Journal of Commerce & Accounting Research
8 (1) 2019, 35-45
http://publishingindia.com/jcar/

BOARD GENDER DIVERSITY AND FIRM'S PERFORMANCE: AN EVIDENCE FROM INDIA

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Abstract *In the recent past, board gender diversity grabs the attention of many researchers in the field of corporate finance. Prior literature suggests gender diversity in the boardroom significantly improves corporate governance and had a favourable impact on firm's performance. However, gender diversity in the boardrooms and its linkage with firm's performance is one of the debatable issues since the findings of empirical evidence are diverse across the countries. The main thrust of this study is to investigate the linkage between gender diversity in the boardroom and firm's performance. A sample size of top 139 non-financial companies listed in NSE for a time period of five years, i.e., from 2011–12 to 2015–16 is used in this monograph. In order to investigate the linkage between gender diversity in the boardroom and the firm's performance, the study employed Random-Effect GLS Regression Model as suggested by the Hausman Test. The findings of the study reveals that there lay a positive association between Proportion of Independent Female Directors on the Board and the Firm's Performance (MVANW) after controlling the variables BOARD SIZE, FIRM SIZE, and Leverage (DER).*

Keywords: *Board Composition, Board Gender Diversity, Female Directorship, Firm's Performance, Random-Effect GLS Regression Model, Control Variables, India*

INTRODUCTION

Being India a male-dominated country we found that in most of the companies' males are in charge of top-level management. However, our concern is, why should only the males occupy the boardrooms, why not females? In many countries women's are rising to the highest levels of government, advancing to executive ranks at reputed companies, and possessing advanced degrees than men then why not in India? On 29th August 2013, Indian government announced the Companies Act 2013, where every listed company and every public company having a paid-up share capital of Rs. 100 crore or more shall appoint at least one woman director on the board u/s 149 (1) as per Rule 3 of the Companies (Appointment and Qualification of Directors) Rules, 2014.

Gender diversity is one of the most notable dimensions of board's composition. In the recent past, board gender diversity grabs the attention of many researchers in the field of corporate finance. Many international studies (Erhardt, Werbel, & Shrader, 2003; Carter, Simkins, & Simpson, 2003; Appiadjei, Ampong, & Nsiah, 2017; Khan, Hussain, & Marimuthu, 2017 and others) suggest gender diversity in the boardroom significantly enhance the board's effectiveness and had a favourable impact on firm's performance. They found that female directors are more diligent than male directors towards performing their duties and responsibilities such as attending the board meeting, monitoring performance and others. Moreover, they reported women were more cautious, less overconfident, and are innately more risk-averse than men; as a result, it enhances the quality of board's decisions and in turn, leads to superior firm's performance. However, gender diversity in the boardrooms and its linkage with firm's performance is one of the most debatable issues since the findings of empirical evidence are diverse across the countries. Some researchers argue that greater gender diversity on the board is not desirable as it generates more conflicting opinions which lead to inefficient and ineffective decision-making and in turn, reduce the firm's performance (Campbell & Minguez-Vera, 2008). According to Daunfeldt and Rudholm (2012), firms with a diverse board incur higher costs as a result of collective decision-making and in turn, deteriorate the firm's performance. Further, some scholars (Schwizer, Soana, & Cucinelli, 2012; Iren, 2016; Voß, 2015; Chen, Leung, & Evans, 2015 and others) found that there exists no linkage at all between board gender diversity and firm's performance. In fact, we found some mixed pieces of evidence from the previous literature on the issue board gender diversity and its impact on firm's performance.

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Hence, a further investigation into it can make a fruitful contribution to the existing literature.

The rest of the paper is prearranged as follows: Section 2 highlights the review of literature related to board gender diversity and its impact on firm's performance. Section 3, 4, and 5 deals with research question, research objective and hypothesis development of the study, respectively. Section 6 exemplifies research methodology. Results and discussions are presented in section 7 and the last section 8 concludes the paper.

REVIEW OF LITERATURE

Before moving forward into the depth of the underlying issue, let us have a quick glance on the prior studies related to board gender diversity and its impact on firm's performance.

Empirical Studies on Board Gender Diversity and Its Positive Impact on Firm's Performance

Appiadjei et al. (2017) made an effort to evaluate the relationship between board gender diversity and firm's performance of 34 listed companies on the Ghana's capital market over the period 2010–2014 found that firm's performance is positively related with females' representation on the board as measured by the ratio of women on a firm's board. The study of Christiansen, Lin, Pereira, Topalova, and Turk (2016) covering 2 million listed and non-listed companies in Europe found that there lays a positive association between return on assets and the share of women in senior positions. Moreover, they asserted there are two potential channels through which gender diversity may affect firm's performance. Lee-Kuen, Sok-Gee, and Zainudin (2017) conducted a study to examine the association between gender diversity in a firm's board of directors and financial performance of firms listed on Bursa Malaysia for the period ranges from 2009 to 2013. The findings of the study revealed a higher degree of female representation on the board increases a firm's financial performance. Campbell and Minguez-Vera (2008) also found a similar sort of result. They found increases in female proportion on the board have a significant positive association with the company's Tobin's Q value. Another group of researchers, Johl, Kaur, and Cooper (2015) made an attempt to investigate the impact of board characteristics on firm's performance. The sample size of the study consists of 700 public listed firms in Malaysia for the year 2009. They found that women's participation on the board is positively related to the return on assets. The study of Fan (2012) found that gender diversity in the boardroom enhances the firm's value as measured by Tobin's Q. Khan et al. (2017) made an effort to examine the association between board gender diversity and firm's performance of 100 non-financial companies in Malaysia during the period 2009–2013. The findings of their study also revealed gender diversity has a positive impact on firm's performance as measured by ROE. Erhardt et al. (2003) made an attempt to investigate the relationship between board diversity and firm performance of 127 large American firms. Their study revealed a diverse board positively affects the firm's performance. A similar type of result is also displayed by the study of Carter et al. (2003), they found that board diversity is positively related to the firm's value. The study of Stigring and Lyxell (2011) also found a same positive relationship between board gender diversity and firms' profitability level. Srinidhi, Gul, and Tsui (2011) in their study found that with an increase in the number of female directors on the board, the firms experienced higher quality earnings after considering the endogeneity problems. Sánchez (2017) observed in case of Spanish Companies there is a significant positive linkage between female on the board and the firm's performance. The study of Luckerath-Rovers (2013) comprising of 116 Dutch firms listed on the Amsterdam Euronext Stock Exchange found that firms with female directors performed better.

Empirical Studies on Board Gender Diversity and Its Negative Impact on Firm's Performance

The study of Wellalage and Locke (2013) revealed there lays a significant negative relationship between the proportion of women on boards and firm value along with an increase in company agency cost. Jhunjhunwala and Mishra (2012) in their study found that board diversity in terms such as gender, age, tenure, nationality, educational background, and working experience does not contribute to the firm's performance. Meanwhile Ahern and Dittmar (2012) found that the stock prices of Norwegian firms declines with the appointment of women directors. Laible (2013) made an effort to find the effects of board gender diversity on firm performance in Germany. The study reported there is a negative relationship between gender diversity and firm's performance. The study of Daunfeldt and Rudholm (2012) involving 20,487 limited companies in Sweden during the period 1997–2005 also found a similar sort of result where, firm's performance is negatively related with gender diversity in the boardroom. While Ujunwa, Nwakoby, and Ugbam (2012) found that firm's performance is negatively related to board gender diversity but board nationality and board ethnicity has a positive influence on firm's performance.

Empirical Studies on Board Gender Diversity with No Significant Impact on Firm's Performance

However, the studies made by Schwizer et al. (2012), Iren (2016), Bianco, Ciavarella, and Signoretti (2011), Voß (2015), Chen et al. (2015), Marinova, Plantenga, and Remery (2010), Alm and Winberg (2016), Randøy, Thomsen, and Oxelheim (2006), Kiran (2014), and Rose (2007) all failed to spot out any significant linkage between board gender diversity and the firm's performance.

To this extent, it seems even though good number of studies have been made, especially in abroad over the issue board gender diversity and its linkage with firm's performance, but to the best of our knowledge, very few studies has been conducted over such issue in India. Moreover, we found that gender diversity in the boardrooms and its linkage with firm's performance is one of the most debatable issues since the findings of empirical evidence are diverse across the countries. Lastly, we also noticed that there is no single measure to analyze board gender diversity and firm's performance hence, results are inconclusive as it largely depends on the variables and their proxies we are using in the study.

RESEARCH QUESTION

From the foregoing, we felt it is worth addressing the following research questions:

- Is there any relationship lies between number of female directors on the board and firm's performance?
- Is there any relationship lies between proportion of independent female directors on board and firm's performance?
- Is there any relationship lies between proportion of educated female directors on the board and firm's performance?
- Is there any relationship lies between proportion of overseas female directors on the board and firm's performance?

OBJECTIVE OF THE STUDY

The main thrust of this study is to investigate the linkage between gender diversity in the boardroom and firm's performance. More specifically, the study has the following objectives:

- To find out the relationship between number of female directors on the board and firm's performance.
- To evaluate the relationship between proportion of independent female directors on board and firm's performance.
- To examine the relationship between proportion of educated female directors on the board and firm's performance.
- To evaluate the relationship between proportion of overseas female directors on the board and firm's performance.

HYPOTHESIS DEVELOPMENT

Based on the aforesaid objective of the study the following null hypotheses are developed:

Hypothesis 1: There is no significant relationship between number of female directors on the board and firm's performance.

Hypothesis 2: There is no significant relationship between proportion of independent female directors on board and firm's performance.

Hypothesis 3: There is no significant relationship between proportion of educated female directors on the board and firm's performance.

Hypothesis 4: There is no significant relationship between proportion of overseas female directors on the board and firm's performance.

RESEARCH METHODOLOGY

Database

The data for the present study are collected from the secondary sources, i.e., from Capital Line Data Base, Company's Annual Reports and also from websites like www.moneycontrol.com, www.bloomberg.com and www.nseindia.com for a time period of five years, i.e., from 2011–12 to 2015–16. The sample size consists of top NSE 200 companies selected based on their market capitalization. Out of those, 139 non-financial companies are considered a final sample size. Banks and other financial companies (i.e., 39 in numbers out of those selected top NSE 200 companies) are excluded from the present study due to their divergent nature of operation further, 22 non-financial companies are also not considered due to unavailability of data or having an improper fiscal year (i.e., year ending other than 31st March). The assortment of the sample is made on the basis of purposive sampling and the study is conducted based on the consistently arranged data as per financial years.

Research Variables

Table 1: List of Variables Used and Their Proxies

Variables	Proxies
I. Dependent Variable 1.Firm's Performance	Market Value Added to Net Worth (MVANW) = $\frac{\text{Market Value Added}}{\text{Net Worth}}$ Where, a) Market Value Added = Market value of firm's Equity – Book value of firm's Equity [Brigham and Houston (2015, p. 77)] b) Net Worth = Share Capital + Reserves & Surplus
II. Independent Variables 1. Board Gender Diversity A) Number of Female Directors on the Board (N-WOMEN)	N-Women = No. of Female Directors on the Board
B) Proportion of Independent Female Directors on Board (I-WOMEN)	I-Women = $\frac{\text{Total Number of Independent Female Directors on the Board}}{\text{Total Number of Directors on the Board}}$
C) Proportion of Educated Female Directors on the Board (E-WOMEN)	E-Women = $\frac{\text{Total Number of Educated Female Directors on the Board}}{\text{Total Number of Directors on the Board}}$ Where, Note: Educated means the director's holding any Post Graduation Degree or, any Professional Degree or its any Equivalent Degrees.
D) Proportion of Overseas Female Directors on the Board (O-WOMEN)	O-Women = $\frac{\text{Total Number of Overseas Female Directors on the Board}}{\text{Total Number of Directors on the Board}}$
III. Control Variables A) Board Size B) Firm Size C) Leverage	Board Size = Natural Log of Total No. of Directors on the Board Firm Size = Natural Log of Firm's Total Assets at the end of t^{th} year Debt-equity Ratio (DER) Debt-equity Ratio can be formulated as follows: DER = Long term debt/Shareholder's fund

Source: Author's own tabulation

Method

The present study consists of 139 companies and 5 years. For the empirical analysis, there are three options:

i). Pooled OLS method: (139*5) or 695 observations can be pooled and estimate a "grand" regression applying the following model. ---------- (1)

Where, i (company) = 1, 2, 3, 4…...139 and t (time) = 1, 2, 3, 4, 5. Here M = Market Value Added to Net Worth (MVANW), X_1= N-WOMEN, X_2= I-WOMEN, X_3= E-WOMEN, X_4. = O-WOMEN, X_5= BOARD SIZE, X_6= FIRM SIZE, X_7 = Debt-Equity Ratio (DER)

In this particular model, it is assumed those regressors are non-stochastic, even though they are stochastic they are uncorrelated with the error term.

ii). The fixed effects least squares dummy variable (LSDV) model: In this model, 695 observations will be pooled as above, but the model allows each cross-section unit (in this particular case companies) to have its own (intercept) dummy variable. The model can be written as ---------- (2). The subscript i and suggest that the intercepts of the 139 companies may be different, but each company's intercept does not vary over time.

iii). The random effects model (REM): In this model, it is assumed that the intercept values are a random drawing from a bigger population of companies. In this case, 139 companies are drawn from a universe of such companies and thus here a common mean value for the intercept (β_1). The individual difference in the intercept value of each company is reflected in the error term (ε_i).

Hence, the model can be represented as. $M_{it} = \beta_1 + \beta_2 X_{1it} + \beta_3 X_{2it} + \beta_4 X_{3it} + \ldots + \mu_{it} + \varepsilon_i$

$= \beta_1 + \beta_2 X_{1it} + \beta_3 X_{2it} + \beta_4 X_{3it} + \ldots + w_{it}$ (3)

Where, $w_{it} = \mu_{it} + \varepsilon_i$. Here ε_i is the individual specific or cross-sectional specific error component and is the combined time series and cross sectional error component.

To select the appropriate model from the above, the following steps have been considered.

Step 1: Selection between Model 1 and Model 3: Breusch Pagan Test

From Model (iii) we get Variance $(w_{it}) = \sigma_\varepsilon^2 + \sigma_\mu^2$ ---------- (4)

If $\sigma_\mu^2 = 0$ then there is no difference between model 1 and Model 3 and pooled OLS regression should be applied as per equation 1, since in this situation there are neither subject specific effects or they have all been accounted for in the explanatory variables.

To test for the presence of random effects Breusch Pagan Test is used. If Null Hypothesis

H_0: $\sigma_\mu^2 = 0$ then there are no random effects.

$$LM = \frac{NT}{2(T-1)}\left(\frac{\sum_{i=1}^{N}(\sum_{t=1}^{T}\hat{e}_{it})^2}{\sum_{i=1}^{N}\sum_{t=1}^{T}\hat{e}^2_{it}} - 1\right)$$

Then the LM statistics has a Chi-square distribution with one difference. If the computed value of LM is significant then will be rejected and there will be random effects.

Step 2: Selection of fixed effects or random effects: Hausman Test

The idea behind Hausman Test is that both the random effects and fixed effects estimators are consistent if there is no correlation between and the explanatory variables. If both estimators are consistent then in large samples the random effects and fixed effects estimates should be similar. On the contrary, if is correlated with the explanatory variables the random effects estimator will be consistent.

The Hausman statistics is distributed as and is computed as:

Where;

b = is the coefficient vector from the consistent estimator.

B = is the coefficient vector from the efficient estimator.

V_b = is the covariance matrix of the consistent estimator.

V_B = is the covariance matrix of the efficient estimator.

H_0: Difference in the coefficient not systematic.

To use Hausman command in Stata the consistent fixed effects estimator is listed first and the efficient random effects is listed second.

If the H statistics is significant the is rejected and fixed effect model is retained.

RESULTS AND DISCUSSIONS

Results obtained from XLSTAT 2016 and STATA software are reported below:

Table 2: Descriptive Statistics

Variables	Obs.	Obs. With missing data	Obs. Without missing data	Min.	Max.	Mean	Std. deviation
MVANW	695	0	695	-73.439	222.575	4.413	12.604
N-WOMEN	695	0	695	0.000	5.000	1.075	0.844
I-WOMEN	695	0	695	0.000	0.375	0.057	0.071
E-WOMEN	695	0	695	0.000	0.333	0.070	0.073
O-WOMEN	695	0	695	0.000	0.250	0.006	0.027
BOARD SIZE	695	0	695	1.386	3.045	2.289	0.299
FIRM SIZE	695	0	695	0.191	12.762	8.839	1.522
DER	695	0	695	-24.318	79.973	0.515	3.393

Source: Author's own tabulation using XL STAT software.

Interpretation: The above Table II highlights descriptive statistics of the key variables and some control variables used in the present study. It can be observed from the above table that the present study has 695 no. of observations with zero missing data. The mean value of the focused explanatory variables namely N-WOMEN, I-WOMEN, E-WOMEN, and O-WOMEN is 1.075, 0.057, 0.070 and 0.006 respectively. The other explanatory variables BOARD SIZE, FIRM SIZE, and DER which are control variables has a mean value of 2.289, 8.839, and 0.515 respectively, while the mean value of dependent variable MVANW is 4.413.

Table 3: Correlation Matrix

	N-WOMEN	I-WOMEN	E-WOMEN	O-WOMEN	BOARD SIZE	FIRM SIZE	DER	MVANW
N-WOMEN	1	0.507	0.624	0.261	0.305	0.032	0.100	0.064
I-WOMEN	0.507	1	0.533	0.004	-0.054	-0.099	0.067	0.140
E-WOMEN	0.624	0.533	1	0.265	-0.041	-0.028	0.043	0.077
O-WOMEN	0.261	0.004	0.265	1	0.028	-0.055	-0.024	-0.005
BOARD SIZE	0.305	-0.054	-0.041	0.028	1	0.278	0.028	0.017
FIRM SIZE	0.032	-0.099	-0.028	-0.055	0.278	1	0.066	-0.267
DER	0.100	0.067	0.043	-0.024	0.028	0.066	1	0.274
MVANW	0.064	0.140	0.077	-0.005	0.017	-0.267	0.274	1

Source: Author's own tabulation using XL STAT software.

Interpretation: The above-mentioned Table III put emphasis on the relationship between dependent variable and independent variables used in the study. The table highlights that MVANW has a positive relationship with N-WOMEN, I-WOMEN, E-WOMEN, BOARD SIZE and DER. On the other hand, MVANW has a negative relationship with O-WOMEN and FIRM SIZE. Moreover, we observed that the correlation amongst all the selected explanatory variables is minimal, i.e., below 0.80, this signifies no multi-co linearity problem lies amongst the explanatory variables used in the study.

Table 4: Multicolinearity Statistics

	N-WOMEN	I-WOMEN	E-WOMEN	O-WOMEN	BOARD SIZE	FIRM SIZE	DER
Tolerance	0.435	0.611	0.495	0.866	0.739	0.904	0.982
VIF	2.300	1.637	2.021	1.155	1.353	1.106	1.018

Source: Author's own tabulation using XL STAT software.

Interpretation: The above Table IV reports of Multi-co linearity Statistics. It can be observed that the VIF value of the selected explanatory variables lies between 1.018 and 2.300, i.e., below the maximum level of VIF, i.e., '5'. Further, the tolerance value of the selected explanatory variables lies between 0.435 and 0.982, i.e., above '0.20' (rule of thumb). Hence, it can be concluded from the above table that no evidence of the Multi-co linearity problem is found amongst the selected explanatory variables.

Table 5: Breusch and Pagan Lagrangian Multiplier Test for Random Effects

MVANW [srlno,t] = Xb + u[srlno] + e[srlno,t]

Estimated results:

	Var	sd = sqrt(Var)
MVANW	158.8729	12.60448
e	95.43449	9.769084
u	36.46233	6.038404
Test: Var(u) = 0 chibar2(01) = 93.73 Prob> chibar2 = 0.0000		

Source: Author's own tabulation using STATA software.

Interpretation: The above Table V reports the result of Breusch and Pagan Lagrangian Multiplier Test (BP test). Breusch and Pagan Lagrangian Multiplier Test (BP test) help to determine the best fit model between Pooled OLS and REM for conducting the undertaken study. From the Table V we found, the LM statistic, i.e., chibar2(01) = 93.73

and Prob> chibar2 = 0.0000 that depicts the outcome is significant at 1% level. Therefore, H0 is rejected and H1 is accepted.

Based on the above test outcome, it can be asserted the results of REM (as shown in Table 8) could be accepted and the Pooled OLS Model is not a good fit in this particular study. But, there is an urgency to run FEM also for more precise analysis as shown in Table 6 and carry further tests.

Table 6: Fixed-Effects (within) Regression

Fixed-effects (within) regression			Number of obs. = 695			
Group variable: srlno			Number of groups = 139			
R-sq: within = 0.1477			Obs. per group: min = 5			
between = 0.0236			avg. = 5.0			
overall = 0.0787			max. = 5			
			F(7,549) = 13.60			
corr(u_i, Xb) = -0.1618			Prob> F = 0.0000			
MVANW	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf. Interval]	
N-WOMEN	-2.129682	1.304684	-1.63	0.103	-4.692465	0.4331022
I-WOMEN	23.87106	11.99407	1.99	0.047	.3111682	47.43095
E-WOMEN	31.67216	14.12677	2.24	0.025	3.923015	59.4213
O-WOMEN	4.914063	32.24524	0.15	0.879	-58.42507	68.2532
BOARD SIZE	5.362037	3.389639	1.58	0.114	-1.296212	12.02029
FIRM SIZE	0.091117	1.031959	0.09	0.930	-1.935954	2.118188
DER	1.172294	0.1366959	8.58	0.000	0.903783	1.440805
_CONS---	-10.58535	11.48176	-0.92	0.357	-33.13812	11.96743
sigma_u 8.5562126						
sigma_e 9.7690836						
rho .43410305 (fraction of variance due to u_i)						
F test that all u_i=0: F(138, 549) = 2.90 Prob> F = 0.0000						

Source: Author's own tabulation using STATA software.

Interpretation: The above-mentioned Table VI describes the relationship between explanatory variables and outcome variables within an entity. This model helps to analyze the impact of variables that vary over time. From the above Table VI, we observed there is a significant positive association of Proportion of Independent Female Directors on the Board (I-WOMEN) and Proportion of Educated Female Directors on the Board (E-WOMEN) with the Firm's Performance and it is statistically significant at 5% level. Further, the above result highlights Leverage (Control Variable) as measured by Debt-Equity Ratio (DER) also has a significant positive linkage with the Firm's Performance at 1 % level.

But, no evidence of relationship could be traced out of the above results between of Number of Female Directors on the Board (N-WOMEN), Proportion of Overseas Female Directors on the Board (O-WOMEN), and the other control variables namely BOARD SIZE & FIRM SIZE with the Firm's Performance.

Table 7: Hausman Test

---- Coefficients ----	**(b) FEM**	**(B) REM**	**(b-B) Difference**	**sqrt(diag (V_b-V_B)) S.E.**
N-WOMEN	-2.129682	-1.297984	-0.8316975	0.9193559
I-WOMEN	23.87106	23.05014	0.8209183	7.981133
E-WOMEN	31.67216	16.52809	15.14407	9.915265

O-WOMEN	4.914063	-5.122492	10.03656	24.19737
BOARD SIZE	5.362037	5.143924	0.2181128	2.644638
FIRM SIZE	0.091117	-2.237497	2.328614	0.9473526
DER	1.172294	1.117462	0.0548318	0.0530239
b = consistent under Ho and Ha; obtained from xtreg B = inconsistent under Ha, efficient under Ho; obtained from xtreg Test: Ho: difference in coefficients not systematic chi2(7) = (b-B)'[(V_b-V_B)^(-1)](b-B) = 13.29 Prob>chi2 = 0.0654				

Source: Author's own tabulation using STATA software.

Interpretation: The above-mentioned Table 7, explains whether to keep FEM or REM as a preferred model for the present study. The above Hausman test statistics highlights chi2(7) = 13.29 and Prob>chi2 = 0.0654, i.e., more than 0.05 which is insignificant. Therefore, we failed to reject the null hypothesis (H0). Hence, it can be asserted from the above table that the results of REM (as shown in Table VIII) should be accepted, but the FEM is not a good fit in this particular study as suggested by Hausman test statistics.

Table 8: Random-Effects GLS Regression

Random-effects GLS regression			Number of obs =	695		
Group variable: srlno			Number of groups =	139		
R-sq: within = 0.1363			Obs per group: min =	5		
between = 0.2219			avg =	5.0		
overall = 0.1740			max =	5		
			Wald chi2(7) =	125.55		
corr(u_i, X) = 0 (assumed)			Prob> chi2 =	0.0000		
MVANW	Coef.	Std. Err.	z	P>|z|	Lower bound (95%)	Upper bound (95%)
N-WOMEN	-1.297984	0.925735	-1.40	0.161	-3.112391	0.5164232
I-WOMEN	23.05014	8.953173	2.57	0.010	5.502245	40.59804
E-WOMEN	16.52809	10.06247	1.64	0.100	-3.193982	36.25017
O-WOMEN	-5.122492	21.31296	-0.24	0.810	-46.89513	36.65015
BOARD SIZE	5.143924	2.120269	2.43	0.015	.9882725	9.299576
FIRM SIZE	-2.237497	0.4092219	-5.47	0.000	-3.039557	-1.435436
DER	1.117462	.125993	8.87	0.000	.8705205	1.364404
_CONS---	10.800	5.290922	2.04	0.041	0.4300556	21.17009
Sigma u	6.0384043					
Sigma e	9.7690836	(fraction of variance due to u_i)				
rho	0.27644478					

Source: Author's own tabulation using STATA software

Interpretation: The above table informs about the result of REM. The result of REM shows that R squared is 0.1740. This indicates almost 18% change in the Firm's Performance was explained by Number of Female Directors on the Board (N-WOMEN), Proportion of Independent Female Directors on Board (I-WOMEN), Proportion of Educated Female Directors on the Board (E-WOMEN), Proportion of Overseas Female Directors on the Board (O-WOMEN), Board Size, Firm Size and Leverage (DER).

Proportion of Independent Female Directors on Board (I-WOMEN) has a positive association with the Firm's Performance (MVANW) as regression coefficient of the same is 23.05014 and it is statistically significant at 1% level having p-value 0.010 and t-value 2.57. Hence, we reject the null Hypothesis 2 (refer to section 5: Hypothesis Development) and accept the alternative hypothesis. This depicts with the increase in proportion of independent female directors on the board, the firm's performance has a propensity to be better.

The control variables namely BOARD SIZE and Leverage (DER) also has a positive association with the Firm's Performance (MVANW) and it is statistically significant at 1% level. The above depicts that larger the size of the board, the better will be the firm's performance. This may be due to the fact that two brains are better than the one. More the no. of directors on the board, the more will be the effective functioning and strategic decision-making and in turn, will tend to enhance the firm's performance.

The justification behind higher leverage tends to enhance the firm's performance might be due to the reason that higher leverage means the use of more debts in the capital structure and it will give an advantage in terms of tax savings.

Whereas, FIRM SIZE (another control variable), has a significant negative relationship (at 1% level) with Firm's Performance (MVANW). This outcome depicts that larger firms will exhibit fall in their Market Value as compared to its book value of the equity. This may be possibly due to the reason that when a firm reaches its optimal size, its growth rate, likely to decrease and in turn affecting the firm's performance.

Further, the study suggests there is no association of Number of Female Directors on the Board (N-WOMEN), Proportion of Educated Female Directors on the Board (E-WOMEN), and Proportion of Overseas Female Directors on the Board (O-WOMEN) with the Firm's Performance (MVANW). Hence, we failed to reject the above developed null hypothesis 1, 3 and 4 (refer to section 5: Hypothesis Development).

CONCLUSION

The board of directors is considered to be the most significant decision-making bodies in a corporation and they play a pivotal strategic role in opening the door of corporate growth in a competitive setup. The quality of Corporate Governance vastly rests on Board's composition. Prior literature suggests, among the variables associated with board composition, gender diversity in the boardroom significantly improves corporate governance and had a favourable impact on firm's performance.

The findings of our study revealed there lay a positive association between Proportion of Independent Female Directors on the Board and the Firm's Performance (MVANW) after controlling the variables BOARD SIZE, FIRM SIZE, and Leverage (DER), whilst there seems no linkage of Number of Female Directors on the Board (N-WOMEN), Proportion of Educated Female Directors on the Board (E-WOMEN), and Proportion of Overseas Female Directors on the Board (O-WOMEN) with the Firm's Performance (MVANW).

Thus, it can be concluded from the above shreds of evidence that with the increase in Proportion of independent female directors on the board, the firm's performance has a propensity to enhance.

The present study has significant implications for practice. The findings of this study will be helpful for the corporate decision-makers and the society too. Moreover, based on the empirical evidence (including this manuscript), we believe that introduction of the gender diversity quotas for corporate boards especially in a male-dominated country like India, not only will enhance the corporate performance, but also the status of women in the corporate world and, will lend a hand in building a fairer society.

So far the best of our knowledge, very few studies had been conducted in India over the issue "Board Gender Diversity" hence; for the economic progress of our country further research is required over such aforesaid issue. In future, there is an amplified scope of further research over the issue "Board Gender Diversity". Further research can be conducted on the issues like impact of board gender diversity on firm's capital structure or, on firm's dividend policy or, on firm's stock price or, on firm's cash generating ability or, on firm's working capital management or, on firm's capital budgeting decisions, and others.

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