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[The Role of Female Job Characteristics on the Relationship between Board Gender Diversity and Firm Performance: An Insight from Listed Firms of Pakistan]

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ABSTRACT

This study aims to investigate the relationship between board gender diversity and firm performance in the context of Pakistan. The goal of this study is also to test the gender diversity with different roles on firm performance, i.e., CEO females and females other than CEO i.e., executive females and non- executive females. The sample for analysis is taken from non-financial firms listed on the Pakistan Stock Exchange (PSX) for the period of 2013 to 2022. Several estimate techniques, including pooled ordinary least square (OLS), fixed effects (FE), two steps systems generalized method of moment (GMM), and propensity score matching (PSM), are used in this study. Analysis of this study show that presence of female directors in the board increases firm performance which is consistent with resource-based theory. These findings remain consistent after incorporating the additional board level control variables and alternative definition of firm performance. However, the positive relationship between gender diversity and firm performance is more pronounced when female holds the CEO position. This work also proposes potential directions for future research. The study's conclusion is beneficial among investors, managers, and directors regarding the impact of gender diversity on organizations performance.

Key words: Gender diversity, CEO, Firm Performance, Endogeneity, Pakistan.

Introduction

The importance of the corporate governance in monitoring and advising role in strategic decisions to the selection of projects is widely observed and studied in literature (Alhossini, Ntim, & Zalata, 2021; Huang & Kisgen, 2013). There is evidence that an effective corporate governance structure is fundamental to a firm's growth. It raises the value of shareholders, governs and manages businesses, enhances long-term performance, better resource allocation, increases company transparency (Derakhshan, Turner, & Mancini, 2019; Ivanov & Faulkner, 2020). The aim of firm is the wealth maximization for investors and shareholders. It is responsibility of corporate governance for the optimal utilization of resources for the best performance of firms and for maximization of shareholders wealth (Belderbos, Tong, & Wu, 2019). Therefore, this study tests the effects of corporate governance characteristics such as board gender diversity on firm performance.

In resource based theoretical context, having women in boards is beneficial in many aspects of organization performance by bringing new ideas, discussions in different perspectives associated with a rise in the return on assets and equity (Boukattaya & Omri, 2018). Females reduce earning management and board conflicts, improves the company's internal governance by strict supervision, less overconfident and more cautious in decisions, more responsible, play more active role in board governance, monitor international markets, reduce indebtedness, a greater likelihood of firm survival, improve efficient allocation of resources and have positive role in firm performance (Adams & Ferreira, 2009; Mohsni & Shata, 2021) Moreover, previous studies show that gender diversity may also has negative influence on firm performance (Arti, Sunita, & Julee, 2011).

Hence, the contradiction in inconclusive findings in the literature is the motivation to investigate the relationship between gender diversity and firm performance in the context of Pakistan. Gender diversity is assumed to mitigate the agency issues by the efficient utilization of resources of firms. Further goal of this work is to check the effect of female job characteristics in the relationship between board gender diversity and firm performance. As role of females in board is different in firms, i.e., CEO females, females other than CEO, executive females and non- executive females. The role of CEO females is to make decisions for firms' investment and the role of females other than CEO is monitoring of firms' activities. In this work, The Pakistani market has been selected in order to achieve the study's goal. The Securities and Exchange Commission of Pakistan mandates that every board must include at least one female director. Pakistan provides an ideal framework within Asia to assess the status of women on corporate boards. The sample is selected from companies listed on the Pakistan Stock Exchange (PSX) from 2013 to 2022. Final sample for the study has 2139 firm-year observations and 289 firms. This study uses multivariate regressions to test the hypotheses, i.e., OLS, FE, and GMM.

In the first hypothesis testing, variable of interest, independent variable gender diversity is regressed on firm performance. The results provide evidence in favour of hypothesis that presence of women in board increase firms' performance with efficient investment decisions consistent with resource based theory (Reguera-Alvarado, de Fuentes, & Laffarga, 2017). These findings remain consistent after incorporating the board level control variables (board size, CEO duality, and board independence) and use of alternative definition of firm performance(MV/BV) in the regression analysis. Moreover, the findings are qualitative remain consistent after addressing the endogeneity issues related to selection of gender diversity and function misspecification biases using PSM technique. Further findings also provide evidence in support of hypothesis that presence of women as CEO in board increase and strengthens the firms' performance in all regression models. However, findings prove that women also have better monitoring power with their risk aversion behaviour may result in cautious thought, careful data processing and enhance firm performance except in model 2. This study enhances existing knowledge by investigating the potential impact of gender diversity on a company's financial performance. This study serves as the preliminary investigation into the impact of women's employment levels on organizational effectiveness. In the context of Pakistan, this study is novel and distinctive.

Literature Review

Over the past few decades, interest in the benefits of having women on boards of directors has progressively increased among academics and practitioners (Dezso & Ross, 2012; Halliday, Paustian-Underdahl, & Fainshmidt, 2021). Post and Byron (2015) find the presence of women on boards is directly related with accounting returns, monitoring, and strategy formulation. Siegel, Pyun, and Cheon (2014) find positive relationship between a 10% increase in female representation on corporate boards and a 1% enhancement in return on assets (ROA) within Korean multinational corporations. Owen and Temesvary (2018) find a favorable correlation between a bank's performance and the number of women on its board. Kim and Hong (2015) identify the superior performance of firms exhibiting significant gender diversity within the Malaysian context. Mohsni and

Shata (2021) demonstrate that the presence of capable females lead to improved earnings, reduced bad loans, and enhanced debtor quality.

Bogan, Just, and Dev (2013) discover that teamwork had a greater influence on work than a single individual. Excessive male presence leads to riskier judgments and an increased chance of hazardous investment. Furthermore, a greater female presence might heighten risk aversion. In a similar vein to previous studies, Apesteguia, Azmat, and Iriberri (2012) find that three-woman team perform better than any other gender combination. Thams, Bendell, and Terjesen (2018) discover that board of directors with more female participation has better financial performance, as indicated by Tobin's Q and return on assets. Chijoke-Mgbame, Boateng, and Mgbame (2020) find a favorable relationship between the representation of women on corporate boards and the success of firms, and this increase is more effective for board with two or more women. Mirza, Majeed, and Ahsan (2020) find that female directors make better investment decisions, as they have more monitoring power, discipline the management, make better use of resources, lower agency risks, and have symmetric information. Cambrea, Tenuta, and Vastola (2019) find that corporate boards that have women are better able to keep an eye on social, environmental, and ethical concerns.

Mukarram, Saeed, Hammoudeh, and Raziq (2018) find that higher proportion of women serving on their boards of directors will have greater stock market success in Indian businesses. Chemmanur and Paeglis (2005) determine that gender diversity increases a company's value during an initial public offering (IPO) and improves its operational and market efficiency. Poletti-Hughes and Martinez Garcia (2022) find that family-controlled firms increased leverage to maintain control of the business, though these impacts are mitigated when qualified women board members are included as moderating variable. Luanglath, Ali, and Mohannak (2019) based on the upper echelons theory find that a more diverse top management team (TMT) leads to greater productivity. Cambrea et al. (2019) find that females have more capability for creativity and innovation.

While the aforementioned empirical evidence support gender diversity in firm performance though there are a number of issues that hinder its potential to perform better. According to Ahern and Dittmar (2012) state that female quotas are detrimental to business productivity. Adams and Ferreira (2009) find that over-monitoring in well-governed organizations owing to greater gender diversity might hurt shareholder value and company performance. Huang and Kisgen (2013) assert that the quality of a company's Tobin's Q score is inversely correlated with the presence of women on a board. Rose (2007) finds no significant effect of gender diversity on the stock performance and return on investment (ROI) of 500 large corporations in Denmark, Norway, and Sweden. Furthermore, the success of numerous US firms is not related with the presence of women on boards of directors (Randøy, Thomsen, & Oxelheim, 2006).
Therefore, based on above discussion the following relationship can be expected:

H1. *There is a positive relationship between gender diversity and firm performance*

Female CEOs are more inclined to prioritize profit maximization and execute stock options. Kim and Oh (2017) find profitability and the ratio of net assets to stock price are positively affected by the presence of female CEOs. Wang, Deng, and Alon (2021)

examine female CEOs' financing options. On the grounds of the pecking order theory, findings show that female CEOs seldom rely on either internal or external finance, suggesting a distinct approach to financial decision making. Kim and Oh (2017) find that having female CEOs has a beneficial effect on profitability. In addition to lowering agency difficulties. Jurkus, Park, and Woodard (2011) find that FCEOs have a negative correlation with agency conflict and improves company performance. Therefore, when FCEOs are in charge of companies, there is less of a chance that they would make poor investment judgments. Atkinson, Baird, and Frye (2003) reveal that with respect to investment behavior, females act differently than males owing to their job characteristics, prior knowledge, and degree of achievement. Siegel, Kodama, and Halaburda (2014) show that having women in top executive roles increase profits for Japanese manufacturing corporations. Bear, Rahman, and Post (2010) show that investors, consumers, and the company's CSR rating all benefit from having women in leadership roles. Amin, Ali, Rehman, Naseem, and Ahmad (2022) find that female representation on corporate boards increase productivity.

Chen, Leung, and Goergen (2017) show that the likelihood of independent female directors will push for large dividend payouts. More women in executive roles may also help women in lower-level roles advance in their careers, which in turn increases business productivity and broadens the talent pool for executive roles (Marlow & Patton, 2005). Shin, Chang, Jeon, and Kim (2020) show women's increased monitoring role in firms on investment decisions based on efficiency-enhancing perspective. Kubo and Nguyen (2021) find that stock market often responds positively when a firm hires its first female CEO, regardless of whether the CEO's gender affects the company's financial health. Hence, if female hold the position of chief executive officer, Tobin's Q will be higher and this correlation is statistically significant. Ullah, Majeed, and Fang (2021) find FCEOs affect significantly on investment efficiency in developing economies where low female participation in business activities exist. Faccio, Marchica, and Mura (2016) find that female CEO are connected with low corporate risk-taking. Because they are less likely to take risks. They also investigate that there is less chances to be harmed by corporate scandals such as bribery and fraud of those firms whose board have presence of females, implying a higher possibility of firm survival. Therefore, based on above discussion of relationship between different roles of females and firm performance, following relationship can be expected:

H2: Female representation in CEO positions is more positively associated with firm performance as compared to other female positions

Methodology

Data is collected from the nonfinancial companies listed on the Pakistan Stock Exchange (PSX) between 2013 and 2022. Final sample for the analysis has 289 firms, with a total of 2139 firm-year observations. The relationship between gender diversity and firm performance is examined based on the following model stated in Equation (1).

$$TQ_{it} = \alpha_0 + \beta_1 \text{Female\_DUM}_{it} + \beta_2 \text{Firm Leverage}_{it} + \beta_3 \text{Firm Size}_{it} + \beta_4 \text{Sales Growth}_{it} + \beta_5 \text{CFO}_{it} + \beta_6 \text{Cash}_{it} + \beta_7 \text{DIV\_DUM}_{it} + \varepsilon_{it} \quad (1)$$

TQ, a market-based measure, is defined as the market value of equity (share price multiplied by shares outstanding) plus total debt, divided by total assets. Gender

diversity is the independent variable, quantified as a dummy variable set to 1 if at least one woman is present on the board, and 0 otherwise (Bhutta, Sheikh, Munir, Naz, & Saif, 2021). The control variables are defined as follows: firm leverage is determined by dividing the entire debt in book value by the total assets (Nadeem, Suleman, & Ahmed, 2019). The size of a firm is defined as the logarithm of its total assets (Shahid & Abbas, 2019). Sale growth is quantified by calculating the difference between the sales of the current year and the sales of the preceding year. CFO denotes the ratio of operational cash flow to total assets. The term cash denotes the sum of money and short-term investments relative to total assets. Dividend is a dummy variable that assumes the value of 1 if a firm distributes dividends and 0 if it does not (Naz, Bhutta, Sheikh, & Sultan, 2023).

This study investigates the impact of gender diversity on business performance and the role of female job characteristics utilizing three methodologies: Ordinary Least Squares (OLS), Fixed Effects (FE), and Generalized Method of Moments (GMM). The Ordinary Least Squares (OLS) regression is predicated on the assumption of robust standard errors, including the control of industry and year fixed effects (Hao, Chen, & Chen, 2022). The bias resulting from time-invariant variables in panel data is the first source of endogeneity, and fixed effect regression is a powerful technique that can enhance identification and get rid of it (Nadeem et al., 2019). Furthermore, the Generalized Method of Moments (GMM) approach addresses other biases including dynamic endogeneity and simultaneity. Moreover, endogeneity issues related to selection of gender diversity and function misspecification biases are addressed by using PSM technique. Alternative definition of firms' performance and additional board level control variables are used and re-test the baseline findings in robustness tests that captures other aspects to reduce the agency problems.

Results and Discussions

1.1 Descriptive Statistics

For each research variable dependent, independent, and control descriptive statistics (means, medians, and standard deviations) are shown in Table 1. Mean (median) values of TQ for all nonfinancial firms is 1.432 (0.8354) with a standard deviation of 1.3245 of 2139 observations. The standard deviation for gender diversity is 0.4673, median value is 0.050 and the mean is 0.4123. Mean (median) values of firm leverage is 0.1190 (0.0772) with a standard deviation of 0.1265, the average firm size is 16.3343 with median value is 14.4356 and standard deviation is 1.337 , firm sales growth is about 11.09%, median value 0.0675 and standard deviation is 0.3215, cash flow is averaged at mean (median) values 0.0902 (0.0258) with a standard deviation of 0.1426, firms average hold 9.02% cash and short term investments with median 0.0258 and a standard deviation is 0.1426 and almost 35.39% of firms pay a cash dividend with a standard deviation of 0.45 for all nonfinancial firms of 2139 observations from year 2013 and 2022 .

Table 1: Descriptive Statistics

	N	Mean	Median	Std. Dev.	Min	Max
TQ	2139	1.432	0.8354	1.3245	0.1542	7.564
Female_DUM	2139	0.4123	0.050	0.4673	0	1
Firm Lev	2139	0.1190	0.0772	0.1265	0.145	0.546
Firm Size	2139	16.3343	14.4356	1.337	10.7623	18.4523

Sales Growth	2139	0.1109	0.0675	0.3215	-0.5427	1.7656
CFO	2139	0.0902	0.0258	0.1426	-0.3245	0.3423
Cash	2139	0.0771	0.0345	0.1487	0.0003	0.7656
DIV_DUM	2139	0.3539	0.0012	0.45	0	1

1.2 Correlation Analysis

Table 2 displays the matrix of pairwise correlations, with a value of 0.22, TQ is positively and significantly correlated with gender diversity. Except for leverage, which has a negative value of -0.17, from control variables firm size, firm sales growth, CFO, cash on hand, and dividend payout correlate positively with company performance. Results show that there is no multicollinearity.

Table 2: Correlation Matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) TQ	1.0000							
(2) Female_DUM	0.22*	1.0000						
(3) Firm Lev	-0.17*	-0.02*	1.0000					
(4) Firm Size	0.06*	0.04*	-0.07*	1.0000				
(5) CFO	0.26*	0.02*	-0.012	-0.02*	1.0000			
(6) Cash	0.19*	0.002	-0.04*	-0.33*	0.13*	1.0000		
(7) Sales Growth	0.05*	0.02*	-0.030	0.07*	0.03*	0.09*	1.0000	
(8) DIV_DUM	0.12*	0.01*	-0.21*	-0.11*	0.35*	0.15*	0.14*	1.0000

*$p<0.01$

1.3 Regression Analysis

Results of examining the impact of gender diversity on firm performance by using three different models: OLS (Model 1), fixed effect (Model 2) and System GMM (Model 3) are shown in Table 3. Model 2 finds that (Female_DUM) has a positive but insignificant effect on profitability (TQ) with a value of 0.037, while models 1 and 3 have estimated coefficients of 0.125 and 0.096, respectively, at a 5% (1%) level of significance. Hence, it is concluded that firms with female board members make more efficient investment decisions, which in turn enhance firm performance. Firms with large size, high cash flow, strong sales growth, dividend payment, and high cash flow from operations have good market performance. Hence, if agency difficulties are overcome, putting females into consideration in board lead to increase revenues

Table 3: Effect of Female on Profitability

	(Model 1: OLS)	(Model 2: Fixed Effects)	(Model 3: System GMM)
VARIABLES	TQ	TQ	TQ
L.TQ	---	---	0.869***
	(--)	(--)	(370.689)
Female_DUM	0.125**	0.037	0.096***
	(2.112)	(1.077)	(5.826)
Firm Leverage	-1.103***	0.164	-0.049
	(-5.519)	(0.826)	(-1.152)
Firm Size	0.034***	0.030	0.006**

	(2.437)	(0.513)	(1.298)
Sales Growth	0.016	0.107**	0.120***
	(0.207)	(2.262)	(11.208)
CFO	2.049***	0.829***	0.289***
	(6.271)	(5.742)	(12.471)
Cash	0.324**	0.053	0.023
	(1.369)	(0.359)	(1.002)
DIV_DUM	0.205***	0.078*	0.064***
	(4.229)	(1.891)	(11.258)
Industry Effects	YES	NO	YES
Year Effects	YES	YES	YES
Constant	-0.278	0.384	-0.231***
	(-1.580)	(0.437)	(-5.023)
Observations	2,139	2,139	1,979
R-squared	0.152	0.182	---

*** p<0.01, ** p<0.05, * p<0.1

1.4 Endogeneity Concerns

Propensity Score Matching (PSM) Approach is able to effectively address selection bias due to functional misspecification and firm features (Roberts & Whited, 2013). Using neighbor one-to-one matching, the female diverse companies are paired with the male presence companies for each fiscal year in Table 4 (Panel A). This method selects a subset of businesses to serve as a control group (no females = dummy 0) and a treatment group (female = dummy 1). For matched samples, this table shows the results of a mean difference test between the treatment and control businesses. There are no statistical differences among the treatment variables in terms of TQ, as shown by the negligible t-statistic values of 1.16 (0.113) from the t-test (p-value). The treatment group, however, had a much higher average TQ value than the control group. Baseline analysis is rerun using matched-sample OLS, fixed-effects, and GMM approaches in Panel B of Table 4. A positive significant values in all models show that firm with females have high performance consistent with baseline results.

Table 4: PSM Analysis

Endogeneity Analysis using Propensity Score Matching

Panel A: Description statistics of matched sample and their comparison

	Mean		**t-test**	**p-value**
Variables	**Female=1**	**Female=0**		
TQ		1.102		
	1.465		1.16	0.113
Female_DUM	0.235	0.113	1.41	0.135
Firm Leverage	0.237	0.129	-1.04	0.267
Firm Size	14.17	13.817	0.01	0.883
Sale Growth	0.134	0.028	0.68	0.268
CFO	0.054	0.046	-0.23	0.501
Cash	0.022	0.179	-0.27	0.402
DIV_DUM	0.236	0.447	-0.34	0.314

Panel B: Regressions of TQ on the Proportion of Firms with Female_DUM			
	(Model 1 : OLS)	(Model 2: Fixed Effects)	(Model 3: System GMM)
VARIABLES	TQ	TQ	TQ
L.TQ	---	---	0.798***
	(--)	(--)	(62.393)
Treat (FEM_DUM)	0.129**	0.231***	0.225***
	(2.515)	(0.810)	(2.428)
Control Variables	Included	Included	Included
Industry Effects	YES	NO	YES
Year Effects	YES	YES	YES
Constant	-0.850	0.003	0.025
	(-1.234)	(0.001)	(0.212)
Observations	720	720	689
R-squared	0.237	0.122	---

*** p<0.01, ** p<0.05, * p<0.1

1.5 Robustness Checks

1.5.1 Additional Board Level Control Variables

Table 5 presents the OLS, fixed-effect, and GMM system models for estimating the influence of gender diversity on profitability, using additional board-level control variables (board size, board independence, and duality) to ensure the robustness of the results. The board size is quantified as the number of directors on a board represented in natural logarithmic. The proportion of non-executive directors to total directors is a significant indicator of board independence. Duality, a dummy variable, is designated the value one if the company's CEO (chief executive officer) also serves as COB (chairman of the board) and zero otherwise (Nadeem et al., 2019). Results provide evidence in support of hypothesis and baseline findings.

Table 5: Additional Board Level Control Variables

	(Model 1: OLS)	(Model 2: Fixed Effects)	(Model 3: System GMM)
VARIABLES	TQ	TQ	TQ
LTQ	---	---	0.816***
			(29.029)
Female_DUM	0.231**	0.027*	0.024***
	(2.026)	(2.238)	(2.327)
Control Variables	Included	Included	Included
Board Size	0.237**	0.246	0.122***
	(1.131)	(2.143)	(7.700)
Duality	-0.027	-0.161***	0.034***
	(-0.217)	(-1.232)	(2.373)
Board Independence	-0.041	-0.240**	0.011
	(-0.220)	(-1.186)	(1.121)
Constant	-1.194**	0.339	-0.344***

	(-2.440)	(0.258)	(-11.583)
Observations	2,139	2,139	1,979
R-squared	0.294	0.179	---

*** p<0.01, ** p<0.05, * p<0.1

1.5.2 Alternative proxy of Profitability (MV/BV)

Table 6 presents the results of the OLS, fixed-effect, and GMM system models used to estimate how gender diversity affects profitability (log of market value/book value) as measured in (Abdullah, Ismail, & Nachum, 2016). Our hypothesis and baseline findings that the presence of women improves firm performance through effective investment decisions are supported by the results.

Table 6: Alternative proxy of profitability as MV/BV

	(Model 1: OLS)	**(Model 2: Fixed Effects)**	**(Model 3: System GMM)**
VARIABLES	**MV/BV**	**MV/BV**	**MV/BV**
Lag (MV/BV)	---	---	0.149***
			(5.522)
Female_DUM	0.041**	0.029***	0.049**
	(1.497)	(1.233)	(0.546)
Control Variables	Included	Included	Included
Constant	-0.190	1.158 ***	-0.126
	(-1.327)	(2.426)	(-0.125)
Observations	2,139	2,139	1,979
R-squared	0.287	0.298	---

*** p<0.01, ** p<0.05, * p<0.1

1.6 Role of Female as CEO and other than CEO

Table 7 (Panel A) examines the distinct roles of female presence in board. The results shown in Panel A indicate a positive relationship between firm performance and the presence of a females as CEO. Findings support hypothesis ii, which holds that female CEO add value to the company. This implies that better results occur when female CEOs participate in firm investment and strategic decisions (Cambrea et al., 2019; Faccio et al., 2016), It also emphasises how gender diversity on boards, especially in decision-making roles, improves governance. In contrast, Table 7 (Panel B) highlights that female non-CEO board members, executive and non-executive directors also enhance firm performance except in model 2. This also supports the baseline findings.

Table 7: CEO and other than CEO Females

	Panel A: CEO Females			Panel B: Females other than CEO (Executive and Non-Executive)		
	Model 1 OLS	**Model 2 Fixed Effects**	**Model 3 System GMM**	**Model 1 OLS**	**Model 2 Fixed Effects**	**Model 3 System GMM**
VARIABLES	**TQ**	**TQ**	**TQ**	**TQ**	**TQ**	**TQ**
LTQ	---	---	0.727*** (79.324)	---	---	0.867*** (29.554)
Female_CEO	0.231*** (5.157)	0.358*** (0.039)	0.622** (3.152)			
Female other than CEO	---	---	---	0.081** (1.225)	0.079 (1.802)	0.017** (0.609)
Control Variables	Included	Included	Included	Included	Included	Included
Constant	-0.383 (-1.284)	0.214 (0.134)	0.044 (0.780)	-0.322 (-1.209)	0.138 (0.325)	-0.012 (-1.241)
Observations	1,134	1,139	1,021	2,139	2,139	1,979
R-squared	0.293	0.161	---	0.290	0.161	---

*** p<0.01, ** p<0.05, * p<0.1

1.7 Subsample Analysis

1.7.1 Role of Low and High Representation of Women

Additional tests are applied on sample of firms based on number of females in board in Table 8. For the subsample, gender diversity in board as firms having high number of women (N= 3 or more than 3) denotes Female (H)_DUM, medium number of women (N= 2) is Female (M)_DUM and low number of women (N= 1) is Female (L)_DUM. Based on critical mass theory, women on the board improves firm performance (Saggese, Sarto, & Viganò, 2021). Results provide evidence in support of hypothesis that presence of women in board increase firms' performance with efficient investment decisions regardless of their numbers.

Table 8: High/Low Representation of Women

VARIABLES	**TQ**	**TQ**	**TQ**
Female (H)_DUM	0.023* (1.379)	---	---
Female (M)_DUM	---	0.029** (0.142)	---
Female (L)_DUM	---	---	0.230** (0.231)
Control Variables	Included	Included	Included
Constant	-0.366	-0.362	-0.234

	(-1.210)	(-1.220)	(-1.114)
Observations	534	676	929
R-squared	0.290	0.199	0.259

*** p<0.01, ** p<0.05, * p<0.1

Conclusions

This work investigates the effect of board gender diversity on firm performance on the basis of resource-based theory, also aim of this work is to check the effect of female job characteristics on the relationship between board gender diversity and firm performance in the context of Pakistan. Results in baseline analysis, provide evidence in support of hypothesis that corporations with females in board increase firm performance with efficient investment decisions. These results are also consistent with resource-based theory by using different techniques such as OLS, fixed effects and GMM after controlling the regressions with standard determinants of firm performance and industry and year fixed effects. Matched sample findings show that owing females in board increase firm performance. Further the hypothesis is again tested by using alternative definitions of firm performance and additional board level control variables, thus find similar results to the baseline results. Tests are also applied on firms based on different role of females in board, i.e., CEO females and females other than CEO. Results in the context of females as CEO provide more robust evidence in favour of hypothesis and baseline findings. while, results of women in positions other than CEO i.e., executive females and non- executive females also provide evidence in support of baseline results except fixed effect model. Further, tests are applied on firms based on different number of representation of women in firms' boards of directors. The findings indicate that the presence of women on boards enhances business performance, irrespective of their representation in numbers. This study has significant implications for policymakers and regulatory bodies, indicating that a presence of females on boards is important for the functioning of firms in the Pakistani setting.

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