or non-transformed relative CEO power variable does not change the results.

Models 5 to 8 suggest that there is no significant effect of having an elite board chair on firm performance. These results are robust to alternative time lags of the accounting-based performance variable, non-adjusted dependent variables, a busy board control including elite members, and non-transformed firm size and chair-CEO power controls.

In conclusion, consistent with the main results reported in Chapter 5.2, the robustness tests do not indicate that there is a significant relationship between having an elite board member and market-based performance, or between having an elite board chair and accounting or market-based performance. The negative association between having an elite board member and accounting-based firm performance is not robust to alternative operationalizations of the independent variable or alternative time lags of the dependent variable.

6. Discussion

The results from the empirical assessment in the present thesis suggest that, under certain conditions, having an elite board member is negatively associated with firm performance. These results contradict the first hypothesis of this thesis. Moreover, I do not find support for the second hypothesis that the impact on firm performance is stronger if the firm has an elite board chair. In the following chapter, I discuss the results and offer potential reasons for the surprising findings.

The results of the empirical analysis are somewhat counterintuitive and do not reflect the predictions derived from the resource dependence theory and previous research. First, the evidence suggests that having an elite board member is negatively associated with accounting-based performance. A potential reason might be that elite board members sit on more boards simultaneously compared to non-elite board members (see Chapter 5.1). Although, as presented in Chapter 3, scholars following the resource dependence perspective find evidence for a positive impact, other studies find that a high number of board memberships decreases the board's ability to monitor the executive board and has negative implications for the firm's performance. From a monitoring perspective, outside job demands are considered to lessen the board's ability to control the executive team (Boivie et al., 2016, p. 16; Falato et al., 2014, p. 411). Results from a natural experiment conducted by Falato et al. (2014, p. 423) suggest that busyness harms board monitoring quality and firm value. Analyzing busyness' effect on the diversification efforts of the firm, Jiraporn et al. (2008, p. 427) support the notion that busy board members are poorer monitors and harm firm performance. Specifically, busy outside directors, or shareholder representatives in a German context, are associated with decreases in firm performance (Fich & Shivdasani, 2006, pp. 701–703). Anticipating an influence from board busyness, I control for the average number of board memberships. Although the control variable is not significant, the negative effect size from having an elite board mem-

¹⁶ In models without adjustment, the prior performance control is not adjusted accordingly.

Table 8: Fixed-effects regression results for accounting-based performance (H1 robustness test)^a

	Accounting-based performance			
	Model 9	Model 10	Model 11	Model 12
Elite board member (2)		0.216 (0.475)		-0.396 (0.303)
Elite board member (count)				
Prior performance	1.209* (0.533)	1.206* (0.533)	1.209* (0.533)	1.194* (0.537)
Firm size	-1.382 (1.505)	-1.398 (1.504)	-1.382 (1.505)	-1.255 (1.468)
Board size	0.103 (0.199)	0.104 (0.199)	0.103 (0.199)	0.141 (0.212)
Busy board	0.808 (1.487)	0.934 (1.597)	0.808 (1.487)	-0.266 (1.948)
Relative CEO power	-0.111 (0.291)	-0.113 (0.291)	-0.111 (0.291)	-0.109 (0.288)
Constant	11.119 (14.683)	11.081 (14.712)	11.119 (14.683)	11.106 (14.482)
Observations	491	491	491	491
Number of firms	108	108	108	108
F-statistics	2.243	2.055	2.243	2.180
p-value	0.020	0.030	0.020	0.021
Adjusted R-squared	0.038	0.036	0.038	0.039

Robust standard errors in parentheses | *** p<0.001, ** p<0.01, * p<0.05, + p<0.1

^aFor regression results including year fixed-effect see Appendix 12 and 13.

ber increases if elite members' memberships are included in the busyness control. This indicates that including this control improves the accuracy of the relationship by controlling for the performance effect of busyness. Inferring from the results of this study as well as previous research on board monitoring, the drawbacks of having a high social capital and therefore busy, board member seem to outweigh the benefits. This is further supported by Ruigrok et al. (2006, p. 1215), who demonstrate that highly interlocked boards are less involved in strategy. Hence, the members have less opportunity to provide resources to the firm that might improve performance.

Moreover, literature on celebrity CEOs might be valuable in exploring the reasons for the results. Celebrity CEOs are characterized as executives which are publicly regarded as the best CEOs, for instance by being awarded prizes in combination with increased media attention (Wade et al., 2006, pp. 654, 648). This is similar to the elite's operationalization, which is being portrayed in the Handelsblatt articles as the top 30. Scholars argue that the celebrity status of CEOs prompts overconfidence in their ability and subsequently, risky decision-making that leads to poor performance (Hayward et al., 2004, pp. 645–646; Wade et al., 2006, p. 646). According to empirical findings, having a celebrity CEO has mixed or even negative effects on firm per-

formance. Malmendier and Tate (2009, pp. 1610–1614) find that firms led by celebrity CEOs underperform in matched samples. The authors attribute the negative effect to increased opportunities for distractions such as writing books or invitations to join supervisory boards in other firms (Malmendier & Tate, 2009, p. 1596). Another study by Wade et al. (2006, pp. 653–654) concludes that having a celebrity CEO has a negative influence on the long-term market performance of the firm. However, they also find evidence that a celebrity CEO will improve market-based performance in the short term and has no short-term effect on accounting-based performance. Relating these findings to the present study, elite board members potentially suffer from overconfidence, which might lead to advice or provision of resources that results in poorer firm performance in the long term (here, two years after the observation). Additionally, other board members of the executive board might not question an elite board member's advice as their high social capital results in others' overconfidence in the elite board member's abilities (D'Aveni, 1990, p. 121). Moreover, Malmendier and Tate (2009, p. 1596) suggestions might translate to the present study, explaining poorer firm performance by a distraction from the monitoring and resource provision responsibilities due to other engagements.

Taking into account the results of the robustness tests for Hypothesis 1a, the negative effect of having an elite board member on firm performance is even stronger if performance is not adjusted by industry. This suggests that the effect differs across industries, and by not adjusting I capture the effect on performance in industries where the effect is stronger. Although the opposite effect was expected, these results support the notion that the need for resource provision will vary depending on the environment. For instance, Pfeffer and Salancik (1978, e.g. 121-122, 166) create models for predicting the number of measures firms take to manage interdependencies and uncertainty. According to this model, competitive uncertainty is highest when industrial concentration is intermediate and the number of organizations increases. In light of this study's findings, the negative effects of having an elite board member will be stronger in certain industries.

Several robustness tests of this study suggest that under some specifications in the accounting-based performance model, there is no significant effect of having an elite board member. Specifically, this is the case if the model predicts accounting-based performance with alternative time lags. The finding that there is no effect of having an elite board member on firm performance in the same year or one year later, supports the argumentation that the effects on accounting-based performance are not immediate (Carter et al., 2010, p. 405; Westphal, 1999, p. 13; Zahra and Pearce, 1989, p. 277). Moreover, relating to the celebrity CEO literature, these findings mirror (Wade et al., 2006, pp. 653–654) results that there is no effect on accounting-based performance one year after observation. As with the hypothesized positive effects, it might take some time for the negative effects, perhaps stemming from overconfidence or busyness, to be reflected in the ROA. An alternative explanation might be that the benefits from the board member's high social capital outweigh the drawbacks in the short-term, but depreciate over time (Lester et al., 2008, pp. 1009–1010). However, this claim cannot be supported using the present method, since it does not consider the year of appointment of the board member.

While there is a negative association between having an elite board member and firm performance, there are no significant results if a board has at least two elite members or if the elite board member variable is a count instead of a binary measure. This suggests that the negative effects occur only if there is one elite board member¹⁷. Hambrick et al. (2015, p. 336) suggest that while having one board member that combines several attributes for good monitoring benefits the firm, those benefits could be greater for two or more of these board members. It may be that the resource provision benefits for firm performance only occur if there is more than one elite board member, and otherwise the drawbacks over-

weigh. Conversely, building on social identity theory, having only one elite board member might trigger destructive group dynamics (Ely, 1994, pp. 205–206). The social capital disparity between the elite member and non-elite members could harm team performance by disturbing the flow of information and, therefore, no longer allowing for effective resource provision (Harrison and Klein, 2007, p. 1207; Van Knippenberg et al., 2004, pp. 1015–1016).

Further, this study does not find a significant effect of having an elite board member on market-based performance. This suggests that the market does not value a high social capital member on the supervisory board of a firm. One potential explanation is that elite board members join boards that are already prestigious (S. Johnson et al., 2011, p. 1795). Thus, they do not add additional benefits. The present results do not indicate whether firms with prestigious boards perform better, they just suggest that having elite board members is not a differentiator across firms. Furthermore, it is conceivable that the focus on large firms plays a role in the results. Deutsch and Ross (2003, p. 1003) argue that the resource provision function is especially important in entrepreneurial firms. Moreover, as discussed in Chapter 4.2, high social capital members are attracted to large firms, again supporting the argument that elite board members might serve on boards where they do not add many resources.

The empirical findings do not support the hypothesis that the impact on firm performance is stronger if the board chair is elite, as there is no significant relationship between having an elite board chair and firm performance. Banerjee et al. (2020, p. 374) argue that the pressure on board chairs from stakeholders increases. They are expected to focus on diversity, transparency, and sustainability, while still fulfilling the time-intense responsibilities of their role on the board (Meineke et al., 2019, p. 229; Regierungskommission Deutscher Corporate Governance Kodex, 2022, p. 20). It is conceivable that high social capital does not necessarily improve firm performance with these pressures and additional functions. At the same time, the board chair's responsibilities steer the focus away from their resource provision function. Furthermore, the question remains why the negative association between elite board members and performance is not stronger for elite board chairs. One potential reason might be that the negative effects of board member busyness are not as dominant with the board chair, because the number of other supervisory board seats is limited more strongly for the board chair, as recommended by the German corporate governance code (2022, p. 9)¹⁸. It should be noted that the share of elite board members in the sample was higher compared to elite board chairs, which might influence the results (see Chapter 5.1).

Finally, this analysis might suffer from endogeneity. Many empirical analyses in board research treat board capital as exogenous without considering the underlying reasons for

¹⁷ A post-hoc regression analysis reveals that if the independent variable is operationalized as elite board member = 1; if one of the firm's supervisory board members is part of the top 30 in year *t*, the results do not change considerably compared to Models 1 to 4 (Table 6). See Appendix 19 for the results.

¹⁸ However, in the underlying sample there is no difference in the number of board memberships between shareholder representatives and board chairs.

how firms attract it (S. Johnson et al., 2011, p. 1782; S. Johnson et al., 2013, p. 250). In the context of this study, the self-selection bias would suggest that elite individuals choose the firms they want to serve. Therefore, the association with firm performance would be wrongly attributed to the elite board member's contributions, rather than their choice to join. Previous research suggests what attracts individuals to join boards. Greater compensation may influence individuals who have greater social capital to agree to serve on a board. However, S. Johnson et al. (2011, p. 1798) find that it is rather the complexity of the firm and the attached reputational benefits that make a board member with high social capital accept an offer. Moreover, it is conceivable that board members want to join a well-performing firm to avoid affiliation with poorly performing firms that might harm their social capital (Pfeffer & Salancik, 1978, pp. 164–165). The present study acknowledges the self-selection problem by controlling for prior performance and firm size (see Chapter 4.2). Furthermore, I assume that reverse causality is not a problem in this particular analysis, since I introduce a time lag in my models. Additionally, previous research suggests that firms cannot attract board members with high social capital, specifically, many board memberships, if they perform poorly (Fich & Shivdasani, 2006, p. 708). Nevertheless, I do not claim to test a causal relationship between elite board members and firm performance, as endogeneity problems cannot be dismissed entirely.

Summarizing, several fields of research offer potential reasons for the empirical results of this thesis. First, the number of board memberships might be an important factor as to why elite board members are associated with negative firm performance. Further, the cause may lay in the overconfidence of the board member in themselves, as well as the overconfidence of others in this individual. Group processes might explain the finding that the negative association is only apparent if there is one elite board member. Finally, the changing role of the board chair might shed light on the non-significant relationship with firm performance.

7. Conclusion

While scholars in the field of corporate governance agree that the board is increasingly important and should take an active role in the firm, there is still no consensus on how it shapes firm behavior and outcomes (Boivie et al., 2021, p. 1663). Especially in an environment where parties have different and often conflicting claims, reducing uncertainty and increasing power over these parties is both more crucial and more difficult to accomplish (Pfeffer & Salancik, 1978, pp. 92–93). The present thesis aimed to progress board research by arguing that individuals who have an extraordinary ability to link the firm to its environment and provide valuable resources, can reduce uncertainty, and consequently improve firm performance. Introducing a novel conceptualization of elite board members, this analysis shows that, against expectations, having one individual on the board who is elite, i.e., has a high social capital along the attributes reputation,

network, and status, is negatively associated with firm performance. Moreover, I do not find a significant relationship between having more than one elite board member or an elite board chair.

The present study makes several contributions to board research and its findings have concrete implications. This thesis answers both, the call to consider several attributes of board capital at the same time and to not neglect the individual as an important level of analysis (Bazerman and Schoorman, 1983, p. 209; Hambrick et al., 2015, p. 328; Hillman et al., 2000, p. 252; Hillman et al., 2008, p. 452; S. Johnson et al., 2011, p. 1799; Withers et al., 2012, p. 248). The findings imply that there is indeed value in regarding the individual board member. However, I cannot claim that analyzing individuals instead of aggregating the board's social capital is more predictive of firm performance since the chosen dataset does not inform about all social capital attributes of non-elite board members. Moreover, I argue that the elite board chair should be considered a person of interest when discussing individual board members' contributions. Although I do not find a significant relationship between elite board chairs and firm performance, the findings differ from other elite board members. This indicates that the board chair does take a differentiated role and their responsibilities distinguish them from other shareholder representatives.

The finding's implications for executives, board members, or shareholders are, not to categorically assume that having an elite board member will translate into better firm performance. It may be that overconfidence or disturbed group dynamics might even harm it in the long run (Harrison and Klein, 2007, p. 1207; Hayward et al., 2004, pp. 654–646; Van Knippenberg et al., 2004, pp. 1015–1016; Wade et al., 2006, p. 646). Moreover, it is an additional indication to follow the German corporate governance code's recommendation to limit the number of board memberships (Regierungskommission Deutscher Corporate Governance Kodex, 2022, p. 8). Further, firms need to consider their environment in the choice of board members. Overall, firms should consider the possibility that a board member or board chair with high social capital will not improve performance. However, this is not to say that the benefits suggested by the resource dependence theory are not provided, only the relationship to firm performance might not be as direct.

The findings and conclusions from this thesis need to be considered in light of its limitations. First, I focus on social capital. Although the descriptive comparison between elite and non-elite board members does not give a strong indication that the groups differ in demographics, and the German corporate governance code suggests that board members should not vary highly in their human capital (Regierungskommission Deutscher Corporate Governance Kodex, 2022, p. 8), it is plausible that there are differences between the two groups beyond social capital that drive the results. Further, some human capital attributes are suggested to be the results of superior social capital. For instance, determinants of social capital are argued to predetermine board members' human capital such as knowledge or ex-

pertise (Bailey and Helfat, 2003, pp. 350–354; Carpenter and Westphal, 2001, p. 640; Kor and Sundaramurthy, 2009, p. 985). Congruently, social capital attributes are party regarded functions of human capital. As Certo (2003, p. 436) and Veltrop et al. (2017, p. 1100) argue, the boards' prestige or status is a result of the members' knowledge and skills. This suggests that human and social capital are determining one another and future research should consider these interdependencies and complementary effects when linking a board member's ability with firm performance (Hillman & Dalziel, 2003, p. 393). While doing so, this study recommends combining several attributes in individual board members and not aggregating the whole board.

Moreover, the focus on resource dependence theory limits this study's hypotheses deviation. Although research using the agency theory does not necessarily disagree with the claim that a board member's social capital should improve firm performance, it did offer an explanation for the surprising results (Hillman and Dalziel, 2003, p. 389; Tian et al., 2011, p. 743). More perspectives should be regarded to understand the discussed relationships. As presented in Chapter 2, board members' functions are complex. Future research should consider using combined approaches of resource dependence and alternative perspectives, such as agency theory or social identity theory, to offer a broader perspective on board capital. Hillman and Dalziel (2003, p. 390) and Zona et al. (2018, p. 590) offer two examples of how to integrate even two seemingly opposing views on the board's role.

Another shortcoming of the present thesis is that I do not consider whether the dependencies the firms face align with the resources that elite board members can provide through their social capital. As described in this thesis, several scholars consider the environment of the firm in establishing a relationship between board and performance (for example Hillman, 2005, p. 477; McDonald et al., 2008, pp. 1168–1170; Withers and Fitza, 2017, p. 1344). The findings in this study further support that there is value in considering the environment in future research. Furthermore, the present study does not observe what is happening inside the boardroom. As other scholars already suggested (Boivie et al., 2016, p. 347; Stevenson and Radin, 2009, p. 17), future research should consider the group and power dynamics within the board and among board members.

When it comes to the applied method, the study also suffers from limitations that might affect the results, but also represent opportunities for future research. The Handelsblatt rankings are used as an operationalization for the independent variable, i.e., elite board members who excel in social capital. Since there is limited information about the methods in the Handelsblatt articles, there is no sufficient background as to how the rankings are established. One problem that is visible from the given information, is that the number of board memberships affects each of the three attributes in the ranking. There are no clear boundaries between the measures and the attributes' interdependencies are not directly addressed. Although the elite board members measure has

clear limitations for the present study design, it could still be promising for future research. Referring to the literature on celebrity CEOs and the resource dependence theory, being part of the top 30 and on the board of a firm might have a positive signaling effect on the stock market (Pfeffer and Salancik, 1978, p. 16; Wade et al., 2006, pp. 653–654). Using an event study method, future research might analyze the short-term market reaction to elite board members joining a board. This method would also allow testing how the value of social capital changes over time (Lester et al., 2008, pp. 1009–1010). Alternatively, an event study might shed light on an elite board member's behavior if the firm's performance declines. As Fich and Shivdasani (2006, p. 711) find, highly interlocked board members tend to leave poor-performing firms. This might be the case for elite board members as well.

Finally, despite this study's limitations, the construct of elite board members is promising for future research. The rather surprising findings of this thesis suggest two complementary conclusions. First, the relationship between elite board members and firm performance is more complex, and future research should unravel the underlying mechanisms. And second, elite board members do not directly or positively affect the firm's performance: *all that glitters is not gold*.

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