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# Board Gender Diversity, Firm Performance and Firm Risk: A Literature Survey

**Keywords:** board gender diversity, firm performance, firm risk.

**J E L Classification:** G30, G32.

**Abstract:** In this paper, we conduct a succinct review of literature to understand the impact of board gender diversity on firm performance and firm risk. The review indicates that the effect of gender diversity on firm performance and firm risk is inconclusive. Many studies indicate presence of a positive association between a firm's board gender diversity and its value, while others document a negative relation, and still some showing that there is no significant relation between gender diversity and firm's performance and risk. We recommend that there is a vast scope for research in this area, especially in the context of emerging countries to more broadly analyze the relation between a firm's board gender diversity, and its performance and risk.

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## Introduction

Board characteristics are major determinants of not only the financial performance of the firm but also of many other key firm-level decisions (Subair, Salman, Abolarin, Abdullahi & Othman, 2020). One of the widely debated subjects of board characteristics is the female representation on the firm's board which has been significantly examined in many studies (Conyon & He, 2017; Bennouri, Chtioui, Nagati & Nekhili, 2018). However, the extant literature on the impact of gender diversity in a firm's boardroom on its performance has not been conclusive. For instance, few studies mention a positive relation (Liu, Wei & Xie, 2014; Terjesen, Couto & Francisco, 2016), few report a negative relation (Adams & Ferreira, 2009; Ahern & Dittmar, 2012), while others document an insignificant relation (Carter, D'Souza, Simkins & Simpson, 2010; Jurkus, Park & Woodard, 2011) between gender diversity and firm performance. These mixed findings may arise due to many reasons such as using different measures of performance, underlying statistical models, different data sample periods, etc. (Conyon & He, 2017). Post and Byron (2015) argue that different circumstances and contexts may influence the effect of gender diversity on firm performance.

Another strand of literature examines the role of gender diversity on firm risk (Sila, Gonzalez & Hagendorff, 2016). Recently, a number of firms have come under fire to have a substantial female representation in their board of directors. For instance, many European countries have passed legislation making it mandatory to have female directors. Some studies in the area of economics and psychology point women being characterized by having lower risk appetite than men (Barber & Odean, 2001); however, it is unclear whether larger participation of women directors on board lead the firm take less risk (Sila et al., 2016). Assuming that this conception holds good, then firms with more female directors are likely to engage firms in less risky investments which could make these firms less competitive sooner or later. Therefore, gender diversity could be an important criterion for effective risk supervision. Perryman, Fernando and Tripathy (2016) and Bernile, Bhagwat and Yonker (2018) show that firms with greater gender diversity exhibit lower risk and higher performance. Similarly, Faccio, Marchica and Mura (2016) document that firms where CEO position is held by female have lower leverage, less volatile earnings, along with a higher chance of survival than other similar firms run by male CEOs.

Chen, Crossland and Huang (2016) argue that female directors on the board attempt to make more spirited interactions. Therefore, the presence of women on the board makes it possible to consider a wide range of alternatives and whole set of arguments in favor of and against a particular decision criterion. Therefore, females on the board add on to the divergent and unbiased thinking and can aid in the better firm performance. Saeed, Belghitar and Yousaf (2016) examine the role of board gender diversity in emerging and developed countries including BRIC. They find that board gender diversity is positively related to firm size, but inversely to corporate risk. Motivated by the increasing importance of a country's institutions to women board representation, we provide a comprehensive review of literature to enhance our knowledge on how a firm's board gender diversity impacts its performance and risk in different countries during different time periods. Therefore, the main objective of this paper is to critically review the literature for the impact of board gender diversity on firm performance and firm risk under different contexts.

## Motivation

Van der Walt and Ingley (2003) find that diversity in these characteristics is important for the corporate governance mechanism in the firms. Thus, gender diversity, being related to the firm functioning, finds its place in the extant literature. Another important reason to explore this area is the ongoing debate about the quota-legislation in several countries like France, Netherlands, Spain, etc., where many countries want to make it mandatory to have a fixed ratio of women on board, whereas others do not second this opinion. Furthermore, in comparison to demographic characteristics like age, nationality, education background, etc., gender is the most easily distinguished characteristic; and thus, its impact on firm's performance, risk, leverage, dividends, etc., needs to be explored (Lückerath-Rovers, 2013).

## Theory

There are two contradicting theories explaining the impact of board gender diversity. One suggests that it leads to more brainstorming and therefore, provides the management with a wider range of alternatives (Marinova, Plantenga & Remery, 2016). Similarly, as per the upper echelons' theory (Jackson, 1992), a heterogeneous top management team can be linked to a more innovative organization, through the route of creative idea generation. Furthermore, Smith, Smith and Verner (2006) argue that women directors can be more creative, bring different talent, and can generate a better reputation of the firm in the market, thus leading to better firm performance. However, apart from the benefits derived from having women on board, another set of argument suggest a cost associated with such diversity in boardroom. More diversity can lead to more contradictions, and less coordination among the management team; this can slow the decision-making process in the firm, making the management itself less efficient and thus, hampering the firm performance. Another aspect of board gender diversity is the way it impacts the risk of the firm. Evidence from psychology and economics literature suggests that the risk perception of males and females is different and thus, their presence in the boardroom can impact the firm risk. Men tend to be risk lovers and can get involved in aggressive activities like gambling, whereas women are believed to be more conservative and thus, risk averse (Bernasek & Shwiff, 2001). Given the difference in risk attitude behavior of both genders, diversity of board in terms of gender may explain variation in corporate risk-taking behavior.

## Research methodology and research process

The word 'systematic' in this study refers to the procedure followed to select research articles in journals indexed in bibliographic databases of the Scopus. The systematic research begins with searching for all the articles with relevant search terms in Scopus database as TITLE-ABS-KEY ("Board gender diversity" AND "firm performance" OR "performance") and TITLE-ABS-KEY ("Board gender diversity" AND "firm risk" OR "risk") for two sections of the study. The search results in 197 and 69 articles for the impact of board gender diversity on the firm performance and firm risk respectively. In the second step, out of these 197 articles, we filter the articles on the basis of the quality of journals they are published in by using ABDC listed journals. With all these filters, finally, we have a total of 50 articles which are reviewed in alignment with our research objective of conducting a structured literature review.

## Literature review

### Gender diversity and firm performance

#### Non-significant relation between gender diversity and firm performance

There are many studies which report a non-significant relation. For instance, Carter et al. (2010) use a sample of the S&P 500 indexed U.S. firms, from 1998 to 2002 and report that there is no significant relation between a firm performance (measured through Tobin's Q and ROA) and diverse boards. Chapple and Humphrey (2014) provide more validation to the findings of Carter et al. (2010). Using a data of 577 top Australian firms from 2004 to 2011, they find no evidence of any association between boardroom gender diversity and firm performance. Similarly, Schwizer, Soana and Cucinelli (2012) show that there is no relationship between the number of female directors on a firm's board and its performance in Italian listed firms from 2006 to 2008. Isidro and Sobral (2015) examine the direct and indirect impacts of board gender diversity on firm value. Their results indicate no evidence of higher female participation leading to higher firm performance. Further, Marinova et al. (2016) study 186 listed firms of Netherlands and Denmark in 2007 to examine whether board gender diversity has any impact on the performance of these firms. Their findings indicate that there exists no relation between firm's board diversity and its performance. In a similar way, Chauhan and Dey (2017) investigate if female directors impact firm value in 3000 Indian firms from 2002 to 2014. They show that gender diversity does not play a significant role for Indian firms. They argue that majority of newly added female directors are associated with founders and therefore, it is likely that they would endorse the founders' objectives, rather than minority shareholders. Table 1 provides a detailed comparison of studies examining the impact of board gender diversity on firm performance.

**Table 1.** Some research articles showing mixed results of impact of gender diversity on firm performance

| Authors (Year) | Paper and Journal | Data Period | Country | Firm Performance Measure | Findings |
|---|---|---|---|---|---|
| Carter, Simkins & Simpson (2003) | "Corporate Governance, Board Diversity, and Firm Value," *The Financial Review* | 1997 | Fortune 1000 Firms | Tobin's Q | Positive relationship between number of women on firm's board and its value. |
| Adams & Ferreira (2009) | "Women in the boardroom and their impact on governance and performance," *Journal of Financial Economics* | 1996–2003 | US | Tobin's Q and Return on Assets | Firm's gender diversity impacts its performance negatively. |
| Carter, D'Souza, Simkins & Simpson (2010) | "The Gender and Ethnic Diversity of US Boards and Board Committees and Firm Financial Performance," *Corporate Governance: An International Review* | 1998–2002 | US | Tobin's Q and Return on Assets | No significant relationship exists between board gender diversity and financial performance of a firm. |
| Ahern & Dittmar (2012) | "The changing of the boards: The impact on firm valuation of mandated female board representation," *The Quarterly Journal of Economics* | 2001–2009 | Norway | Stock returns and Tobin's Q | Constraint imposed by the women quota caused a significant drop in the stock prices, but large decline in firm's Tobin's Q over the following years. |
| Khan & Vieito (2013) | "Ceo gender and firm performance," *Journal of Economics and Business* | 1992–2004 | US | ROA | Firms with female CEOs are found to experience an increase in performance in comparison to the firms managed by male CEOs. |
| Conyon & He (2017) | "Firm performance and boardroom gender diversity: A quantile regression approach," *Journal of Business Research* | 2007–2014 | US | ROA and Tobin's Q | Women on the board has a positive impact on firm performance. |
| Brahma, Nwafor & Boateng (2021) | "Board gender diversity and firm performance: The UK evidence," *International Journal of Finance & Economics* | 2005–2016 | UK | Tobin's Q and ROA | Evidence for a positive association between firm's board gender diversity and its performance. |
| Simionescu, Gherghina, Tawil & Sheikha (2021) | "Does board gender diversity affect firm performance? Empirical evidence from Standard & Poor's 500 Information Technology Sector," *Financial Innovation* | 2009–2020 | US | Tobin's Q and ROA | Board gender diversity is found to be positively associated with firm performance, measured through Tobin's Q and ROA. |

Source: compiled by authors from the research articles mentioned in table 1.

**Positive relation between gender diversity and firm performance**

Carter, Simkins and Simpson (2003) find a positive relation between firm performance (measured through Tobin's Q) and diverse boards, in a sample of Fortune 1000 firms in 1997. Francoeur, Labelle & Sinclair-Desgagné (2008) document that firms having more women officers and operating in complex environments are able to generate positive abnormal returns. However, women directors do not seem to make a difference in the firms, and having more women in management and governance systems leads to generating enough value to keep up with normal stock-market returns. Campbell and Mínguez-Vera (2008) show that the higher the number of women in the board, the better the firm's financial performance. They further claim that investors in Spain do not discount firms that involve in adding more female members to their board. Khan and Vieito (2013) study the differences in performance for firms' head by female CEOs compared to male CEOs managed firms and conclude that female CEO managed firms show relatively better performance compared to those managed by their male counterparts. Similarly, Liu et al. (2014) study the impact of women on board on the performance of all listed firms in China from 1999 to 2011, and they show that female directors have a positive impact on the firm performance which is a consequence of only executive women director, not independent women director. Cucinelli (2013) finds intermediate performance of a firm being positively related to board gender diversity in Italian firms, during 2006–2009. Similarly, Perryman et al. (2016) examine the impact of board gender diversity on the performance of a sample of 2566 US firms during 1992–2012. Results indicate that an increase in board gender diversity helps improve the firm performance, measured as Tobin's Q.

Conyon and He (2017) find that the positive association between women directors and firm performance is more pronounced in high-performing firms in comparison to low-performing firms, indicating the heterogeneous effect of women directors on firm performance in a sample of 3000 US firms from 2007 to 2014. Bennouri et al. (2018) explore the relation between female directors on board and firms' accounting and market performance. Using a sample of 394 French firms from 2001 to 2010, they show that females on the board improves the accounting performance of the firm (proxied by ROA and ROE) while it reduces the market performance (proxied by Tobin's Q). They also argue that positive impact of female directors on firm's accounting performance remains insensitive to using various attributes of female directors capturing their monitoring skills. In contrast, the negative relation between female directors and firm's market performance disappears in the presence of these attributes.

Chen, Leung and Evans (2018) find that female directors increase the firm performance in a sample of 1224 US firms during 1998–2006, particularly for innovation intensive firms. The underlying mechanism for the positive relation comes from the finding that female directors intend to invest in more innovation related activities in an attempt to obtain more patents and citations. Chen, Leung, Song and Goergen (2019) use a sample of 1629 US firms between 1998 and 2013 to show that female directors engage firms in less aggressive investment policies, but better acquisition decisions, and help improve firm's financial performance, especially those operating in industries with high overconfidence prevalence. Simionescu, Gherghina, Tawil and Sheikha (2021) measure the firm performance as its accounting as well as market-based performance. The authors report that board gender diversity influences company's performance positively, in a sample of information technology S&P 500 indexed companies. Another evidence for a positive association between gender diversity and firm performance is provided by Brahma, Nwafor and Boateng (2021) when they measure gender diversity as levels of female representation in the boardroom.

### Negative relation between gender diversity and firm performance

Adams and Ferreira (2009) examine the impact of women directors on the governance and performance on a sample of US firms. They show that due to their better attendance records, women directors are more likely to join firm's monitoring committees. However, they find a negative association between board gender diversity and firm performance. They argue that greater participation by diverse directors can lead to more interference; and thus, gender diversity in the boardroom negatively affects performance. Similarly, Ahern and Dittmar (2012) find that inclusion of women on board leads to deteriorating the firm's operating performance. They test the relation between firm performance and women on board in the 248 unique Norwegian firms from 2001 to 2009. They use a natural experiment in 2003, where according to a new regulation, it was mandated that 40% of the directors on board should be women. They find that as a result of the imposition of the quota, firm's Tobin's Q declined over the subsequent years. They argue that the quota led to hiring of many younger and less experienced board members, and increase in leverage and acquisitions, but leading to an overall deterioration in firm's operating performance.

Moreover, Solakoglu (2013) finds that the intensity and sign of the impact of gender diversity on firm performance depends on the type of industry it belongs to in Turkish firms. Another interesting study performed on small and medium sized enterprises in the United Kingdom is Shehata, Salhin and El-Helaly (2017). Using a data from 2005–2013, they find that there is a significant negative association between gender diversity and age diversity, and firm performance. These results are contradictory to those showing a positive relation between gender diversity and firm performance, which may be attributed to the fact that sampled firms are confined to SME groups, whereas in other studies, mostly large firms form the sample.

## Gender diversity and firm risk

### Non-significant relation between gender diversity and firm risk

Sila, Gonzalez and Hagendorff (2016) analyze the sample of 1960 US firms from 1996 to 2010 and show no evidence of female representation on the board influencing firm equity risk. Further, they conclude that the negative relationship between the two is spurious and unobserved between-firm heterogeneous factors drive these results. Schwizer et al. (2012) presents very interesting results in a sample of Italian listed companies during the 2006–2008 period. They show that though there is no relationship between the number of female directors on board and firm risk; however, in the presence of foreign directors, this relation becomes negative. Table 2 provides a chronology of the studies exploring the impact of gender diversity on firm risk.

**Table 2.** Some research articles showing mixed results of impact of gender diversity on firm risk

| Authors (Year) | Paper and Journal | Data Period | Country | Firm Risk Measure | Findings |
|---|---|---|---|---|---|
| Lenard, Yu, York & Wu (2014) | "Impact of board gender diversity on firm risk," *Managerial Finance* | 2005–2011 | US | Stock market return | Presence of boardroom gender diversity reduces the firm risk by lowering variability of stock returns. |
| Gulamhussen & Santa (2015) | "Female directors in bank boardrooms and their influence on performance and risk-taking," *Global Finance Journal* | 2006 | OECD | loan loss reserve and loan loss provision | A negative relation exists between the presence of women in the firm's boardroom and its risk. |
| Khaw, Liaob, Tripe & Wongchoti (2016) | "Gender diversity, state control, and corporate risk-taking: Evidence from China," *Pacific Basin Finance Journal* | 1999-2010 | China | Volatility of a firm's ROA | Corporate risk-taking activities increase with the presence of male-only boards. |
| Faccio, Marchica & Mura (2016) | "CEO gender, corporate risk-taking, and the efficiency of capital allocation," *Journal of Corporate Finance* | 1999-2009 | Europe | Leverage and ROA volatility | Firms run by female CEOs have lower leverage along with lesser volatile earnings. |
| Perryman, Fernando, & Tripathy (2016) | "Do gender differences persist? An examination of gender diversity on firm performance, risk, and executive compensation," *Journal of Business Research* | 1992–2012 | US | Beta and standard deviation of daily stock returns | Firms with greater boardroom gender diversity exhibit lesser firm risk. |
| Bernile, Bhagwat & Yonker (2018) | "Board diversity, firm risk, and corporate policies," *Journal of Financial Economics* | 1996–2014 | US | Stock return volatility | Greater diversity in the board results in lower firm risk. |
| Nadaraja, Huang, Liu & Ali (2020) | "Does Board Gender Diversity Reduce Default Risk? A Global Analysis," In *Academy of Management Proceedings* | 2005–2016 | Cross countries (49 countries) | Default risk | Board gender diversity has a negative effect on default risk of the firm. |

Source: compiled by authors from the research articles mentioned in table 2.

### Positive relation between gender diversity and firm risk

Many studies state that women are considered to more risk averse than men. However, a few studies provide contrasting views. Sapienza, Zingales and Maestripieri (2009) report that women working in the financial industry tend to be less risk averse than those working in other industries. They acknowledge that findings are specific to the banking sector and may not apply to other sectors. Berger, Kick and Schaeck (2014) study 3525 German banks with the 19,750 bank-year observations, for the period 1994–2010, and find that there is a risk-increasing effect of females in the boardroom on portfolio risk of the banks, though these findings are only marginally significant.

### Negative relation between gender diversity and firm risk

Some of the early works by Barsky, Juster, Kimball and Shapiro (1997), Jianakoplos and Bernasek (1998) indicate that women are more risk averse in financial decision making, when risk is defined in terms of investment decisions. Barber and Odean (2001) also document a negative relation between number of women in a firm's board and its risk; and argue that women are considered to be less overconfident than their male counterparts. A striking finding by Adams and Ferreira (2004), studying all Fortune 500 (excluding utilities and financial firms) in fiscal year 1998, suggest firm risk is an important and most robust factor for determining the proportion of women in boards. They find that the negative effect of firm risk on diversity is statistically significant and economically significant implying that any change in firm risk will lead to changes in the boardroom gender diversity.

Lenard, Yu, Anne York and Wu (2014) examine the impact of boardroom gender diversity on the firm risk where they measure firm risk by the variability of stock market return. They find that that more gender diversity on the board reduces the firm risk by lowering the variability of stock market return. Further, they posit that the higher percentage of female directors on the firms' board leads to lowering the variability of corporate performance. Huang and Kisgen (2013) provide a comparative study of female executives and male executives, in terms of corporate financial and investment decisions. They find that having more male executives leads to having more acquisitions, and these executives are also likely to issue debt more often than the female executives. Baixauli-Soler, Belda-Ruiz and Sanchez-Marin (2015) suggest that top management team with female representation show more conservative behavior, in terms of taking risk, compared to management teams which are not gender diverse. Similarly, Perryman et al. (2016) also provide evidence for firms with greater gender diversity in top management teams showing lower risk.

Faccio et al. (2016) suggests that firms where a transition to female CEO from male CEO happens are more likely associated with significant decrease in corporate risk taking, as measured by leverage and the volatility of the firm's operating return on assets. Bernile et al. (2018) examine the effects of diversity in the board of directors on corporate risk. Using a sample of 21572 US firm-year observations from 1996 to 2014, they show that greater diversity in the board results in lower firm risk. They further argue that the lower risk is mainly driven by more persistent and less risky financial policies of the diverse board. In a cross-country study, Nadaraja, Huang, Liu and Ali (2020) document a negative effect of board gender diversity on default risk for a sample of firms from 49 countries for the period 2005–2016. The effect of gender diversity on default risk is weaker for firms with greater governance controls.

### Findings and Discussion

Our systematic literature survey indicates that the effect of gender diversity on firm performance and firm risk is far from conclusive. There are many studies which indicate a positive relation between board gender diversity and firm value [Carter et al. (2003); Liu et al. (2014); Low, Roberts & Whiting (2015); Conyon & He (2017); Bennouri et al. (2018)]. An important aspect to consider is the role of institutional setting the firm is operating in. In case of developing and poorly developed countries, women on board may not have a say in the management but are there, either just for reputation building or because of some regulation. Thus, they are not likely to have an impact on the firm performance and risk. However, when firms considered are from a developed country, women can be certainly in a strong decision-making authority, and their presence can impact the performance and risk of the firm.

## Conclusion and scope for further research

The literature shows a plethora of research on the impact of gender diversity on various decisions of the firms; however, the results are mixed. Some showing either positive or negative effect of women on board on firm performance and its risk, whereas others suggesting no relation between the two. Therefore, more research is required in this area which could provide a multi-country evidence to more broadly analyze the relation between board gender diversity and firm performance and risk. After having conducted a thorough review of literature, we believe that no work has been done on the impact of board gender diversity on the firm risk in a set of emerging markets. A broader sample of developed and developing countries can provide a better picture on the difference in the impact of gender diversity on firm performance and its risk in these two subsets of samples. Furthermore, segregating firms on the basis of different ownership like family controlled, government controlled, group affiliated, etc., can lead to some interesting conclusions. We recommend that future research should focus on this aspect of the gender diversity on the board and add more to the extant literature.

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