

Board Composition in Times of Crisis: The Determinative Role of Nomination Committee Expertise

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Abstract

During times of crisis, board directors are known to step down, making the nomination committee - responsible for managing the nomination process of new directors - a key stakeholder. We suggest that during turbulent times, the board's resource needs change so rapidly and dramatically that the nomination committee cannot keep pace with these evolving demands. Consequently, it may favour alternative criteria in its nomination process. Specifically, we propose that the nomination committee will favour similarity in expertise among board candidates to facilitate rapid decision-making. Our study examines whether the expertise of both the nomination committee and its chair serves as an important predictor of the board's overall expertise composition. The empirical findings suggest that the nomination committee's expertise levels predict the board's expertise across firm, industry, financial, and general business domains. However, we find that the NC chair's expertise can both strengthen and weaken this relationship. Overall, our research indicates that the NC's expertise is an antecedent of board expertise, underscoring its central role and influence in corporate governance during times of crisis.

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INTRODUCTION

The board of directors holds a central position at the top of the company by governing on behalf of share- and stakeholders (Jensen 1993) and by offering advice, oversight and facilitating access to resources (Hillman and Dalziel 2003; Carpenter and Westphal 2001). Due to their central role, the board of directors has the potential to shape and influence a range of organizational outcomes (Finkelstein *et al.* 2009; Johnson *et al.* 1996; Zahra and Pearce 1989).

While agency theory is one of the most dominant theory in corporate governance and emphasizes the supervisory and monitoring role of the board, resource dependency theory highlights the resource-providing role (Pfeffer & Salancik, 1978; Hillman and Dalziel 2003; Hillman *et al.* 2000). One of the most critical resources in an organization is human capital (Becker 1993), which is reflecting individual's knowledge, skills, abilities and experience (Coff 2002; Harris and Helfat 1997). It is the foundation for a board's decision-making and risk assessments (Carter and Lorsch 2005; Forbes and Milliken 1999), and hence contributes to a firm's competitive advantage (Khanna *et al.* 2014).

As an individual cannot possess all the knowledge and expertise required to govern an organization, the board is composed of several directors, with each individual bringing relevant expertise to the table, allowing the board to have a diverse set of knowledge (Kaczmarek *et al.* 2012; Withers *et al.* 2012). Past research indicates that the board nominates directors with different forms of expertise, e.g., industry, subject, or firm-related knowledge (Klarner *et al.* 2021) or directors classified as insiders, business experts, support specialists, and community influentials (Hillman *et al.* 2000). The exact composition and share of expertise is supposed to be based on the organization's current situation and resource needs (Johnson *et al.* 2013).

The process of selecting, nominating and appointing board members with the necessary resources, as well as the elimination of ineffective CEOs and directors, is the responsibility of the nomination committee (NC) (Kaczmarek *et al.* 2012). With the board's governing effectiveness depending on the nomination of high-quality directors, the NC, therefore, plays a central role in an organization (Ruigrok *et al.* 2006; Vafeas 1999). The assumption and expectation that the board aligns its composition with the organization's resource needs is closely tied to the expectation that the NC understands the firm's strategic challenges and resource requirements and that it is initiating the necessary adjustments to the expertise composition.

A good fit between available and required resources becomes especially important during a crisis when boards of directors take on a more active role (Probst and Schmitt 2020) by exercising more power and control (Mizruchi 1983) as the long-term survival of a firm might be threatened by decline and failure. During a crisis, characterized as an unexpected, salient and disruptive event (Bundy *et al.* 2017), both the strategic challenges and the board's resource needs change rapidly and frequently. As a result, a board's existing resources may quickly become outdated, leading to resource deficiencies that can limit effective monitoring (Kroll *et al.* 2008).

During times of crises, identifying and acquiring the necessary resources may become challenging with needs changing quickly, maybe even faster than nomination procedures. Thus, nominating directors solely based on expertise may become challenging, requiring additional nomination criteria during times of crisis. We propose that in a crisis context, the board will place greater importance on ensuring effective and efficient board dynamics through similarity and familiarity, with expertise homogeneity enabling swift responses (Goodstein *et al.* 1994). Consequently, the expertise composition of the board will be heavily influenced by the expertise represented on the NC, making the existing human capital on the board a critical antecedent for its overall expertise composition.

To test our hypotheses, we use a panel data set of the Standard and Poor's 1500 (S&P 1500) firms between 2000 and 2023 and identify organizations that have encountered a crisis.

We define a crisis as a period in an organization's life when the return on assets (ROA) turned negative and suffers an absolute and a relative-to-industry decline over two years (Barker *et al.* 2022). We analyse the board and NC composition based on director's previous expertise (Acharya and Pollock 2021; Homroy and Slechten 2019; Hillman *et al.* 2000) and categorized them into five main areas of expertise: firm expertise, industry expertise, financial expertise, general business expertise and crisis expertise. Overall, we find that the level of expertise on the NC positively predicts the level of expertise on the overall board. However, we find that the NC's chair expertise can moderate the relationship both positively and negatively, depending on the area of expertise.

By focusing on NCs as an antecedent of board's expertise in times of crisis, we provide several contributions to the current literature. Firstly, we contribute to resource dependency theory. As corporate governance research on board's characteristics is growing beyond the topic of independence, it becomes more and more important to understand the composition of board expertise (Johnson *et al.* 2013). However, previous research mostly assumes that resource acquisition is based on objective and rational criteria such as aligning the board composition with changing resource needs. With our study we draw attention to the role of already existing resources in driving the selection of board expertise, especially in times of uncertainty. Secondly, we contribute to corporate governance research by highlighting the role of board committees, more specifically the nomination committee which is one of the most important antecedents of board composition, but at the same time one of the most under researched committees (Kaczmarek *et al.* 2012). Finally, we contribute to crisis management literature by providing insights into the board's composition in crisis times and how these difficult times change the criteria for board director selection.

In the upcoming sections, we offer background on the board composition, the nomination committee and crisis context as the basis for our research hypothesis. Afterwards we present our data, analysis and results. This is followed by a discussion of our main findings and their implications, along future research areas and limitations of our research.

THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

Board Expertise

Being responsible for reviewing and approving strategic decisions, conducting risk assessments, and overseeing management nominations and compensation decisions requires the board to have a deep comprehensive understanding of the organization, its assets and its external environment (Carter and Lorsch 2005; Forbes and Milliken 1999). This understanding is built on a diverse set of expertise, knowledge, skills, and capabilities (Klarner *et al.* 2021; Hillman *et al.* 2000) which are developed through education and experience (Castanias and Helfat 2001). Ideally, the NC will nominate potential directors based on their experience and knowledge (Johnson *et al.* 2013; Kroll *et al.* 2008; Carpenter and Westphal 2001) while taking into account the firm's current challenges and strategy (Sirmon and Hitt 2009). With one individual not being able to possess all the relevant knowledge and expertise required for governing, the board of directors is composed of multiple directors who provide a diverse and relevant set of knowledge and expertise (Kaczmarek *et al.* 2012; Withers *et al.* 2012).

The expertise of the board can take various forms, including industry or subject-specific knowledge, firm-specific knowledge, or insights into particular events (Johnson *et al.* 2013). On one hand, Klarner *et al.* (2021) identified team-, firm-, and task-specific knowledge, skills, and abilities as especially relevant for monitoring and advising the top-management team. On the other hand, Hillman *et al.* (2000) categorize directors based on their area of expertise, distinguishing among insiders, business experts, support specialists, and community influentials, each contributing unique but essential knowledge. However, it is known that depending on the life stage of the firm (Kroll *et al.* 2008) or the company type (Jones *et al.*

2008), organizations benefit from different types of directors and human capital. Hence, the resource needs of the board change regularly, ideally requiring adjustments to the board.

Nomination Committee

With increasing demands on board members, boards are increasingly relying on committees to structure their work, elevating the importance and activity of these sub-groups (Adams *et al.* 2021). Board committees allow boards to reduce the time and responsibility pressures placed on individual directors by managing the complexity of decision-making through expertise-focused groups (Kolev *et al.* 2019). Directors who obtain a committee membership, are known to be more involved (Masulis and Mobbs 2014) and are associated with higher importance (Zhu *et al.* 2014). As a result, committees play a superior and prominent role in addressing and solving specific topics (Kolev *et al.* 2019) and have the potential to impact firm performance (Kolev *et al.* 2023).

The three most common, and in some regions mandatory, board committees are the audit, compensation and nomination (or nominating) committees. Past research showed that powerful CEOs can influence the nomination process of board directors by promoting directors who act in their favour (Lorsch and MacIver 1989) or by selecting candidates that share sociological and demographic characteristics, increasing familiarity and thereby reducing control (Westphal and Zajac 1995). To address these concerns, the process of nomination has been reformed through the introduction of the nomination committees (Ruigrok *et al.* 2006). Their aim is to propose future candidates based on objective criteria and to limit the influence of the CEO (Eminet and Guedri 2010).

With board's governing effectiveness depending on the quality of director appointments (Vafeas 1999), the NC plays a crucial role as the primary antecedent of the board's overall composition (Kaczmarek *et al.* 2012). In regards to this, research shows that board independence is negatively impacted by the presence of a family member (Anderson and Reeb 2004) or the CEO (Shivdasani and Yermack 1999) on the NC, highlighting the critical influence of the NC composition. Regarding the antecedents of NC composition insights are still limited. However, independent, long-term and business-related functional experienced directors are more likely to be part of a committee (Kesner 1988).

Research on NCs in a crisis context found that its effectiveness can reduce the likelihood of bankruptcy (Appiah and Chizema 2016), but otherwise remains limited. This is surprising, considering that they take a more central role during the crisis, than during non-crisis times. With directors leaving before, during and following the crisis onset (Easterwood *et al.* 2012; Arthaud-Day *et al.* 2006), replacements for the outgoing directors become necessary, putting more responsibility on the NC during turbulent times as they have to find replacements with adequate expertise fitting the changing circumstances. However, during times of crisis, the need for specific expertise will likely evolve rapidly, making it more difficult for the nomination committee to determine the changing resource needs of the board and organization and acquire them in a timely manner. Additionally, the board is facing challenges to acquire the resources as a crisis also diminishes a board's freedom in the nomination process, with organizational decline impacting its attractiveness, leading to an increased likelihood of nominating directors with moderate levels of human and social capital (Jiang *et al.* 2021). Taking into account the quickly evolving resource needs and difficulties to obtain them during crisis, we argue that the board of directors may prioritize other criteria when nominating new directors instead of aligning them with the objective resource needs.

Hypotheses

During crises decision-making becomes faster, simpler, more intuitive, and less analytical (Bonn and Rundle-Thiele 2007). The importance of quick-decision making is emphasized by Judge and Miller (1991) who find that in fast-moving environments, the decision-making speed is associated with higher performance. The decision-making speed of a team can be influenced

by its composition. While heterogeneity in teams fosters discussions, consideration of several perspectives and prevents group-thinking (van Knippenberg *et al.* 2004), it is also known to slow down decision-making speed (Hambrick *et al.* 1996). Therefore, to ensure that the board can make fast decisions in times of crisis, it will prefer a board characterized by expertise homogeneity over diversity.

Secondly, it is known that individuals are attracted to others who display a certain similarity to their own profile (Byrne and Ervin 1969) which strengthens social bonds, reinforces mutual support, and enhances validation (Westphal and Zajac 1995). Past research has shown that board directors indeed favour directors from the same minority (Westphal and Milton 2000) or even nominate directors with a similar demographic background (Kaczmarek *et al.* 2012). We argue that the preference for similarity goes beyond demographic characteristics and is further reinforced by shared expertise, fostering a greater sense of ease and mutual understanding—both crucial factors in the nomination process (Clune *et al.* 2014).

Thirdly, research suggests that diversity can lead to disagreements and conflicts within the board regarding task-related matters (Simons and Peterson 2000). During crises, when the board plays a more central role, such conflicts may not only slow down decision-making but also create divisions at a time when cohesion is essential. To create and communicate unity, boards may strive to foster cohesion by appointing members with similar expertise, as shared professional backgrounds make it easier to build alignment compared to more heterogeneous boards. This, in turn, helps project an image of strength and unity, which is particularly crucial during times of crisis when external stakeholders seek reassurance and stability.

Fourthly, the NC itself undergoes a strategic decision-making process during the nomination process. Directors first gather and filter information based on their cognitive frames, which they then interpret and compare against alternatives before making a final decision (Milliken and Vollrath 1991). However, this process is influenced by an individual's background and expertise, as these factors shape their perspective and direct attention toward areas aligned with their prior experience (Hambrick 2007). For instance, a director on the nomination committee with industry experience may perceive a lack of industry expertise as more pressing than a director with a financial background, leading to selective perception (Cannella and Holcomb). During a crisis, this effect is likely to be even stronger, as board directors tend to rely more heavily on their prior expertise due to time constraints and heightened pressure.

Lastly, crises are often perceived as a failure of board oversight, raising questions about the board's qualifications and expertise. We argue that when their ability to monitor is publicly scrutinized - potentially reducing future opportunities for board positions (Wurthmann 2014) - and even effective board members face removal (Kachelmeier *et al.* 2016) due to social pressure (Narayanaswamy *et al.* 2021), the board is likely to exhibit self-confirmation bias. As a result, board members may seek to validate their own expertise by nominating directors with similar backgrounds, reinforcing their perceived competence.

Consequently, and taking into account that the NC is driving the nomination of directors, our first hypothesis states:

H1: In times of crisis, the level of expertise on the nomination committee positively predicts the level of expertise on the board.

Given that the NC is led by a chair, we argue that the chair's expertise moderates the relationship between NC expertise and board expertise. Holding a leadership position within the committee grants the chair significant influence over its functioning, with the ability to either drive improvements or hinder progress (Lorsch and Clark 2008). Similar to the overall board chair, the committee chair is responsible for managing group dynamics (Veltrop *et al.* 2021) granting them the authority to facilitate or obstruct meaningful discussions (Free *et al.* 2021). The broader influence of board chairs is further supported by Kolev *et al.* (2023) who find

that board committee chairs not only account for variations in firm performance but also exert a stronger influence than board chairs.

Research on compensation committees indicates that the chair has the potential to influence firm performance by shaping executive compensation structures (Belliveau *et al.* 1996). Additionally, the chair's expertise affects which CEO performance metrics are applied within the organization (Kalelkar and Nwaeze 2024), further reinforcing their and their expertise's considerable influence - an influence that is amplified by their role in shaping the committee's information-processing (Free *et al.* 2021). While research on the NC chair is limited, it is known that the NC chair wields significant power by preselecting candidates for consideration and initiating initial contact during the nomination process (Clune *et al.* 2014).

Through this central position, the NC chair holds significant power over the initial preselection process, laying the foundation for subsequent selections by committee members. We argue that the NC chair experiences the same biases and need for similarity as the broader NC. However, due to its central role on the board and influence over the NC committee and preselection process, the impact of the NC on the board's overall expertise will be amplified if the chair possesses the same expertise. Consequently, a chair's expertise further strengthens the relationship between NC expertise and board expertise. Hence, our second hypothesis states:

H2: The effect of nomination committee expertise on board expertise is stronger when the nomination committee chair has the same expertise.

METHODS

Sample

Consistent with previous corporate governance research on board composition, our sample is based on S&P 1500 companies (Anderson and Reeb 2004). Within this sample, we identify organizations that encountered a crisis between 2000 and 2023. Following prior recommendations, we define a crisis as a period in which a company's return on assets (ROA) turns negative and declines both absolutely and relative to the industry over two years (Barker *et al.* 2022). After identifying these crisis periods, we analyze board composition shortly before and after the crisis onset to capture both the mid- and post-crisis periods over 10 years.

Data on board composition was obtained from BoardEx, a comprehensive database covering publicly available information on 2.2 million public, private, and non-profit organizations, including their board members, C-suite executives, and top management teams. In cases where individual director data was incomplete or unavailable, we supplemented BoardEx data with information from proxy statements, press releases, and director profiles provided by the respective companies. After excluding observations with missing data, our final sample consists of 77 firm observations.

Measures

Expertise. In line with previous research we categorize directors into expertise based on their previous functional experience (Acharya and Pollock 2021; Homroy and Slechten 2019; Hillman *et al.* 2000). Following Hillman *et al.* (2000) we classify directors into insiders who possess *firm expertise*, business experts who possess *general business expertise*. However, given the crisis context and our definition of a crisis, we further distinguish support specialists into three categories: those with financial expertise, crisis expertise, and industry expertise. This distinction is based on evidence that boards tend to acquire expertise relevant to the ongoing crisis (Benaroch and Chernobai 2017).

Firm expertise is primarily attributed to inside directors who have a current or past affiliation with the organization, providing them with extensive knowledge about the firm (Fama and Jensen 1983). Additionally, we classify outside directors with a tenure exceeding

eight years as possessing firm-specific expertise, given that eight years represent the average tenure for board members (Sterling and Gilles 2018), allowing sufficient time to develop in-depth knowledge of the firm's operations, decisions, and dynamics. Financial expertise is assigned to directors who currently hold or have previously held positions such as CFO, accountant or financial advisor. General business expertise is attributed to directors who are either retired or active executives of other companies and possess experience across multiple industries. Industry expertise applies to directors whose careers have focused on the same industry as the organization, regardless of whether they are retired or active executives. To determine crisis expertise, we follow a two-step process. First, we identify directors who have served on the board of another S&P1500 company that experienced a crisis. Second, we assess whether directors have held roles in restructuring, worked as turnaround consultants, or have been explicitly recognized in press releases as crisis experts.

Since areas of expertise may overlap, the director's longest experience serves as a decisive factor when categorizing (Hillman *et al.* 2000). Each director is assigned to only one category to maintain classification exclusivity, ensuring clear analysis of expertise change on the board. In total, we coded over 1,904 directors across five expertise categories. Consistent with Acharya and Pollock (2021), the first author performed the initial categorization, while the second author independently verified each classification. Discrepancies were resolved through discussion with the third author.

Dependent Variables. After identifying each director's primary expertise, we calculate the absolute number of directors in each expertise category for each year. We then divide this number by the total number of supervisory directors on the board. This approach allows us to capture the presence of the five expertise areas on the board as a continuous variable. The advantage of using a continuous variable is that it inherently accounts for potential changes in board size over time and reflects the relative influence of each expertise area in relation to the overall board composition. Consequently, we define five dependent variables that measure the proportion of firm expertise, general business expertise, industry expertise, financial expertise, and crisis expertise on the board.

Independent Variables. As for the dependent variable we calculate the proportion of each expertise area within the nomination committee. Consequently, we have five independent variables that reflect the level of *firm expertise*, *general business expertise*, *industry expertise*, *financial expertise* and *crisis expertise* on the NC.

Moderating Variables. The variable NC Chair Expertise serves as a moderator variable. This variable is operationalized as a binary variable, where 0 indicates that the chair does not possess a certain area of expertise, while 1 indicates that the directors possesses this expertise.

Control Variables. Several organizational and board characteristics are known to influence board composition. One key factor we control for is *CEO Duality*. A CEO who also holds the position of board chair has greater influence over the board compared to a CEO whose role is separate from the chair position (Zajac and Westphal 1996) potentially affecting the board's expertise composition. This variable is coded as 1 if the CEO serves as both the CEO and chair and as 0 if the roles are separated.

While we do not control for board size, as it is already accounted for in the independent and dependent variables through the share of expertise on the board and NC, we do control for the size of the NC relative to the overall board. The larger the NC and the greater its overlap with the overall board, the higher the likelihood that the expertise composition of the NC will reflect that of the board.

Furthermore, we control for *CEO Turnover* and *Chair Turnover*, as changes in these positions within the organization are likely to trigger board restructuring, potentially influencing board composition.

beyond that, we also control for firm characteristics known to influence board composition. Specifically, we account for firm size. In line with previous research we are

controlling for industry sectors (Hambrick and Mason 1984). Additionally, given the crisis context, we differentiate between various crisis types, such as the Financial Crisis, Energy Crisis, Covid19 and unspecified crises.

RESULTS

Analysis

Corporate governance variables are known to be affected by endogeneity (Kaczmarek *et al.* 2012) either due to unobserved heterogeneity, simultaneity, or the unrealistic assumption that current corporate governance characteristics are independent of their past values (Wintoki *et al.* 2012). To address this, we conduct the Durbin-Wu-Hausman test to assess potential endogeneity. The results reject the null hypothesis of exogeneity, indicating that ordinary least squares (OLS) or traditional fixed-effects estimates are not suitable for our analysis.

Therefore, we employ a system linear GMM estimator to mitigate issues related to unobserved heterogeneity and endogeneity (Blundell and Bond 1998; Arellano and Bover 1995). This method has been previously applied in corporate governance research and is particularly well-suited for models in which past values may influence present values. While, in theory, the level of expertise may not be affected by its past levels, in practice, prior levels are likely to have an impact—especially considering the time required to alter board composition.

Consequently, our model is estimated as follows

$$Y_{it} = \alpha Y_{i,t-2} + \beta_1 X_{1it} + \beta_2 X_{1i,t-2} + \beta_3 X_{2i} + \dots + \beta_m X_{ji} + u_i + w_{it}$$

in which:

- Y_{it} is reflecting the dependent variable, i.e., the level of firm, industry, financial, general business or crisis expertise on the board
- X_{1i} is reflecting the independent variable, i.e., the level of firm, industry, financial, general business or crisis expertise on the nomination committee
- $X_2 + \dots + X_j$ is reflecting the different control variables
- $i = 1, \dots, N$ reflects number of companies, across time “t=year 1, 2, 3 ...10”
- $\varepsilon_{it} = u_i + w_{it}$ reflects the standard fixed-/random effects decomposition of the error term

Descriptive Results

Table 1 provides the descriptive statistics of our dependent, independent, and control variables used within the study. Table 3 provides insights into the pairwise correlations for each area of expertise, showing that the level of expertise within the NC is significantly and positively correlated with the level of expertise on the board across all five areas: firm, industry, financial, general business, and crisis knowledge.

Among the control variables, CEO Duality is positively correlated with the level of firm and general business expertise on the board but negatively correlated with industry expertise. The control variable *NC size/board size* shows a positive correlation with firm and financial expertise but a negative correlation with industry and general business expertise. Chair turnover is positively correlated only with the level of financial expertise on the board. Firm size is positively correlated with firm and financial expertise but negatively correlated with industry expertise. Our moderator variables exhibit positive correlations with the level of expertise on the board across all five areas. Additionally, variance inflation factors (VIFs) indicate that multicollinearity is not a concern in any of the models.

Insert Table 1 and 2 about here

The results of the regression analysis testing H1 are presented in Table 3 for each area of expertise. The consistency of the GMM estimator depends on the validity of the instruments used in the regression analysis. The Hansen J-test, as well as AR(1) and AR(2) tests, confirm

the validity of our models for firm expertise, financial expertise, and general business expertise. A potential explanation for the lack of validity in the crisis expertise model could be the general underrepresentation of this expertise area on the board.

The results are statistically significant and positive for firm ($\beta=.12$, $p < 0.1$), industry ($\beta=.30$, $p < 0.01$), financial ($\beta=.21$, $p < 0.01$), and general business expertise ($\beta=.32$, $p < 0.01$). These findings support Hypothesis 1, demonstrating that the level of expertise within the NC is a positive predictor of the level of expertise on the board.

Furthermore, we find that the lagged level of expertise on the board is having a significant positive impact for firm ($\beta=.66$, $p < 0.01$), industry ($\beta=.72$, $p < 0.01$), financial ($\beta=.65$, $p < 0.01$), and general business expertise ($\beta=.60$, $p < 0.01$). This indicates that expertise levels persist over time, highlighting the necessity of incorporating this factor into our model. It also suggests that the composition of board expertise is not solely determined by current circumstances but is strongly influenced by past expertise levels.

In Hypothesis 2, we predicted that the presence of an NC Chair with a specific expertise would strengthen the relationship between the level of expertise within the NC and the corresponding level of expertise on the board. Our findings provide partial support for this hypothesis. Our analysis confirms Hypothesis 2 for financial expertise ($\beta=.30$, $p < 0.01$) indicating that the relationship between NC financial expertise and board financial expertise is strengthened when the NC Chair possesses financial expertise. In contrast, for industry expertise, we find that the relationship is weakened when the NC Chair has industry expertise ($\beta= -.21$, $p < 0.01$). For firm and general business expertise, we do not find statistically significant results. Additionally, our crisis expertise model is generally weak, which can be attributed to the overall low representation of crisis expertise on boards.

Insert Table 3 and 4 about here

DISCUSSION

Prior studies have highlighted the NC's role as a key determinant of board composition (Kaczmarek *et al.* 2012). Our study examines whether this influence extends beyond demographic criteria to encompass critical board resources, such as human capital. This challenges the assumption that, in times of crisis, the board adjusts its composition solely in response to new resource needs. Instead, our findings suggest that existing resources within the NC strongly predict board composition. Specifically, we demonstrate that the level of expertise within the NC is a significant predictor of the corresponding level of expertise on the board.

These findings challenge existing assumptions about board composition. Previous research has often argued that boards adjust their composition in response to environmental changes to accommodate evolving resource needs (Hillman *et al.* 2000). Contrary to this assumption of objectivity, our study demonstrates that board composition is also significantly influenced by more subjective factors, such as the preference for similarity - particularly during times of uncertainty. In doing so, they may be attempting to defend their own expertise by signalling its importance to stakeholders and shareholders. These findings further reinforce the idea that the NC serves as a key determinant of board composition, highlighting its crucial role in shaping board structure, particularly during crises, when many directors leave the board (Easterwood *et al.* 2012). By demonstrating that the NC's influence on board composition extends beyond demographic similarity, our findings highlight its far-reaching impact on the board's ability to govern effectively in times of uncertainty.

The NC Chair holds significant influence over the NC's work by overseeing the preselection of candidates and setting the agenda, granting them authority not only over the NC but also over the overall board (Clune *et al.* 2014). We proposed that the presence of an NC

Chair with specific expertise would strengthen the relationship between the level of expertise within the NC and the board. However, our findings provide only partial and at times contradictory support.

For firm and general business expertise, we do not find evidence that the relationship between NC expertise and board expertise is moderated by the presence of a chair with this expertise. In the area of financial expertise, we find that the presence of a NC Chair with financial expertise amplifies the influence of the NC's financial expertise on the board's financial expertise during times of crisis. In contrast, for industry expertise, we unexpectedly find that the presence of an NC Chair with industry expertise weakens the relationship between the NC's and the board's industry expertise. This result contradicts Hypothesis 2 and highlights that the effect of NC Chairs varies depending on their background and expertise.

There are multiple explanations for the lack of results of the NC Chair's firm and general business expertise. First, this may indicate that the influence of the NC Chair is not solely determined by their formal role but also by their expertise and the expertise required during a crisis. In times of crisis, more specialized expertise - such as financial or industry expertise - may be prioritized over firm and general business expertise, granting greater influence to NC Chairs with such backgrounds. Secondly, it is possible that boards with firm and general business expertise recognize stakeholders' and shareholders' expectations for more specialized knowledge and, as a result, do not actively push for increased representation of their own expertise. This would mean that directors may be able to detach from their bias. Thirdly, given that firm and general business expertise are among the most prevalent expertise areas, NC Chairs may be aware of this existing representation and, therefore, see no need to advocate for further increases.

The finding that an NC Chair with financial expertise strengthens the impact of NC financial expertise on its representation on the board confirms our hypothesis that the Chair amplifies this effect through their influence. Furthermore, this aligns with the assumption that experts often overestimate the importance of their own expertise and, as a result, advocate for greater representation. However, it cannot be overlooked that financial expertise plays a crucial role during times of crisis, further justifying its increased representation.

Surprisingly, an NC Chair with industry expertise was found to weaken the relationship between the NC's and the board's level of industry expertise. One possible explanation is that industry-expert chairs tend to have broader experience than, for example, financial experts, making them less susceptible to biases such as perceiving their own expertise as indispensable and therefore are more inclined to preselect a more diverse pool of candidates. Another potential explanation lies in our definition of a crisis, which considers a negative and absolute decline in ROA, both in absolute terms and relative to the industry. If an organization is underperforming compared to its industry, the NC Chair may perceive existing industry experts as having misinterpreted industry developments, leading them to prioritize other areas of expertise instead. Lastly, it is also possible that NC Chairs with industry expertise wield less influence compared to those with expertise in other areas, limiting their impact. Overall, the contradicting findings for H2 suggest that the influence of the NC Chair is shaped by the specific expertise they possess.

Furthermore, our findings indicate that an even stronger predictor of expertise levels is prior board expertise, reinforcing the argument that not only the NC but both past and present resources play a critical role in shaping board composition during periods of uncertainty. Even when the board seeks change, it remains shaped by the legacy of its past, with its composition inevitably influenced by previous members. This demonstrates that the board is not entirely free to restructure itself in response to shifting resource needs or even according to other criteria, as we proposed in the context of a crisis. These results suggest that the board must either adopt a long-term approach to planning and foresight to navigate these constraints effectively or

acknowledge this limitation and take a more proactive, strategic approach to shaping its composition.

Limitations and future research

Our research is experiencing several limitations that offer opportunities for future research. Firstly, we focus exclusively on a crisis context, arguing that during such periods, the NC relies on additional compositional criteria that influence the distribution of human capital on the board. However, whether our findings hold true in a non-crisis context remains an open question. Future research could explore this further by examining whether the influence of the NC is heightened during crises due to the well-documented exodus of directors during such times. Additionally, studies could investigate whether the strong influence of NC composition on board composition persists in non-crisis periods.

Secondly, our paper focuses exclusively on the influence of NC composition on board composition. However, we do not examine how this, in turn, shapes the future composition of the NC itself. Given that the NC remains one of the most under-researched committees in corporate governance, we propose further investigation into the factors and individuals that determine NC composition. Additionally, future research should explore how changes in board composition interact with and influence adjustments within the NC over time.

Thirdly, our research focuses exclusively on the NC, excluding any third parties that may be involved in the nomination process. However, it is known from managerial practice that various consultancy firms assist in the search for top managers and board directors. Future research should explore the role of external actors, such as headhunting and consultancy firms, in identifying potential candidates during the nomination process. By examining their experiences, social capital and potential biases, research could provide a more comprehensive understanding of the nomination process, particularly in periods when the NC is required to be heavily involved.

Fourthly, further investigation into the power of the NC Chair would be valuable. While research suggests that NC Chairs hold significant influence over the selection process by preselecting candidates, our surprising and contradictory findings regarding the impact of the NC Chair's expertise warrant deeper exploration. For future research, we propose examining the power dynamics and antecedents of the NC Chair's influence through qualitative research to gain a more nuanced understanding of their role.

CONCLUSION

Prior research highlights that the demographic background of the NC is a significant predictor of board composition, suggesting a tendency to nominate candidates with similar profiles. This paper examines how this effect extends to human capital in a crisis context and whether the NC Chair moderates this relationship. Our empirical analysis demonstrates that board expertise is significantly influenced by the level of expertise within the NC. Furthermore, our findings indicate that the NC Chair's influence on this relationship varies depending on the area of expertise they possess. However, we also find that board expertise is strongly shaped by its historical levels, reinforcing the importance of past expertise in determining board composition.

Through this paper, we contribute to corporate governance research in several ways. Firstly, we extend the resource-dependence perspective by offering new insights into the factors influencing board composition. Traditionally, this theoretical field has emphasized that board composition, particularly regarding human capital, is shaped by the environmental conditions of the organization and its resource needs. However, our results demonstrate that board resources and their composition are also influenced by existing resources, specifically the expertise of the board chair and nomination committee. This supports the notion that 'birds of a feather flock together,' highlighting the impact of similarity on board composition. Secondly,

we contribute to crisis management literature by providing a resource-dependence perspective on the board. Within the crisis management literature resource dependence perspective is limited and even less attention has been paid to the compositional aspects of the board in a crisis context (Bundy *et al.* 2017). Thirdly, we enhance understanding of board committee dynamics, particularly the role and power of nomination committees, which remain the most under-researched among board committees (Ruigrok *et al.* 2006).

Table 1: Summary Statistics

	Mean	Max	Min	SD	N
Firm Expertise Ratio Board	0.28	1	0	0.27	1067
Industry Expertise Ratio Board	0.34	1	0	0.25	1103
Financial Expertise Ratio Board	0.11	1	0	0.13	1103
General Business Expertise Ratio Board	0.25	1	0	0.22	1103
Crisis Expertise Ratio Board	0.00	0.44	0	0.04	1103
Firm Expertise Ratio NC	0.32	1	0	0.31	665
Industry Expertise Ratio NC	0.36	1	0	0.32	666
Financial Expertise Ratio NC	0.07	0.75	0	0.14	666
General Business Expertise Ratio NC	0.23	1	0	0.23	666
Crisis Expertise Ratio NC	0.01	0.33	0	0.05	666
CEO Duality	0.44	1	0	0.49	1068
NCsize/boardsize	0.51	1	0.14	0.23	612
CEO Turnover	0.07	1	0	0.26	1067
Chair Turnover	0.08	1	0	0.27	1062
Firm Size	6.40	13.88	-2.41	2.31	1129

Table 2: Correlations

Pairwise correlations when expertise is firm expertise								
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Firm Expertise Ratio Board	1.00							
(2) Firm Expertise Ratio NC	0.75***	1.00						
(3) CEO Duality	0.07**	0.19***	1.00					
(4) NCsize/boardsize	0.23***	0.05	-0.10***	1.00				
(5) CEO Turnover	-0.04	-0.07*	-0.08***	0.04	1.00			
(6) Chair Turnover	-0.04	-0.10**	-0.15***	-0.02	0.31***	1.00		
(7) Firm Size	0.24***	0.22***	0.07**	-0.18***	0.07**	0.05	1.00	
(8) Firm Expertise NC Chair	0.40***	0.57***	0.22***	-0.05	-0.05	-0.10**	0.22***	1.00

***p<0.01, **p<0.05, *p<0.1

Pairwise correlations when expertise is industry expertise								
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Industry Expertise Ratio Board	1.00							
(2) Industry Expertise Ratio NC	0.75***	1.00						
(3) CEO Duality	-0.17***	-0.15***	1.00					
(4) NCsize/boardsize	-0.16***	-0.05	-0.11***	1.00				
(5) CEO Turnover	-0.01	-0.01	-0.08*	0.04	1.00			
(6) Chair Turnover	-0.02	0.01	-0.15***	-0.02	0.31***	1.00		
(7) Firm Size	-0.25***	-0.38***	0.07**	-0.18***	0.07**	0.05	1.00	
(8) Industry Expertise NC Chair	0.45***	0.60***	-0.09**	0.03	0.01	0.01	-0.32***	1.00

***p<0.01, **p<0.05, *p<0.1

Pairwise correlations when expertise is financial expertise								
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Financial Expertise Ratio Board	1.00							
(2) Financial Expertise Ratio NC	0.58***	1.00						
(3) CEO Duality	-0.01	-0.6	1.00					
(4) NCsize/boardsize	0.12**	0.24***	-0.11***	1.00				
(5) CEO Turnover	0.03	0.04	-0.08*	0.04	1.00			
(6) Chair Turnover	0.06**	0.05	-0.15***	-0.02	0.31***	1.00		
(7) Firm Size	0.06**	0.03	0.07**	-0.18***	0.07**	0.05	1.00	
(8) Financial Expertise NC Chair	0.33***	0.52***	-0.06	0.07*	0.05	0.01	0.22***	1.00

***p<0.01, **p<0.05, *p<0.1

Pairwise correlations when expertise is general business expertise								
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) General Business Expertise Ratio Board	1.00							
(2) General Business Expertise Ratio NC	0.60***	1.00						
(3) CEO Duality	0.10***	0.01	1.00					
(4) NCsize/boardsize	-0.16***	-0.1**	-0.11***	1.00				
(5) CEO Turnover	0.04	0.07*	-0.08*	0.04	1.00			
(6) Chair Turnover	0.04	0.07*	-0.15***	-0.02	0.31***	1.00		
(7) Firm Size	-0.02	0.19***	0.07**	-0.18***	0.07**	0.05	1.00	
(8) General Business Expertise NC Chair	-0.23***	0.50***	-0.17***	0.03	0.06	0.09*	0.11***	1.00

***p<0.01, **p<0.05, *p<0.1

Pairwise correlations when expertise is crisis expertise								
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Crisis Expertise Ratio Board	1.00							
(2) Crisis Ratio NC	0.56***	1.00						
(3) CEO Duality	0.03	-0.10**	1.00					
(4) NCsize/boardsize	-0.01	-0.001	-0.11***	1.00				
(5) CEO Turnover	0.00	0.04	-0.08*	0.04	1.00			
(6) Chair Turnover	-0.01	0.07*	-0.15***	-0.02	0.31***	1.00		
(7) Firm Size	-0.003	0.01	0.07**	-0.18***	0.07**	0.05	1.00	1.00
(8) Crisis Expertise NC Chair	0.31***	0.47***	-0.07*	0.002	0.02	0.07*	-0.07*	1.00

***p<0.01, **p<0.05, *p<0.1

Table 3: Results for H1

H1 – without moderator					
	Model 1 Firm expertise	Model 2 Industry expertise	Model 3 Financial Expertise	Model 4 General Business Expertise	Model 5 Crisis Expertise
Constant	-.01	-.08	.07**	.06	.00
Expertise Board _{t-1}	.66***	.72***	.65***	.60***	.78***
Expertise NC	.12*	.30***	.21***	.32***	.08
CEO Duality	.02	-.01	-.00	-.009	-.00
NCsize/boardsize	.11	.00	-.03	-.05	.001
CEO Turnover	.003	-.02	.002	-.00	.01
Chair Turnover	-.01	.00	.01	.01	-.00
Firm Size	-.003	.006	-.00	-.00	-.00
AR (1) in first differences	-2.55 [.011]	-2.92 [.004]	-4.36 [.000]	-2.79 [.005]	-1.59 [.113]
AR (2) in first differences	0.31 [.760]	-1.8764 [.078]	0.80 [.422]	-1.92 [.055]	-0.51 [.613]
Hansen J-statistic Chi ²	6.59 [.159]	3.70 [.447]	5.16 [.271]	5.80 [.215]	5.36 [0.252]
Wald Chi ²	303.78***	392.05***	83.73***	79.22***	752.17***
Mean VIF	2.21	2.17	2.03	2.06	1.97
Number of observations	505	505	505	505	505
Number of companies	77	77	77	77	77
All models include crisis and industry dummies as out lined above. Standard errors in parentheses. ***p<0.01, **p<0.05, *p<0.1					

Table 4: Results for H2

H2 – moderator					
	Model 1 Firm expertise	Model 2 Industry expertise	Model 3 Financial Expertise	Model 4 General Business Expertise	Model 5 Crisis Expertise
Constant	-.02	-.13	.08*	.11	.001
Expertise Board _{t-1}	.65***	.70***	.65***	.60***	.77***
Expertise NC	.13**	.45***	.20**	.37***	.10
Expertise NC Chair	-.02	-.06*	-.09**	.04	.02
Expertise NC Chair x Expertise NC	.06	-.21**	.30***	-.14	-.13
CEO Duality	.02	-.01	.001	-.004	-.001
NCsize/boardsize	.12*	.001	-.03**	-.05	.001
CEO Turnover	.005	-.01	.004	-.01	.010
Chair Turnover	-.009	-.008	.01	.02	-.005
Firm Size	-.002	.009*	-.001	-.007	-.00
AR (1) in first differences	-2.59 [.010]	-3.35 [.001]	-4.45 [.000]	-3.25 [.001]	-1.58 [.114]
AR (2) in first differences	0.29 [.774]	-2.01 [.044]	0.91 [.363]	-1.90 [.057]	-0.60 [.551]
Hansen J-statistic Chi ²	10.57 [.228]	4.64 [.795]	5.78 [.672]	8.57 [.380]	5.95 [.653]
Wald Chi ²	319.10***	316.05***	233.58***	72.56***	1.40
Mean VIF	2.92	2.86	2.74	2.70	3.28
Number of observations	505	505	505	505	505
Number of companies	77	77	77	77	77
All models include crisis and industry dummies as out lined above. Standard errors in parentheses. ***p<0.01, **p<0.05, *p<0.1					

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