

DNB Working Paper

No. 604 / August 2018

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DeNederlandseBank

EUROSYSTEEM

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How internal and external supervision impact the dynamics between boards and Top Management Teams and TMT reflexivity*

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August 2018

Abstract

Reflexivity can prevent Top Management Teams (TMTs) from using decision biases that harm sound strategic decision making of TMTs. To ensure reflexivity, TMTs are supervised internally by supervisory boards, and externally by independent supervisory authorities, but there is theoretical debate on their respective impact. We propose that frequent internal supervision is associated with Board-TMT relationship conflict, but this relationship will be less strong when TMTs are supervised by boards with an open board composition (including newer members). When such conflict occurs it can harm TMT reflexivity, but we expect that this relationship will be less strong when external supervision increases. These hypotheses were supported in a multisource team-level data set collected in the field among TMTs ($N = 111$ TMT members) and their supervisory boards ($N = 152$ board members) of 56 insurance companies. This study advances empirical and practical knowledge on the distinct and interdependent impact of internal and external supervision on TMT reflexivity.

Keywords: internal supervision, external supervision, relationship conflict, boardroom dynamics, reflexivity, board composition.

JEL classifications: D74, G22, G38, G41.

* We thank all the participants for their comments during the panel of the 7th Biennial conference of the ECPR standing group on regulatory governance in Lausanne (Switzerland), and in particular Elianne van Steenbergen, Tessa Coffeng, and Arieneke Groenenboom for helpful comments on earlier drafts.

Melanie de Waal is the corresponding author (m.m.de.waal@dnb.nl), and this paper will be part of her PhD dissertation. Views expressed are those of the authors and do not necessarily reflect official positions of De Nederlandsche Bank.

Scholars and practitioners are in common agreement that reflexivity by Top Management Teams (TMTs) - their ability to critically reflect on their own group functioning and adapt their behavior accordingly (West, 2000) - is necessary for TMTs to fulfill their key responsibilities. That is, to make strategic decisions that serve and protect the interests of all organizational stakeholders and hereby effectively balance the competing interests of these different parties necessary to ensure organizational viability (Aguilera, Desender, Bender, & Lee, 2015). Due to the challenging and complex circumstances under which TMTs have to make such strategic decisions, for instance causing information overload, these teams become vulnerable to decision biases and more inclined to take shortcuts that lead to less balanced decisions (Boivie, Bednar, Aguilera, & Andrus, 2016; Westphal & Bednar, 2005). For instance, TMTs may pursue their own short-term interest rather than the long-term interests of their organizations' stakeholders. Thus, TMTs need to reflect on their own functioning in order to balance these diverging interests and to prevent that such decision biases become habitual routines (Gersick & Hackman, 1990).

To ensure that TMTs reflect on their decisions, their outcomes are supervised internally, by their supervisory boards¹ within their own organization with the main task to monitor whether TMT actions are in the organization interest (Fama & Jensen, 1983; Jensen & Meckling, 1976; Walsh & Seward, 1990), and externally, by independent supervisory institutions with the legal task and authority to monitor TMT strategic decision making to ensure stability in the larger

¹ Our study mainly reflects the situation in a two-tier board structure, in which a management board or Top Management Team (TMT, including the CEO) is formally and operationally separated from a supervisory board (Bezem, Maassen, van den Bosch, & Volberda, 2007). For reasons of readability we refer to the two studied management bodies, as the supervisory board (board), and the Top Management Team (TMT, e.g., Boivie et al., 2016), respectively.

This situation is formally different from one-tier board structures where these functions are combined in one management body; the board of directors with executive and non-executive directors. Despite these formal differences, the main monitoring tasks performed by internal supervisory bodies are similar for both members of supervisory boards and non-executives directors in a board of directors (Bezem et al., 2007). Hence, when we refer to internal supervision this might refer to the monitoring activities performed by both non-executives in a board of directors and by members of a supervisory board.

system these organizations are part of (e.g., Aguilera et al., 2015). Although the roles of both internal and external supervisory bodies have gained importance in response to the financial crisis of 2007 (Wouters & Van Kerckhoven, 2011), there is an ongoing theoretical debate about their effectiveness in influencing TMT functioning.

In the fields of Economics, Organization Management and Business, this theoretical debate revolves around two streams of literature that have fundamentally different perspectives on the extent to which internal and external supervision affect TMT reflexivity. One stream of literature builds on agency theory (Jensen & Meckling, 1976), proposing that there are inherent differences between the interests of supervisory boards and TMTs. Therefore in this view, frequent internal and external supervision of TMT decisions is necessary to create alignment between these diverging interests and to prevent TMTs from falling prey to decision biases which make them more inclined to make self-serving decisions (Jensen & Meckling, 1976; Ward, Brown, & Rodrigues, 2009). The other stream of literature builds on stewardship theory (Donaldson, 1990), proposing that the interests of boards and TMTs are already aligned, as both parties are aimed at serving the organization (Davis, Schoorman, & Donaldson, 1997; Donaldson & Davis, 1991). Therefore, from this view, frequent supervision, particularly internal supervision by boards, may merely trigger interpersonal tensions between boards and TMTs (Kellermanns & Eddleston, 2004) that, in turn, can undermine TMTs motivation to keep their joint organizational interests in mind (Argyris, 1964; Corbetta & Salvato, 2004). In the conflict literature, interpersonal tensions represent ‘relationship conflict’ (Jehn, 1995), which refers to conflict based on incompatible or conflicting values. This conflict can occur between members of the same group (i.e., intragroup level, Jehn, 1995), or between members of different parties, as is the case here (i.e., intergroup level, De Dreu, 2010). Relationship conflict is indeed found to harm

TMT functioning (e.g., De Wit, Greer, & Jehn, 2012), for example TMT reflexivity (Knapp, Dalziel, & Lewis, 2011). This inevitable negative effect of relationship conflict is often attributed to the higher difficulty to resolve such conflict compared to work-related types of conflict (e.g., task or process conflict²; De Dreu & Weingart, 2003).

The goal of the current research is to contribute to the debate between agency and stewardship theory and add insights from a third perspective: social identity theory (SIT, Tajfel & Turner, 1979). SIT proposes that people attach great value to group memberships, because they give a clear sense of ‘who they are’ and provide positive guidance to people’s behavior (Tajfel, 1972). Moreover, as groups prescribe clear behavioral norms members often believe that their own group values are superior to other groups (Robbins & Krueger, 2005), and want to protect them from criticism by outsiders (Tajfel & Turner, 1986). The following predictions are mainly based on this premise of SIT, and will be further elaborated in our theoretical framework below.

Based on this perspective, we propose that the relationship between internal supervision and Board-TMT relationship conflict is influenced by board compositional characteristics, such as team tenure (Pelled & Adler, 1004), but especially by the openness of boards’ composition, indicated by the degree of entry of new board members (Haslam & Ellemers, 2005; Ziller, 1965). Specifically, we argue that this relationship should be less strong for relatively open boards than for relatively closed boards, as open boards will have more fluid values and will be more open to differences in values with TMTs than closed boards (e.g. Brewer, 2001; Hogg, 1992; Tajfel,

² In this study we focus on the role of (intergroup) relationship conflict between boards and TMTs. However, as boards and TMTs might also experience conflict regarding incompatible goals and differences of opinion about task-related issues (i.e. task conflict, Jehn, 1992) we have included an alternative analysis with Board-TMT task conflict in our model in Appendix C. On a final note, as boards and TMTs do not need to coordinate their work together in a two-tier system, the related process conflict (Jehn, 1992) is less relevant for the dynamics between boards and TMTs.

1972). Importantly, however, we further propose that when Board-TMT relationship conflict does emerge, it will harm TMT reflexivity, and this negative effect can be mitigated when external supervision increases. Accordingly, we argue that a legitimate independent third party can then intervene (Ury, Brett, & Goldberg, 1989), and act as a mediator to stimulate TMT reflexivity (e.g., Jehn & Bendersky, 2003; Karambayya, Brett, & Lythe, 1992).

In conclusion, this paper presents a conceptual model of *when* and *why* internal and external supervision influence TMT reflexivity. Our central goals are to demonstrate that; a) the relationship between internal supervision and Board-TMT relationship conflict is moderated by the openness of board composition, and in cases where such conflict does arise, that b) the relationship between Board-TMT relationship conflict and TMT reflexivity is moderated by external supervision.

This paper contributes to existing literature on TMT reflexivity and supervision in a number of important ways. First, although it is well conceived that close supervision of TMT decisions by internal and external supervisory bodies is important (Misangyi & Acharya, 2014), there is limited research on the extent to which both supervisory bodies are effective in their roles, and how they affect TMT functioning (Aguilera et al., 2015). Most empirical evidence for the two primary theories in this area, agency theory and stewardship theory, focuses on organizational-level outcomes, such as firm financial performance, and therefore we know very little about the direct impact of supervision on TMT functioning (e.g., Madison, 2014; Rechner & Dalton, 1991; Tosi, Brownlee, Silva, & Katz et al., 2003). This study is among the first to empirically test the distinct effects of internal and external supervision on TMT reflexivity (Aguilera et al., 2015; Walls, Berzon, & Phanet al., 2012). Second, in order to unravel the debate between agency theory and stewardship theory, we propose to use insights from both conflict

research and SIT. This study's explicit focus on the role of Board-TMT relationship conflict as an important underlying mechanism helps to understand how frequent internal supervision by boards may hamper TMT reflexivity (e.g. Jehn, 1995). Third, this study examines earlier neglected contingencies with regard to these relationships, and hereby provides boundary conditions to this debate. We expect that the openness of boards' composition can suppress the negative effect of internal supervision on Board-TMT relationship conflict, and we expect that external supervision can help to mitigate the negative effects of such conflict on TMT reflexivity. Our examination of the role of openness of board composition further adds to corporate governance research on board rotation (e.g., Vafeas, 2003). And, our focus on external supervision in relation to internal supervision shows how the presence of both forms of supervision *together*, and thus their interdependent effects, affect TMT reflexivity (Aguilera et al., 2015).

To test our predictions we conducted a large field study among insurance companies with headquarters or independent subunits located in the Netherlands and who operated under a two-tier governance system with a separate supervisory board and TMT, and all operated under license and external supervision from De Nederlandsche Bank (DNB). We performed our analysis on the matching and complete team-level data among TMTs ($N = 111$ TMT members) and their respective supervisory boards ($N = 152$ board members) of the same insurance companies ($N = 56$). Our psychological measures were rated by different sources, and this data was subsequently matched with publicly available archival data about supervisory board tenure. In the following sections we introduce our conceptual model with our propositions (see Figure 1).

Insert Figure 1 about here

THEORY AND HYPOTHESES

Theoretical Perspectives on Internal Supervision

Agency theory. Agency theory (Jensen & Meckling, 1976) posits that there are inherent differences in interests between the supervisory boards (boards, the ‘principal’) and Top Management Teams of organizations (TMTs, the ‘agent’). Boards act on behalf of key organizational shareholders, or owners, to ensure organizational viability and to safeguard core organizational interests (Eisenhardt, 1989; Fama & Jensen, 1983). From an agency perspective, boards delegate decision making powers to executives, who make up the TMT (Eisenhardt, 1989). The primary responsibility of TMTs in this view is to make business decisions that ensure sales growth, investment profits, and thus, deliver shareholder value (Fama & Jensen, 1983). According to agency theory, TMTs are immanently less committed to long-term organization’s interests than their boards and are therefore inclined to make decisions that yield short-term personal, rather than collective benefits for the organization (Eisenhardt, 1989).

The proposed solution for boards to deal with this so-called “agency problem” and to align the diverging interests between boards and TMTs, is to supervise the actions of TMTs closely (Jensen & Meckling, 1976). This *internal supervision* entails a systematic evaluation of the content and results of TMT strategic decisions (Boivie et al., 2016; McDonald & Westphal, 2010), and specifies what TMT decision-making procedures should be used (McCubbins, Noll,

& Weingast, 1989). Boards perform this internal supervision by challenging, questioning and discussing TMT proposals. In this way they hold TMTs accountable for their actions (Roberts, McNulty, & Stiles, 2005), and prevent TMTs from falling prey to decision biases (Jensen & Meckling, 1976).

Empirical evidence confirms that TMTs tend to suffer from decision biases that can harm long term organizational interests (Brauer, 2013). They are, for example, influenced by financial incentives that are found to motivate self-interested behavior and enhance self-serving TMT decisions (e.g., Frank & Obloj, 2014). Moreover, several studies show that internal supervision can limit TMTs from using such decision biases, as it reduces their self-serving behavior in organizational decision dilemmas (Kosnik & Bettenhausen, 1992; Madison, 2014; Pitesa & Thau, 2013), and enhances the number of TMT investments that increase organizational profit growth (Tosi et al., 2003). So, there is some support for the agency theory principle that close internal supervision by boards of TMTs' strategic decisions prevent TMTs from using decision biases, and ultimately that the diverging interests of boards and TMTs will be more aligned.

Stewardship theory. In response to agency theory, stewardship theory (Donaldson, 1990) represents a fundamentally different perspective on how internal supervision impacts the dynamic interplay between boards and TMTs. According to this perspective, both groups are motivated to serve the *same* interests, as TMTs are seen as “organizational stewards” who are, like boards, highly motivated and committed to achieve the collective interests of the organization above their personal interests (Davis et al., 1997; Donaldson & Davis, 1991). Scholars in this domain propose that achieving collective interests, such as organizational growth or increased revenues, drives TMT decisions because it represents an important intangible reward to them (Davis et al., 1997). Given the fact that common interests are best served when

TMTs work in good harmony with the relevant stakeholders of their organization, boards should maintain good relations with TMTs (Davis et al., 1997; Donaldson & Davis, 1991). Boards can do so primarily by giving TMTs the autonomy to perform their responsibilities, and support them with a strategic partnership, meaning that they provide guidance and advice for TMTs *future* decision making rather than supervise their current and past actions (Anderson, Melanson, & Maly, 2007; Sundaramurthy & Lewis, 2003).

Following this line of reasoning, scholars in this domain have argued that frequent internal supervision by boards of TMT decisions may actually do more harm than good, as it could create interpersonal tensions between boards and TMTs (Kellermanns & Eddleston, 2004). It has been proposed that such internal supervision, for example, could decrease TMT motivation to make decisions that are not in the organizational interest (Argyris, 1964; Corbetta & Salvato, 2004), diminish the perceived decision making discretion of TMTs (Davis, et al., 1997), and enhance TMT's skepticism of how boards view their functioning (Frey, 1993).

Research indeed suggests that frequent internal supervision can harm the good working relationship between boards and TMTs, evidenced by, for example, dysfunctional TMT responses such as lowered work effort (Dickinson & Villeval, 2008), due to higher perceived distrust of the board (Falk & Kosfeld, 2006), and heightened interpersonal tensions between both parties (Eddleston & Kellermanns, 2007; Menon, Bharadwaj, & Howell, 1996). Thus, there is also some evidence for the proposition of stewardship theory that frequent internal supervision can lead to relational conflict between boards and TMTs.

Social identity theory. To help solve the debate between agency and stewardship theory, several scholars call for a more integrative theoretical approach to study the effectiveness of internal supervision that also takes the dynamics between boards and TMTs into account (e.g.,

Aguilera et al., 2015; Walls et al., 2012). In this regard, governance literature has turned to SIT (Tajfel & Turner, 1979), which helps to explain the impact of supervision on underlying group processes within, and between these parties (e.g., Hillman, Nicholson, & Shropshire, 2008). A central premise of this theory is that people attach great value to group memberships, because they give a clear sense of ‘who they are’ or ‘what they stand for’ and provide positive guidance and meaning to people’s behavior (Tajfel, 1972). Yet as groups tend to prescribe clear norms on what is considered appropriate and valuable behavior, members often believe that their own group values are superior to those of other groups (Robbins & Krueger, 2005), and want to protect their group’s values against the (potential) influence, or criticism of outsiders (Tajfel & Turner, 1986). These so-called identity processes are so pervasive that they also occur among groups within the same organization (Labianca, Brass & Gray, 1998), and can cause interpersonal tensions among these groups. That is, both parties will perceive that there are value and personal incompatibilities between members of the two groups (i.e. relationship conflict at the intergroup level, De Dreu, 2010).

Following the above reasoning based on SIT, it seems likely that frequent internal supervision by boards of TMTs signals that there are value differences between both parties and that a board has a critical attitude towards a TMT, and this may create Board-TMT relationship conflict (Brewer, 2001; Doosje, Ellemers, & Spears, 1999). So, while both agency theory and SIT predict that there are inherent differences of interests or values between boards and TMTs, each theory grounds this prediction on fundamentally different principles about group behavior and consequently also disagree on how to align these different group interests (Davis et al., 1997). Interestingly, however, SIT also does not fully align with stewardship theory. As stewardship theory believes that both groups share the same organizational values (Davis et al.,

1997), and SIT predicts that boards and TMTs, being two different parties, will hold different values and interests, in spite of representing the same organization (Robbins & Krueger, 2005). At the same time, however, based on both SIT and stewardship theory, it can be predicted that frequent internal supervision will most likely do more harm than good as it can either emphasize pre-existing value differences (Brewer, 2001) or breach relatively good interpersonal relationships (Davis et al., 1997), which may both result in relationship conflict. Therefore, our first hypothesis is:

Hypothesis 1A: There will be a positive relationship between internal supervision and Board-TMT relationship conflict.

The Moderating Role of the Openness of Board Composition

Given the complexity of the above relationship, however, we propose that internal supervision may not lead to relationship conflict between boards and TMTs under all circumstances. Several scholars suggest that Board-TMT relations and conflicts are likely to be influenced by board compositional features, such as team tenure (Pelled & Adler, 1994), the education levels of board members (Hambrick, Li, Xin, & Tsui, 2001), and their collective values (Jehn, Chadwick, & Tatcher, 1997). Accordingly, we propose that the openness of boards' composition is a crucial variable that moderates the relationship between internal supervision and intergroup conflict (Haslam & Ellemers, 2005). The openness of a board refers to the degree to which new members have entered the group recently (Ziller, 1965), indicated by the lowest tenure held by individual members within the board (Hollenbeck, DeRue, & Guzzo, 2004).

Our proposition can also be derived from SIT, as this perspective holds that a group's inward focus should become stronger over time when groups work together longer (Tajfel,

1972). Research in this area confirms that when a group's composition remains relatively stable, members become more familiarized with each other (Harrison, Price, Gavin, & Florey, 2002), they develop strong common group values (Jehn, 1994; Katz, 1982), and become more committed to these values (Ellemers, deGilder, & Haslam, 2004). Moreover, following SIT, groups also expect other groups to develop such strong shared group values (Crump, Hamilton, Sherman, Lickel, & Thakkan et al., 2010), and assume that these values will be different from their own (Robbins & Krueger, 2005). In closed groups, these perceived value differences are likely to be greater, as they have less influx of new members from the outside world to contrast these beliefs than open groups. This reasoning is supported by scholars who argue that closed groups are usually less open to new or different ideas and more critical towards outsiders than open groups (e.g. Hogg, 1992; Hornsey & Imani, 2004).

Building upon this line of reasoning, research in this area suggests that the openness of a group's composition will influence the presence of relationship conflict between two parties. For instance, studies have shown that when relatively open groups interact with other groups and there are less value differences, they are less skeptical and hold more positive expectations about each other's intentions than relatively closed groups (Insko, Schopler, Hoyle, Dardis, & Graetz, 1990; Peterson, Dietz, & Frey, 2004). Moreover, relatively open groups tend to perceive the actions of other groups less negatively than more closed groups (Dunbar, Saiz, Stella, & Saez, 2000), and generally act more constructively towards these groups (Schwartz, Struch, & Bilsky, 1990). Hence, the openness of a group's composition impacts the relations with another group because it enhances perceptions of value similarity *within the group* and perceptions of value divergence with *other groups*.

Now we will translate these theoretical insights from SIT and related findings specifically to internal supervision by boards of TMTs' decision making. Hence, it can be expected that in a relatively open board composition, where new board members have entered recently, boards will have more fluid values (Moreland & Levine, 2002; O'Reilly, Caldwell, & Barnett, 1989), and will experience less value differences with TMTs (Arrow & McGrath, 1993). Accordingly, only when boards with a relatively closed composition perform internal supervision it may be perceived as too critical of TMT values and signaling value differences with TMTs, and hence lead to increased Board-TMT relational conflict (Hambrick et al., 2001; Hornsey & Imani, 2004). When, however, boards have a relatively open composition, their outward supervision actions will reveal less value differences, and Board-TMT relational conflict will be less likely (Rockeach & Regan, 1980). Our hypothesis therefore states:

Hypothesis 1B: The openness of board composition will moderate the positive relationship between internal supervision and Board-TMT relationship conflict, such that this relationship will become less strong when board composition is more open.

Intergroup Relationship Conflict and TMT Reflexivity

Hypotheses 1A and 1B stipulate that internal supervision will be associated with Board-TMT relationship conflict, and that the openness of board composition is an important board compositional characteristic that will moderate this relationship. But how detrimental is such relational conflict between boards and TMTs for TMT reflexivity? Again following SIT, typical group responses to intergroup conflict include not only actions that show negative skepticism towards the *other* group (Biernat, Vescio, & Theno, 1996; Riek, Mania, & Gaertner, 2006; Tajfel & Turner, 1986), but also involve actions that are in favor of the *own* group (Gaertner &

Schopler, 1998; Tajfel & Turner, 1979). Such actions imply that group members evaluate their own group's values even more positively (Stephan, Ybarra, & Morrison, 2009), and demonstrate even greater group loyalty (Ellemers, Spears, & Doosje, 2002). This implies that if Board-TMT relationship conflict arises, TMTs will be more likely to process information in their own favor (Staw, Sandelands, & Dutton, 1981). Consequently, TMTs will be less reflective, due to a reduced willingness to acknowledge mistakes, to discuss improvements or to adapt to future work challenges (Knapp et al., 2011).

Research supports our reasoning, and demonstrates that when groups experience relationship conflict with another party they are more likely to evaluate their own functioning more positively (Balliet, Wu, & De Dreu, 2014). Moreover, research shows that in these situations groups are less tolerant for criticism (Eidelman, Silvia, & Biernat, 2006), and will also display more close mindedness (Golec & Federico, 2004). Together these outcomes indicate that Board-TMT relationship conflict will hamper essential elements of TMT reflexivity (West, 2001). Our hypothesis is therefore:

Hypothesis 2A: There will be a negative relationship between Board-TMT relationship conflict and TMT reflexivity.

The Moderating Role of External Supervision

Hitherto, our reasoning revolved around the impact of internal supervision on Board-TMT relationship conflict in relation to TMT reflexivity. However, governance theorists argue that *both* internal and external supervision are important to ensure reflexivity, such that TMTs make strategic decisions that protect stakeholder interests and safeguard long term organizational viability (Aguilera et al., 2015). Internal supervisory bodies provide direct supervision over these

decisions (Jensen & Meckling, 1976; Walsh & Seward, 1990), and external supervisory bodies supervise and enforce compliance of these decisions with regulation (e.g., Aguilera et al., 2015; Wouters & Van Kerckhoven, 2011). We therefore also examined how external supervision affects the relationship between Board-TMT relationship conflict and TMT reflexivity. Our conceptual model proposes that when the relationship between boards and TMTs becomes strained, external supervisory bodies can intervene as an independent party, to mitigate that the persistence of this conflict will harm TMT reflexivity (Peterson & Behfar, 2003; Widmer, Schippers, & West, 2009). Hence, we argue that the relationship between Board-TMT relationship conflict and TMT reflexivity will be moderated by external supervision.

Our proposition is supported by conflict literature, stipulating that generally speaking, the negative effects of intergroup conflict can be mitigated when a nonpartisan third-party intervenes and acts as a mediator between the two conflicting parties (Dixon, 1996; Jehn & Bendersky, 2003). External supervisory bodies can fulfil this role because they have the legitimate intervention authority (Karambayya et al., 1992; Keashley & Newberry, 1995), and the legal instruments to step in when TMT functioning endangers organizational sustainability and/or risks the stability of a larger industry (Ury et al., 1989; Wouters & Van Kerckhoven, 2011). Third party conflict interventions are most effective when they facilitate a dialogue between the two conflicting parties, but leave the responsibility and control over the process for resolving the conflict to the respective parties (Carnevale & Pruitt, 1992; Karambayya et al., 1992). In order to mitigate the effects of Board-TMT relationship conflict, external supervision interventions can be focused on reflexivity and providing feedback on TMT performance (Gurtner, Tschan, Semmer, & Nägele, 2007).

There is empirical evidence in support of this notion, which shows that groups who experience conflict with another party engage in more reflexivity after a third-party intervention than when no such intervention took place (Tjosvold, Hui, & Yu, et al. 2003; Weinberg-Kurnik, Nadan, & Ari, 2015), especially if the third party had legitimate authority (Keashley & Newberry, 1995). The effect on reflexivity was highest, if the intervention was focused explicitly on reflexivity *and* included providing performance feedback (Gabelica, Van den Bossche, De Maeyer, Segers, & Gijselaers, 2014; Konradt, Schippers, Garbers, & Steenfatt, 2015).

Accordingly, we hypothesize:

Hypothesis 2B: External supervision will moderate the negative relationship between Board-TMT relationship conflict and TMT reflexivity, such that this relationship becomes less strong when external supervision increases.

Our Combined Conceptual Model

Thus far, we predict that there is a positive relationship between internal supervision and Board-TMT relationship conflict (Hypothesis 1A), but that a more open composition of boards, indicated by a higher degree of new members entering the board (i.e. the openness of board composition), can make this relationship less strong (Hypothesis 1B). We subsequently predicted that in cases where relational conflict between boards and TMTs emerges, it will negatively relate to TMT reflexivity (Hypothesis 2A). We also proposed, that under these circumstances, increased external supervision can mitigate this indirect effect (Hypothesis 2B). Our combined conceptual model (see Figure 1) implies that the relationship between internal supervision and TMT reflexivity is explained through Board-TMT relationship conflict, and that this indirect effect is conditional on the openness of boards' composition and on external supervision.

Together, these predictions represent a moderated mediation pattern, which is reflected in our final hypothesis:

Hypothesis 3: Internal supervision is directly positively related to Board-TMT relationship conflict and indirectly negatively related to TMT reflexivity. This relationship is conditional on the openness of board composition, and the indirect link with TMT reflexivity is conditional on external supervision.

METHOD

Sample and Procedure

Our research was conducted in 2014 among a sample of supervisory boards (boards) and Top Management Teams (TMTs) of Dutch insurance companies. To ensure a maximum response rate and limit social desirability we followed several recruitment procedures recommended by, for instance Westphal and Stern (2007), such as using personal communication and endorsements (i.e., from the Dutch Association of Insurance Companies, VVV³), guaranteeing anonymous and confidential treatment of the data. Given the fact that the survey was send to boards and TMTs of insurance companies by the De Nederlandsche Bank (DNB), the external supervisory body, it was further emphasized that the data would not be available or useable for direct supervision of insurance companies by DNB. Moreover, to highlight the independence of this research, the survey was send by the head of the research department of DNB. Finally, in return for their participation, each board and TMT received a report benchmarking their survey scores against the total sample.

³ The VVV represents the interest of the majority of insurance companies, and together their members hold more than 95% of the market share in the Netherlands.

At the time of data collection, there were 290 insurance companies active in the Netherlands that operated under license and external supervision of DNB. Together, these companies hold 75 billion in gross premium income and employed 52.000 people⁴. After consultation with the insurance supervision department of DNB, we approached 135 insurance companies to participate in our study which were under external supervision by DNB and had a separate supervisory board and TMT and accordingly fulfilled the following criteria⁵; (1) they have headquarters located in the Netherlands, or, (2) they are independent subunits (i.e. separate entities belonging to an insurance group holding) that are governed by a separate supervisory board and TMT and did not fall under the direct control of the holding. We sent surveys to all TMT members ($N = 245$) and all supervisory board members ($N = 408$) of these insurance companies. From the approached TMTs, 52% of the members ($N = 128$) of 65 TMTs completed and returned the survey. From the approached boards, 47% of the members ($N = 193$) from 76 boards participated in our study. However, in order to perform our analyses we needed participation from both supervisory board members and TMT members of the same insurance company. All in all, we had a response from 56 companies of which both the TMT and the supervisory board participated. As a result, our final sample consisted of 111 TMT members ($M_{age} = 52.70$, $SD = 7.89$, 7% female), and 152 board members ($M_{age} = 58.86$, $SD = 8.15$, 14.5% female) from 56 organizations.

⁴ <https://www.verzekeraars.nl/verzekeringsbranche/cijfers/Documents/KerncijfersVerzekerenInNederland/2014/2190-VVV-Kerncijfers%202014-NL-v2-web.pdf>

⁵ When the headquarters of the insurance company is located in the Netherlands then the institution falls under direct home supervision of DNB as the primary external supervisory body. Moreover, for this study it is important that supervisory boards and TMTs have discretionary powers over the company or subunit and can make decisions independently from the management body of a larger holding company, and therefore we have only selected organizations that have a separate and independent governance structure.

To assess the representativeness of our final sample, we conducted a Kolmogorov-Smirnov two-sample test (see Westphal & Bednar, 2005), and tested whether the distributions of key characteristics from the TMTs and boards included in our sample (i.e., their sizes, average member tenure in years and their member age) were comparable with the distributions of those same characteristics for boards and TMTs that were not included in the final sample (i.e., who did not respond to our survey or who were excluded in the sample on the basis of missing data). The results showed that our participating boards and TMTs did not differ from the non-participating boards and TMTs, in terms of size, average tenure and age (*p*-values for TMTs were respectively .74, .85, .39; *p*-values for boards .86, .34, .43, respectively).

Measurement

To avoid common source bias (Podsakoff & Organ, 1986) we assessed our measures through multiple sources, such that our independent measures were rated by supervisory board members and our dependent measure was rated by TMT members. The key independent variable (i.e., internal supervision) was rated by board members, the first moderator (i.e., openness board composition) was obtained from archival data, the second moderator (i.e., external supervision) was also rated by board members, as was the central mediating mechanism in our model (i.e., Board-TMT relationship conflict), and finally our dependent variable (i.e., TMT reflexivity) was rated by members of the TMTs. For an overview of the different data sources used for each variable, see Table 1.

Insert Table 1 about here

Furthermore, our theory refers to the team level of analysis. We therefore used a referent shift informant sampling approach to gather data by framing all items at the team level (cf. Van Der Vegt & Bunderson, 2005). This approach allowed that different members of a particular TMT, and different members of a particular board were qualified to provide ratings on TMT or board-level properties (cf. Simons, Pelled, & Smith, 1999). So, for example, we asked all TMT members to evaluate the reflexivity of their TMT as a whole, rather than to report their own personal level of reflexivity. For each of our measures, we subsequently calculated the $r_{wg(j)}$ inter-agreement coefficient for multi-item indices, and as recommended by James and colleagues (1984) we compared the $r_{wg(j)}$ to uniform and a highly skewed distributions (James, Demaree, & Wolf, 1993; LeBreton & Senter, 2008). We also calculated the intra-class correlation coefficient (ICC_1) to determine whether data aggregation to the team level was accurate and that teams differed significantly in their ratings (Bliese, 2000). These $r_{wg(j)}$ values and ICC_1 scores are reported per measure below. All survey items are listed in Appendix A.

Measures

Internal Supervision. The core task of internal supervision, by supervisory boards, is to monitor whether TMT decisions and activities are in the organization's interest (McDonald & Westphal, 2010; Boivie et al, 2016), therefore we have measured internal supervision in terms of this monitoring activity. Internal supervision was assessed with three items adapted from McDonald and Westphal (2010, e.g. "To what extent does the supervisory board monitor the strategic decision making of the top management team?"), rated by board members on a 7-point scale (1 = to a very small degree, 7 = to a very large degree), and these items formed a reliable scale ($\alpha = .72$). The $r_{wg(j)}$ and ICC_1 statistics indicated that the data can be aggregated to the team-

level ($ICC_1 = .22$, $p < .001$; compared to a uniform distribution, median $r_{wg(j)} = .95$, mean = .89; compared to a highly skewed distribution, median $r_{wg(j)} = .85$, mean = .82).

Openness of Board Composition. The openness of board composition, the degree of entry of new members in a supervisory board, is generally measured by using the organizational tenure in years of individual members (e.g. Gundry, 1993; Morrison & Vancouver, 2000; Ziller, Behringer, & James, 1961), and its average is used to indicate membership changes or turnover in teams (Keck, 1997; Van der Vegt, Bunderson & Kuipers et al., 2010). However, these measures are criticized by scholars, as they treat the openness of boards' composition as an absolute group-level trait (Hollenbeck et al., 2004), and do not accurately reflect the tenure of the *newest* members that have entered the team relative to other members (Rollag, 2004). For example, teams with similar mean tenure values can have diverging team compositions (i.e., they may consist of members that vary greatly in tenure, or, of members with similar, medium, levels of tenure). We therefore based our measure of the openness of board composition on board members' *minimum* tenure (see Hollenbeck et al., 2004), as the board member with the lowest tenure reflects better how recent the *newest* member has entered the board. Thus in the current study, higher minimum tenure indicated a more closed board composition, where no new members have entered the board recently, whereas lower minimum tenure indicated a more open board composition, where a new member has entered the board more recently.

Board-TMT Relationship Conflict. Board-TMT relationship conflict was measured with three items adapted from Jehn and Mannix (2001, e.g. "How much relationship tension is there between the Top Management Team and the supervisory board"). Board members rated these items on a 7-point scale (1 = never, 7 = very often), and together these items formed a reliable scale ($\alpha = .82$). The $r_{wg(j)}$ and ICC_1 statistics warranted that the data could be aggregated to the

team-level ($ICC_1 = .58, p < .001$; compared to a uniform distribution, median $r_{wg(j)} = .97$, mean = .91; compared to a highly skewed distribution, median $r_{wg(j)} = .92$, mean = .74).

External Supervision. The core task of external supervision, by independent supervisory authorities, is to monitor of TMT decision and activities in line with formal regulation (Sijbrand & Rijsbergen, 2013; Ward et al., 2009), therefore we have measured external supervision in terms of this monitoring activity. Similar to the items used for internal supervision, external supervision was assessed with three adapted items from McDonald and Westphal (2010), and together these items formed a reliable scale (e.g. “To what extent does DNB⁶ monitor the strategic decision making of the top management team”; 1 = to a very small degree, 7 = to a very large degree; $\alpha = .64$). The $r_{wg(j)}$ and ICC_1 statistics warranted that the data could be aggregated to the team-level ($ICC_1 = .32, p < .001$; compared to an uniform distribution, median $r_{wg(j)} = .81$, mean = .93; compared to a highly skewed distribution, median $r_{wg(j)} = .90$, mean = .61).

TMT Reflexivity. TMT reflexivity is inherently an emerging group process within TMTs (Schippers, Den Hartog, Koopman, & Wienk, 2003), therefore we used TMT ratings for this measure. TMT members rated eight items adapted from Schippers and colleagues (2007; see also Swift & West, 1998; Schippers, Den Hartog, Koopman, & Van Knippenberg, 2008, e.g. “We regularly discuss whether the top management team is working together effectively”, 1 = strongly disagree, 7 = strongly agree), and these items formed a reliable scale ($\alpha = .80$). The $r_{wg(j)}$ and ICC_1 statistics warranted that the data could be aggregated to the team-level ($ICC_1 = .22, p < .001$; compared to a uniform distribution, median $r_{wg(j)} = .92$, mean = .91; compared to a highly skewed distribution, median $r_{wg(j)} = .89$, mean = .54).

⁶ In the Netherlands De Nederlandsche Bank (DNB) is the responsible external supervisory body to monitor the actions of insurance companies and their TMTs.

Control Variables. Given that our mediator, Board-TMT relationship conflict, is an inter-team construct, we considered characteristics of both the supervisory boards and TMTs as potential control variables. The following control variables have been found to influence TMTs processes and/or Board-TMT interactions in previous research, (a) group size (e.g., Bucholtz, Amazon, & Rutherford, 2005; Tugle, Simon, Reutzel, & Biermann, 2010), because larger teams are more prone to experience communication problems that may hamper TMT reflexivity (cf. Blau, 1970; Halebian & Finkelstein, 1993), (b) age diversity, because this is known to impact team reflexivity and can give rise to intergroup conflict (Armstrong, Flood, Guthrie, Liu, MacCurtain, & Mkamwa, et al., 2010; West, Paterson, & Dawson, 1999), and (c) the proportion of female members in teams (Hillman, Shropshire, Certo, Dalton, & Dalton, 2011), since gender diversity has also been related to dissenting opinions, which can positively impact reflexivity within a team (e.g., De Dreu & West, 2001; Nijstad, Berger-Selman, & De Dreu, 2014), but can also create conflict between teams (e.g., Li & Hambrick, 2005), and (e) openness of TMT composition⁷, since groups with a more open composition are found to develop more creative work ideas, and hence, this may affect TMT reflexivity (Choi & Thompson, 2005, Schippers et al., 2003).

⁷ We mention TMT openness as a control variable here (measured by minimum TMT tenure), as we expect it to influence our dependent variable TMT reflexivity (e.g. Choi & Thompson, 2005) directly, rather than through Board-TMT relationship conflict. Therefore, we did not include TMT openness as a moderator in our conceptual model, because we did not expect it to have a strong (moderating) effect on the relationship between internal supervision and Board-TMT relationship conflict. Specifically, we expect this relationship to be influenced more strongly by the openness of the composition of the group, the board, *providing* the supervisory feedback of TMTs actions as this may influence whether this activity is perceived as critical by TMTs (see our theoretical section for a more elaborate explanation of this moderating effect), and less so due to openness of the composition of the group, TMTs, *receiving* internal supervision by the board.

RESULTS

Descriptive Statistics

Table 2 presents the means, standard deviations, and Pearson zero-order correlations for all study and control variables. None of the control variables were significantly related to our mediator, Board-TMT relationship conflict, or our dependent variable, TMT reflexivity (see Appendix B). To avoid biased parameter estimates we therefore excluded all controls from further analysis (Becker, 2005).⁸

Insert Table 2 about here

Statistical analyses

To test hypotheses 1 A-B and 2 A-B at the team level of analysis we used ordinary least square (OLS) regressions. We used standardized variables for our analyses and to calculate our interaction terms (Aiken & West, 1991). In our OLS regression analyses Model 1 includes the independent predictors, and in Model 2 we included their interaction term (Aiken & West, 1991). In the analysis for Hypothesis 2B we also included the independent variables of Hypothesis 1, internal supervision and openness board composition, as extra control variables in Model 1. To test our moderated mediation model proposed in Hypothesis 3 we used Hayes' (2012)

⁸ There was no correlation between the control variable TMT openness and TMT reflexivity. Therefore, for statistical reasons (Becker, 2005) we excluded TMT openness as control variable, similar to the other control variables, from our analyses and the results of our hypotheses reported in this paper. Notably, including openness of TMT composition as control variable in the analyses did not significantly change the pattern of results (see Appendix C).

bootstrapping analysis for conditional indirect effects (Preacher, Rucker, & Hayes, 2007)⁹, for which the bootstrap 95% confidence intervals were estimated at higher (+1 SD), intermediate (*Mean*) and lower (-1 SD) levels of openness of board composition and external supervision.

Hypotheses Testing

Hypothesis 1A predicted that internal supervision was positively related to Board-TMT relationship conflict, and Hypothesis 1B predicted that this relationship was moderated by the openness of board composition, such that this relationship became less strong when board composition was more open. Consistent with Hypothesis 1A, Table 3 (Model 1) shows a significant and positive direct relationship between internal supervision and Board-TMT relationship conflict ($\beta = .27, p = .02, R^2 = 0.15$). Hence, Hypothesis 1A was supported.

Consistent with Hypothesis 1B, Table 3 (Model 2) shows a significant and positive interaction effect of openness of board composition and internal supervision on Board-TMT relationship conflict ($\beta = .26, p = .04, R^2 = .20$). Simple slope analyses (Aiken & West, 1991) further confirmed the prediction of Hypothesis 1B, that internal supervision was significantly stronger and positively related to Board-TMT relationship conflict, when board composition was more closed, indicated by higher minimum board tenure (+1 SD: $\beta = .28, SE = .11, p = .00$). This relationship indeed became non-significant and weaker when board composition was more open, indicated by lower minimum board tenure (-1 SD: $\beta = .01, SE = .17, p = .47$). This pattern of results is further graphically illustrated in Figure 2. Taken together, we found support for Hypothesis 1B.

⁹ This procedure resolves conceptual and methodological limitations of traditional mediation analysis and the analysis allows for multiple moderators to be entered in the analysis (Preacher, et al., 2007; Preacher & Hayes, 2004).

Insert Table 3 and Figure 2 about here

Hypothesis 2A predicted that Board-TMT relationship conflict was negatively related to TMT reflexivity, and Hypothesis 2B predicted that this relationship was moderated by the degree of external supervision, such that this relationship became less strong when external supervision increased. Table 4 (Model 2) shows no significant direct relationship between Board-TMT relationship conflict and TMT reflexivity ($\beta = -.16, p = .15, R^2 = .04$), hence we found no support for Hypothesis 2A. However consistent with Hypothesis 2B, we found a significant and positive interaction effect of external supervision and Board-TMT relationship conflict on TMT reflexivity ($\beta = .27, p = .03, R^2 = .10$). Simple slope analyses (Aiken & West, 1991) further confirmed the prediction in Hypothesis 2B, that Board-TMT relationship conflict was significantly and negatively related to TMT reflexivity, when external supervision was lower (-1 SD: $\beta = -.59, SE = .27, p = .02$). This relationship became positive and non-significant when external supervision was higher (+ 1 SD: $\beta = .18, SE = .25, p = .23$). The graphical representation of the significant interaction effects depicted in Figure 3, further illustrates a cross-over effect and confirms that the relationship between Board-TMT relationship conflict and TMT reflexivity became less strong when external supervision increased (Podsakoff, MacKenzie, Ahearne, & Bommer, 1995). Thus, we find support for Hypothesis 2B.

Insert Table 4 and Figure 3 about here

In order to test our full model as presented in Hypothesis 3, Table 5 presents the results of the moderated mediation macro using a bootstrap analysis (Preacher et al., 2007). Table 5 shows a significant conditional indirect effect of internal supervision on TMT reflexivity, through Board-TMT relationship conflict, when board composition was more closed indicated by higher minimum tenure (+1 SD), and at lower levels of external supervision (-1 SD; conditional indirect effect = -.16). The mediation effect of Board-TMT relationship conflict did not occur when board composition was more open and when external supervision was higher. Hence, we found support for Hypothesis 3.

Insert Table 5 about here

GENERAL DISCUSSION

Scholars agree that TMT reflexivity is essential for sound strategic decision making and can help prevent TMTs from falling prey to decision biases. To ensure such reflexivity TMTs decision making is supervised by internal and external supervisory bodies. However, there is theoretical debate and little empirical evidence about how internal supervision and external supervision, separately and in conjunction, can influence such reflexivity, and scholars have therefore called for an integrative approach to study this question (e.g., Aguilera et al., 2015). To answer this call, the current research combines corporate governance literature and social psychology literature to build and test a conceptual model that helps to understand *when* internal supervision is associated with relationship conflict between boards and TMTs, and how the

openness of board composition can suppress this relationship. Moreover, our study further examines *how* external supervision, if this conflict does occur, can subsequently mitigate the negative relationship between conflict and TMT reflexivity.

Across a large field study among supervisory boards and TMTs of 56 insurance companies, in line with our predictions, we found that internal supervision by boards was positively related to Board-TMT relationship conflict, and that this relationship was moderated by the openness of board composition, such that this effect became less strong when board composition was more open (i.e. new members have entered the board recently). We did not find the proposed direct negative effect of Board-TMT relationship conflict on TMT reflexivity. As predicted, however, this relationship hinged on external supervision and Board-TMT relationship conflict had a less negative impact on TMT reflexivity when external supervision increased. Together, our findings demonstrated that internal supervision indirectly reduces TMT reflexivity, through Board-TMT relationship conflict, and this mediation was conditional on the openness of board composition and external supervision.

Theoretical Implications

The current study has several theoretical implications for the broad array of corporate governance and supervision literature. First, our study is the first to test the distinct effects of internal and external supervision on TMT reflexivity, and hereby provides insights into the fundamental debate between agency and stewardship theory. In this debate, agency theory, on the one hand, proposes that internal supervision and external supervision can help to align the inherent differences between the interests of boards and TMTs, and prevent TMTs from falling prey to decision biases that harm balanced TMT decisionmaking (e.g., Jensen & Meckling, 1976; Ward et al., 2009). Stewardship theory, on the other hand, argues that frequent supervision,

particularly internal supervision, may trigger interpersonal tensions between boards and TMTs that, in turn, can undermine TMTs' motivation to make decisions in the interest of the organization (e.g., Davis et al., 1997 Donaldson, 1990). Our results show that internal supervision indeed indirectly, via Board-TMT relationship conflict, *negatively* affects TMT reflexivity, unless boards have a relatively open composition. External supervision can mitigate these negative effects, such that it can ensure that TMT reflexivity maintains a sufficient level when Board-TMT relationship conflict does occur. Our results thus imply that each supervision body can have a positive influence on TMT reflexivity, but under different circumstances. Our results thus imply that governance scholars need to take these distinct effects of internal and external supervision on TMT reflexivity into account to fully understand the effectiveness of supervision activities (Frink & Klimoski, 2004; Pennington & Schlenker, 1999).

Generally, our results for internal supervision seem to speak more in favor of stewardship theory. As we find that internal supervision can lead to relationship conflict between boards and TMTs (e.g., Davis et al., 1997; Kellermanns & Eddleston, 2004), especially when boards are relatively closed, and consequently can harm TMT reflexivity. Our findings add insights to stewardship theory, and show that Board-TMT relationship conflict is a key underlying mechanism explaining *why* internal supervision can reduce TMT reflexivity. This notion is touched upon by scholars relying on stewardship theory, but it is not yet fully explored in related research (Eddleston & Kellermanns, 2007). Our work illustrates the importance of relationship conflict for future research regarding the propositions of the stewardship perspective.

More specifically, our research helps solve the debate around the effectiveness of supervision and examines earlier neglected contingencies that explain *when* internal supervision is associated with Board-TMT relationship conflict and, subsequently, how external supervision

is associated with TMT reflexivity. These contingencies have several implications. As for internal supervision, our results imply that it does not only matter *how* supervisory boards perform this internal supervision of TMTs (Sundaramurthy & Lewis, 2003), it also matters how boards are composed. An open board composition prevents the development of strict values and makes boards more open to differences in values with TMTs, which can prevent the rise of interpersonal tensions during the supervision process. This result also resonates well with recent corporate governance literature which suggests that board compositional characteristics play a role beyond board member independence (Johnson, Schnatterly, & Hill, 2013). In this regard, some scholars argue that board member rotation may limit the board's ability to acquire relevant firm knowledge (Fischer & Pollock, 2004; Kor & Sundaramurthy, 2009; Vafeas, 2003). However, our work offers additional evidence that maximization of board member tenure could increase effectiveness of internal supervision as the influx of new board members can prevent the development of strained relationships with the TMT (Golden & Zajac, 2001; Vafeas, 2003).

As for external supervision, our research implies that once conflict is present, independent external supervisory bodies can intervene in such a way that this conflict becomes less harmful for team reflexivity. Given this influence of external supervisory bodies, governance scholars could broaden their scope to include the role of independent supervisory institutions more specifically in their research, besides other external governance mechanisms (Ward et al., 2009). Moreover, this inclusion helps to build a more integrative approach that systematically examines the interdependencies between internal and external supervision (Aguilera, et al., 2015). For example, based on our findings, it seems that the two forms of supervision complement each other in influencing TMTs, and thus can compensate for each other's weaknesses (e.g., Walsh & Seward, 1990; Tosi, Katz, & Gomez-Mejia, 1997), rather than act as

substitutes who are mutually exclusive (e.g., Dalton et al., 2007). Thus, our research suggests that internal and external supervision *jointly* affect TMT functioning instead of *independently* from each other (see also DNB working paper no. 464, De Waal, Rink, & Stoker, 2015), and we find this also in relation to an important social context factor: Board-TMT relationship conflict (Ward et al., 2009; Misangyi & Archarya, 2014).

Strengths, Limitations and Future Research

The current research has several strengths. First, our research was based on complete psychological questionnaires and matching individual and team-level data from 56 TMTs and their supervisory boards who operate in a hierarchical two-tier system within the same organization. This is valuable data from real-life and high-level organizational groups that are usually hard to access for scientific research. This sample enabled us to gain insight into the ‘black box’ of the actual board processes between boards and TMTs (Leblanc & Schwartz, 2007). Second, we used multiple sources to assess our psychological measures and this reduced common source bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003); our independent variables (i.e. internal and external supervision, and Board-TMT relationship conflict) were rated by board members, our key dependent variable (i.e. TMT reflexivity) was rated by TMT members, and one moderator (i.e. openness board composition) was based on archival data.

However, our research also has some limitations. As our study was cross-sectional in nature, it is difficult to make inferences about the direction of causality between our study variables. Second, we expect that our results are applicable for all board structures because the monitoring tasks studied in this paper are similar for members of the supervisory board in a two-tier board and non-executive directors in a one-tier board. However, some caution should be applied when generalizing our findings, since we have studied insurance companies with a two-

tier board, that are specific to the Netherlands and other Rhineland countries (Bezemer et al., 2007). Moreover, there might be some limitation to our measure of Board-TMT relationship conflict as we only included the ratings provided by supervisory board members of the conflict in order to prevent common source issues. We consider this approach warranted, because we did measure the conflict experiences of both parties, and find sufficient agreement between boards and TMTs on these experiences (Klein, Palmer, & Conn, 2000; Richter, Scully, & West, 2005). The use of this measure may, however, explain why we did not find the hypothesized direct relationship between Board-TMT relationship conflict and TMT reflexivity. Finally, we realize that by measuring internal and external supervision based on their monitoring activities we were not able to capture the complete array of tasks and characteristics of internal and external supervisory bodies. This measurement approach fits the purpose and scope of the present study, as our measures are validated and frequently used in similar research to study supervision through its core monitoring activities (McDonald & Westphal, 2010). Nonetheless, future research can use more detailed measures to explore the fine-grained effects of different characteristics of internal and external supervisory bodies.

To address these limitations, future research should consider to further study the combinations of used measures including other board characteristics to create a more complete insight in the studied relationships. For instance, future research could study the effects of other board compositional characteristics that are also found to impact intergroup conflict, such as educational background or group values (Hambrick et al., 2001; Jehn et al., 1997; Pelled & Adler, 1994).

Moreover, there is a large avenue for future research to investigate what specific skills and competences internal and external supervisory bodies should develop and use to effectively

supervise the quality of Board-TMT relationships and influence TMT reflexivity. With regard to internal supervision, it would be worthwhile to study what supervisory boards can do to keep Board-TMT relationships healthy. One possibility offered by SIT scholars is the development of a superordinate identity, in which two different groups adhere to the same organizational identity and goals, and this is considered an effective way to prevent intergroup conflict (Gaertner, Rust, Dovidio, Bachman, & Anastasio, 1994). Future research could then explicitly study the degree to which boards and TMTs consider themselves as in- and outgroup, due to internal monitoring, and tests whether having a superordinate organizational identity can limit the degree of Board-TMT relationship conflict as a result.

With regard to external supervision, one can make inferences based on conflict research about how an effective intervention by external supervisory bodies can look like. For example, external supervisory authorities should have the skills to effectively mediate a dialogue when Board-TMT conflict arises (e.g., Karambayya et al., 1992), as well as the expertise to design interventions that stimulate TMT reflexivity through performance feedback (e.g. Gurtner et al., 2007). Currently, little is known about the unique skills external supervisory bodies use in their interventions and their effectiveness. Therefore, this would be a fruitful question for future research.

Practical Implications

Our findings have practical implications for organizations and supervisory authorities that offer policy makers concrete tools to improve internal and external supervision, in order to realize healthy boardroom dynamics and enhance TMT reflexivity. First, with regard to the composition of supervisory boards, our results imply that a more dynamic and diverse succession plan for supervisory board members should be used, and this might require amending

governance rules regarding supervisory board tenure, which ensures the timely and frequent appointment of new members and rotation within supervisory boards (Vafeas, 2003). Moreover, these findings imply that effective internal supervision also entails managing the relationship with TMTs, which requires the specific attention of supervisory boards and skills to effectively deal with conflict.

Second, external supervisory authorities should actively monitor whether there are first signs of relational tensions between boards and TMTs. Accordingly, increased external supervision activities can include a risk-assessment of TMT relationships with their boards and determine its impact on board effectiveness. When Board-TMT relationship conflict is already present external supervisory bodies should actively intervene to prevent that TMT reflexivity will be reduced, act as mediators (Karambayya et al., 1992), and employ tailored interventions to increase TMT reflexivity that includes performance feedback (Gurtner et al., 2007; Peterson & Behfar, 2003).

Conclusion

In short, our study shows *when* internal supervision is associated with relationship conflict between boards and TMTs, and *how* external supervision can subsequently mitigate the negative effects of such conflict on TMT reflexivity. Our research shows that relational Board – TMT conflict due to frequent internal supervision can be suppressed by adopting an open board composition, with new members entering frequently, or once this conflict is present that external supervisory bodies can act and make this conflict become less harmful for TMT reflexivity. Our study provides important insights for organizations, supervising authorities, and policy makers, to ensure that the combination of internal and external supervision enhances TMT reflexivity, and reduces the potential for Board-TMT relationship conflict.

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APPENDIX A

Survey Measures, References and Rating Sources

Survey measures conceptual model part 1	Reference	Sources
Internal TMT supervision	McDonald and Westphal (2010)	Directors
<ol style="list-style-type: none"> 1. To what extent does the supervisory board monitor the strategic decision making of the top management team? 2. [In the past twelve months:] how often did the supervisory board asked for revisions of a proposed risk mitigating measures by the top management team? 3. To what extent does the supervisory board request information to evaluate the risk assessment of the top management team? 		
Board-TMT relationship conflict	Jehn and Mannix (2001)	Directors
<ol style="list-style-type: none"> 1. How much relationship tension is there between the top management team and the supervisory board? 2. How often do the top management team and the supervisory board get angry during meetings? 3. How much emotional conflict is there between the top management team and the supervisory board? 		
<hr/>		
Survey measures conceptual model part 2		
External TMT supervision	McDonald and Westphal (2010)	Directors
<ol style="list-style-type: none"> 1. To what extent does DNB monitor the strategic decision making of the top management team? 		

2. [In the past twelve months:] how often did DNB insist on revisions of a proposed risk mitigating measures by the top management team?

3. To what extent does DNB request information to evaluate the risk assessment of the top management team?

TMT Reflexivity

1. We regularly discuss whether the top management team is working together effectively.

2. We regularly have critical discussions how the top management team operates.

3. The objectives of the top management team are regularly critically discussed.

4. In this top management team we adapt our objectives in light of changing circumstances.

5. The methods of the top management team are rarely changed. (R)

6. We discuss regularly the extent to which information is well shared within the top management team.

7. The way decisions are made in this team is rarely altered.(R)

8. We regularly reflect on the way in which decisions are made.

Schippers, Den Hartog and
Koopman (2007)

TMT
members

APPENDIX B
TABLE B1
Means, Standard Deviations, Correlations with control variables

	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12
1. TMT size	2.46	1.06												
2. Number of females in TMT	0.07	0.16	.15											
3. TMT age	52.35	5.21	.21	-.08										
4. Openness of TMT composition	4.19	3.62	-.25	-.19	.38**									
5. Board size	3.98	1.51	.13	-.12	-.04	.01								
6. Board age	57.78	5.19	-.16	.11	-.09	.07	-.00							
7. Openness of board composition	2.33	1.86	.24	.07	.43**	.34*	-.26	.06						
8. Number of females in the board	0.13	0.18	-.04	-.12	-.18	-.11	.34*	-.14	-.27*					
9. TMT reflexivity	4.92	0.71	-.04	-.03	.15	.10	-.16	-.05	-.00	.22				
10. Board-TMT relationship conflict	1.76	0.66	.14	-.05	.06	-.02	-.01	.15	.27	-.17	-.13			
11. Internal supervision	5.23	0.78	.06	-.03	-.04	-.32*	.27	-.08	-.34*	.22	.17	.15		
12. External supervision	4.17	1.10	.16	.02	.07	-.01	.42**	.18	-.12	.23	.06	.22	.35*	

n=52 *p < .05, **p < .01.

APPENDIX C

Extra Statistical Analyses

Extra Analysis Including Board-TMT Task Conflict

To test for an alternative model that assumes that internal supervision is also associated with task conflicts between supervisory board and TMT, and can affect TMT reflexivity (De Wit, Greer, & Jehn, 2012), we re-ran the analyses for Hypothesis 1A-B, 2A-B and 3 with Board-TMT task conflict as mediator. Board-TMT task conflict was measured with three adapted items of Jehn and Mannix, (2001,, e.g. “How much conflict of ideas is there between the top management team and the supervisory board?”, “How frequently do the top management team and the supervisory board have work related disagreements?”, “How often do the top management team and the supervisory board have content related conflicting opinions?”). These items were rated on a 7-point scale (1 = never, 7 = very often), and together formed a reliable scale ($\alpha = .87$). The $r_{wg(j)}$ and ICC₁ statistics warranted that the data could be aggregated to the team-level (ICC₁ = .28, p <.001; compared to an uniform distribution, median $r_{wg(j)} = .92$, mean = .88; compared to a highly skewed distribution, median $r_{wg(j)} = .77$, mean = .60).

Post hoc analysis showed that Board-TMT task conflict was not a significant mediator in this alternative model. We found no significant interactive effect for openness of board composition ($\beta = .05$, $p = .73$), and there was also no significant interactive effect for external supervision ($\beta = .07$, $p = .67$). The moderated mediation macro of Preacher and colleagues (2007) with Board-TMT task conflict as mediator showed no significant interactions and no significant mediation for any level of the moderators, because the bootstrap analysis yielded a confidence interval that contained zero (n = 56; 1000 re-samples).

Extra Analysis including Control Variable Openness of TMT Composition

To further test the robustness of our effects, we also re-ran all analyses reported in this paper with the openness of TMT composition as extra control variable. Including this variable the results remain consistent with the results found for hypothesis 1A-B, 2A-B and 3, and did not change our results significantly. We found a significant and positive direct relationship between internal supervision and Board-TMT relationship conflict ($\beta = .26, p = .03, R^2 = .15$). We also found significant interactive effects of openness of board composition on the relationship between internal supervision and Board-TMT relationship conflict, ($\beta = .26, p = .04, R^2 = .20$). Again, we found no significant relationship between Board-TMT relationship conflict and TMT ($\beta = -.15, p = .17, R^2 = .05$). We also found a significant interactive effect of external supervision on the relationship between Board-TMT relationship conflict and TMT reflexivity, ($\beta = .30, p = .02, R^2 = .12$). The Hayes Bootstrapping macro shows there was a significant conditional indirect effect of internal supervision on TMT reflexivity, through Board-TMT relationship conflict when board composition was more closed, indicated by higher minimum tenure (i.e. +1 SD) and lower levels of external supervision (i.e. -1 SD; conditional indirect effect = -.16).

TABLE 1
Data Source per Study Variable

Measure	Variable	Rated by TMT members	Rated by Supervisory board members	Archival data
Internal Supervision	Independent variable		X	
Openness of Board Composition	Moderator			X
Board-TMT Relationship Conflict	Mediator		X	
External Supervision	Moderator		X	
TMT Reflexivity	Dependent variable	X		

TABLE 2
Means, Standard Deviations, and Correlations for Study Variables

Variables	Mean	S.D.	1	2	3	4
1 Internal Supervision	5.24	0.76				
2 Openness of Board Composition	2.29	1.83	-.32*			
3 Board-TMT Relationship Conflict	1.73	0.65	.15	.29*		
4 External Supervision	4.16	1.07	.36**	-.10	.23†	
5 TMT Reflexivity	4.92	0.74	.13	-.01	-.10	.04

n = 56. †p < .10, *p < .05, **p < .01.

TABLE 3
Regression Results Board-TMT Relationship Conflict

Variables	Model 1	Model 2
Internal Supervision (IS)	0.27*	0.17
Openness of Board Composition (OBC)	0.38**	0.45***
IS x OBC		0.26*
R2	0.15	0.20
Delta R2		0.05*

n = 56 organizations (board + TMT). *p < .05. **p < .01. ***p < .001
 Standardized regression coefficients are reported.

TABLE 4
Results Regression TMT Reflexivity

Variables	Model 1	Model 2	Model 3
Internal Supervision	0.14	0.17	0.16
Openness of Board Composition	0.03	0.09	0.06
Board-TMT Relationship conflict (BTRC)		-0.16	-0.18
External Supervision (ES)		0.02	0.11
BTRC x EM			0.27*
R2	0.02	0.04	0.10
Delta R2		0.02*	0.06*

n = 56 organizations (boards and TMTs). *p < .05 Standardized regression coefficients are reported.

TABLE 5
Results for Conditional Indirect Effects on TMT Reflexivity through Board-TMT Relationship Conflict

Openness of Board Composition	External Supervision	Boot indirect effect	Bootstrap 95% confidence interval	
			lower bound	upper bound
-1 SD (0.46)	-1 SD (3.09)	-0.01	-.20	0.18
-1 SD (0.46)	Mean (4.16)	-0.00	-0.10	0.06
-1 SD (0.46)	+1 SD (5.22)	0.00	-0.10	0.11
Mean (2.29)	-1 SD (3.09)	-0.08	-0.27	0.03
Mean (2.29)	Mean (4.16)	-0.03	-0.14	0.01
Mean (2.29)	+1 SD (5.22)	0.03	-0.03	0.20
+1 SD (4.11)	-1 SD (3.09)	-0.16	-0.40	-0.01
+1 SD (4.11)	Mean (4.16)	-0.05	-0.19	0.02
+1 SD (4.11)	+1 SD (5.22)	0.06	-0.07	0.31

n = 56 organizations (boards and TMTs). Bootstrap sample size is 1,000.

Bootstrap 95% bias corrected and accelerated confidence interval

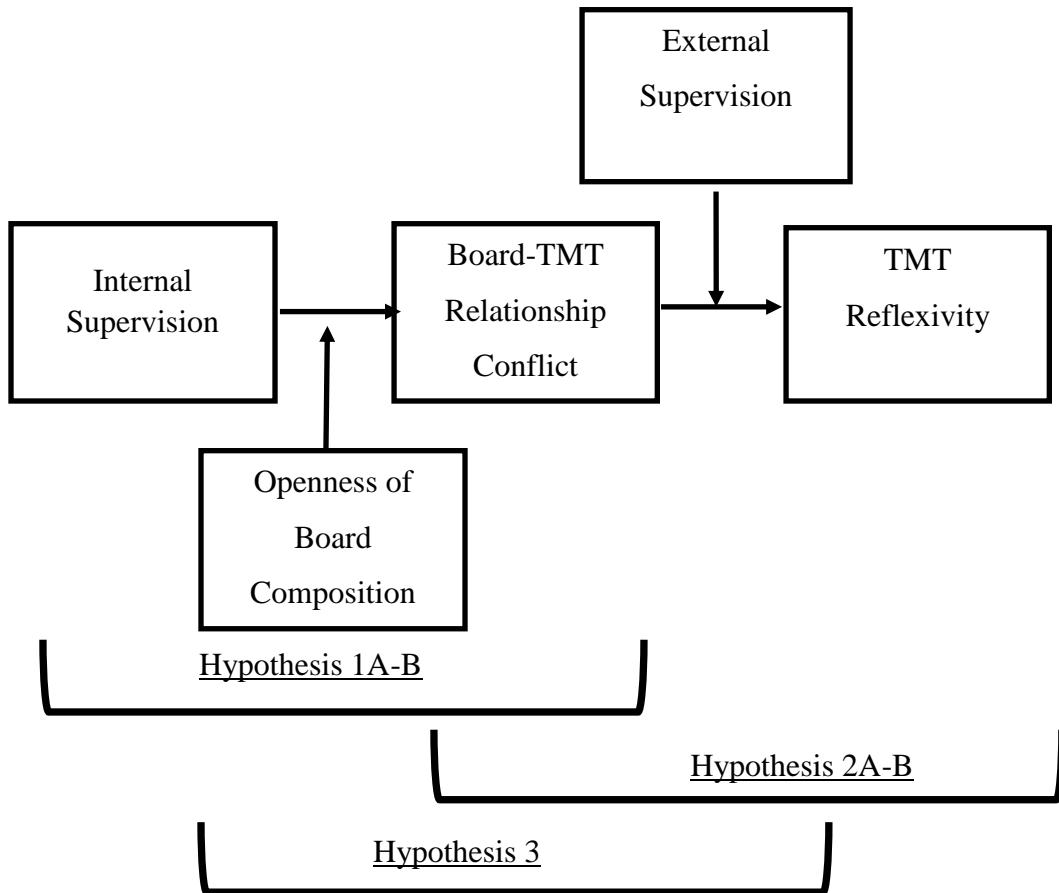
FIGURE 1. Conceptual model

FIGURE 2. The Moderating Effect of Openness of Board Composition on the Relationship between Internal Supervision and Board-TMT Relationship Conflict.

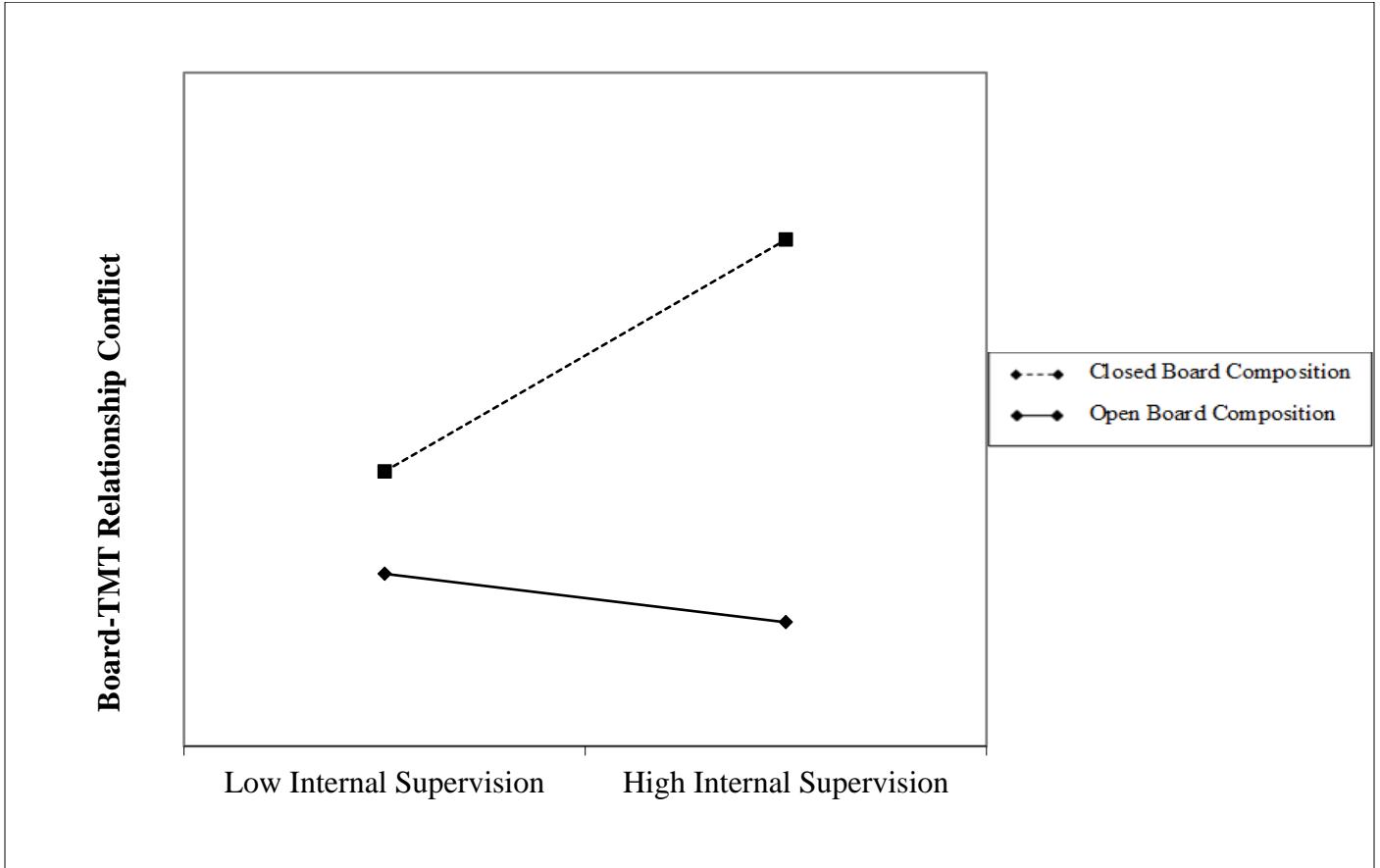
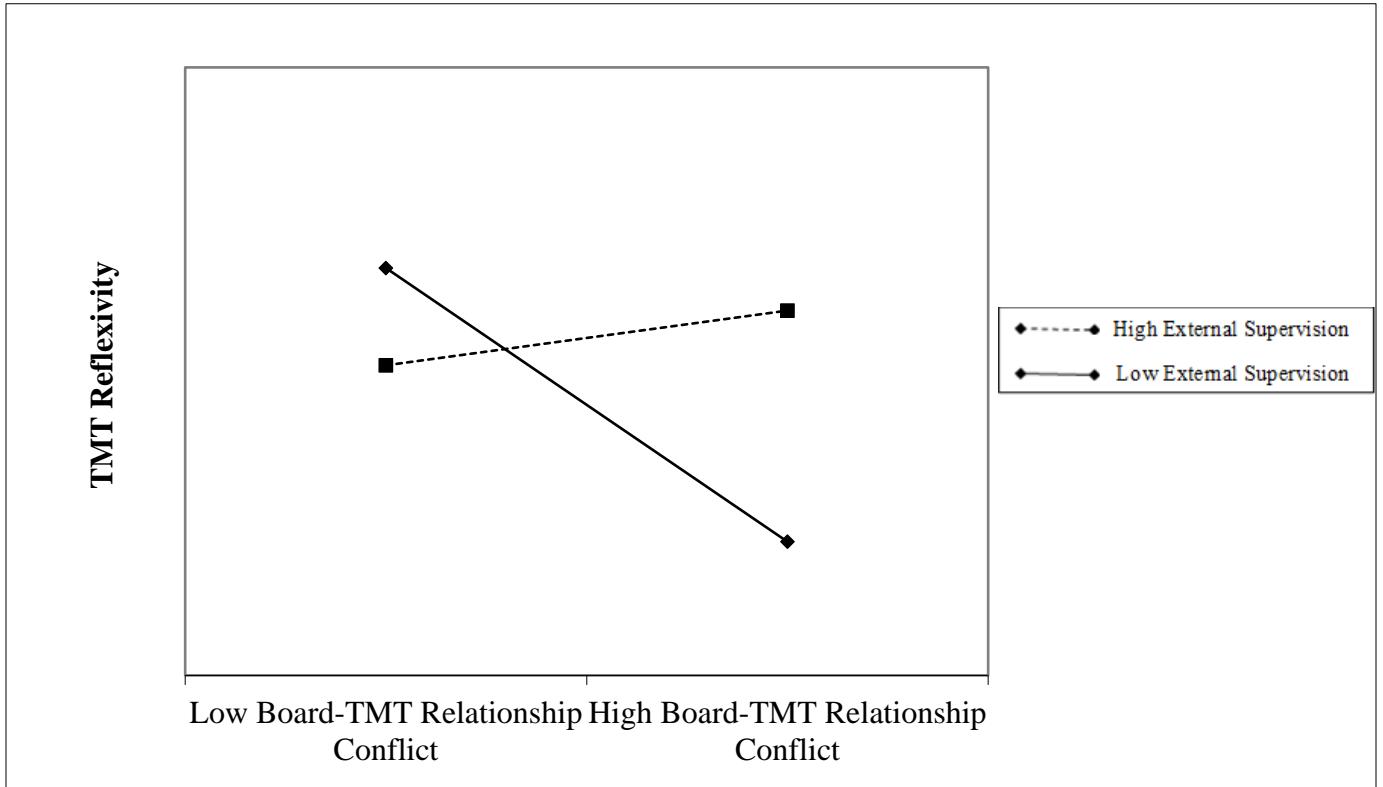


FIGURE 3. The Moderating Effect of External Supervision on the Relationship between Board-TMT Relationship Conflict and TMT Reflexivity.



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