



Afro-Asian J. of Finance and Accounting

ISSN online: 1751-6455 - ISSN print: 1751-6447

<https://www.inderscience.com/aajfa>

Women participation in corporate boards: quantile regression approach

Akshita Arora, Tarun Kumar Soni

DOI: [10.1504/AJFA.2021.10042446](https://doi.org/10.1504/AJFA.2021.10042446)

Article History:

Received:	04 December 2020
Last revised:	31 May 2021
Accepted:	08 June 2021
Published online:	31 January 2023

Women participation in corporate boards: quantile regression approach

Akshita Arora*

Apeejay School of Management,
New Delhi, India
Email: akshitaarora1989@gmail.com
*Corresponding author

Tarun Kumar Soni

FORE School of Management,
New Delhi, India
Email: tarun.soni@fsm.ac.in

Abstract: Our study unfolds the stylised facts on women directorship in corporate boards for Indian listed companies. We analyse women directorships across different sectors, firm age groups, different categories of board sizes and year-wise and then investigate the impact of women directors on firm performance using panel fixed effects and pooled quantile regression approach. The panel data framework has been structured for a dataset of 442 companies for the time period 2013–2019. The women engagement in boardroom has advanced from meagre 5% in 2013 to 14% in 2019 after the introduction of gender-based quota in India. The empirical results substantiate that the impact of women directors on firm performance is weak. From the policy perspective, it is evident that amendments in the regulatory framework in board composition have led to more participation of women in leadership positions. However, it is suggested that further reforms are needed for encouraging women directors to act independently and foster more diversity in Indian boardrooms.

Keywords: women directors; firm performance; independent directors; corporate boards; fixed effects method; quantile regression.

Reference to this paper should be made as follows: Arora, A. and Soni, T.K. (2023) ‘Women participation in corporate boards: quantile regression approach’, *Afro-Asian J. Finance and Accounting*, Vol. 13, No. 1, pp.54–67.

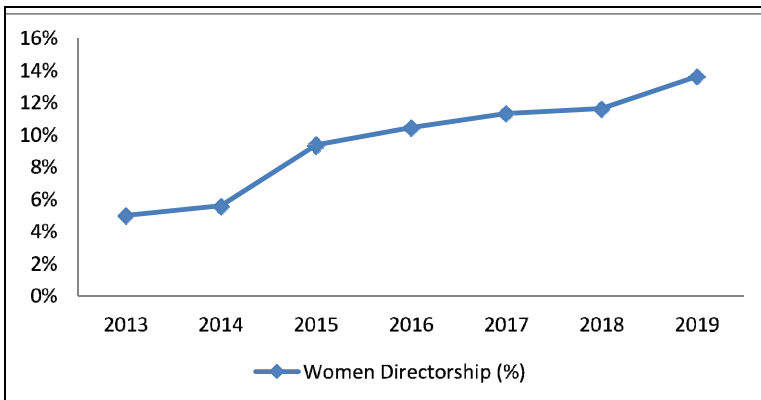
Biographical notes: Akshita Arora carries an experience in teaching and research for more than a decade. She is an alumna of University of Delhi and Arun Jaitley National Institute of Financial Management, Ministry of Finance, India. She is a prolific researcher in the area of corporate governance and has published her work in journals such as *Corporate Governance: The International Journal of Business and Society*, *Global Business Review*, *IIM Kozhikode Society & Management Review*, *Journal of Management and Governance*, etc.

Tarun Kumar Soni has a Doctorate in Finance from Arun Jaitley National Institute of Financial Management, Ministry of Finance, He has over ten years of teaching and research experience. He has worked with prestigious institutions/think tanks like Ministry of Finance, Prime Minister’s Office and Niti Aayog on Public Policy issues. He is a keen researcher and has published research papers in Scopus indexed and ABDC listed journals.

1 Introduction

For women empowerment in a country like India, women representation on corporate boards and participation in decision-making is crucial. The low proportion of women at leadership positions leads to many barriers, which have been addressed by introducing gender-quotas for managerial positions in corporate world. There has been an increased emphasis on gender equality and women empowerment and attempts have been made for increasing the women participation at workplaces. Women across the globe have attained highest qualifications and expertise in the managerial decision-making; still the women in leadership positions are scarce. Largely, decision-making positions are dominated by male counterparts and women representation is more of symbolic nature. Even OECD countries¹ are trying to establish gender equality at workplace (Casey et al., 2011). To break the glass ceiling and encourage more women on corporate boards, countries like Norway, Germany, France and Belgium, etc. introduced gender quotas at board level. Taking cues from European countries, the Indian government also introduced gender-based quota through The Companies Act, 2013 which mandated at least one women director in the board for better monitoring and diversity of thoughts. This mandatory requirement made a visible change and women representation in boards surged from 5% in 2013 to 14% in 2019 for top 500 listed companies in India (see Figure 1).

Figure 1 Trends in women directorships (see online version for colours)

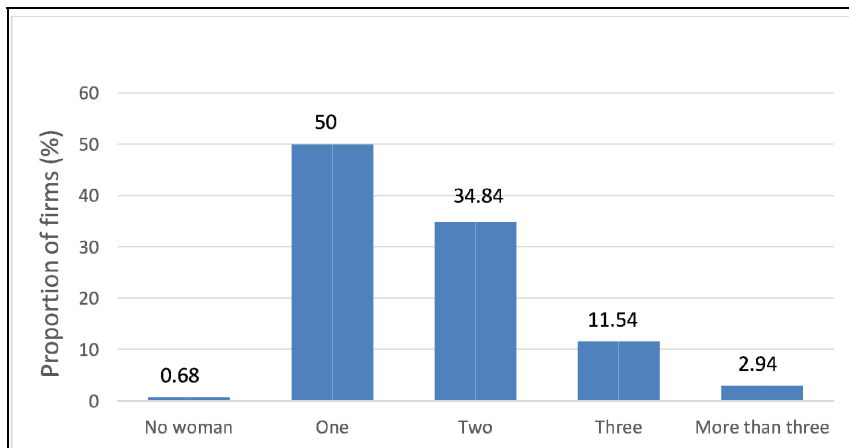


Yet, a majority of sample firms have not gone beyond the mandated requirement of one woman on board. Figure 2 shows that 50% of the sample firms have just one woman on board as the law mandates by the end of the year 2019. Around 35% had two women on their boards and only 11% had three women. Further, about 3% of the listed firms had more than three women on their boards. Surprisingly, there are still three companies in the top 500 companies which have no woman directors by the end of 2019 year, in spite of the mandatory requirement by SEBI. By the end of the year 2019, not a single BSE listed company has more women than men on their board; hence the gender imbalance on corporate board still remains high.

With the increase in women directors on companies’ boards; researchers worldwide have examined the influence of higher women representation on firm performance. The proponents of gender diversity claim that women participation may foster creativity, innovation and comprehensive perspectives for strategy formulation because of their

different thought process and outlook. In contrast, it is contended that boards take effectual decisions when they include proficient people, irrespective of their gender. Further, these advocates consider quotas to be ineffective especially when appointments are not merit-based as many companies appointed their own female family members on the board to fulfil the mandatory requirement of regulators.

Figure 2 Women in BSE-listed firms in the year 2019 (see online version for colours)



Against this framework, our study captures the past trends of women directors in Indian boards from 2013 to 2019. We present new insights on how different categories of companies respond to changes in regulatory environment. Further, we attempt to establish the linkage between women directorships and performance of Indian companies. We examine the relationship after controlling for board governance (board size and independence) and control variables (size, age, past performance, change in sales and leverage) using fixed effects (FE) and quantile regression (QR) technique.

The paper follows this sequence: Section 2 provides review of literature demonstrating the relationship between women participation in boardrooms and firm performance. Next, in Section 3, we discuss the research methodology, stylised facts, empirical model and findings. At the end, we conclude the study.

2 Literature review

Women representation in boards has received lot of attention, in policy matters and research community. There is a huge body of research which investigated whether women participation at top-level management positions improved performance of the company financially. In the light of Robinson and Dechant (1997) work, gender diversity may enrich the boardroom in terms of creativity, innovation, broader perspectives for strategy formulation, etc. At the same time, it may lead to potential costs also such as cohesiveness, interpersonal conflicts, delayed decision-making, etc. (Cox, 1991). The advantages and disadvantages of gender diversity have to be weighed in such a way that the firm achieves competitive advantage. The evidence persists in the literature which provides arguments for both schools of thought.

Women tend to have different behaviour, beliefs and perspectives which are helpful in corporate matters to bring conflicting viewpoints and ideas (Pelled et al., 1999). The studies like Stephenson (2004) discussed that women director are more responsive to audits; are more socially responsible (Shaukat et al., 2016) and spend more on research and development activities (Miller and Triana, 2009). Further, it is argued by Daily and Dalton (2003) that women directors are more critical, participative and process-oriented. It is also claimed that stakeholders perceive women in a different manner than men and retort to them differently, which increases the tendency for hiring women directors (Lee and James, 2007; Ryan and Haslam, 2007).

The advocates of women diversity (Dezsö and Ross, 2012; Kılıç and Kuzey, 2016; Appiadjei et al., 2017; Chen et al., 2017; Arora, 2021; etc.) contended that women leadership has a positive influence on financial performance. Likewise, gender diversity improves stock price informativeness, as suggested by Gul et al., (2011). Moreover, Judge et al. (2003) and Ryan and Haslam (2005) documented women presence in leadership roles during financial downturn in the company. The presence of women directors helps in execution of strategic planning of management as they are believed to be more foresighted than men; Fondas (2000).

In contrast, inverse relationship has been reported by many authors such as Rose (2007), Adams and Ferreira (2009), Jhunjhunwala and Mishra (2012), Ujunwa et al. (2012), Matsa and Miller (2013), Yang et al. (2019), etc. For instance, Jhunjhunwala and Mishra (2012) found that women directors on boards have marginal negative effect on firm performance. Further, Pletzer et al. (2015) presented small positive, but not statistically significant, relationship between the two. The women in corporate boardroom are very less, for example 4% in Denmark as verified by Rose (2007), who found negative coefficients when Tobin's Q was regressed against the proportion of women.

When women hold leadership positions in companies, their judgment and decision-making capabilities to meet shareholder expectations or maximise profits are continuously evaluated critically (Kanter, 1977; Ryan and Haslam, 2007). There have been evidences that there are high expectations from women directors to have significant impact on performance (Hiller et al., 2011). Gender diversity and performance are linked in such a way that company's diverse board can be seen as a strategic asset. The companies who can take the benefit from their diverse board may outperform competitors with less diverse boards (see Dezsö and Ross, 2012; Krishnan and Park, 2005; Shrader et al., 1997).

In nutshell, researchers confirm the association between women in managerial positions and performance of the company but at the same time, studies could not establish strength of this relationship. Our paper attempts to fill the vacuum by studying the trends of women directorships in boardroom and tries to establish its linkage with firm performance using more advanced statistical techniques. The next section presents important figures and trends for the chosen dataset on women directors and presents empirical model used in the study.

3 Methodology

This section provides information on dataset, variables and construction of empirical model for analysis purposes. It presents the trends in women directorships and stylised facts on women directorships for the chosen sample, in detail.

3.1 Data

The data for the analysis has been collected from ProwessIQ² database and annual reports of companies. We have chosen top 500 listed companies listed on Bombay Stock Exchange. The final dataset consists of 442 companies for the time period 2013–2019 after excluding banks, insurance companies, since they are regulated by a different statutory body. We also excluded the companies with incomplete data. Next, we analyse women directorships in Indian boards across different sectors, firm age groups, different categories of board sizes and year-wise (2013–2019) and then investigate the impact of women directors' on firm performance.

3.2 Women directorship in Indian boardrooms

Table 1 shows the proportion of women directors on corporate boards for the selected sample. The women engagement in boardroom has advanced from meager 5% in 2013 to 14% in 2019 after the introduction of gender-based quota in India. The proportion is still low, considering the benefits of diversity that women can bring to the boardroom table. Further, the independent directors' proportion ranges from 45% to 50% during the seven-year time period. The companies have fulfilled the norm of having at least one woman on board but women serving as independent director are still limited. It indicates that women are restricted for monitoring functions in a company as can be seen in Table 1 that women independent directorship is growing at a slow rate, i.e., from 5% to 18% from 2013 to 2019. The gender gap is reducing because of gender quota introduced by SEBI for at least one woman independent director; thus, it is likely that this fraction would increase in the near future.

Table 1 Total women directorships on corporate boards in Indian listed companies

	<i>Calculation</i>	2013	2014	2015	2016	2017	2018	2019
Women directors	Total women directors/total board size	5%	6%	9%	10%	11%	12%	14%
Independent directors	Independent directors/total board size	47%	46%	45%	46%	48%	47%	50%
Women independent directors	Total women independent directors/total independent directors	5%	6%	12%	13%	14%	15%	18%

The trends in the proportion of women directors in manufacturing and service sector can be seen in Table 2. It can be observed that service sector has lower women representation as compared to manufacturing sector. The women directors' proportion ranges from 5.85% to 15% in manufacturing sector during the time-period 2013 to 2019. While the female participation in service sector increases from 2.16% to 9.16% for our sample of

442 companies. It is visible from Table 2 that women leadership is higher in manufacturing sector.

Table 2 Trends in women directorship in manufacturing and service sector

Year		2013	2014	2015	2016	2017	2018	2019
Women directorship (%)	Manufacturing sector	5.85%	6.62%	11%	12%	12.81%	13%	15%
	Service sector	2.16%	2.52%	5%	5.5%	6.64%	7%	9.16%

Table 3 links age of the company and average women directors on boards. It is evident that prior to 2014, women representation on boards was relatively low across all five age categories of companies. Further, the younger companies, falling in age group of 1–10 years, merely appointed women directors on their boards in the year 2013. The representation of women improved drastically after the mandatory requirement of at least one women director was adopted by the companies. It can be observed that after 2014, women participation has increased as the companies have begun adhering to the mandatory guidelines on women directorship. It can be noted from Table 3 that companies pertaining to age group of 21–30 years have seen the highest increase in women leadership in the past five years. Largely, we can conclude that although women directors have increased after 2014 but the level of participation has been higher for two segments i.e., 21–30 and 31–40 age groups.

Table 3 Average women directors on board in different age groups of companies

Age of the company (year)	2013	2014	2015	2016	2017	2018	2019
0–10	0.00	0.77	1.15	1.00	1.15	1.31	1.54
11 to 20	0.40	0.98	1.17	1.23	1.30	1.43	1.58
21 to 30	0.46	1.08	1.26	1.27	1.29	1.44	1.76
31 to 40	0.40	1.03	1.32	1.39	1.41	1.52	1.72
40 and above	0.32	1.02	1.22	1.26	1.38	1.42	1.66

For our sample, the minimum and maximum women board size is 0 and 5 respectively. The year-wise structure of women directorship in the corporate boards has been reported in Table 4. It can be observed that in the initial years, 2013 and 2014, there were many companies with no women directors. Besides, these companies with nil women on board has reduced drastically i.e., from 323 to 3 during 2013 to 2019. After the quota system for at least one women director on board, women directorship has escalated significantly. It is visible that it has brought in considerable rise in the women on top management level. Almost 50% of the companies have employed more than minimum regulatory requirement which may be considered as a positive beginning towards the abolition of glass ceiling. Most of the companies in the sample recruited either one or two women directors over the years, still it is noteworthy that few companies appointed more than three women on board. It indicates the formation of critical mass (i.e., minimum three women) as highlighted by Joecks et al. (2013) and Torchio et al. (2011).

The board size for the selected sample of companies ranges between 3 and 22. Table 5 presents the distribution of women directors across different board size categories. It has been shown that women board participation has increased after 2014; however, average women on board declined across all board categories in the year 2013, especially

for companies with larger boards. It can be attributed to limited inclination of women towards directorship positions or limited pool of available women directors. Further, companies which had more than one woman on board shifted their women directors to the boards of their other subsidiary/sister companies where there was no woman. Most of the companies in the sample fulfilled the minimum female directors' requirement by 2014 and their participation enlarged after 2014. Also, the companies with larger board size have seen a substantial increase in women directors after 2018.

Table 4 Women representation in different years of the sample period

<i>Number of women directors</i>	2013	2014	2015	2016	2017	2018	2019
0	323	74	11	9	7	3	3
1	89	304	335	332	311	288	221
2	18	47	75	76	95	114	154
3	9	12	15	19	20	26	51
4	3	5	6	4	7	9	9
5	–	–	–	2	2	2	4
Sample size of companies	442	442	442	442	442	442	442

Table 5 Distribution of women directors across different board size

<i>Board size</i>	<i>Average number of women directors</i>						
	2013	2014	2015	2016	2017	2018	2019
3–7	0.87	0.78	1.02	1.02	1.11	1.10	1.32
8–12	1.13	1.00	1.21	1.26	1.34	1.37	1.58
13–17	1.54	1.37	1.51	1.55	1.57	1.86	2.05
18–22	2.25	1.40	1.25	1.33	1.80	1.85	2.40

3.3 Empirical model

To investigate the impact of proportion of women directors' on firm performance, we estimate the following empirical model in equation (1):

$$TQ_{it} = \alpha + \beta_1 * ROWD_{it} + \beta_2 * Pl_{it} + \beta_3 * BS_{it} + \beta_4 * TQ_{it-1} + Z_{it} + \varepsilon_t \quad (1)$$

The left hand side of the equation (1) represents widely used firm performance measure, Tobin's Q (hereafter TQ). The calculation of TQ is: (total assets + market value of equity – book value of equity and deferred taxes) / total assets. The variables on right hand side of the model are governance variables such as ratio of women directors, board size; proportion of independent directors. Z_{it} is a vector of control variables which includes firm age, size, logarithm of difference in sales, past performance and leverage. ε_t – error term, i represents the firm for time period t . The calculation of independent and control variables can be seen in Table 6.

The variable ROWD captures the women directorships and has been used in prior studies by many authors like Carter et al. (2003), Darmadi (2011), Appiadjei et al. (2017), Chen et al. (2017), etc. To examine the effect of ROWD on TQ, we have adopted panel FE method and for robustness of statistical results, pooled QR has been employed. The QR technique is considered superior to FE model as it captures the characteristics of

entire distribution rather than relying on a single measure of central tendency (Koenker and Bassett, 1978; Dang et al., 2018).

Table 6 Description of explanatory and control variables used in the estimation analysis

<i>Variable(s)</i>	<i>Full form</i>	<i>Calculation(s)</i>
ROWD	Ratio of women directors	Total women directors/total board size
BS	Board size	Natural log of board size
PI	Proportion of independent directors	Number of independent directors on board/total board size
Age	Firm age	Natural log of (present year – incorporation year of the firm)
Size	Firm size	Sales is deflated using wholesale price index, then natural log is taken
Lev	Leverage	Long-term borrowings/total assets
TQ _{t-1}	Lag of firm performance	Lag of Tobin's Q
Δ in sales	Change in sales	Natural log of (current year sales – previous year sales)

4 Empirical results

The results of panel FE method and pooled QR approach have been reported in Table 7. The results of FE model (column 1) indicate that there is no significant relationship between ratio of women directors and firm performance measure, TQ, also shown by Mandala (2017) and Ionascu et al., (2018). The board size has positive impact on TQ; consistent with the findings of Arora and Sharma (2016). The other governance variable, PI also indicates significant positive relationship with TQ, firm size and past firm performance. It may imply that monitoring by independent directors may lead to better performance, also suggested by Rosenstein and Wyatt (1990) and Onyina and Gyanor (2019). Further, the association is negative between leverage and firm performance. Since the results of Shapiro-Wilk test indicate that the residuals do not show normality, we can employ quantile regression (Table 7).

Since the residuals of estimated equation depart from normality, we use QR model on the same equation (1). The results of QR were carried out from 10th to 90th quantile and have been presented in columns 2 to 10 of Table 7. The results indicate that ROWD has positive impact on TQ (at 1% significance level or below) for 10th quantile and 20th quantile. Nevertheless, the coefficients are very low or approximately zero in both methods of estimation (FE and QR). However, the relationship turns negative at 90th quantile.

Further, it was found that BS has a significant negative association with TQ from 50th to 90th quantile. It can be seen that not only the coefficient for BS is negative but it also increases rapidly at higher quantiles. At 90th conditional quantile (see column 10 of Table 7), our coefficient for BS is over eight times larger than at the 40th conditional quantile. The evidence here suggests that, when we consider better-performing firms (firms with higher TQ), BS has an inverse effect on performance. The results also depict positive relationship for PI except for 90th quantile.

Table 7 Impact of gender diversity (ROWD) on different Tobin's Q using panel FE and QR model

<i>Independent variables</i>	(1)	(2)	(3)	(4)	(5)
	<i>FE estimates</i>	<i>10th quantile</i>	<i>20th quantile</i>	<i>30th quantile</i>	<i>40th quantile</i>
ROWD	0.01 (1.44)	0.00*** (-0.51)	0.00* (-1.87)	0.00 (-1.95)	0.00 (-1.84)
TQ _{t-1}	0.44*** (18.01)	0.62*** (26.41)	0.74*** (49.31)	0.80*** (45.07)	0.86*** (47.61)
BS	0.46** (2.44)	-0.02 (-0.56)	0.03 (0.72)	0.00 (0.02)	-0.04 (-0.96)
PI	0.01*** (3.26)	0.00 (1.11)	0.00* (1.80)	0.00 (1.51)	0.00* (1.72)
Size	0.26** (2.29)	0.01 (1.32)	0.00 (0.16)	0.00 (-0.20)	0.00 (0.66)
Δ in sales	-0.17* (-1.83)	0.01 (0.25)	-0.03 (-0.97)	-0.02 (-0.88)	-0.01 (-0.37)
Age	-0.16 (-0.18)	0.12** (2.28)	0.01 (0.32)	0.01 (0.30)	-0.03 (-0.62)
Lev	-0.02** (-2.64)	0.00*** (3.15)	0.00** (2.63)	0.00 (0.96)	0.00 (-0.12)
Constant	-2.56 (-1.53)	-0.13 (-1.26)	-0.02 (-0.16)	0.09 (0.97)	0.20* (1.91)
R ² /pseudo R ²	0.86	0.41	0.46	0.50	0.53
Shapiro-Wilk test	13.411***				
<i>Independent variables</i>	(6)	(7)	(8)	(9)	(10)
	<i>50th quantile</i>	<i>60th quantile</i>	<i>70th quantile</i>	<i>80th quantile</i>	<i>90th quantile</i>
ROWD	0.00 (-2.07)	0.00 (-1.64)	0.00 (-2.38)	0.00 (-2.18)	-0.01** (-2.77)
TQ _{t-1}	0.94*** (33.21)	0.98*** (115.74)	1.02*** (42.15)	1.05*** (43.64)	1.19*** (35.13)
BS	-0.08* (-1.81)	-0.15** (-2.75)	-0.18** (-2.44)	-0.22** (-2.35)	-0.34** (-1.77)
PI	0.00* (1.75)	0.00** (2.47)	0.00** (2.05)	0.00** (2.45)	-0.01* (-1.79)
Size	0.00 (0.69)	0.00 (0.37)	-0.01 (-0.95)	-0.03* (-1.92)	-0.16*** (-4.52)

Notes: *, ** and *** indicate significance at 10%, 5% and 1% levels, respectively; t-statistic are in parentheses.

Table 7 Impact of gender diversity (ROWD) on different Tobin’s Q using panel FE and QR model (continued)

Independent variables	(6)	(7)	(8)	(9)	(10)
	50th quantile	60th quantile	70th quantile	80th quantile	90th quantile
Δ in sales	0.01 (0.34)	0.02 (0.70)	0.09 (1.26)	0.13 (1.51)	0.39** (2.76)
Age	-0.02 (-0.53)	-0.15** (-2.46)	-0.22*** (-3.00)	-0.48*** (-5.04)	-0.66*** (-4.59)
Lev	0.00 (-1.04)	0.00*** (-3.31)	-0.01*** (-4.63)	-0.01*** (-5.95)	-0.01*** (-4.30)
Constant	0.27* (2.40)	0.67*** (4.14)	1.11*** (5.01)	2.02*** (6.56)	4.87*** (9.40)
R ² /pseudo R ²	0.55	0.57	0.58	0.59	0.60
Shapiro-Wilk test					

Notes: *, ** and *** indicate significance at 10%, 5% and 1% levels, respectively; t-statistic are in parentheses.

In case of control variables, it can be noted that the value and sign of coefficients varies across different quantiles and differs significantly from mean values estimated from fixed effect model. It can be observed that the coefficient for size is positive and significant while estimating through FE model. However, the coefficients in case of QR are not statistically significant at lower quantiles and turn negative at 80th and 90th quantile. Similarly, the relationship between companies’ Age and performance is positive and significant at 10th quantile and turns negative and significant for higher quantiles. The reason can be attributed to the fact that FE model gives us average coefficients for the entire distribution of firm performance; however, QR model splits the dataset across different quantiles of TQ.

It can be observed that the coefficients for BS, PI and size are statistically significant and positive while estimating through FE model. However, the expected results disappear at lower quantiles and the sign of coefficient becomes negative at higher quantiles in case of QR model. Contrary to the expectations, at higher quantiles, i.e., 80th and 90th, the coefficient for PI and size turn negative and significant.

5 Conclusions

This paper is an empirical investigation into the structure of corporate boards of Indian listed companies and its impact on firm performance. Our study makes an attempt to identify the trends in women directors according to firm age, sector, year-wise and across different board sizes. The major contribution of our study is the employment of conditional QR approach for estimation purposes. It highlights the sensitive nature of relationships between board variables and performance, and underlines that fixed effect estimates could potentially give misleading results, especially in case the distribution of data is not normal.

The findings demonstrate that although proportion of women directors has improved over the sample period 2013 to 2019 still it is low, looking at the advantages of diversity. The study also found that women leadership is higher in manufacturing sector than service sector. Also, in the initial years of sample period, when quota was not imposed mandatorily, only limited female directors were on the companies' boards. The numbers increased gradually towards the end of sample period and more than 50% of sample companies have hired more than one woman director. It should be noted that few companies have appointed more than three women on board, indicating the formation of critical mass. Overall, the analysis of data indicates a significant pioneering step towards improving gender diversity in boardrooms.

The empirical results also show that the impact of women directors on firm performance is weak, which is consistent with the previous findings such as Darmadi (2011) and Iacoviello et al. (2015). The rationale is to understand that the mere inclusion of women directors will not make immediate noticeable change in the company's financial performance. However, it is significant to note that the diverse board may bring in diversity of ideas which could help in refining decision-making in the long run. Another important factor contributing to this weak relationship is the possibility of including women directors on board just to fulfil the regulatory requirements rather than making them a part of decision-making. The inverse relationship between board size and performance, especially for companies with higher TQ indicates that large boards have been ineffective for improving performance of the company. In contrast, independent directors have positive relationship with firm performance highlighting the importance of monitoring by outside directors.

5.1 Policy implications

The women directors in Indian corporate boards have increased from 5% to 14% after the implementation of woman quota in The Companies Act, 2013. The new guidelines require appointment of at least one woman independent director in the company's board. Although, the pace of change in board composition is slow, still the companies are working towards building efficient boards with clarity on the roles and responsibilities with more effective checks and balances. This reform can be considered as an important milestone towards improving corporate governance mechanism in Indian context. However, to ensure that women directors appointed on the boards are able to voice their perspectives and bring a change, policy makers should focus on capacity building and training of the women leaders. It should be ensured that women leaders in position are empowered for decision-making and not just appointed for the sake of regulatory requirements. Further, companies should be motivated for improving gender diversity voluntarily beyond the mandatory guidelines with the objective of improving board effectiveness as it has been linked with increased board development activities and decreased level of conflict (Nielsen and Huse, 2010).

It is evident that amendments in the regulatory guidelines helped in improving representation of women in the leadership roles. However, it is suggested that further reforms are needed for competent women directors who can act independently to foster more diversity in Indian boardrooms. It may take few more years for an sufficient reform to take place for women directors when Indian boards can completely embrace gender diversity.

Acknowledgements

The financial support provided by FORE School of Management, New Delhi in completing this paper is gratefully acknowledged.

The authors thank the anonymous referees and editor of the journal for their fruitful comments and suggestions on the previous versions of this article. Any errors or omissions are solely the authors'.

References

- Adams, R.B. and Ferreira, D. (2009) 'Women in the boardroom and their impact on governance and performance', *Journal of Financial Economics*, Vol. 94, No. 2, pp.291–309.
- Appiadjei, E.A., Ampong, G.O. and Nsiah, F. (2017) 'Board, gender diversity and firm performance', *International Journal of Economics, Commerce and Management*, Vol. 5, No. 10, pp.1–16.
- Arora, A. and Sharma, C. (2016) 'Corporate governance and firm performance in developing countries: evidence from India', *Corporate Governance*, Vol. 16, No. 2, pp.420–436.
- Arora, A. (2021) 'Gender diversity in boardroom and its impact on firm performance', *Journal of Management and Governance*, <https://doi.org/10.1007/s10997-021-09573-x>.
- Casey, C., Skibnes, R. and Pringle, J.K. (2011) 'Gender equality and corporate governance: policy strategies in Norway and New Zealand', *Gender, Work and Organization*, Vol. 18, No. 6, pp.613–630.
- Chen, J., Leung, W.S. and Goergen, M. (2017) 'The impact of board gender composition on dividend payouts', *Journal of Corporate Finance*, Vol. 43, pp.86–105.
- Cox Jr, T. (1991) 'The multicultural organization', *Academy of Management Perspectives*, Vol. 5, No. 2, pp.34–47.
- Daily, C.M. and Dalton, D.R. (2003) 'Women in the boardroom: A business imperative', *Journal of Business Strategy*, Vol. 24, No. 5, pp.8–9.
- Dang, A.R., Houanti, L., Le, N.T. and Vu, M-C. (2018) 'Does corporate governance influence firm performance? Quantile regression evidence from a transactional economy', *Applied Economics Letters*, Vol. 25, No. 14, pp.984–988.
- Darmadi, S. (2011) 'Board diversity and firm performance: the Indonesian evidence', *Corporate Ownership and Control*, Vol. 8, No. 2, pp.450–466.
- Dezsö, C.L. and Ross, D.G. (2012) 'Does female representation in top management improve firm performance? A panel data investigation', *Strategic Management Journal*, Vol. 33, No. 9, pp.1072–1089.
- Fondas, N. (2000) 'Women on boards of directors: gender bias or power threat?', in Burke, R.J. and Mattis, M.C. (Eds.): *Women on Corporate Boards of Directors. Issues in Business Ethics*, Vol. 14, Springer, Dordrecht, https://doi.org/10.1007/978-90-481-3401-4_12.
- Gul, F.A., Srinidhi, B. and Ng, A.C. (2011) 'Does board gender diversity improve the informativeness of stock prices?', *Journal of Accounting and Economics*, Vol. 51, No. 3, pp.314–338.
- Hiller, N., Dechurch, L., Murase, T. and Doty, D. (2011) 'Searching for outcomes of leadership: a 25-year review', *Journal of Management*, Vol. 37, No. 4, pp.1137–1177.
- Iacoviello, G., Mazzei, M. and Riccardi, G. (2015) 'The gender composition of the board and firm performance. The role of regulatory measures', *Corporate Ownership and Control*, Vol. 13, Nos. 1–11, pp.1385–1395.
- Ionascu, M., Ionascu, I., Sacarin, M. and Minu, M. (2018) 'Women on boards and financial performance: Evidence from a European emerging market', *Sustainability*, Vol. 10, No. 5, p.1644.

- Jhunjhunwala, S. and Mishra, R.K. (2012) 'Board diversity and corporate performance: the Indian evidence', *IUP Journal of Corporate Governance*, Vol. 11, No. 3, pp.71–79.
- Joecks, J., Pull, K. and Vetter, K. (2013) 'Gender diversity in the boardroom and firm performance: What exactly constitutes a 'critical mass'?', *Journal of Business Ethics*, Vol. 118, No. 1, pp.61–72.
- Judge, Q.W., Naoumova, I. and Koutzevol, N. (2003) 'Corporate governance and firm performance in Russia: an empirical study', *Journal of World Business*, Vol. 38, No. 4, pp.385–396.
- Kanter, R.M. (1977) 'Some effects of proportions on group life: skewed sex ratios and responses to token women', *American Journal of Sociology*, Vol. 82, No. 5, pp.965–990.
- Koenker, R. and Bassett Jr., G. (1978) 'Regression quantiles', *Econometrica, Journal of the Econometric Society*, Vol. 46, No. 1, pp.33–50.
- Kılıç, M. and Kuzey, C. (2016) 'The effect of board gender diversity on firm performance: evidence from Turkey', *Gender in Management: An International Journal*, Vol. 31, No. 7, pp.434–455.
- Krishnan, H.A. and Park, D. (2005) 'A few good women-on top management teams', *Journal of Business Research*, Vol. 58, No. 12, pp.1712–1720.
- Lee, P.M and James, E.H. (2007) 'She'-E-Os: gender effects and investor reactions to the announcements of top executive appointments', *Strategic Management Journal*, Vol. 28, No. 3, pp.227–241.
- Mandala, N., Kaijage, E., Aduda, J. and Iraya, C. (2017) 'Gender diversity of boards, board composition and firm performance', *European Scientific Journal*, Vol. 13, No. 34, pp.62–79.
- Matsa, D.A. and Miller, A.R., (2011) 'Chipping away at the glass ceiling: gender spillovers in corporate leadership', *American Economic Review*, Vol. 101, No. 3, pp.635–639.
- Miller, T. and Triana, M.D.C., (2009) 'Demographic diversity in the boardroom: Mediators of the board diversity-firm performance relationship', *Journal of Management Studies*, Vol. 46, No. 5, pp.755–786.
- Nielsen, S. and Huse, M. (2010) 'The contribution of women on boards of directors: going beyond the surface', *Corporate Governance: An International Review*, Vol. 18, No. 2, pp.136–148.
- Onyina, P.A. and Gyanor, D.K. (2019) 'Do corporate governance practices affect the performance of firms listed on the Ghana Stock Exchange?', *Corporate Ownership and Control*, Vol. 17, No. 1, pp.107–115.
- Pelled, I., Eisenhardt, K. and Kin, K. (1999) 'Exploring the black box: an analysis of work group diversity, conflict and performance', *Administrative Science Quarterly*, Vol. 44, No. 1, pp.1–28.
- Pletzer, J.L., Nikolova, R., Kedzior, K.K. and Voelpel, S.C. (2015) 'Does gender matter? Female representation on corporate boards and firm financial performance – a meta-analysis', *PLOS One*, Vol. 10, No. 6, pp.1–20.
- Robinson, G. and Dechant, K. (1997) 'Building a business case for diversity', *Academy of Management Executive*, Vol. 11, No. 3, pp.21–30.
- Rose, C. (2007) 'Does female board representation influence firm performance? The Danish evidence', *Corporate Governance*, Vol. 15, No. 2, pp.404–413.
- Rosenstein, S. and Wyatt, J.G. (1990) 'Outside directors, board independence and shareholder wealth,' *Journal of Financial Economics*, Vol. 26, No. 2, pp.175–191.
- Ryan, M.K. and Haslam, S.A (2005) 'The glass cliff: evidence that women are over-represented in precarious leadership positions', *British Journal of Management*, Vol. 16, No. 2, pp.81–90.
- Ryan, M.K. and Haslam, S.A. (2007) 'The glass cliff: exploring the dynamics surrounding the appointment of women to precarious leadership positions', *The Academy of Management Review*, Vol. 32, No. 2, pp.549–572.
- Shaukat, A., Qiu, Y. and Trojanowski, G. (2016) 'Board attributes, corporate social responsibility strategy and corporate environmental and social performance', *Journal of Business Ethics*, Vol. 135, No. 3, pp.569–585.

- Shrader, C.B., Blackburn, V.B. and Iles, P. (1997) 'Women in management and firm financial performance: An exploratory study', *Journal of Managerial Issues*, Vol. 9, No. 3, pp.355–372.
- Stephenson, C. (2004) 'Leveraging diversity to maximum advantage: the business case for appointing more women to boards', *Ivey Business Journal*, Vol. 69, No. 1, pp.1–5.
- Torchio, M., Calabro, A. and Huse, M. (2011) 'Women directors on corporate boards: from tokenism to critical mass', *Journal of Business Ethics*, Vol. 102, No. 2, pp.299–317.
- Ujunwa, A., Okoyeuzu, C. and Nwakoby, I. (2012) 'Corporate board diversity and firm performance: evidence from Nigeria', *Review of International Comparative Management*, Vol. 13, No. 4, pp.605–620.
- Yang, P., Riepe, J., Moser, K., Pull, K. and Terjesen, S. (2019) 'Women directors, firm performance and firm risk: a causal perspective', *The Leadership Quarterly*, Vol. 30, No. 5, p.101297.

Notes

- 1 The Organisation for Economic Cooperation and Development (OECD) is an inter-governmental economic organisation with 38 member countries, formed with an objective to promote international trade and economic growth.
- 2 The prowess database, developed and maintained by Centre for Monitoring Indian Economy, consists of financial performance of listed and unlisted Indian companies.