



THE EFFECT OF WOMEN DIRECTOR ON BANKS PERFORMANCE: EVIDENCE FROM PAKISTAN

Seema Chandani

Institute of Business Management, Pakistan

E-mail: snaushad.chandani@gmail.com

Mashal Mabood

Institute of Business Management, Pakistan

E-mail: mashalmabood@gmail.com

Waqas Mahmood

Institute of Business Management, Pakistan

E-mail: waqas@sharepointexperts.org

Submission: 19/09/2017

Revision: 06/03/2018

Accept: 19/03/2018

ABSTRACT

Code of Corporate governance around the globe encourage the appearance of women in corporate board. The objective of this research is to observe the association between board gender diversity and its effects on bank performance which is based on evidence of Pakistan. The sample of this research comprises of 10 listed banks of Pakistan. Secondary data has been collected of 12 years from 2005 to 2016. Bank financial performance is measured through ROA and ROE. Analysis is done through descriptive statistics and linear regression are applied on the data through different tests such as Heteroscedasticity, Stationary of the data, Multicollinearity is tested through Dickey fuller and Augmented Dickey fuller approaches. The study summarizes that there is an insignificant association between board gender diversity and banks performance in Pakistan, it concludes that this study does not support the developed hypothesis that woman on board has insignificant effect on bank financial performance.



The finding of this study recommends to use a large sample of banks with difference methodologies such as surveys, case studies and qualitative research to find out the causes of the question that why the women on board decreasing the financial performance.

Keywords: Corporate Governance, Gender Diversity, Women on Board Number, Bank Financial Performance

1. INTRODUCTION

1.1. Background of study

Corporate governance is a term which defined by various researchers in different ways. The firms who are operating according to the principles of corporate governance are more powerful in terms of profitability for their shareholders. Board of directors is one of the essential mechanisms of corporate governance. Board of director plays a vital role in accomplishing the objectives of the growth of company as well as caring the interests of company shareholders.

Right selection of the board of directors is essential part as they involved in strategic decision making as well as policy formulation of the company in this competitive age (VISHWAKARMA, 2017). The Board of directors (BOD) perform various task for instance: responsible for supervising and controlling managers, appoint and decide remuneration of senior management (NAHAR ABDULLAH, 2004).

Further research found higher ratio of female in board increases the productivity and profitability of organization, thus positive performance effects of board gender diversity (VON BERGEN et al., 2005). The induction of women director is essential in some countries such as Norway and Spain has made it mandatory to have at least 40% women director for all listed companies, similarly Malaysia has imposed to have at least 30% women director on board (MOHAMED et al., 2015).

This is evident that women are different from men in terms of education background, experience and expertise, personality which mainly considers all these traits in decision making of firm (LIAO et al., 2015). Additionally women also consider as risk takers, compassionate, more dedicated and hard-working then men counterpart (ADAMS; FUNK, 2012).



Lee et al. (2014) also explained that women is the source of well interactive with human resource and assist companies in retaining and developing relationship with investors, stakeholders and customers which leads to progress in the companies. We have hardly seen women director as independent, non-executive director and executive director. There are many women director in board who belongs to the controlling family and several businessmen grasp their family directorship just to get hold of their family business to carry further till next generation.

1.2. Objectives

The purpose of the paper is to observe the effects of women director on bank performance level in Pakistan. This study adds various contributions to the present literature as there is lack of practical facts of the association between board gender diversity and bank performance in Pakistan, thus we deliver different approach on the participation of women director in the Pakistan banking sector through considering the presence of women director on board brings more benefits to bank.

This research increases a large variety of data of the 10 listed banks of Karachi Stock exchange from 2005 to 2016. Worldwide researchers have strived to build the association between the ratios of women on board and firms' performance. The organization financial efficiency is determined by different constraints such as return on assets ROA, return on equity ROE.

This paper supports the exiting literature in two diverse ways: first we provide different approach on the participation of women director in the Pakistan banking sector by empower the accurate placing of women director on the corporate board.

1.3. Problem Statement

In corporate sector of Pakistan, the subject of board gender diversity has become broadly discussed in present time. Rising number of women on boardroom has raised several queries about firm's non-financial and financial efficiency. In light of above, many scholars are in process of studying about the effect of board gender diversity on banks profitability in several countries.

1.4. Hypothesis development

One of the reason for low participation rate of women on board particularly in Pakistan's corporate environment is due to gender discrimination where women consider as weaker leader than men counterpart (DOLDOR et al., 2012), the other reason is women are less likely to pursue their career because of their high family and cultural obligation and boundaries. Consequently firms perceived that, to have women director will affect their performance negatively (GOLDIN; KATZ, 2008).

However, in banking sector, the most preference is given to women on job due to many inherited benefits. It has also noticed that over the past few years the more women are on the senior management positions in banking industry. At this point, we generate our first hypothesis:

- **H₁**: Higher the number of women on boards the better is the performance of banking sector.
- **H₂**: The presence of woman on board, the better the efficiency of bank performance.
- **H₃**: Gender diversity improves the banking performance as measured through financial performance indicators that are ROA and ROE.

2. LITERATURE REVIEW AND THEORETICAL BACKGROUND

This study investigates two element of board composition – first is independent director and other is women director that is limited to gender diversity. We initiate with theorizing of how women director may affect banking efficiency and performance and then we examine the influence of independent director of banking performance.

2.1. Women director and bank performance

We discuss three major theories that provides the huge gender diversity that may improve board performance and contribute better in bank performance: agency theory, theory of resource dependency and third is gender role theory (TERJESEN et al., 2009a).

An agency theory explained that women brings balanced view on complicated problems which could maintain accurate information in problem solving and strategic decision making process (FRANCOEUR et al., 2008).



In addition, with greater number of women particularly more than one woman or more than that on board improves and persuade on board's decision making process (FONDAS; SASSALOS, 2000). There is evidence that shows greater number women in board have huge level of development program, evaluation (NIELSEN; HUSE, 2010) and monitor the management reporting that increase earnings value of organization (SRINIDHI et al., 2011).

The second theory is resource dependency as women directors bring quality resources, commitments and unique relations in board. The evidence shows that women have diversified network through which she understand and capture certain markets and customers as compare to male counterparts (IBARRA, 1993).

This theory also suggested that the greater number of board diversity is better the strategic decision and monitoring role of board and greater amount of women in banks boards enhance the diversity of knowledge, perspective, opinion, problem solving which improves the formulation of polices and strategy and decision making process as well as controlling and monitoring function of board (WESTPHAL; MILTON, 2000).

Furthermore the induction of women independent director on boardroom brings better performance of bank in terms of monitoring and controlling function as the BOD could be able to oppose the authority of the higher management in the decision and control them from mishandling the power (HILLMAN et al., 2002).

The gender role theory described the individual gender that uses approach which is associated with their gender that expected to be apparent improved by others and this theory also explained that how men and women are different in terms of behaviors tactics with respect influences qualities and communication. For instance women are anticipated to more feminine part such as courtesy, understanding and flexible which expresses to better management of uncertain circumstances. Conversely men are likely to have more aggressive and assertive role (EAGLY, 1987; EAGLY et al., 1995).

In this study we expect the finding of our research will gives a significant signal to the policy makers to enhance the women selection rates in the corporate board in order to strengthen bank performance.

2.2. Gender Diversity and bank performance

Existing research furnish mixed proof in terms of the connection between board gender diversity and banks performance. Agency theory describe that the affirmative impact of gender diversity on the organization efficiency and according to that theory, gender diversity is the essential corporate governance practice of organizations (GALLEGO-ÁLVAREZ et al., 2010) and diversified gender board perform a better controlling and monitoring tool of organization which resulting decrease the agency cost with agency issues hence, enhance financial performance of organizations.

Agency theory also implies as shareholder as principal and manager as agent, they do not take interest to share general purposes of companies with each other (JENSEN; MECKLING, 1976). This includes in conflict of interest which extent a huge problem to shareholders as the managers have right to use the internal information of company which makes them to track and use for their own benefits and interest.

These agent-principal conflicts of interest direct to formation of corporate governance regulations which integrate the task of board of directors as they perform the controlling, supervisory and counseling roles for decision making by top management which support the shareholder benefits that improve the efficiency of organization particularly banks because failure of the board of director has higher negative consequence to banks which direct to financial disorder and crises (CLAESSENS; YURTOGLU, 2013).

Conversely, several theoretical arguments enlightened the greater benefits will be achieved while women contribution in board, thus gender diversity also focus on societal pressure and certain quota sets by government regulations, thus forcing by government to fulfill certain quota and societal pressure, companies to induct incapable and incompetent women director hiring for their board that effects the efficiency of companies (BANTEL; JACKSON, 1989).

Agency theory is used to explain a positive effect of gender diversity of board for organizations performance. As per the perspective of agency theory, board gender diversity is essential system of corporate governance for organizations (GALLEGO-ÁLVAREZ et al., 2010).



Hence, board gender diversity can be system that helps to reduce the cost associated with agency problems (REGUERA-ALVARADO et al., 2017a). Previous literature indicates that powerful corporate governance can decrease agency problems, thus enhances the financial performance and improve board controlling and monitoring (CARTER et al., 2003).

One of the research investigation suggests that the composition of board influence the results of organizations, hence the outcomes are mixed in terms of influence of female (TERJESEN et al., 2009b) and independent (DALTON et al., 1998) directors.

Research has futile to investigate board independence formation in a gender diversity structure despite of taking interest by academics, policymakers and practitioners. Researchers have call for more exploration of relationship of board gender diversity outcome(ADAMS et al., 2015).

Literature entails various reasons for taking women as a board member of firm which increase variety of board members that could broaden team of experience, professional and expert for the boardroom to complete its tasks for shareholders favors (BURGESS; THARENNOU, 2002). Another study described that female board member are more expected to actively participate in board activities as compare to the male counterpart (VIRTANEN, 2012) and also display collaboration and leadership skills (EAGLY; JOHNSON, 1990).

As per Daily et al. (1999) almost 60% women involve in purchases in the US, as this is the essential part of any business and it shows that females are responsive and active observer of the market conditions and can bring a more positive approach as they thoroughly understand the customers requirement.

First study conducted on gender diversity in Pakistan, (YASSER, 2012) explained the facts from 2008 to 2010 of all companies on KSE index 100 that only 25% organizations consisted of at least one woman in board and the percentage of woman CEO was found 33.3%. The most important argument in support of management diversity is that more alternatives of decisions come up with more diversified board of directors.

Corporate governance is mainly concerned with the progress of systems and carries out the responsibility of corporate management and Increase Company's

efficiency (BRAMMER et al., 2007). Board gender composition has generally concern on two elements: economical and ethical concerns. According to economical perspective that the preference is best possible way rather than depraved. Conversely, as per the ethical aspect, an inadequate representation of women in board could be considered as bias. This viewpoint claims that it is immoral to eliminate woman director from the top echelons organization only because of gender (BRAMMER et al., 2007).

The upper echelons theory is familiar with more diversified senior management teams, thus more resourceful ideas generated with connected to improved advancement in organizations (JACKSON, 1992). Further researcher explained that more women particular on top positions are appointed, thus it increases the external pool of talent for board members.

Zahra and Stanton (1988) observed the association between gender diversity and financial competence of firms, they studied on 100 fortune 500 companies and applied ROE return on equity, EPS earning per share, profit, sale profit margin, dividend per share as performance constructs and found insignificant relationship between both financial competence of firms and gender diversity. In contract, (DARMIDI, 2010) found that existence of women on top position is negative effect on firms performance.

In addition, one of the researches explore that the ratio of women on senior executive position is positively effect on firms performance, even after manipulative for several qualities, this affect depends on the talent of women on senior position (SMITH et al., 2006).

2.3. Theoretical Framework

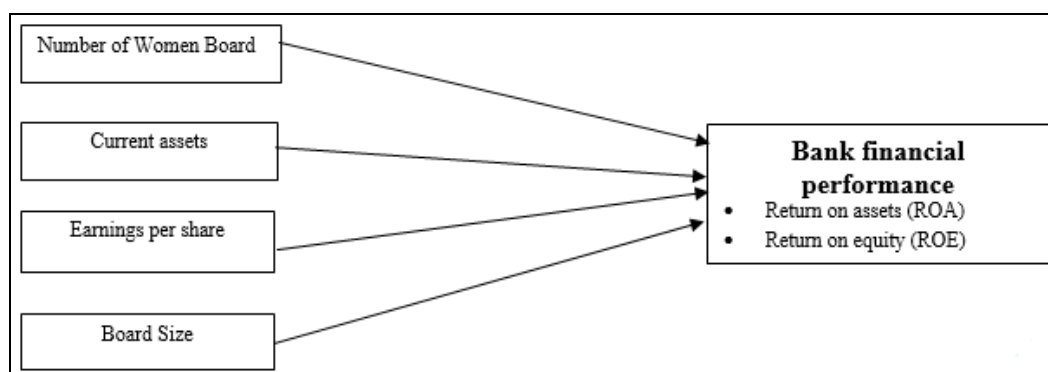


Figure 1: Theoretical Framework

In light of above literature review, we came up with the following constructs, one independent variable that is women on board number is taken as dummy variable, value is 1 if a woman is there in board in banking sector, otherwise 0 if there is no woman on board. The dependent variable consists of two constructs that are return on assets ROA and return on equity ROE that shows the bank efficiency with reference to financial performance. We have taken current assets, earning per share and board size as control variables to measure the bank performance.

3. METHODOLOGY

3.1. Sample Size and Data Collection

The sample of this research comprises of 10 listed bank of Pakistan. Secondary data has been collected of 12 years from 2005 to 2016. The data of return on assets, return on equity, current assets, earning per share, board size and number of women on board are collected from annual reports and financial statements of banks available on their websites. This sector was selected because most of the women are in favor to join banks for constant time as compare to other sector and most of the market share belongs to these banks.

3.2. Bank Performance

There are several financial performance indicators such as return on investment, Tobin's Q, return on equity, return on assets and return on sales. These are classified into two types market based performance and financial performance. In this research paper we are using ROA and ROE as dependent variables. These two performance ratios are used to show the capability of accounting based income and return to shareholders (SHRADER et al., 1997).

The return on assets indicates that ability and power of the managers to use the assets of company which related to shareholders. The management of the company is inefficient if the rate of ROA is lower. ROA is broadly used to measure the efficiency of companies in previous studies of gender diversity.

As per agency theory, management is used to mistreat earning and misused profits, resulting left with fewer returns for shareholders (UJUNWA et al., 2012). The second financial performance is ROE which is also generally use to measure firms performance, shows return on shareholder investments (ERHARDT et al., 2003).



3.3. Board gender diversity

Woman director represents the independent variable, we have taken women on board number to measure board gender diversity. For women on board number, the total number of women that were present in that year in their respective bank are taken.

Three other independent variables have been taken in this study i.e. current assets, earning per share and board size and their impact on bank's financial performance is analyzed. One of the study argue that corporate governance research discovered that there is a opposing relationship between board size and companies performance (HERMALIN; WEISBACH, 2001), however there is a affirmative relationship between board size and Tobin's Q which is market based performance (YERMACK, 1996).

3.4. Model Specification

Model A

$$LNTROA_{it} = \alpha_0 + \beta_1 LNTCR_{it} + \beta_2 TEPS_{it} + \beta_3 BSIZE_{it} + \beta_4 TWOBN_{it} + e_{it}$$

Model B

$$LNTROE_{it} = \alpha_0 + \beta_1 LNTCR_{it} + \beta_2 TEPS_{it} + \beta_3 BSIZE_{it} + \beta_4 TWOBN_{it} + e_{it}$$

Table 1: Definition of Variables

Variable	Definition
LNTROA	TROA ratio is calculated by dividing net income by average total assets. Then taken natural logarithm of ROA
LNTROE	TROE ratio is calculated by dividing net income by shareholders equity. Then taken natural logarithm of ROE
LNTCR	TCR is calculated by dividing current assets by current liabilities. Then taken natural log of CR
EPS	EPS is calculated by dividing profit by common outstanding share of bank
BSIZE	Number of board of directors in banks
WOBN	Number of women director on board of banks
α	Intercept Coefficient
β	Coefficient of Slope
e	Error Term

4. ANALYSIS

4.1. Descriptive Statistics

The summary of descriptive statistics of the used variable is displayed in table 2:



Table 2: Descriptive Statistics

	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
Current Ratio	4.07	4.29	4.19	0.09	-0.09	-1.82
Earnings per share	6.98	11.17	8.37	1.49	1.22	0.09
Board Size	8.4	9.1	8.75	0.24	-0.23	-1.07
Women on Board number	0	2	1.08	0.79	-0.16	-1.26
Natural Log of Return on Asset	0	0.69	0.31	0.18	0.58	0.64
Natural Log of Return on Equity	2.28	3.34	2.83	.29	.10	.15

The table 2 presents a summary of the descriptive statistics of the study. The average ROA and ROE are 0.31 and 2.83 respectively. Out of the 10 banks taken for the study, 30% have one or more women directors on their boards.

The number of woman director in banks is low as mean value is 1.08 ranging from 0.00 to 2.00 as compare to many European countries such as, Spain, Greece, Switzerland, Belgium ("GMI (Governance Metrics International) (2013), "GMI ratings' 2013 women on boards survey", available at: http://www.communitybusiness.org/library/other_publication/gmiratings_wob_032012.pdf (accessed 15 August 2014). - Google Scholar," n.d.).

The results indicate that the mean value of the number of directors for the banking industry BSIZE is 8.75 from minimum 8.4 to a maximum 9.1. The average of current ratio is 4.19 ranging from 4.07 to 4.29. The results shows that the mean value of earning per share is 8.37 from minimum 6.98 to a maximum 11.17.

4.2. Simple Linear Regression Model

Simple linear regression model is used to check the regression of the linear equation and also analyze the performance of the given variables in the model. Eviews 5 is applied to run the regression between ROA, ROE with WOB, CR, EPS and BSIZE to analyze their association and examine the presence of women on board improve the banks performance of Pakistan.

Table 3: Regression Analysis – Model A

Dependent Variable: LNROA				
Method: Least Squares				
Date: 09/03/17 Time: 16:06				
Sample: 2005 2016				
Included observations: 12				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-7.571631	4.294729	-1.763005	0.1213
LNCR	2.188822	1.138319	1.922855	0.0959
EPS	0.119738	0.089033	1.344877	0.2206
BSIZE	-0.261957	0.364008	-0.719646	0.4951
WOBN	0.013624	0.081552	0.167063	0.8720
R-squared	0.358039	Mean dependent var		0.313333
Adjusted R-squared	-0.008796	S.D. dependent var		0.184457
S.E. of regression	0.185266	Akaike info criterion		-0.239711
Sum squared resid	0.240265	Schwarz criterion		-0.037666
Log likelihood	6.438264	F-statistic		0.976022
Durbin-Watson stat	1.778275	Prob(F-statistic)		0.477604

Table 3 indicates that only board size is inversely related to return on assets, other than that all are positively related to return on assets as when a women enter in board, bank performance increases with return on assets. Earnings per share, board size and women on board are statistically insignificant, therefore we do not reject H₀. Only current assets are significant.

The C is intercept with a value of -7.57, as this is the initial point of return on equity, keeping other variables constant. R² Value is 0.35%, F statistics is low i.e. 0.97% which is less than 2 and probability is 0.47% which is > 0.05. This indicates the overall insignificance of the model.

Table 4: Regression Analysis – Model B

Dependent Variable: LNROE				
Method: Least Squares				
Date: 09/03/17 Time: 16:14				
Sample: 2005 2016				
Included observations: 12				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-10.53493	6.095882	-1.728205	0.1276

LNCR	4.162195	1.615715	2.576071	0.0367
EPS	0.273835	0.126372	2.166892	0.0669
BSIZE	-0.728338	0.516668	-1.409682	0.2015
WOBN	0.025237	0.115754	0.218020	0.8336
<hr/>				
R-squared	0.492502	Mean dependent var	2.830000	
Adjusted R-squared	0.202504	S.D. dependent var	0.294464	
S.E. of regression	0.262964	Akaike info criterion	0.460739	
Sum squared resid	0.484051	Schwarz criterion	0.662784	
Log likelihood	2.235565	F-statistic	1.698292	
Durbin-Watson stat	1.656929	Prob(F-statistic)	0.253622	

Table 4 shows that the board size is inversely related to return on equity, however, current ratio and earning per share and women on board are positively related to return on equity as when a woman enter in board performance of bank increases with return on equity. Board size and women on board are statistically insignificant, conversely EPS and Current ratio are significant, therefore we reject H_0 .

The C is intercept with a value of -10.53, as this is the initial point of return on equity, keeping other variables constant. R2 Value is 0.49%, F statistics value is low i.e. 1.69% which is less than 2 and probability is 0.25% which is > 0.05 . This indicates the overall insignificance of the model.

4.3. Correlation

Following table shows the relationships though correlation

Table 5: Correlation Analysis

	BSIZE	LNCR	EPS	LNROA	LNROE	WOBN
BSIZE	1.00					
LNCR	-0.13	1.00				
EPS	0.60	-0.73	1.00			
LNROA	0.10	0.40	-0.02	1.00		
LNROE	0.06	0.32	0.09	0.91	1.00	
WOBN	-0.17	0.32	-0.47	-0.001	-0.08	1.00

Table 5 shows the Current ratio and Board size, Women on board number and Board size, Earning Per share (EPS) and Current Ratio, Return on Assets (ROA) and Earning per share (EPS), Women on board number and earning per share (EPS), Women on board number and return on Assets (ROA), Women on board number and Return on Equity (ROE) are inversely correlated to each other.



Earnings per share (EPS) and Board size, Return on Assets (ROA) and Board size, Return on Equity (ROE) and Board size, Return on Asset and Current Ratio, Return on Equity (ROE) and Current Ratio, Women on Board number and Current Ratio, Return on equity (ROE) and Earning Per share (EPS), Return on Equity (ROE) and Return on Assets (ROA) are positively correlated.

Return on Equity (ROE) and Return on Assets (ROA) have the strongest correlation ($r=0.91$) followed by Earning per share (EPS) and Board Size ($r=0.6$). The weakest correlation is between Women on board number and Return on Asset (ROA) ($r=0.001$).

4.4. Heteroscedasticity

Heteroscedasticity is when the variance of the error term is not constant. When the data suffers from heteroscedasticity, the OLS estimators become less efficient thus leading to lesser reliability of the statistical results.

4.4.1. Graphical Method

The Error term is represented by ERR and is the Residual term in the data. The ERRSQ is also taken by taking square of the term ERR. Then we see graph to detect heteroscedasticity. We can plot histogram for ERSQ.

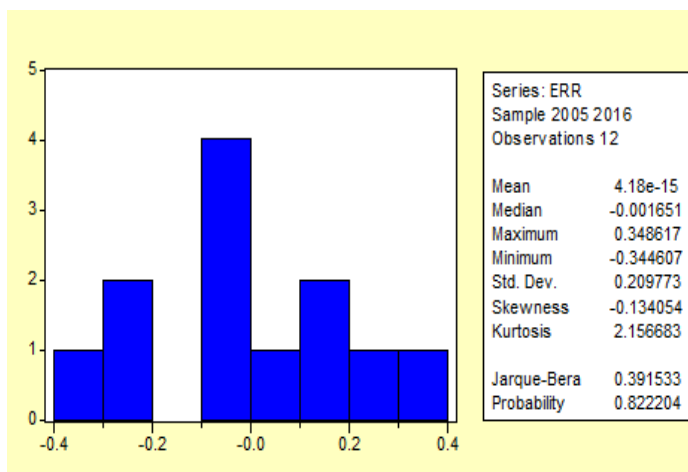


Figure 2: Histogram of Error term

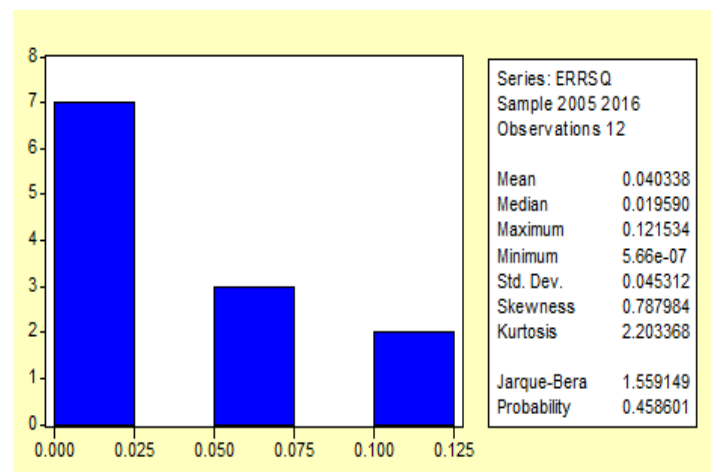


Figure 3: Histogram of Square of Error term

The variance of ERRSQ is different for different observations. The variations in the histogram shows heteroscedasticity.

4.4.2. Breush Pagan Test

Now we took ERRSQ as dependent variable and ran the regression with independent and control variables to check the results.

Table 6: Breush Pagan Test

Dependent Variable: ERRSQ				
Method: Least Squares				
Date: 09/03/17 Time: 17:38				
Sample: 2005 2016				
Included observations: 12				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.503422	1.154522	-0.436044	0.6759
LNCR	0.163739	0.306006	0.535082	0.6092
EPS	-0.005106	0.023934	-0.213338	0.8371
BSIZE	-0.008430	0.097854	-0.086148	0.9338
WOBN	-0.023068	0.021923	-1.052231	0.3277
R-squared	0.231211	Mean dependent var		0.040338
Adjusted R-squared	-0.208097	S.D. dependent var		0.045312
S.E. of regression	0.049804	Akaike info criterion		-2.867114
Sum squared resid	0.017363	Schwarz criterion		-2.665070
Log likelihood	22.20269	F-statistic		0.526307
Durbin-Watson stat	3.167333	Prob(F-statistic)		0.720810

Table 6 indicates that the value of F stats is 52.6 and probability is 72.1 % which is more than 10%, therefore, we do not reject Ho and say that there is no heteroscedasticity present.

4.4.3. White Test

The outcomes of the white test are as below:

Table 7: White Heteroscedasticity Test

F-statistic	0.120940	Probability	0.992194
Obs*R-squared	2.926314	Probability	0.938896

Dependent Variable: RESID^2

Method: Least Squares

Date: 09/03/17 Time: 17:46



Sample: 2005 2016

Included observations: 12

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-59.13176	143.4513	-0.412208	0.7079
LNCR	31.64362	89.25311	0.354538	0.7464
LNCR^2	-3.737031	10.47711	-0.356685	0.7449
EPS	0.178835	0.759663	0.235413	0.8290
EPS^2	-0.008876	0.037018	-0.239769	0.8260
BSIZE	-1.973011	15.69757	-0.125689	0.9079
BSIZE^2	0.112578	0.890224	0.126461	0.9074
WOBN	-0.044819	0.265815	-0.168609	0.8768
WOBN^2	0.017664	0.127895	0.138110	0.8989
R-squared	0.243860	Mean dependent var		0.020022
Adjusted R-squared	-1.772515	S.D. dependent var		0.028575
S.E. of regression	0.047580	Akaike info criterion		-3.139116
Sum squared resid	0.006791	Schwarz criterion		-2.775436
Log likelihood	27.83469	F-statistic		0.120940
Durbin-Watson stat	2.950611	Prob(F-statistic)		0.992194

Probability is more than 10 % that is 99.2 %. So we do not reject Ho and say there is no heteroscedasticity exists.

4.5. Multicollinearity

We have to run auxiliary regression and make LNCR (Current ratio) as dependent and EPS, BSIZE and WOBN as independent variable to check its multicollinearity.

Table 8: Multicollinearity

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.139031	0.740020	4.241819	0.0028
EPS	-0.062820	0.016474	-3.813332	0.0051
BSIZE	0.180920	0.093224	1.940706	0.0882
WOBN	-0.010455	0.025058	-0.417244	0.6875
R-squared	0.684280	Mean dependent var	4.185000	
Adjusted R-squared	0.565885	S.D. dependent var	0.087334	
S.E. of regression	0.057542	Akaike info criterion	-2.611392	
Sum squared resid	0.026489	Schwarz criterion	-2.449757	
Log likelihood	19.66835	F-statistic	5.779639	
Durbin-Watson stat	0.943144	Prob(F-statistic)	0.021127	

Table 8 indicates that R² is 68% and f-stat is 5 and Probability is 2% so we reject Ho (there is no multicollinearity). We conclude that there is no multicollinearity exists between Current ratio and Earning per share, board size, women on board number.

4.6. Data Stationary or Non Stationary

4.6.1. Augmented Dickey Fuller Test - Model A with ROA

To check the stationary of data ADF Augmented Dickey Fuller test is applied on Model A with ROA.

Table 9: Augmented Dickey Fuller Test for ROA

Augmented Dickey-Fuller Unit Root Test on DLNROA				
Null Hypothesis: DLNROA has a unit root				
Exogenous: Constant, Linear Trend				
Lag Length: 1 (Automatic based on SIC, MAXLAG=1)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-4.380674	0.0365
Test critical values:	1% level		-5.521860	
	5% level		-4.107833	
	10% level		-3.515047	
*MacKinnon (1996) one-sided p-values.				
Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 9				
Augmented Dickey-Fuller Test Equation				
Dependent Variable: D(DLNROA)				
Method: Least Squares				
Date: 09/04/17 Time: 01:21				
Sample (adjusted): 2008 2016				
Included observations: 9 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLNROA(-1)	-2.068060	0.472087	-4.380674	0.0072
D(DLNROA(-1))	0.631786	0.268159	2.356014	0.0651
C	-0.359584	0.177155	-2.029766	0.0981
@TREND(2005)	0.041906	0.023037	1.819091	0.1286
R-squared	0.808859	Mean dependent var		0.003333
Adjusted R-squared	0.694174	S.D. dependent var		0.275136
S.E. of regression	0.152155	Akaike info criterion		-0.626737
Sum squared resid	0.115755	Schwarz criterion		-0.539081
Log likelihood	6.820316	F-statistic		7.052889
Durbin-Watson stat	2.691956	Prob(F-statistic)		0.030229

At level: Ho is rejected as Probability is 3.6 which is less than 10%, so data is stationary at level.

Condition of ADF Test

If the t stats > t-Critical =Reject Ho

If the t stats < t-Critical =Accept Ho

Table 10: Augmented Dickey Fuller Test for ROA

Augmented Dickey-Fuller Unit Root Test on D(DLNROA)				
Null Hypothesis: D(DLNROA) has a unit root				
Exogenous: Constant, Linear Trend				
Lag Length: 1 (Automatic based on SIC, MAXLAG=1)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-3.274447	0.1433
Test critical values:	1% level		-5.835186	
	5% level		-4.246503	
	10% level		-3.590496	
*MacKinnon (1996) one-sided p-values.				
Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 8				
Augmented Dickey-Fuller Test Equation				
Dependent Variable: D(DLNROA,2)				
Method: Least Squares				
Date: 09/04/17 Time: 01:18				
Sample (adjusted): 2009 2016				
Included observations: 8 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(DLNROA(-1))	-2.194649	0.670235	-3.274447	0.0307
D(DLNROA(-1),2)	0.591783	0.428793	1.380112	0.2397
C	0.056509	0.375274	0.150581	0.8876
@TREND(2005)	-0.002142	0.048882	-0.043810	0.9672
R-squared	0.821297	Mean dependent var		0.005000
Adjusted R-squared	0.687270	S.D. dependent var		0.482908
S.E. of regression	0.270053	Akaike info criterion		0.526457
Sum squared resid	0.291715	Schwarz criterion		0.566177
Log likelihood	1.894173	F-statistic		6.127837
Durbin-Watson stat	2.629980	Prob(F-statistic)		0.056182

At 1st difference: Probability is 14.3 % which is more than 10 % we accept null hypothesis and say data is non-stationary.

4.6.2. Augmented Dickey Fuller Test - Model B with ROE

Following table is for Augmented Dickey fuller for the model B with Dependent variable as ROE.

Table 11: Augmented Dickey Fuller Test for ROE

Augmented Dickey-Fuller Unit Root Test on DLNROE				
Null Hypothesis: DLNROE has a unit root				
Exogenous: Constant, Linear Trend				
Lag Length: 1 (Automatic based on SIC, MAXLAG=1)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-4.004678	0.0570
Test critical values:	1% level		-5.521860	
	5% level		-4.107833	
	10% level		-3.515047	
*MacKinnon (1996) one-sided p-values.				
Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 9				
Augmented Dickey-Fuller Test Equation				
Dependent Variable: D(DLNROE)				
Method: Least Squares				
Date: 09/04/17 Time: 01:28				
Sample (adjusted): 2008 2016				
Included observations: 9 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLNROE(-1)	-2.350705	0.586990	-4.004678	0.0103
D(DLNROE(-1))	0.687827	0.349194	1.969759	0.1060
C	-0.795713	0.334139	-2.381385	0.0631
@TREND(2005)	0.100294	0.043560	2.302423	0.0696
R-squared	0.816111	Mean dependent var		0.004444
Adjusted R-squared	0.705778	S.D. dependent var		0.481433
S.E. of regression	0.261140	Akaike info criterion		0.453582
Sum squared resid	0.340970	Schwarz criterion		0.541237
Log likelihood	1.958882	F-statistic		7.396789
Durbin-Watson stat	2.376607	Prob(F-statistic)		0.027525

At level: Ho is rejected as Probability is 5.7 which is less than 10%, so data is stationary at level.

5. DISCUSSION

Board of directors plays an essential role in governance systems that support to line up the benefits of shareholders and managers (REGUERA-ALVARADO et al., 2015). The board composition may affect the success of decision making of board which resultant the effect on bank financial performance. One of the most essential uniqueness of board is gender as we know that the percentage of woman director has been rising on a regular interval. As the women director increases, there is a negative effect of gender diversity on bank financial performance as this research

also examines the relationship between board gender diversity and bank financial performance. The results does not support the hypotheses of this research H1, H2 and H3.

The findings of this study does not support the hypothesis that woman director has negative insignificant effect on bank financial performance, thus gender diversity in the board has a negative association with bank performance which is calculated by financial indicators of ROA and ROE. Conversely various reasons are in favor to induct woman director to their board, as gender diversity has a positive effect on economic growth as per the previous studies. Corporate governance mechanism is also improved by board gender diversity (CARTER et al., 2003) and women produce better communication and good relation with other women customers (ROSE, 2007) and also enhance the efficiency of decision making by coming up with several different views and approaches in board (CARTER et al., 2003).

Moreover, as per theoretical point of view, the results of this research study are not reliable with both theories that is agency and resource dependency theory in which board gender diversity negatively effect on bank financial performance. It concludes that the women directors are not likely to enhance the performance of banks. In contrast of this, a study conducted in banking sector of Pakistan that shows significant positive relationship between board gender diversity and bank performance and has negative correlation with the presence of woman CEO in banks (SHAFIQUE et al., 2014). There is another study which also indicates that there is affirmative relation between board gender diversity and bank performance (YASSER, 2012).

6. CONCLUSION

It concludes, gender diversity brings the insignificant impact on economic value of Pakistan as induction of woman director cannot improve the financial performance of banks. This study brings attention and also attracted to the regulatory bodies, government companies, policy makers, shareholders to have gender composition of board of directors.

There are several studies indicate to have woman director is positively effect on the performance of organization but other argue have examined the negative results. The results of this study shown that man dominance remain on the board of



the Pakistan banks. Moreover the findings signify that gender diversity on board has insignificant relationship with banks financial performance as calculated through ROA and ROE.

There are several discussion and researches in previous studies regarding the effect of gender board diversity on firm efficiency, from a purely economic perception this research suggests that firms should proliferation women representation on their boards of banks.

There are other factors of gender diversity on which company policies needs to integrate that are social and ethical reasons, gender diversity should not only based on economic purposes (REGUERA-ALVARADO et al., 2017b). It is discriminatory and unethical to eliminate woman from corporate boards only on the base of gender. Board gender diversity is required and shows a positive indication to the people regarding its ethical and social behaviors (TERJESEN et al., 2016).

7. LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

There are various limitations of this research found. First, there are several elements that effect on bank financial performance and this research could not take all of them to measure the financial performance in regard to presence of women on board. Hence, future studies should consist other indicators of liquidity and profitability ratios of financial performance as in this study we have taken only two that are ROA and ROE.

Secondly gender is only one characteristics of board diversity. Therefore future research need to check other aspects of board diversity such has education, experience, culture and age on bank performance. This study is purely based on quantitative research as we have collected secondary data from annual reports of banks.

Further studies needs to be conducted with large sample of banks and different methodologies such as surveys, case studies and qualitative research to find out the causes of the issue that why the number of women on board decreasing with ROA and ROE. Thus this study recommends to re-assess the association between gender diversity and bank performance after the regulation concerning the gender quotas has been executed by code of corporate governance of Pakistan.



REFERENCES

- ADAMS, R. B.; FUNK, P. (2012) Beyond the glass ceiling: Does gender matter? **Manag. Sci.**, v. 58, p. 219–235.
- ADAMS, R. B.; HAAN, J.; TERJESEN, S.; EES, H. (2015) Board diversity: Moving the field forward. **Corp. Gov. Int. Rev.**, v. 23, p. 77–82.
- BANTEL, K. A.; JACKSON, S. E. (1989) Top management and innovations in banking: Does the composition of the top team make a difference? **Strateg. Manag. J.**, v. 10, p. 107–124.
- BRAMMER, S.; MILLINGTON, A.; PAVELIN, S. (2007) Gender and ethnic diversity among UK corporate boards. **Corp. Gov. Int. Rev.**, v. 15, p. 393–403.
- BURGESS, Z.; THARENOU, P. (2002) Women board directors: Characteristics of the few. **J. Bus. Ethics.**, v. 37, p. 39–49.
- CARTER, D. A.; SIMKINS, B. J.; SIMPSON, W. G. (2003) Corporate governance, board diversity, and firm value. **Financ. Rev.**, v. 38, p. 33–53.
- CLAESSENS, S.; YURTOGLU, B. B. (2013) Corporate governance in emerging markets: A survey. **Emerg. Mark. Rev.**, v. 15, p. 1–33.
- DAILY, C. M.; CERTO, S. T.; DALTON, D. R. (1999) A decade of corporate women: Some progress in the boardroom, none in the executive suite. **Strateg. Manag. J.**, p. 93–99.
- DALTON, D. R.; DAILY, C. M.; ELLSTRAND, A. E.; JOHNSON, J. L. (1998) Meta-analytic reviews of board composition, leadership structure, and financial performance. **Strateg. Manag. J.**, v. 19, p. 269–290.
- DARMIDI, S. (2010) **Do women in top management affect firm performance.**
- DOLDOR, E.; VINNICOMBE, S.; GAUGHAN, M.; SEALY, R. (2012) Gender diversity on boards: The appointment process and the role of executive search firms. **Equal. Hum. Rights Comm. Res. Rep.**, v. 85.
- EAGLY, A. (1987) **Sex differences in social behavior:** A social-role interpretation, Lawrence Erlbaum Associates. Hillsdale NJ.
- EAGLY, A. H.; JOHNSON, B. T. (1990) **Gender and leadership style:** A meta-analysis. CHIP Documents. Paper 11.
- EAGLY, A. H.; KARAU, S. J.; MAKHIJANI, M. G. (1995) **Gender and the effectiveness of leaders:** a meta-analysis. American Psychological Association.
- ERHARDT, N. L.; WERBEL, J. D.; SHRADER, C. B. (2003) Board of director diversity and firm financial performance. **Corp. Gov. Int. Rev.**, v. 11, p. 102–111.
- FONDAS, N.; SASSALOS, S. (2000) A different voice in the boardroom: How the presence of women directors affects board influence over management. **Glob. Focus**, v. 12, p. 13–22.
- FRANCOEUR, C.; LABELLE, R.; SINCLAIR-DESGAGNÉ, B. (2008) Gender diversity in corporate governance and top management. **J. Bus. Ethics.**, v. 81, p. 83–95.
- GALLEGO-ÁLVAREZ, I.; GARCÍA-SÁNCHEZ, I. M.; RODRÍGUEZ-DOMÍNGUEZ, L. (2010) The influence of gender diversity on corporate performance. **Rev. Contab.**, v.

13, p. 53–88.

GMI (GOVERNANCE METRICS INTERNATIONAL) (2013) **GMI ratings' 2013 women on boards survey**, available at:

[http://www.communitybusiness.org/library/other_publication/gmiratings_wob_03\(2012\).pdf](http://www.communitybusiness.org/library/other_publication/gmiratings_wob_03(2012).pdf) (accessed 15 August 2014). - Google Scholar [WWW Document], n.d. URL

GOLDIN, C.; KATZ, L. F. (2008) Transitions: Career and family life cycles of the educational elite. **Am. Econ. Rev.**, v. 98, p. 363–369.

HERMALIN, B. E.; WEISBACH, M. S. (2001) **Boards of directors as an endogenously determined institution: A survey of the economic literature**. National Bureau of Economic Research.

HILLMAN, A. J.; CANNELLA JR., A. A.; HARRIS, I. C. (2002) Women and racial minorities in the boardroom: How do directors differ? **J. Manag.**, v. 28, p. 747–763.

IBARRA, H. (1993) Personal networks of women and minorities in management: A conceptual framework. **Acad. Manage. Rev.**, v. 18, p. 56–87.

JACKSON, S. E. (1992) Consequences of group composition for the interpersonal dynamics of strategic issue processing. **Adv. Strateg. Manag.**, v. 8, p. 345–382.

JENSEN, M. C.; MECKLING, W. H. (1976) Theory of the firm: Managerial behavior, agency costs and ownership structure. **J. Financ. Econ.**, v. 3, p. 305–360.

LEE, J. S.; LAN, L. L.; ROWLEY, C. (2014) Why might females say no to corporate board positions? The Asia Pacific in comparison. **Asia Pac. Bus. Rev.**, v. 20, p. 513–522.

LIAO, L.; LUO, L.; TANG, Q. (2015) Gender diversity, board independence, environmental committee and greenhouse gas disclosure. **Br. Account. Rev.**, v. 47, p. 409–424.

MOHAMED, Z.; CLAYTON, G. J.; ISA, M. Y. M. (2015) Embedding Economic Excellence: A Transformational Definition of “Corporate Governance” for Malaysia. **J. Mod. Account. Audit.**, v. 11, p. 124–129.

NAHAR ABDULLAH, S. (2004) Board composition, CEO duality and performance among Malaysian listed companies. **Corp. Gov. Int. J. Bus. Soc.**, v. 4, p. 47–61.

NIELSEN, S.; HUSE, M. (2010) The contribution of women on boards of directors: Going beyond the surface. **Corp. Gov. Int. Rev.**, v. 18, p. 136–148.

REGUERA-ALVARADO, N.; DE FUENTES, P.; LAFFARGA, J. (2017^a) Does board gender diversity influence financial performance? Evidence from Spain. **J. Bus. Ethics**, v. 141, p. 337.

REGUERA-ALVARADO, N.; DE FUENTES, P.; LAFFARGA, J. (2017^b) Does board gender diversity influence financial performance? Evidence from Spain. **J. Bus. Ethics**, v. 141, p. 337–350.

ROSE, C. (2007) Does female board representation influence firm performance? The Danish evidence. **Corp. Gov. Int. Rev.**, v. 15, p. 404–413.

SHAFIQUE, Y.; IDRESS, S.; YOUSAF, H. (2014) **Impact of boards gender diversity on firms profitability: Evidence from banking sector of Pakistan**.

SHRADER, C. B.; BLACKBURN, V. B.; ILES, P. (1997) Women in management and firm financial performance: An exploratory study. **J. Manag.**, p. 355–372.



SMITH, N.; SMITH, V.; VERNER, M. (2006) Do women in top management affect firm performance? A panel study of 2,500 Danish firms. **Int. J. Product. Perform. Manag.**, v. 55, p. 569–593.

SRINIDHI, B.; GUL, F. A.; TSUI, J. (2011) Female directors and earnings quality. **Contemp. Account. Res.**, v. 28, p. 1610–1644.

TERJESEN, S.; COUTO, E. B.; FRANCISCO, P. M. (2016) Does the presence of independent and female directors impact firm performance? A multi-country study of board diversity. **J. Manag. Gov.**, v. 20, p. 447–483.

TERJESEN, S.; SEALY, R.; SINGH, V. (2009^a) Women directors on corporate boards: A review and research agenda. **Corp. Gov. Int. Rev.**, v. 17, p. 320–337.

TERJESEN, S.; SEALY, R.; SINGH, V. (2009^b) Women directors on corporate boards: A review and research agenda. **Corp. Gov. Int. Rev.**, v. 17, p. 320–337.

UJUNWA, A.; OKOYEZU, C.; NWAKOBY, I. (2012) Corporate board diversity and firm performance: Evidence from Nigeria. **Rev. Manag. Comp. Int.**, v. 13, p. 605.

VIRTANEN, A. (2012) Women on the boards of listed companies: Evidence from Finland. **J. Manag. Gov.**, v. 16, p. 571–593.

VISHWAKARMA, R. (2017) Women on Board and its Impact on Performance: Evidence from Microfinance Sector. **Indian J. Corp. Gov.**, 0974686217701465.

VON BERGEN, C. W.; SOPER, B.; PARNELL, J. A. (2005) Workforce diversity and organisational performance. **Equal Oppor. Int.**, v. 24, p. 1–16.

WESTPHAL, J. D.; MILTON, L. P. (2000) How experience and network ties affect the influence of demographic minorities on corporate boards. **Adm. Sci. Q.**, v. 45, p. 366–398.

YASSER, Q. R. (2012) **Affects of female directors on firms performance in Pakistan**. Brows. Download This Pap.

YERMACK, D. (1996) Higher market valuation of companies with a small board of directors. **J. Financ. Econ.**, v. 40, p. 185–211.

ZAHRA, S. A.; STANTON, W. W. (1988). The implications of board of directors composition for corporate strategy and performance. **Int. J. Manag.**, v. 5, p. 229–236.

ANNEXURE 1: DATA FOR EIEWS AND SPSS

Years	LNCR	EPS	BSIZE	WOBN	LNROA	LNROE
2005	4.28	6.98	8.40	1.00	0.47	3.34
2006	4.26	7.86	8.90	1.00	0.69	3.24
2007	4.29	7.91	8.70	1.00	0.55	3.10
2008	4.29	7.26	8.80	2.00	0.26	2.68
2009	4.24	7.21	9.00	2.00	0.17	2.58
2010	4.10	7.86	8.40	2.00	0.19	2.60
2011	4.12	8.17	8.60	2.00	0.33	2.79
2012	4.21	7.95	8.80	1.00	0.25	2.78
2013	4.18	7.13	8.50	0.00	0.00	2.28
2014	4.07	9.89	8.80	0.00	0.32	2.83
2015	4.07	11.17	9.10	0.00	0.32	2.92
2016	4.11	11.04	9.00	1.00	0.21	2.82