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Gender diversity in management: curvilinear relationships to reconcile findings

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Abstract

Purpose – The purpose of this paper is to study the effect of gender diversity (in executive boards and top management) on firm performance. To reconcile the inconsistent and non-conclusive findings from previous studies, competing curvilinear relationships are theorized between gender diversity on boards and firm performance based on different theoretical backgrounds.

Design/methodology/approach – The paper comprises a literature review and development of theoretical propositions.

Findings – Curvilinear relationships were developed that may integrate different theoretical perspectives.

Research limitations/implications – This paper provides theoretical support to reconcile the inconsistent and non-conclusive findings from previous theoretical perspectives and empirical studies by proposing that competing recommendations from theoretical perspectives could be tested through curvilinear relationships.

Practical implications – The propositions provide a strong argument for having more women in top management positions who will be promoted later through the "glass ceiling" to more gender-balanced boards.

Originality/value – The paper reconciles inconsistent and non-conclusive findings from studies about gender diversity on boards and firm performance.

Keywords Corporate governance, Senior management, Women, Equal opportunities, Organizational performance

Paper type Conceptual paper

1. Introduction

The continuing reliance on male CEOs for board members is increasingly less practical and potentially dilutes quality. Smith *et al.* (2006)) state that if only male individuals are potential candidates for corporate boards, the selection of board members will take place from only this selected distribution of qualifications. On average this implies a much lower quality than if the candidates are selected among the best from the distribution of both men and women.

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Given the emphasis being placed on board (and top management) diversity as a part of good corporate governance, the relationship between board diversity and shareholder value creation deserves both theoretical and empirical investigation. One stream of research has found that gender diversity on boards has positive impacts on firm performance, whereas another stream finds that increasing gender diversity may be dysfunctional and result in lower firm performance. To reconcile the inconsistent and non-conclusive findings from previous studies, we theorise competing curvilinear relationships between gender diversity on boards and firm performance based on different theoretical backgrounds.

The paper is built upon this contribution and structured as follows. The second section reviews the theoretical considerations to study the relationship between gender diversity on boards and firm performance. The third section develops research hypotheses upon these theories and previous findings. Finally, the paper concludes and suggests future avenues for research.

2. Theoretical considerations about gender diversity on corporate boards

There are few descriptive papers that study associations between gender diversity and firm performance. The conclusions from this type of studies are ambiguous. Some of them find positive associations between firm performance and the representation of women on executive boards and top management teams (Adler, 2001; Erhardt *et al.*, 2003; Catalyst, 2004; Veleva, 2005) whereas others find negative associations (Ryan and Haslam, 2005) or no association whatsoever (Kochan *et al.*, 2003).

Adler (2001) collected data for an average of 215 Fortune 500 companies for every year from 1980 to 1998, and found that companies with a high number of women executives outperformed their industry median companies on three measures of profitability: profits as a percent of revenues, assets, and stockholders' equity. In another study, Erhardt *et al.* (2003) found a positive significant relationship between the percentage of women on boards of directors for 127 large US companies (two-year average from 1997 and 1998) and two financial ratios of firm performance: return on assets and return on investment. Catalyst (2004) examined 353 Fortune companies between 1996 and 2000, and found that, after controlling for industry and company differences, the group of companies with the highest representation of women on their top management teams experienced better financial performance (return on equity and total return to shareholders) than the group of companies with the lowest women's representation. Veleva (2005) found a positive association between the percentage of women on top management and corporate boards in a sample of 300 US firms and the firm's stock performance (stock price, pay-out). Contrary to these findings, Ryan and Haslam (2005) found a marginally significant negative correlation between the percentage of women in leadership positions in the UK FTSE100 companies and performance as measured by change in share price. However, there was no significant difference in performance in the year 2003 for those companies that appointed a woman compared to those companies that appointed a man. On the other hand, Kochan *et al.* (2003) in their case study of four large Fortune 500 firms did not find any association between management gender diversity and organizational performance.

In order to understand the ambiguous results of these studies, it is necessary to review the theoretical frameworks that can be constructed to analyse the relationship between gender diversity on executive boards (and top management) and firm performance. We argue that different theoretical perspectives are needed to understand the relationship between gender diversity on executive boards (and top management) and firm performance. The next paragraphs review the contributions of several perspectives that can extend our theoretical understanding of the impact of women on boards for firm performance.

2.1 Agency theory

Agency theory is the theoretical framework most often used by finance and economics scholars to understand the link between board characteristics and firm value. The arguments of Fama and Jensen (1983) propose a very important role for the board as a mechanism to control and monitor managers. The role of the board in an agency framework is to resolve agency problems between managers and shareholders by setting compensation and replacing managers that do not create value for the shareholders. According to Sloan (2001) the problem lies in the fact that managers will have incentives to take actions in order to increase their own utility but not necessarily to maximise the returns on capital invested by financiers. The compliance with corporate governance codes may protect outside investors against expropriation by the insiders (LaPorta *et al.*, 2000). Several scholars provide evidence of a positive relationship between governance practices and stock returns (Drobetz *et al.*, 2004; Goucharov *et al.*, 2006).

Another argument derived from agency theory is board independence which is critical for boards to function in the best interest of the shareholders. Kesner (1988) found that because of the likelihood of their being outsiders (except in family businesses where ownership and control are not separated), women have a great deal to offer boards. Selby (2000) interviewed women board members from top US firms and observed that by including gender diversity on their boards, firms concomitantly included diversity in other experiences and values. Fondas (2000) argues that the presence of women directors helps a board execute its strategic function because they may have a slight edge over men in terms of impacting strategic planning. Carter *et al.* (2003) also argue that diversity may increase board independence because people with a different gender, ethnicity, or cultural background might ask questions that would not come from directors with more traditional backgrounds; however, these scholars find difficulties to link board diversity to the incentives for directors to build their reputations as expert monitors.

Increasing gender diversity may enhance different perspectives but they may not necessarily result in more effective monitoring because, for example, diverse board members may be marginalized. Rosener (1995) notes that one female member is often dismissed as a token; two females are not enough to be taken seriously; at least three are needed to give the board a critical mass and the benefit of the women's talents. Elaborating on social contact theory, Kanter (1993) argues that the negative treatment experienced by women is greatest when a group has very small representation. Kanter labels members of groups with very small representation (less than 15 percent of a unit) as tokens because they tend to be treated as symbols, representatives of their social category rather than as individuals. Minorities working in token situations face stereotyping and discrimination. By contrast, minorities in situations where their group represents greater-than-token proportions can form coalitions and networks of mutual support, and have more positive interactions with the majority.

Therefore, there is a critical proportion of gender diversity that it should be necessary to find positive (or negative) effects in any case. Fondas and Sassalos (2000) showed that boards with more than one female director had significantly more influence over management decisions.

Besides, the number or percentage of women on boards, another similar barrier is the status of these appointed women in comparison to their male colleagues. Zelechowski and Bilimoria (2000) found that women on boards of Fortune 1000 firms had less power and lower earnings than men. Another obstacle in the relationship between gender diversity and effective monitoring is suggested by Litz and Folker (2002): based on Hendry (2002) work on agent incompetence, which he defines as a "deviation between objective and outcome arising from an agent's limited competence to interpret objectives, judge situations, and take appropriate actions', they question whether gender-balance remedies, or conversely exacerbates, competence-related deficiencies in the areas of interpretation, judgment or action. Does a better gender-balance permit a more diverse set of perspectives and competencies to be applied and shared, or does it introduce a degree of complexity that unnecessarily complicates the management's task?. To answer this question we need to draw from other theoretical perspectives, mainly the resource-based view of the firm and social psychology theories like social identity theory and group competition theory.

2.2 Resource-based view of the firm

The resource-based view of the firm offers another rationale for the arguments of putting women on corporate boards. According to this perspective, firm performance is significantly influenced by the physical, organizational, and human resources available to management. Firms can develop strong competitive advantages by accumulating or controlling unique or difficult to duplicate bundles of resources, as well as dynamic capabilities that integrate, build and reconfigure internal and external competencies to address rapidly changing environments (Barney, 1991, 2001; Prahalad and Hamel, 1990; Teece *et al.*, 1997). Employee and management capabilities are firm-level resources that are among the most sustainable and difficult for competitors to imitate. Such difficulties, Barney (1991) posits, arise out of the resource's inherent causal ambiguity, unique historical contexts, and social complexity. Even if dynamic capabilities are similar across firms, performance differences may arise between firms due to the different timing with which they are used (Zott, 2003). That differential timing may be rooted, for example, in the cognitive biases of managers that cause them to make decisions at different points in time.

Structural/cultural models propose that social structures, systems, and arrangements that channel and define gender differences due to discrepancies in status and power are the cause for differences in leadership attributed to gender (Bartol *et al.*, 2003). Given the body of research supporting the hypothesis of gender differences (Rosener, 1995; Yammarino *et al.*, 1997; Early and Mosakowski, 2000; Burke and Collins, 2001; Eagly and Johannesen-Schmidt, 2001; Schyns and Sanders, 2005), it follows that such differences could potentially be a resource given the extent to which each gender contributes different and complementary competencies to the task of management: while many men may be predisposed towards leading in ways that emphasize competition, hierarchy, rational problem-solving, high control, low emotionality, and a bias for analysis, many women may be predisposed conversely to facilitating cooperation, supporting and maintaining relationships, team-based accomplishment, intuitive problem-solving, lower levels of control, dissemination of information, and high levels of emotionality. Nevertheless, some scholars find that these differences disappear along the way up to the executive board; there are fewer differences of leadership between men and women in top management positions than in lower management roles (Peters and Kabacoff, 2002; Oshagbemi and Gill, 2003). In any case, the combination of these behavioural differences suggests a richer repertoire of management skills and competencies leading to enhanced performance. Thus, Litz and Folker (2002) found that small retail hardware stores characterised by greater management team gender-balance reported superior profitability than stores that were either exclusively or disproportionately single gender-managed. Frink *et al.* (2003) also found that firm performance increased with female participation up to a maximum of 50 percent in the workforce (in a sample of 291 US firms from several sectors), after which it decreased.

Strategic decision making is a dynamic capability in which managers pool their various business, functional and personal expertise to make the choices that shape the major strategic moves of the firm (Eisenhardt and Martin, 2000). A potentially important causal link may be established between top managers' knowledge of the firm's resources and capabilities and the superior resource allocation decisions that are unique to each firm (Kor and Mahoney, 2005). Katzenbach *et al.* (1995) state that many firms have underutilized human resources in this modern era of international competition and organizational change. The underutilized management human resources tend to include females (Rosener, 1995; Daily *et al.*, 1999) who might otherwise bring different perspectives to the firm.

By better utilizing the contributions of women (and minorities), firms can become more creative and accepting of change. The female directors form an elite group of women, who provide role models for younger women. If these younger women move to firms where they know that women can achieve those top positions because there are women directors, with them goes the firm's investment in recruitment, training and development, the corporate knowledge, and the corporate reputation as a woman-friendly employer.

On the other hand, firms with greater representation of women demonstrate that they have drawn their top executives from a larger labour pool, which can further enhance organisational performance. Appold *et al.* (1998) and Bilimoria (2000) found that corporate reputations were enhanced by the visible presence of women on the board, and some major investors (such as large pension funds) showed a preference to invest in firms demonstrating diversity in board appointments. Burke (2000) also notes that women can add important symbolic value both inside and outside the organisation, linking the firm with other constituencies. Bilimoria and Wheeler (2000) see women directors as champions for change because they tend to be younger than their male counterparts and are open to relatively newer ideas and approaches to doing business.

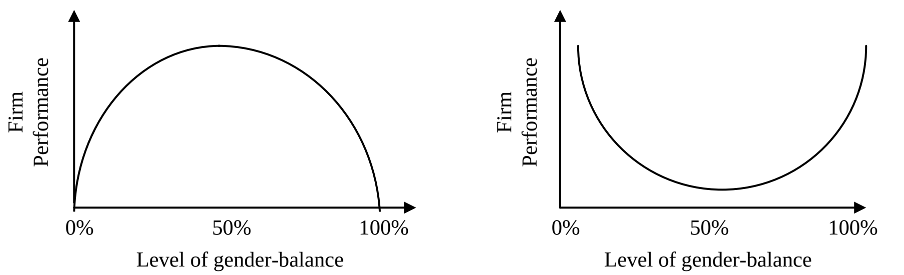
These arguments suggest a curvilinear, inverted U-shaped relationship between gender diversity on boards (and top management) and firm performance (Figure 1a). Firms characterised by executive boards and top management teams with greater gender-balance may have superior performance over firms that are either exclusively or disproportionately single gender-managed due to their potential richer repertoire of management skills and competencies.

2.3 Theories of social psychology

Social identity theory. Social identity theory describes the impact of socialization and self-categorization on organisational outcomes. Relational demographers propose that employees compare their own demographic characteristics (e.g., sex and race) with those of other members of their workgroup or unit and that the extent of perceived dissimilarities with their colleagues influences their identification with their workgroup and, consequently, work-related outcomes such as commitment, absenteeism, and turnover intentions (Tsui *et al.*, 1992), innovation and performance (Baugh and Graen, 1997), workgroup relationships and citizenship behavior (Riordan and Shore, 1997). The relationship between demographic dissimilarity and these outcomes may vary among negative, neutral, and even positive, depending on the extent to which employees' social identities are built around their demographic characteristics (Chattopadhyay *et al.*, 2004a).

Tsui *et al.* (1992)) found that homogeneous groups show ease of communication and low relational conflict that lead to a greater cohesion but that greater sex dissimilarity was associated with more absences and less commitment to the organization for men and more commitment to the organization for women, and was not associated with women's absence rates. They explained their results by arguing that men have greater expectations of working in relatively homogeneous groups than women, and therefore identify less with workgroups containing dissimilar others. Chattopadhyay *et al.* (2004b) in an empirical study of Australian work groups found that the proportion of women negatively influenced, for all members of the groups, three aspects that form the basic components of group identification: prototype valence, prototype clarity, and self-prototypicality. Chattopadhyay *et al.* (2008) also found that the positive relationships between sex dissimilarity and perceived emotional conflict, and between sex dissimilarity and perceived task conflicts in work groups are stronger for women than for men.

Social identity theory also argues that women and men leaders behave somewhat differently because gender roles exert some influence on leadership roles in terms of the expectations leaders they and others hold (Eagly, 1987). Firstly, managers identify themselves as members of an elite group and are therefore socialized into its norms (Kent and Moss, 1994). Secondly, women and men have different processes of socialization that may influence the performance of groups (executive boards or top



(a) Resource-based view of the firm
(b) Social identity and group competition theory

Figure 1.
Competing curvilinear relationships between firm performance and level of gender-balance in executive boards (and top management)

management teams) with different levels of gender diversity. Diversity may enhance social and psychological costs derived from possible misunderstanding, mistrust or lack of communication between men and women (Tannen, 1990). First, gender differences might cause top managers to pay more attention to differences between "us" and "them" within the organization. Second, we tend to get along best with people who are similar to ourselves (Turban and Jones, 1988).

Following Tsui *et al.* (1992), Chattopadhyay (1999) argued that social identity enhancement is relatively easier in more demographically homogeneous work groups since peers can be accorded in-group status by the focal employee due to their membership in both the same work group and in the same demography category. For example, the literature shows that the presence of external workers has negative effects on internal workers' organizational outcomes (Davis-Blake *et al.*, 2003; Broschak and Davis-Blake, 2006). In the case of sex dissimilarities, men, who typically have higher status than women employees (Zelechowski and Bilimoria, 2000), may be more inclined to categorise on the basis of sex, and thus be more negatively affected by sex dissimilarity with regard to their organisation-based self-esteem, and their trust and attraction towards their groups. Furthermore, George and Chattopadhyay (2002) argue that the effect of sex dissimilarity should be most severe for men working in female-dominated groups as this group composition violates their expectations of working in the majority and heightens the salience of sex as a categorisation dimension; in contrast, since women are used to working in male-dominated groups, sex may not be as salient as categorisation dimension for them. Researchers such as Ely (1994) and Kanter (1993) have documented instances where lower-status female employees have associated themselves with the more dominant male employees in their firms; these women have even gone to the extent of taking on the values and behaviours more typically associated with males, and dissociating themselves from their female colleagues.

For these reasons, gender diversity might decrease group solidity, make it harder for group members to communicate clearly and openly, and increase conflict within the group. All these problems should hurt group effectiveness and, ultimately, firm performance. Chattopadhyay *et al.* (2008) argue that because women are less likely to be in a position of strength, they are more likely to feel resentment and frustration because their aims are thwarted, giving rise to higher perceptions of conflict in conjunction with higher proportions of men in their work groups.

It is true that sometimes this negative influence may be moderated by some variables. For example, studies on group dynamics and decision-making have also shown that whilst homogeneous groups may be easier on communication and less conflict (Tsui *et al.*, 1992), more heterogeneous groups once they work through this end up making better decisions and are more innovative. Thus, Watson *et al.* (1993) and Harrison *et al.* (1998) found empirical evidence that overtime the negative affective outcomes associated with diversity decreased because people get to know each other and had a greater appreciation for and understanding of the differences in the work group. The length of time group members worked together weakened the effects of demographic diversity and strengthened the effects of attitudinal diversity as group members had the opportunity to engage in meaningful interactions. Similarly, when external demands confront a highly heterogeneous team, it must form a hybrid team culture to move forward, although such formation may require significant time and effort (Lau and Murnighan, 1998). Other scholars have analysed moderated variables like environmental threat or employees's level of dogmatism (Chattopadhyay, 2003). But in spite of the influence of these moderating variables, Tsui *et al.* (1992) suggest that physical, observable, and immutable personal and background characteristics play a critical role in the initial categorization process of group members. As a consequence, we propose that increasing gender diversity on corporate boards and top management teams may negatively influence firm performance.

Group threat and group competition theory. These theories usually take an inter-group approach where minorities are seen in terms of power relationships and competition for resources among groups (Blalock, 1967). Elaborating on these theories, the incorporation of women to executive boards and top management teams threatens the social, political, and economic status of men, and that threat increases with the relative size of the female representation on boards and top management teams. Therefore, group threat and group competition theories suggest that increasing proportion of minorities will lead to greater conflict for resources.

The arguments from social identity, group threat and group competition theories suggest a curvilinear U-shaped relationship between gender diversity on boards (and top management) and firm performance (Figure 1b). Firms characterised by more gender-homogeneous executive boards and top management teams may have superior performance than firms with more heterogeneous boards and top management teams. The relationship is opposite to the proposed relationship according to the resource-based view of the firm (Figure 1a). Thus, although there are arguments that suggest a positive impact of women on executive boards (and top management) for firm performance, it is possible that the relationship may depend on the level of gender-balance in the executive boards (and top management). This could help to understand the ambiguous results of previous studies. The next section develops the research hypotheses based on these theoretical arguments and the results of previous studies that have tested causal relationships.

3. Research hypotheses

There are empirical studies that find mixed relations from gender diversity to firm performance because they depend on the measures of performance and women on boards and top management. Schrader *et al.* (1997) in their study of 200 US large firms found that the percentage of women managers (in the year 1992) was positively and significantly related to financial performance measures (ROS, ROA, ROI, and ROE in the years 1992 and 1993), but the percentage of female top managers and the percentage of women on board were not significantly related. Smith *et al.* (2006) used panel data for the 2,500 largest Danish firms during the period 1993-2001 and conclude that, after controlling for characteristics of the firm and direction of causality, the relationship is ambiguous and depends both on the measure of performance and the measure of the proportion of women in management. Regarding women in top management positions, the positive effect of female top CEOs is only significant for gross value added/turnover. However, extending the definition of top management to include vice-directors, the estimated coefficients turn significant for three out of four firm performance measures. Turning to the female representation on boards of directors, the results are more mixed. When including a variable measuring the proportion of women among all board members, there is only one positive and significant coefficient found (profit on primary operations/turnover) while the coefficient for some performance measures is negative, though insignificant. Furthermore, the authors demonstrate that the positive performance effects are mainly related to female managers with a university degree while female CEOs who do not hold a university degree have a much smaller or insignificant effect on firm performance. Next, female members of boards of directors elected by the staff seem to have positive effects on firm performance, but this positive effect does not carry over to other female board members, where the effect is negative – a result, which the authors think may be explained by the fact that a significant part of the women on boards have family ties to the owners.

Other studies only use single measures of firm performance and female representation on boards and top management but their conclusions are also ambiguous. Rose (2007) did not find any significant relationship between the percentage of women on the boards of directors of the largest listed Danish firms and firm performance (measured by Tobin's Q). Du Rietz and HenreksonHenrekson (2000) did not find a significant relationship either after controlling for firm size and industry in a sample of Swedish firms. On the contrary, Krishnan and Park (2005) found that the proportion of women on top management teams explained positively firm performance (return on assets) in a sample of 679 Fortune 1000 firms.

According to the theoretical arguments explained in the previous section, we may have two different curvilinear relationships between gender diversity on boards (and top management) and firm performance. Although there are arguments in favour of a positive impact of women on boards for firm performance, the resource-based view of the firm would argue for a greater impact of more gender-balance boards (Figure 1a), whereas the social identity and group competition theories would argue for a greater impact of more gender homogeneous boards (Figure 1b). These opposite theoretical relationships could contribute to understand the non-conclusive and ambiguous evidence found in the literature. In consonance with the contrasting theories and empirical findings, we propose two competing hypotheses to test the direct effect of gender diversity on firm-level performance. Testing competing hypotheses is critical for the development of theoretical foundations that subsequently guide both theory and practice (Wright and McMahan, 1992). Competing hypotheses are particularly appropriate, in fact, when prior knowledge leads to two or more reasonable explanations:

H1a. There is a curvilinear, inverted U-shaped relationship between gender diversity boards (and top management teams) and firm performance: performance increases as the number of women increases until an optimal point of gender balance at intermediate levels of female representation, and after that performance decreases as more women are added.

H1b. There is a curvilinear, U-shaped relationship between gender diversity boards (and top management teams) and firm performance: performance decreases as the number of women increases until an optimal point of gender balance at intermediate levels of female representation, and after that performance increases as more women join boards and top management teams.

4. Conclusion and suggestions for future research

In this theoretical study, we resolve previously inconsistent findings by proposing curvilinear relationships between the extent of gender diversity on boards (and top management) and firm performance. The propositions of the paper indicate that the impact of gender diversity on firm performance may be more complex than previously thought. Thus, the curvilinear inverted U-shaped relationship suggests that there may be a crucial threshold in the extent of gender diversity beyond which the benefits of additional gains in firm performance are not accrued. Although this interpretation warrants further research, it does provide a plausible resolution to the contradictory claims voiced by researchers.

The proposed inverted U-shaped relationship may also suggest that the positive impact of gender diversity requires the concurrent contribution of more gender-balanced executive boards and top management teams. Thus, both measures of female representation may be equally important: firms that simultaneously have greater gender diversity in executive boards and top management teams may perform better than firms with lower diversity in just one of the two groups of executives.

These propositions provide a strong argument for having more women on top management positions that will be promoted later through the "glass ceiling" to more gender-balanced boards. They also point to some new avenues for research. First, and besides testing empirically the proposed hypotheses, it would be interesting to explore how high-performing gender-balanced firms manage to transcend the stereotypical "battle of the sexes" and create the sorts of productive alliances that may be more operative among high-performing firms. And secondly, future research could also explore the relationship between gender diversity and the level of management skills and competencies and its influence on firm performance.

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