

# The Contribution of Women on Boards of Directors: Going beyond the Surface

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## ABSTRACT

**Manuscript Type:** Empirical

**Research Question/Issue:** The increased attention to women on corporate boards presents new challenges to governance research. In this paper we go beyond demography and open the “black box” of board behavior by drawing upon theories of gender differences and group effectiveness.

**Research Findings/Insights:** A unique survey of 201 Norwegian firms is used. The findings suggest that the ratio of women directors is positively associated with board strategic control. In addition, we find that the positive effects of women directors on board effectiveness are mediated through increased board development activities and through decreased level of conflict. However, our results show no evidence for a positive association between women directors and open debate. Nonetheless, open debate enhances board’s strategic and operational control.

**Theoretical/Academic Implications:** Recognizing the limitations of traditional governance theories to explain the role and contributions of women on corporate boards, this paper draws upon group effectiveness and gender differences theories to shed some light on whether and how women make a difference to board effectiveness in strategic and operational control.

**Practitioner/Policy Implications:** Women’s ability to make a contribution to the board may be attributable to their different leadership styles. The presence of women on corporate boards seems to increase board effectiveness through reducing the level of conflict and ensuring high quality of board development activities.

**Keywords:** Corporate Governance, Women Directors, Gender Differences, Diversity, Board Processes

## INTRODUCTION

The role of women in board positions is getting increased attention (Daily, Certo, & Dalton, 2000; Terjesen, Sealy, & Singh, 2009; Vinnicombe, Singh, Burke, Bilimoria, & Huse, 2008). Some countries (e.g., Norway) have even introduced formal laws requiring female representation on corporate boards. However, research has failed to establish a convincing case for the presence of women on corporate boards of directors. As a result, more studies are needed on the effects of women directors on board decision-making and effectiveness.

Most previous research on women directors is of a descriptive nature and focuses primarily on counting the

number of women on corporate boards and following the development of female representation on boards over the years (e.g., Brancatto & Patterson, 1999; Burke & Mattis, 2000; Conyon & Mallin, 1997; Daily, Certo, & Dalton, 1999). More analytically oriented studies are mostly concerned with the questions of why there are so few women on corporate boards (Burke, 1997; Singh & Vinnicombe, 2004) and what the predictors for female representation on boards are (Burke, 2000; Gregoric, Oxelheim, Randøy, & Thomsen, 2009; Hillman, Shropshire, & Cannella, 2007). Other studies, primarily qualitative in nature, focus on women directors’ experiences and perceptions of their role as board members (e.g., Bilimoria & Huse, 1997; Huse & Solberg, 2006). Few quantitative studies explore in details the characteristics of women directors compared to their male counterparts (e.g., Hillman, Cannella, & Harris, 2002; Ruigrok, Peck, & Tacheva, 2007). Only two studies look at women’s actual role in corporate boards by investigating women’s committee membership (Bilimoria and Piderit, 1994; Kesner, 1988). Yet, the contribution that women make in the boardroom and their influence on board decisions and processes remains underresearched.

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Traditional theories used to explain board governance do not provide much insight about how women contribute to board effectiveness. From a traditional agency theory perspective (Fama, 1980; Fama & Jensen, 1983; Jensen & Meckling, 1976) or a resource-dependence perspective (Pfeffer & Salancik, 1978), the gender of a corporate director would not matter for his/her performance of board tasks. Recognizing the limitations of traditional governance theories in explaining the role and contributions of women on corporate boards, this paper draws upon gender differences (Eagly & Johannesen-Schmidt, 2001; Eagly & Johnson, 1990) and group effectiveness theories (e.g., Cohen & Bailey, 1997; Gladstein, 1984; Hackman, 1987; Pelled, 1996; Williams & O'Reilly, 1998) and offers two main contributions to the literature. First, by applying gender differences theories to the context of corporate boards, it furthers our understanding of whether and how women directors make a difference to board effectiveness. Second, it illuminates the role of board processes as mediators between board composition (e.g., gender diversity) and board effectiveness.

Prior research on gender differences suggests that whereas there are no overall differences in effectiveness between women and men, there are some gender related differences for some behavior and skills in some situations (Yukl, 2002). Such differences in leadership styles may have important implications for board processes and dynamics as well as for board effectiveness. Applying theories of gender related differences in the context of board research, we develop and test hypotheses about the differential impact of women directors on different board processes and board tasks. Our empirical analysis is based on a comprehensive survey of board processes conducted among 201 Norwegian companies. In view of the increasing pressure to raise the number of women directors as well as the changing demographics of the workplace in general, the results of this study may have important implications for both corporate boards as well as for policy-makers.

## THEORETICAL BACKGROUND AND HYPOTHESES

### Board Tasks and Effectiveness

Following finance and accounting traditions, many scholars have tested a direct relationship between the number or ratio of women directors and firm financial performance (Adams & Ferreira, 2004; Carter, Simkins, & Simpson, 2003; Erhardt, Werbel and Shrader, 2003; Fields & Keys, 2003; Shrader, Blackburn, & Iles, 1997). Not surprisingly, these studies provide mixed evidence as a direct relationship between different aspects of board composition and performance is difficult to establish (Dalton, Daily, Ellstrand, & Johnson, 1998). For instance, recently scholars have demonstrated the moderating effect of environmental complexity (Francoeur, Labelle, & Sinclair-Desgagne, 2008) and strategic context (Van der Walt, Ingley, Shergill, & Townsend, 2006) on the relationship between women directors and financial performance. Previous research, however, typically does not consider board effectiveness in performing its tasks as an intermediate step linking board composition to corporate

level outcomes. Consequently, most empirical studies make no distinction between different board tasks and fail to acknowledge that women directors may have a differential rather than uniform impact on the effectiveness in fulfilling theoretically distinct board tasks.

A large number of categorizations of board tasks exist in the literature (e.g., Hung, 1998; Huse, 2005; Johnson, Ellstrand, & Daily, 1996; Zahra & Pearce, 1989). However, most authors agree on a main distinction between service and control tasks (Forbes & Milliken, 1999; Huse, 2005). Considering the board strategic tasks in addition to board control and service tasks, Baysinger and Hoskisson (1990) introduced the distinction between strategic and financial control. Strategic control refers to the board *ex ante* control of corporate strategies formulated by top managers, whereas financial control is the *ex post* monitoring of meeting various performance criteria. The strategic control is generally long-term and qualitatively oriented, while financial control is rather short-term and quantitatively oriented. This article applies a similar distinction between control systems of long-term vs. short-term orientation, namely strategic and operational control, introduced by Stiles and Taylor (2001). Board's operational control tasks involve monitoring of budgetary and planning cycles, whereas strategic control involves tasks related to long-term strategy discussions, monitoring the environment, benchmarking, and use of quality indices as well as relations to stakeholders. In this study, operational and strategic control are chosen as main dimensions of board effectiveness as these two tasks represents key activities of the board in line with the established literature on boards and governance. As operational and strategic control are theoretically and empirically distinct yet complementary board tasks, they are particularly relevant for investigating how women directors influence the work of corporate boards.

### Gender Differences in Leadership Style

Group effectiveness theories postulate that the nature of the tasks performed is an important moderator between team composition and effectiveness (Gist, Locke, & Taylor, 1987; Gladstein, 1984). This argument implies that a board with a certain composition may be better at performing one task than the other as the two distinct sets of board tasks require different skills for their effective performance. Similarly, research on gender differences suggests that women may behave differently than men and be more effective in the performance of certain tasks over others (Eagly, Karau, & Makhijani 1995). This paper applies gender-based differences in leadership theories to the context of gender diversity on corporate boards in order to offer new insights as to how gender diversity might influence board processes, dynamics, and task performance.

Theories of gender-based differences can be effectively applied to the context of boards in order to advance our understanding of how boards comprised of both genders work for several reasons. First, boards are defined as "the apex of the firm's decision control system" (Fama & Jensen, 1983:311) and part of the strategic leadership of an organization. As argued by Finkelstein, Hambrick, and Cannella, "board of directors are within the purview of strategic lead-

ership theory" and "perhaps best thought of as 'supra-TMTs,' boards are an important target for strategic leadership research" (Finkelstein, Hambrick, & Cannella, 2008:11). Forbes and Milliken similarly argue that boards face complex, multifaceted tasks similar to those of the top management team (Forbes & Milliken, 1999:491–492). Hence, boards of directors share some of the tasks and responsibilities of the top leaders of the organization and as such act in a leadership role. Second, boards are typically comprised of individuals with significant leadership experience. Directors are highly accomplished professionals with established track records as leaders of organizations or government authorities. As such, they have established their own leadership style and behavior in the process of their careers and are likely to bring it along with them to the boardroom decision-making.

While theories of gender-based differences of leadership operate at the individual level, they can be applied in the context of boards to explain how board gender composition (a team level construct) affects board effectiveness. From a team perspective, it can be expected that boards with higher ratios of women directors will have characteristics and behavior typically associated with women leaders. Such arguments are in accordance with upper echelons theory, which postulates that individual backgrounds of executives influence strategic choices made by the entire top management team and thus affect team and firm level outcomes (Hambrick & Mason, 1984). The ratio of women directors represents a central tendency of team (board) composition by aggregating individual (director) characteristics to the team (board) level. Thus, gender diversity can be used as a predictor of board level processes and effectiveness.

The literature on gender-based differences asserts that women and men are different in their leadership behavior. Aspects of gender differences that are important to understanding leadership pertain to agentic and communal attributes (Eagly, Johannesen-Schmidt, & van Engen 2003). Agentic characteristics, which are ascribed more strongly to men than women, include being assertive, ambitious, aggressive, independent, self-confident, daring, and competitive. In work setting, agentic behavior might include speaking assertively, competing for attention, influencing others and making problem-focused suggestions. Communal characteristics, which are more strongly ascribed to women than men, describe primarily a concern with the welfare of other people and being affectionate, helpful, kind, sympathetic, interpersonally sensitive, nurturing, and gentle. In work situations, communal behavior might include speaking tentatively, not drawing attention to oneself, accepting others' positions, supporting and soothing others, and contributing to the solution of relational and interpersonal problems (Eagly & Johannesen-Schmidt, 2001). In a synthesis of prior research on managers, Eagly and Johnson (1990) found that women tend to be more democratic and participative and less autocratic and directive compared to male leaders. Research has further established that female leaders, compared with male leaders, are less hierarchical, more cooperative and collaborative, and more oriented towards enhancing the others' self-worth (Eagly et al., 2003).

In contrast, social scientists typically claim that in management positions such differences are minimized. It is believed that women who pursue the non-traditional career of manager reject feminine stereotypes and have needs, values, and leadership styles similar to those of men who pursue managerial careers (Powell, 1990). Consistent with the structural interpretation of organizational behavior (e.g., Kanter, 1977), scholars predict that men and women who occupy the same leadership role will behave very similarly. However, others argue that gender differences continue to exert some influence, in such a way that men and women in the same organizational roles may behave somewhat differently (Eagly & Johannesen-Schmidt, 2001). Accordingly, reviews of prior research reveal that whereas there are no overall differences in effectiveness between women and men leaders, there are some gender related differences for some behavior and skills in some situations (Yukl, 2002). Hence, these gender differences may affect not the general effectiveness of the board but the performance of certain board tasks.

### Gender Differences and Board Tasks

Boards with a higher ratio of women directors may have differential impacts on the performance of distinct board tasks. Board operational control tasks refer to the board's responsibility to supervise managerial decisions regarding investments, cash flow, dividends, financial statements, and so forth, that is decisions concerning the firm financial and accounting situation requiring strong quantitative background knowledge and skills. Strategic control, on the other hand, refers to monitoring managerial decisions regarding firm strategy as well as organizational practices and policies such as safety, health, and environment, and, accordingly, assumes more analytical and visionary skills. While operational control tasks are more routine and ex post, strategic control tasks are ex ante, more complex and creative, and require a broader range of perspectives.

Prior research suggests that women are particularly valued as board members for their ability to provide strategic input and generate more productive discourse (Bilimoria, 2000:27). The productive discourse involves presentation of different perspectives and points of view, which ultimately may result in generation of more numerous alternatives and higher quality decision-making related to organizational strategies and practices. In addition, the unique role of women on boards is often reflected in their participative management style (Pearce & Zahra, 1991) and in higher sensitivity compared to their male colleagues (Bradshaw & Wicks, 2000). This ability, combined with women's attention to and consideration of the needs of others, may lead to women's active involvement in issues of strategic nature that concern the firm and its stakeholders. Hence, women may be particularly sensitive to – and may exercise influence on – decisions pertaining to certain organizational practices, such as corporate social responsibility and environmental politics. Accordingly, women directors may contribute substantially to the board control tasks for issues of strategic nature. Thus, it can be expected that boards with a higher ratio of women directors may be more effective in performing strategic control tasks.



*Hypothesis 1. The ratio of women directors is positively associated with board strategic control.*

## The Mediating Role of Board Processes

Group effectiveness theories (Gladstein, 1984; Hackman, 1987; McGrath, 1964) have long established the role of processes as mediators between group composition and performance. Typically, group effectiveness models follow an input-process-output approach where processes mediate the relationship between team and organizational design factors and different measures of effectiveness. As such, group processes are a centerpiece that accounts for much of the variation between group composition and group outcomes. A number of distinct process constructs are identified in the literature, for instance group development activities, internal and external communication, inter-personal and task conflict, and so forth (Cohen & Bailey, 1997; Gist et al., 1987). Reviews of empirical studies suggest that processes are consistently mediating the relationship between different types of diversity and effectiveness (Jackson, Joshi, & Erhardt, 2003; Milliken & Martins, 1996; Williams & O'Reilly, 1998).

By the same token, scholars recognize the role of board processes as a mediator in the relationship between board composition and firm-level outcomes (Finkelstein & Mooney, 2003; Forbes & Milliken, 1999; Pettigrew, 1992; Zahra & Pearce, 1989). A number of empirical studies confirmed that board processes are important factors that influence board effectiveness in performing different tasks (Ingley & van der Walt, 2005; Van Ees, Van der Laan, & Postma, 2008; Wan & Ong, 2005; Zona & Zattoni, 2007). Particularly in the context of women's contributions to corporate boards, processes are expected to play an important role as an explanatory mechanism (Huse & Solberg, 2006; Vinnicombe et al., 2008).

Differences exist between groups, for instance between lower level organizational work groups and top management teams and boards (Cohen & Bailey, 1997; Webber & Donahue, 2001:492). In line with this view, Forbes and Milliken (1999) discuss the characteristics that differentiate corporate boards from lower level organizational groups and identify four distinctive features: (1) complex and multifaceted group tasks that involve strategic issue-processing; (2) large proportion of outsiders; (3) part-time work; and (4) episodic functioning. The authors conclude that "because boards are large, episodic, and interdependent, they are particularly vulnerable to process losses . . . the effectiveness of boards is likely to depend heavily on social-psychological processes, particularly those pertaining to group participation and interaction for exchange of information, and critical decisions."

Regarding the board as a team of individuals aiming at effective governance, we distinguish between two types of board processes that have a strong influence on the exchange of information and decision-making – board decision-making culture and board working structure. Board decision-making culture relates to the interaction between board members and affects their ability to exchange knowledge and information effectively. Board working structure pertains to the routines that facilitate

such interaction. Open debate and conflict are two aspects of the board decision-making culture, while development activities are working structures related to the extent to which boards foresee codified rules to guide board members' behaviors. The social psychology literature identifies a number of other relevant process variables that may affect team performance. However, given the nature of board tasks, characterized by critical decision-making based on participative interaction and exchange of information, open debate, conflict, and board development activities are considered the most relevant board processes for the purpose of this study. Both decision-making culture and board working structures are important determinants of board level outcomes, and thus influence the way the board perform its tasks (Huse, 2007; Zahra & Pearce, 1989). In addition, these process variables represent important aspects of team dynamics and are therefore particularly suitable for studying the effects of board gender diversity on board behavior and effectiveness.

## Effects of Gender Diversity on Board Processes

**Board Development Activities.** One of the key elements for the successful performance of board tasks is the use of efficient working structures (Demb & Neubauer, 1992; Zahra & Pearce, 1989). Board working structures are sets of rules and norms that support the boards' decision-making processes and mechanisms (Huse, 2007). Some typical formal structures and rules that govern the board's internal organization include board work instructions, thorough introduction of new members, regular board evaluations, and board development programs. In the group effectiveness literature, such activities refer to group development activities, which are identified as an important mediator that enhances group productivity (Gist, Locke, & Taylor, 1987).

Board instructions may empower the board in relation to the management and provide boards with guidance about typical behaviors. The use of formal instructions can be of particular help for new directors. For instance, effective board meetings require that a thoroughly developed agenda is distributed well in advance together with information that is essential for board decisions; that meetings are held promptly and issues are discussed in sufficient depth and that minutes of the board meetings are kept for documentation and accessible for board members' reference (Demb & Neubauer, 1992). Letendre (2004) further suggests that not only sufficient time to discuss issues at hand in depth, but also regular review of the performance of the board is crucial for the effective work of boards. This study also provides evidence that corporations with boards that follow certain principles and practices have a higher return on investments. Pugliese and Wenstop (2007) argue that board evaluations enhance the efficiency and quality of information flow between the board and the management. Similarly, Sonnenfeld (2002) suggests that boards need to challenge their own roles and assumptions and regularly evaluate individual board performance in order to be successful in fulfilling their tasks. A formalized system for board evaluation is one of the main requirements in many corporate governance codes around the world (Minichilli, Gabrielsson, & Huse, 2007).

Women board members may contribute to the enhancement of board work through development activities related to board instructions, board evaluation, and board development programs. Prior research suggests that women and men differ in their expectations for their own behavior in organizational settings (Ely, 1995). By the same token, Fondas (2000) found that women directors have higher expectations of board task performance than their male colleagues. As such, women directors are more likely to commit to the development of board practices that will ensure the effective performance of board tasks. Furthermore, Huse and Solberg (2006) suggest that women directors being less experienced in board work may spend more time preparing for board meetings, trying to understand the nature and logic of board work, devote time to board evaluation, and identify areas with potential for improvement. As a result, women directors are likely to enhance board development activities.

*Hypothesis 2a. The ratio of women directors is positively associated with board development activities.*

**Open Debate.** Debate is a construct that refers to the discussion patterns in the context of team decision-making and is defined as “an open discussion of task-related differences” (Simons, Pelled, & Smith, 1999:663). Letendre (2004) suggests that women board members may bring diverse viewpoints to the boardroom and provoke lively boardroom discussions. Women may have different beliefs, values, and ways to express and communicate their opinions. As women and men have different leadership styles (Eagly & Johnson, 1990), boards with women members may have more discussions and arguments regarding the decisions to be made by the board. Moreover, women directors may ask questions more freely (Bilimoria & Wheeler, 2000). As a result, women are more likely to question the conventional wisdom and speak up when concerned or in doubt about an issue or a particular managerial decision (Bilimoria & Huse, 1997; Huse & Solberg, 2006). Furthermore, Bilimoria suggests that women directors play a constructive role in board deliberations as they “enhance boardroom discussions on account of their superior listening skills and enhanced sensitivity towards others” (2000, 31). Hence, because of their different leadership styles, boards with women members may experience different discussion patterns and increased debate compared to boards composed of men only. The different, opposing views presented in a gender diverse boardroom may lead to in-depth and profound debates and help address simultaneously different aspects of the issues at hand. In line with this argument, Pearce and Zahra (1991) find that boards with higher ratios of women, characterized as participative boards, were more likely to engage in debates and disagreement.

*Hypothesis 2b. The ratio of women directors is positively associated with board open debate.*

**Conflict.** Conflict is defined as “perceptions by the parties involved that they hold discrepant views or have interpersonal incompatibilities” (Jehn, 1995:257). Typically, research distinguishes between two types of conflict – rela-

tionship (emotional) and task (cognitive) conflict. According to the team diversity literature, diversity is often associated with higher levels of conflict (Milliken & Martins, 1996; Williams & O'Reilly, 1998). However, the presence of women on the board may have the opposite effect, as women are more likely to engage in participative leadership behavior (Eagly & Johnson, 1990) and demonstrate higher sensitivity towards others (Bilimoria, 2000; Bradshaw & Wicks, 2000). Prior research on gender differences suggests that women are genuinely concerned with the welfare of other people and are helpful, kind, sympathetic, interpersonally sensitive, nurturing, and gentle (Eagly & Johannesen-Schmidt, 2001). As a consequence, women are more likely to accept others' positions and contribute to the solution of task (cognitive) and relationship (emotional) conflict. Hence, when potential for conflict arises in the boardroom, women may be able to avoid such conflicts based on their higher sensitivity and ability to resolve interpersonal and task-related disagreements:

*Hypothesis 2c. The ratio of women directors is negatively associated with board conflict.*

## Effects of Board Processes on Board Strategic and Operational Control

The existence and use of board working structures allows board members to get actively involved in board tasks (Demb & Neubauer, 1992). Gabrielsson and Winlund (2000) suggest that such routines affect the board's possibilities of getting access to information and making effective decisions. In addition, formal routines may help clarify the division of labor among board members and enable all directors to contribute with ideas for improvement. As a result, board development activities may exert a strong influence on board effectiveness (Zahra & Pearce, 1989). Conger, Finegold, and Lawler (1998) find that board routines are positively related to firm performance. These results are supported by Gabrielsson and Winlund (2000), who demonstrate that board working structures are positively related to board service and control tasks. Hence:

*Hypothesis 3a. Board development activities are positively associated with board strategic and operational control.*

Boards have been heavily criticized in the past for being passive and not taking a critical approach to managerial suggestions (Lorsch & MacIver, 1989; Mace, 1971). In this context, increased level of critical questioning and debate in the boardroom can help enhance board effectiveness. For instance, prior research suggests that debate leads to higher comprehensiveness of decision-making (Simons et al., 1999). Similarly, we hypothesize that:

*Hypothesis 3b. Board open debate is positively associated with board strategic and operational control.*

While a certain degree of debate is essential for evaluating alternative options and making strategic decisions, high levels of conflict may be dangerous for the team's ability to share information and reach consensus. Thus, whereas debate is constructive for team effectiveness, conflict is destructive. Relationship conflict is generally believed to

decrease satisfaction and interfere with task performance because it limits the information processing ability and cohesiveness of the group as team members spend their time and energy focusing on each other rather than the task-related problems (Forbes & Milliken, 1999; De Dreu & Weingart, 2003). Task conflict, on the other hand, is considered beneficial to performance under certain circumstances, such as when working on non-routine, complex tasks, because the differences in judgment among group members results in consideration of more alternatives and the more evaluation of these alternatives (Forbes & Milliken, 1999). However, a recent meta-analysis by De Dreu and Weingart (2003) concludes that both types of conflict have strong negative impact on team effectiveness and team member satisfaction. Hence, no support is found for the widely assumed positive effects of task (cognitive) conflict. Different types of conflict do occur, yet they have uniform negative effects on team effectiveness.

In the context of board work, where board members meet irregularly and for short periods of time, conflict may be particularly detrimental for board decision-making ability and may negatively influence board effectiveness. Conflict interferes with team effectiveness because it produces tension, antagonism, and distracts team members from performing their tasks. Board conflicts might cause negative emotions that diminish interpersonal sympathy among group members, reduce their satisfaction, and lower their desire to continue working within the group (Forbes & Milliken, 1999). Consistently, Mace (1971) found that members of boards with high levels of conflicts experience lower levels of satisfaction and tend to reduce their commitment to the board. Such negative emotions may lead to low group cohesiveness, which in turn reduces intergroup communication about task-related issues, such as concerns about the strategy and direction of the firm (Westphal & Bednar, 2005). Thus:

*Hypothesis 3c. Board conflict is negatively associated with board strategic and operational control.*

## METHOD

### Data Collection and Sample

In a review of the governance literature Daily, Dalton, and Cannella note that getting access to process data is one of the major empirical challenges for board researchers, yet the potential value of such data is considerable (Daily, Dalton, & Cannella, 2003:378). To test our hypotheses we used data from the Norwegian "value creating board" database (Huse, 2009). The "value creating board" surveys have been conducted in various countries. The database is unique in the way that it has been developed in several surveys, in several countries over many years, and it contains a large number of previously validated scales related to actual board behavior (Huse, 2007, 2009; Minichilli & Hansen, 2007; Pugliese & Wenstop, 2007; Van Ees et al., 2008; Zona & Zattoni, 2007). All survey questions used to test our hypotheses were short, specific and using simple words to avoid ambiguous and vague formulations (Dillman, 2000). Survey item responses were based on a 5-point Likert-type scale.

The sample frame for this study consisted of Norwegian firms having between 50 and 5,000 employees. A total of 762 survey questionnaires were distributed to the CEOs of the sampled firms in December 2003 and 234 questionnaires were returned, leading to a response rate of 31 per cent. A non-response bias test showed no significant differences between responding and non-responding firms in terms of size. In addition, we tested for differences between early and late respondents and found no significant differences with respect to industry type, number of employees, sales, and firm innovative activities. We found, however, a higher ( $p < .05$ ) ratio of women on boards in the companies responding to the second reminder compared to those responding immediately. Due to missing data on some of the variables included in the analyses, the effective sample size was 201. In order to assess the possible influence of common method bias (Doty & Glick, 1998), we used the Harman's one factor test. The factor analysis of the 25 items measuring the three process variables and the two board task variables exhibited five clear factors with eigenvalues higher than 1.0.

### Variables

The *ratio of women directors* (the proportion of women directors expressed as a percentage of total board size) was used as a measure of gender diversity. Alternative measures such as dummy variable for the presence of women directors on the board or the number of women directors yielded essentially similar results.

Group processes are among the most challenging theoretical constructs to operationalize and the measures used in our study largely rely on previous research. *Board conflict* is a multi-item measure based on seven items reflecting the degree of disagreement on both task-related and interpersonal issues (Jehn, 1995). The questions were adapted from Jehn's scale of group conflict and assessed how often board members have conflicts or disagree over the following: (1) decisions in the boardroom; (2) among groups of board members; (3) based on various ownership or stakeholder interests; (4) what is best for the firm; (5) how to achieve the best for the firm; (6) how the board should work; and (7) the extent to which disagreements among board members are not resolved during board meetings. A confirmatory factor analysis showed that all seven measures load to one factor with an eigenvalue of 3.61. Reliability analysis indicated that the questions are appropriate measures of a general conflict construct (Cronbach's  $\alpha = .88$ ).

*Open debate* was measured with four different items adapted from the debate measure used by Simons et al. (1999) in the context of top management teams. The respondents were asked to rate the degree to which the board is willing to (1) discuss professional opposing views; (2) give the CEO advice related to the personal knowledge, views, and ideas of the members of the board; (3) provide the CEO with special, creative and non-conformist advice; and (4) include personal and individual preferences in their judgment. A reliability analysis showed high Cronbach's  $\alpha$  (.73) and all four items load on only one factor with an eigenvalue of 1.68.

*Board development activities* was based on a multi-item measure consisting of five survey questions, pertaining to:



(1) the existence of board instructions; (2) the regular use of board instructions; (3) thorough introduction of new members; (4) regular board development programs; as well as (5) regular board evaluation activities. The questions followed directly propositions in Norwegian corporate governance codes. The five items loaded clearly onto one factor with an eigenvalue of 2.12 and Cronbach's alpha of .78.

Board tasks were measured in line with previous board studies (e.g., Judge & Zeithaml, 1992; Pearce & Zahra, 1991; Zahra & Pearce, 1990). Confirmatory factor analysis on the items measuring board strategic and operational control according to Baysinger and Hoskisson's (1990) and Stiles and Taylor's (2001) conceptualization resulted in two clear factors with eigenvalues higher than one. *Board operational control* was assessed through four survey questions addressing the extent to which the board was involved in following up and re-assessing managerial decisions concerning: (1) costs budgets; (2) sales budgets; (3) firm liquidity; and (4) investments. The four items loaded onto one factor with an eigenvalue of 2.39 and a Cronbach's alpha of .86. The second type of board tasks, *board strategic control*, was measured by four different items regarding the board's involvement in decisions concerning firm strategy in terms of: (1) corporate social responsibility (CSR); (2) human resources; (3) product quality; and (4) health, environment, and safety. The four items loaded onto the same factor with an eigenvalue of 1.64 with a Cronbach's alpha of .75.

We controlled for the "usual suspects" identified in early board research (Finkelstein & Mooney, 2003). As the number of directors may influence performance (Dalton et al., 1998), we controlled for *board size* measured as the natural logarithm of the number of directors serving on the board. *Outsider ratio* is a variable expressing the ratio of the outside directors to the total number of directors. Prior research suggests that a higher ratio of outside directors is positively related to various measures of firm performance (Baysinger & Butler, 1985; Pearce & Zahra, 1992). We also controlled for *CEO duality* (coded 1 if the CEO was also the chair of the board, and 0 otherwise), which as an indicator of CEO power against the board may influence board effectiveness (Finkelstein & D'Aveni, 1994). We further controlled for *insider ownership* measured as the amount of shareholding held by inside board members (Kosnik, 1987), as stock ownership is likely to increase board vigilance (Finkelstein et al., 2008) and board task involvement (Huse, 2007). *Outsider ownership* was measured as the amount of shareholdings held by outside directors and controlled for, as prior research suggests that outsider shareholdings may help improve firm governance (Hambrick & Jackson, 2000). As the tenure on the board may be an indicator of power (Finkelstein & Mooney, 2003), we controlled for the *board chair tenure*. We further controlled for industry sector by using a dummy variable equal to 1 if the firm operated in a manufacturing industry and 0 if it was in the service sector.

## Method of Analysis

Hierarchical multiple regression analysis was used to test the hypotheses regarding the direct and mediated effects of women directors on board effectiveness in fulfilling the two distinct sets of board tasks. First, the process variables were

regressed on the explanatory variable and the controls (Models 1 through 3). Second, the explanatory variable ratio of women directors was regressed on the dependent variables strategic and operational control (Models 4 and 6). Finally, to test for mediating effects, the intervening variables were subsequently entered together (Models 5 and 7) and the overall  $R^2$  as well as the individual coefficients were compared to those from the previous equations. Baron and Kenny (1986) outline a testing procedure for mediating effects including the following three steps: (1) the explanatory variable has an effect on the mediating variable; (2) the explanatory variable has an effect on the dependent variable; and (3) the mediator has an effect on the dependent variable.

## RESULTS

The mean number of firm employees in this sample in the year 2002 was 447. The sample firms have a mean board size of 6.07 members. A total of 50 per cent of all firms have at least one woman on their boards. Another 29 per cent of the boards have one woman director, 14 per cent have two women, 6 per cent have three women, and only 1 per cent have more than three women. The mean number of women on corporate boards is .84, and the mean ratio of women on the boards is 12.8 per cent with values ranging between 0 and 66.67 per cent. The mean ratio of outside directors is .68; executive directors hold on average 16.68 per cent of the shares, and non-executive directors hold on average 28.16 per cent of the companies' shares.

In terms of board processes and board tasks, the CEOs assessed the level of open debate relatively high, 3.74 on a five-point Likert-type scale. The level of conflict was significantly lower, 2.00, and the average board development activities score amounted to 3.12. The CEO's evaluation of board effectiveness in operational control (3.98 average score) was higher than the evaluation of strategic control (3.07). The descriptive statistics and correlations are reported in Table 1. VIF analysis shows no multi-collinearity problems with the conducted regressions.

Hypothesis 1 was supported as we found empirical support for the positive association between the ratio of women directors and board strategic control ( $b = .91, p < .05$ ) (see Table 2, Model 4). The tests for the mediating effects of board processes supported Hypothesis 2a, suggesting that women directors have a significant positive effect on board development activities ( $b = .62, p < .05$ ) (see Table 2, Model 1). Board development activities, in turn, were positively and significantly related to board effectiveness in both sets of tasks ( $b = .32, p < .001$  for strategic control and  $b = .29, p < .001$  for operational control; see Table 2, Models 5 and 7, respectively). Hypothesis 3a was thus supported.

No statistically significant association was found between the ratio of women directors and open debate (Hypothesis 2b). Open debate, however, had a positive effect on strategic and operational control ( $b = .16, p < .05$ , and  $b = .36, p < .001$ , respectively), as predicted in Hypothesis 3b (see Table 2, Models 5 and 7, respectively). In addition, consistent with Hypothesis 2c, the ratio of women directors was found to decrease the level of board conflict ( $b = -.58, p < .05$ ) (see Table 2, Model 3). Board conflict, in turn, negatively influ-

Table 1  
Descriptive Statistics: Means, Standard Deviations, and Correlations<sup>a</sup>

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Strategic control	3.07	.78	1												
2 Operational control	3.98	.84	.36	1											
3 Board development activities	3.12	.89	.42	.35	1										
4 Open debate	3.74	.65	.26	.39	.22	1									
5 Conflict	2.00	.73	-.20	-.16	-.09	-.23	1								
6 Industry	.37	.48	.05	.07	.05	.05	.07	1							
7 Board size	6.07	.34	-.02	-.05	.17	-.05	.13	.06	1						
8 Outsider ratio	.68	.23	-.10	-.06	-.14	.02	-.15	-.15	-.03	1					
9 Executive ownership	16.68	28.99	.08	.14	.01	.10	-.13	-.11	-.41	-.14	1				
10 Non-executive ownership	28.16	33.25	.01	.05	-.16	.03	.07	.05	-.37	.05	.08	1			
11 Chairperson tenure	5.12	5.66	-.01	-.08	-.02	-.16	-.09	-.01	-.27	-.06	.11	.20	1		
12 CEO duality	.03	.17	.15	.11	.10	.12	-.10	-.14	-.26	-.01	.26	.19	.05	1	
13 Women directors ratio	.13	.15	.18	-.09	.17	.01	-.11	-.09	.20	-.04	-.02	-.20	-.11	.10	1

<sup>a</sup> All correlations above .13 are significant at the  $p < .05$  level.

enced board strategic control ( $b = -.15$ ,  $p < .05$ ) (see Table 2, Model 5), however, exhibited no significant effect on board operational control. Hence, Hypothesis 3c is only partially supported. The inclusion of the process variables in the regression models made the association between the ratio of women directors and board strategic control no longer significant, indicating that the relationship is fully mediated by board development activities and board conflict. While no relationship was found between the ratio of women directors and board open debate, the overall results suggest that the process variables have significant influence on board effectiveness on their own.

## DISCUSSION

In times of vivid debates about the role of women on corporate boards, this article contributes to both theory and practice by studying the impact of women directors on board processes and effectiveness. We combine theories about gender differences and group effectiveness in order to explain whether and how women directors contribute to the work of corporate boards. The results show that the impact of women board members on board effectiveness: (1) is differential, that is depends on the nature of the tasks performed; and (2) mediated through board processes. Hence, women on boards influence key board processes, which in turn enhance or inhibit board effectiveness in strategic and operational control.

This article makes several contributions to current discussions about the role of women directors on corporate boards. First, our study demonstrates that the impact of women on boards depends on the nature of the task performed. Our results are consistent with the literature on gender differences in leadership styles (Eagly & Johnson, 1990; Eagly et al. 1995; Eagly and Johannesen-Schmidt, 2001), which suggests that there are no overall differences in behavior between women and men in management positions. Rather, women directors' leadership style may be different from those of men for certain tasks and in certain situations. Specifically, we find the ratio of women directors to have a positive direct relationship with board strategic control but no direct relationship with board operational control. Together, these results suggest that while women directors do not perform operational control tasks better or worse than men, they bring specific advantages to board decision-making when it comes to board strategic tasks. It seems that women's enhanced sensitivity towards others and their consideration of the interests and perspectives of multiple parties enhance board oversight of firm strategy. These findings may help explain why it is difficult to establish a direct relationship between board gender composition and firm performance. To the extent that boards perform multiple tasks simultaneously and women have differential impact on some of these tasks, no overall performance differences can be detected between firms with high and low ratios of women directors.

Second, the results clearly support the notion that board processes are an important predictor of board effectiveness (Forbes & Milliken, 1999; Macus, 2008; Petrovic, 2008; Pettigrew, 1992). Specifically, whereas board open debate and



Table 2  
Multiple Regressions for Effects of Women Directors on Board Processes and Effectiveness

Variable	Development		Open debate		Conflict		Strategic control		Operational control	
	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
Industry (manufacturing)	.11	.13	.11	.10	-.01	.11	.13	.12	.14	.10
Board size (ln)	.42	.22	-.07	.17	.26	.18	-.01	.20	.06	.18
Outsider ratio	-.40	.28	.10	.21	-.57*	.23	-.25	.25	-.16	.23
Executive ownership	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Non-executive ownership	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Chairperson tenure	.00	.01	-.02*	.01	-.01	.01	.00	.01	-.02	.01
CEO duality	.78*	.39	.38	.29	-.24	.32	.60	.34	.50	.31
Women directors ratio	.62*	.31	-.01	.32	-.58*	.29	.91*	.38	-.60	.35
Board development activities										.32***
Open debate										.16*
Conflict										-.15*
Constant	2.54***	.50	3.79***	.37	2.03***	.41	3.05***	.45	4.00***	.55
R <sup>2</sup>	.10		.06		.09		.07		.06	
Maximum VIF	1.52		1.52		1.52		1.52		1.52	
Mean VIF	1.07		1.07		1.07		1.07		1.07	
									.27	
									1.57	
									1.07	
									1.08	

N = 201.

\*p < .05, \*\*p < .01, \*\*\*p < .001.

development activities increase board strategic and operational control, board conflict reduces board strategic control. Our results indicate that while debate is crucial for the quality of board decision-making, increased conflict can harm board functioning. Together, these findings point to the importance of balancing the need for constructive open debate among board members without incurring the negative effects of conflict. The strong effects of the three process variables on board strategic and operational control suggest that board processes and dynamics are important drivers of board effectiveness.

Third, consistent with our predictions rooted in the group effectiveness literature, board processes mediate the relationship between the ratio of women directors and board effectiveness. The results suggest that board development activities and conflict fully mediate the relationship between board gender diversity and strategic control as the direct relationship between these two variables is no longer significant once the mediating variables are entered into the equation. In addition, board development activities mediate the relationship between women directors and operational control. We find that boards with high ratios of women are more likely to use board development activities related to the introduction of working structures such as board work instructions, evaluations, and development programs. These structures, in turn, enhance board strategic and operational control. Hence, one of the mechanisms through which women contribute to board effectiveness is the use of board development activities. Board conflict constitutes another mediating mechanism between board gender diversity and effectiveness. We find that women directors reduce the level of conflict, which is detrimental for board strategic control. These findings suggest that board processes may indeed matter more than composition of the board (Finkelstein & Mooney, 2003; Forbes & Milliken, 1999).

### Limitations and Future Research Directions

This work has several limitations. First, we use a rather narrow definition of board effectiveness, which focuses on board operational and strategic control, based on early work by Baysinger and Hoskisson (1990). However, research on boards and governance has advanced significantly since and a number of other important board tasks have emerged in the literature. For instance, Hung (1998) provides a typology of board roles based on different theories and identifies six different roles; linking, coordinating, control, strategic, maintenance, and support. By the same token, Huse (2005) formulates a number of board tasks in addition to control, such as providing advice and counsel, networking, lobbying and legitimizing, and strategic participation. McIntyre, Murphy, and Mitchell (2007) suggest that the board plays a role in developing and selecting creative ideas for the firm's advancement. In line with this literature, and as demonstrated in prior work, women directors may influence board activities other than strategic and operational control. For instance, evidence shows that women directors may influence board creative discussions (Huse, Nielsen, & Hagen, 2009) as well as board strategic involvement (Nielsen & Huse, 2010).

Second, this study uses the ratio of women directors as an indicator of board gender diversity without accounting for the characteristics of the women serving on corporate boards. As suggested in the group diversity literature (e.g., Jackson et al., 2003), future research may benefit from simultaneously considering multiple diversity dimensions. For instance, future studies may examine the effects of women directors' characteristics, both in terms of demographics and affiliations, on board processes and effectiveness.

Third, while we utilize unique primary survey data of corporate boards, this work is based on a single-method design, which may be a potential source of common method bias. Future studies may attempt to combine primary survey data with secondary data on women directors' characteristics as well as firm level performance in order to reduce the reliance on self-reported measures and obtain the independent and dependent variables from different sources. Furthermore, in order to overcome common method bias it is desirable to obtain responses from multiple members of the board (see for instance, Huse et al., 2009 and Nielsen & Huse, 2010).

Finally, Norway has the highest number of women directors in the world and this can create potential problems for the generalizability of our results. Even compared to other Scandinavian countries, Norway is at the forefront of recent trends towards women representation on boards. Nordic countries share a long history of social support to gender equality and similar trends toward the increase in women directors among board members can be observed in Sweden, while Finland and particularly Denmark are lagging somewhat behind (Gregoric et al., 2009). Hence, the results of our study have to be interpreted in the light of the particular context in which Norwegian firms operate. At the same time, this study was conducted before the quota law for women on Norwegian corporate boards was introduced and therefore its results are not affected by the enforcement of the law. Future inquiries may reflect on the impact of the law on the way that women directors contribute to the effectiveness of corporate boards.

### Implications for Theory and Practice

This study has important implications for both governance and diversity theories. First, the focus on board processes helps advance our understanding of how boards operate and explains the intervening mechanisms through which board composition affects board effectiveness. Second, this work provides a partial explanation for previous inconclusive findings of studies on the impact of gender diversity on firm performance by advocating the need to include board effectiveness as an intermediate step in understanding the effects of boards on firm level outcomes. To the extent that women directors have a differential impact on various board tasks, it is important to account for the nature of these tasks and include them in models of board effectiveness.

Finally, this work underscores the need to consider different theoretical perspectives in understanding the consequences of diversity. Group effectiveness and diversity theories refer to a general construct of diversity (which can be task-related or relationship-oriented) and predict that

diversity increases the level of conflict. In contrast, theories on gender based differences in leadership styles suggest that women are more sensitive towards the needs of others, better able to resolve interpersonal conflicts and engage in more participative leadership styles. As a result, boards with high gender diversity are likely to experience less conflict than boards with low proportions of women directors. Our study provides evidence supporting this hypothesis and highlights the need to consider different theories in explaining the effects of women directors. Furthermore, it suggests that it is important to distinguish between different types of diversity and their consequences on group processes and effectiveness.

Our study also has important implications for practice. The results suggest that the number of women directors is not a critical factor determining the effectiveness of corporate boards. Rather, it is team processes and dynamics that have high explanatory power for the results of board work. Thus, it is not only necessary to appoint women to corporate boards, it is also essential to create favorable conditions for the board members to realize their potential. By focusing attention on board development activities and open debate while trying to minimize occurrences of conflict in the boardroom, board effectiveness can be greatly improved. Furthermore, as women directors may have differential impacts on different board tasks, it is necessary a priori specify the nature of the board tasks and consider how appointing women with certain qualities and characteristics can help improve the board's effectiveness in performing some of these tasks.

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