Gender Diversity and Economic Performance of Firms: Evidences from Emerging Market

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ABSTRACT
Due to recent concern and heavy discussion on women’s presence in corporate board room, this study examines the link between firm gender diversity and economic performance based on Pakistani listed firms. Empirical evidences show that the issue has a lot been researched in developed economies compared to developing economies. The study employs 30 index firms starting from 2008 to 2010. In order to examine the effect of gender diversity on firm performance, the study uses economic profit of firm, in terms of economic value added (EVA) as performance variable. Thirty seven per cent (37%) listed firms in Pakistan possess women on board while only 7% firms have female CEO. In accordance with prior empirical studies from developed countries, results in this study shows that there is no significant influence of female board members on economic performance of Pakistani listed firms.

Key word: Gender Diversity, Firm Performance, Economic Value Added, Pakistan

Introduction

Last few decades has experienced an increased number of women’s participation in corporate board rooms both in developed and developing economies. Such an increased participation of female members on corporate board has appeared to be matter of debate from researchers, policy makers, regulators as well as investors in developed economies; however it is a new concept in an emerging economy like Pakistan. Though women’s presence in corporate area is an old trend, recent workforce is typified by more women and employees with diverse background and international differences than in the past (Langdon et al., 2002). Moreover, regulators have identified the significance of diverse workforce and its effect on firm performance. In European prospective, previously considered a communal issue and an issue of image, gender diversity is increasingly approached as a value-driver in organizational strategy and corporate governance, and as such has become a challenging concern in recent academic research (Yasser, 2012), for instance, Netherlands imposed the law of holding 40% women in the corporate board room in 2006 (Joana et al., 2010).

There have quite a number of studies been conducted on women’s presence on corporate board room and claimed that diversified board is likely to perform better than the non-diversified, hence based on this argument this study has been influenced to pursue further research in order to contribute to the empirical evidences on emerging market (Credit Suisse, 2012). There are mixed findings reported by the survey conducted by Credit Suisse (2012) and other researchers. Credit Suisse (2012) claimed that approximately 29% firms possess women board members in 2011 compared to 12% by the end of 2005 in emerging Asia, whereas this figure is quite higher in Europe and North America, where 85% firms held with women in board rooms by 2011, whereas it was 48% and 73% respectively in 2005.
A number of firms’ diversity reputation that may affect firm performance and could be at the various levels of organization. Subsequently section presents several reasons along with empirical evidences for including women members on a firm’s board of directors. A highly diverse board may bring a diversified team of professionals, knowledge, experiences, skills and information, which could enable the board to use in fulfilling its responsibilities in representing shareholders’ interests (Burgess & Tharenou, 2002). Hence, a diverse board might have a significant influence on firm performance.

Therefore, the study aims to contribute to the empirical evidence on board diversity and its effect on firms’ profitability from Pakistan as most of the empirical researches on this issue has focused on developed economies. Moreover the study aims to examine, if gender diversity is applicable to the emerging market or not. The next section contains literature review on gender diversity around the world following with sample selection, methodology result analysis and finally the conclusion of the study.

**Literature Review**

Though gender diversity is a recent issue in corporate area in developing market of the world, there are number of studies conducted on it in the developed part of the world. Building on sample from United States, Daily at al., (1999) found that women make 60% of all purchases and, hence, inclusion of women on board of directors likely boosts up the revenue of the firms. In other words, women board members are sensitive observer of the market and hence, can bring a more realistic approach which can reflect the consumer point of view. Ethical Investment Research Service (2004) demonstrated that female board members were less than 10 percent of companies headquartered in Australia, the United Kingdom, Germany, France, Singapore, Hong Kong, Spain, Italy, and Japan, whereas Norway (greater than 25 percent), where federal legislation requires all boards to have at least two women by 2006 and to have 40 percent women by 2008, and Sweden (almost 20 percent) had percentages of women directors greater than those in the United States.

There are mixed views on diversity and firm performance. Barney (1991) argued that there is positive relationship between firm diversity and performance building on the resource-based view of the firm, on the other hand, Tajfel, (1978) claimed a negative association between firm diversity and performance based on social identity theory. In fact, empirical evidences show inconsistent results suggesting that gender diversity can be either positively or negatively influence firm performance. Based on nine studies on gender diversity and firm performance, Svyantek & Bott (2004) reported that four studies summaries no significant effects, two concluded positive effects while two found negative effects and only one reported a non-linear effect.

Loscocco et al., (1991) claimed that male owned firms outperform compared to the firm owned by female. This could be due to lack of experience of female board members in business and less concentration on the profitable sectors. Subsequently supporting Loscocco et al., (1991), and Fischer et al., (1993) argued that males are able to make more sales than female. Hence, it seems that occupation and gender are associated. The authors also claimed that in terms of efficiency and productivity, male are more productive and efficient compared to female.

Alowaihan, (2004) asserted that even with higher education background of female board members show significantly lower performance than male controlled firms. This is consistent with Shaw et al., (2009) who claimed that female owners invest approximately one third capital invested by male owners and such act significantly undercapitalises the firms. As a result, firms’ performance is lower compared to men owned
firms. However, based on samples from Denmark and Netherlands, Joana et al., (2010) claimed that a diverse board in organisation will help bring the global economy back on track during economic recession due to their risk-averse attitudes; the study reported no relationship between women’s representation in top corporate positions and firm performance. On the other hand, Salim (2011) reported a negative relationship between gender diversity and firm performance building on listed firms on the Indonesia Stock Exchange, where returns on asset (ROA) as well as market based performance measure Tobin’s Q were used as performance variables. However, author further claimed that negative relationship not necessarily means that women in board destroy shareholders’ value.

Another landmark study was conducted in Germany by Jesmin et al., (2012) and the study reported a U-shaped result on the time series data. The study reported that gender diversity at first negatively affects firm performance and in subsequent years when the proportion of women increased in board room, it is associated with higher firm performance. These authors suggest that a more gender diverse board composition will only enhance performance if diversity is sufficiently large and recommended it to be a critical level of 30 per cent of female on the board, while at very low level of gender diversity might be associated with reduced firm performance. This could be due to get approval of decision taken by female board members or they might not even open their mouth to share their opinions in the board meetings.

However, the proponents of gender diversity claimed that women and men have an impact on different tasks at different extent among multiple tasks; as a result no overall performance differences can be detected between firms higher and lower performance of women members in the board (Nielsen & Huse, 2010). Kalleberg & Leicht (1991) argued that firms owned by female are not less successful than the firms controlled by men. Study conducted by Watson (2002) found that there is no significant difference in terms of financial performance of the firms owned by male as compared to firms owned by female, in fact female owned firms outperform compared to male owned firms.

Basing on 100 Fortune 500 firms and ROE, EPS, dividend per share and profit margin on sales (PMS) as performance variables, Zahra & Stanton (1998) did not find an association between gender diversity and firm financial performance, whereas Carter, et al., (2003) reported a statistically significant positive relationships between the percentage of women on the board of directors and firm value based on Fortune 1000 firms, where Tobin’s Q was a single measure of firm value. However, Salim (2011) reported a negative effect of the level of female board representation on the financial performance. A significantly negative impact of gender diversity is found on accounting-based performance of ROA.

On the other hand, study conducted in Pakistan, Mirza et al., (2012) examine gender diversity and firm performance in terms of ROA and earnings per share (EPS) and summarised that women in top positions of the firm is negatively associated with firm performance whereas, Afza (2011) reported that there are differences between corporations managed by male and female. The study was conducted based on 182 family owned firms listed on Bursa Malaysia and concluded that male owners are more likely to enhance firm performance higher than female owners.

However, by having management friendliness in a broader view, it is less likely that board will possess women directors. This is because; women board members could not be fully incorporated into the conventional male dominated board in firms. This is because, female directors differ from their male counterparts in several ways as such as in terms of experience, skills, networking, and the way they run business (Hillman et al.,
Hence, based on the mixed empirical results this study has inspired to further investigate the association between gender diversity and firm performance. From the above discussion it is visible that very limited research conducted on gender diversity and firm performance in emerging market. And the few studies conducted though used conventional measure as performance variable. Hence, this study uses EVA as firm performance measure. Economic value added is one of the performance measurements in line with the value based management. The method was introduced by Stern Stewart Management Service, a consultant firm from USA. EVA depicts the true economic profit generated by firm. EVA is different from accounting performance measure, since it takes into consideration the cost of equity capital. Positive EVA predicts that a company is able to create the value to the shareholder investment, while negative EVA signals value destruction (Utama, 1997). It takes into consideration assess funds and efficiently allocate resources, and uses adjustment items to reflect true economic value of a firm. Therefore, it is also a performance measurement tool (Copeland & Dolgoff, 2006; O'byrne & Young, 2006).

**Methodology and Data**

**Sample and Data**

This study selected 30 listed companies on Karachi Stock Exchange (KSE-30 Indexed). The years from 2008 - 2010 were selected which gave 90 observation for consecutive three years. The years 2008 to 2010 were selected as these are latest years before releasing the Code of corporate governance (Revised 2012) in Pakistan. Hence, this study seeks to explore the performance of before the launch of revised code of corporate governance. The study employs both financial and non-financial data on a sample of 30 listed companies and gathered data from Karachi stock exchange official websites and corporate websites of the sample companies. The performance variable of study ‘EVA’ was largely computed based on the companies’ annual reports of the relevant financial year. Governance and gender diversity data were also obtained from the audited financial reports and from the official websites of the companies. The reason behind using annual reports for data collection is that the reports are audited, have been published reports that are publicly available. In addition, data can be accessed through stock exchange website. Furthermore, annual reports of PLCs are presented uniformly and data is subject to comply with Karachi stock exchange regulations and company’s act’s ordinance 1984. Companies that were sampled covered the industrial, energy, manufacturing, agricultural, financing and service sectors.

This study begins with the identification of the population of the study, which includes the sample firms listed on Main KSE-30 Index of Karachi Stock Exchange. There were 652 companies listed on Karachi stock exchange. Data for KSE-30 companies listed on Karachi stock exchange was available from their relevant sources and taken as sample. PLCs were selected because of their publicly published annual reports which are available on Karachi stock exchange website.

**Research Design**

The study was designed to conduct descriptive statistics, Pearson correlation coefficient and linear regression analysis. Board gender diversity is measured in three different dimensions in this study, (1) if there is at least one female member held in the board, it’s valued at one otherwise zero; (2) if the CEO is held by female it is valued at one other wise zero; and (3) proportion of female directors held in the board.

H$_0$: There is no relationship between board gender diversity and firm performance;

H$_1$: There is a relationship between board gender diversity and firm performance.
Control variable

Board size has been taken as first and only control variable in this study. According to the Hermelin & Weisbach (2003), the research on corporate governance and its effects on board size and firm performance are mainly negative, while an inverse association between board size and Tobin’s Q was found by Yermack (1996), and Carter et al. (2003). This study has measured the board size based on number of directors sitting on the board as according to the empirical studies. Hence based on two sided argument the following hypothesis was developed:

\[ H_0: \text{there is no relationship between board size and firm performance;} \]
\[ H_2: \text{there is a relationship between board size and firm performance.} \]

Measuring Firm Performance

This study measured the economic profit of Pakistan based public listed companies. EVA is “a measurement of the true economic profit generated by a firm” (Sharma & Kumar, 2010; Stewart, 1994, pp. 73) and is calculated by comparing a firm’s net operating profit after tax (NOPAT) to the total cost all its forms of capital which includes debt as well. If NOPAT exceeds the cost of capital, it gives a positive EVA and vice versa. The word capital includes all the assets invested in the firm taking into consideration the deduction of the current liabilities which are not entitled to any interest from those assets and the equity.

This study employs two methods. Firstly, proposed study will calculate EVA of selected public listed companies and then adjustments will be made on financial data (Stewart, 1991). Though 164 adjustments are suggested, only 15-25 are adjusted due to lack of information and data availability. This number is as few as five are made in real life business (Mouritsen, 1998; Yong, 1997). In fact, depending on the industry, firm is operating in; firms might not be required to make any adjustment in calculating EVA (Hoque et al., 2004). However, this study intends to make as many as adjustments possible based on data availability at the same time. This study used the model which is proposed by Stewart (1991) to calculate EVA\(^1\). Proposed model is as follows:

\[ \text{EVA} = \text{NOPAT} - (WACC \times \text{Invested Capital}) \]  

\[ (1) \]

Where, WACC stands for weighted average cost of capital. Capital charges are calculated by multiplying the cost of debt and cost of equity (WACC) with the company’s invested capital. This generates unadjusted form; EVA is equivalent to what generates by subtracting cost of capital from net income and that is called economic profit which is residual income from accountant’s perspective (Young, 1997). The only difference between EVA and residual income are solely the accounting adjustments based on company’s generally accepted accounting principles based financial statements.

Regression Model

This study developed the following regression model to examine the association between gender diversity, board size and firm performance:

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\(^1\) Previously this model was has been supported by Young (1997), Issham et al., (2008) and Silverman (2010)
EVA = \beta_0 + \beta_1 FCEO + \beta_2 FPRO + \beta_3 GDIV + \beta_4 BSIZ + \epsilon \tag{2}

Where,

EVA = economic value added;
FCEO = if the CEO held female, it is valued at one otherwise 0;
FPRO = number of female board members/total board of directors held in board;
GDIV = it at least one female director held in board it is valued at one otherwise 0;
BSIZ = number of members held in board.

Empirical Results

Descriptive Statistics

Table 1 depicts descriptive statistics results for the variables employed in this study for Pakistan. The mean EVA is -121.71% of total invested capital. Results report that the mean female CEO is 8% which indicates that on average 8 per cent listed firms possess female CEO in Pakistan. Accordingly the mean proportion of female in board is 7.3% which states that there is a presence of 7.3 percent female directors in board of public listed firms. On the other hand, 50% public listed firms are having female directors in their board which is quite mentionable.

<table>
<thead>
<tr>
<th>Table 1: Descriptive Statistics Results for Pakistan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum</td>
</tr>
<tr>
<td>Female CEO</td>
</tr>
<tr>
<td>Gender Diversity</td>
</tr>
<tr>
<td>Female Proportion</td>
</tr>
<tr>
<td>Board Size</td>
</tr>
<tr>
<td>EVA</td>
</tr>
</tbody>
</table>

Notes: the number of observations (N) is 90

Pearson Correlation Coefficient

The result of table 2 shows that the female CEO was not significantly correlated with performance variable EVA over the years, but there was a significant relationship between female CEO gender diversity and proportion of female board members as well as gender diversity, \( r = 0.382, p \) (two – tailed) < 0.01, and \( r = 0.257, p \) (two – tailed) < 0.01, respectively. From the results it appears that there is a significant positive association between female CEO and gender diversity and high percentage of female directors.

Pearson correlation coefficient was applied in this study for Pakistan to indicate the relationship between independent variables (board gender diversity, and board size) and a dependent variable (EVA). There is a perfect positive linear relationship, when the r value is at the level of +0.01. On the other hand, there is a negative relationship between variables, if the r value is at the level of -0.05. However, in this study there is also a positive relationship between variables, when the r value is at the level of +0.05.
Table 2: Pearson Correlations Results for Pakistan

<table>
<thead>
<tr>
<th></th>
<th>FCEO</th>
<th>GEDIV</th>
<th>FEPOR</th>
<th>BSIZE</th>
<th>EVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCEO Pearson Correlation</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GEDIV Pearson Correlation</td>
<td>0.382**</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FEPOR Pearson Correlation</td>
<td>0.257*</td>
<td>0.876**</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.015</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSIZE Pearson Correlation</td>
<td>0.045</td>
<td>-0.310**</td>
<td>-0.376**</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.676</td>
<td>0.003</td>
<td>0.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EVA Pearson Correlation</td>
<td>0.125</td>
<td>0.200</td>
<td>0.196</td>
<td>-0.007</td>
<td>1.000</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.240</td>
<td>0.058</td>
<td>0.065</td>
<td>0.948</td>
<td></td>
</tr>
</tbody>
</table>

Notes: **Correlation is significant at the 0.01 level (2-tailed)
*Correlation is significant at the 0.05 level (2-tailed)

Linear Regression Analysis

Table 3 shows the summary of Linear Regression of Pakistani data which has been conducted based on the study results between gender diversity, board size (independent variables) and EVA (Dependent Variable). The R-squared value of the model is 4.9%.

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>-244.255</td>
<td>142.271</td>
<td>-1.717</td>
<td>0.090</td>
</tr>
<tr>
<td>FCEO</td>
<td>60.476</td>
<td>125.800</td>
<td>0.057</td>
<td>0.481</td>
</tr>
<tr>
<td>GEDIV</td>
<td>48.589</td>
<td>138.422</td>
<td>0.082</td>
<td>0.351</td>
</tr>
<tr>
<td>FEPOR</td>
<td>3.534</td>
<td>5.970</td>
<td>0.135</td>
<td>0.592</td>
</tr>
<tr>
<td>BSIZE</td>
<td>8.320</td>
<td>14.470</td>
<td>0.066</td>
<td>0.575</td>
</tr>
<tr>
<td>R Square</td>
<td></td>
<td></td>
<td>0.049</td>
<td></td>
</tr>
<tr>
<td>Adjusted R Square</td>
<td></td>
<td></td>
<td>0.005</td>
<td></td>
</tr>
<tr>
<td>F- Value</td>
<td></td>
<td></td>
<td>1.102</td>
<td></td>
</tr>
<tr>
<td>Sig. F</td>
<td></td>
<td></td>
<td>0.361</td>
<td></td>
</tr>
</tbody>
</table>

It logically follows that if a variable significantly predicts an outcome, then it should have a $b$-value significantly different from zero (Field, 2009). Author further states that it is significant when the result gains confidence in the hypothesis that the value of $b$ is significantly different from 0 and that the predictor variable contributes significantly to the test ability to estimate values of the outcome.

From the result analysis, the model of the study was found to be statistically significant at the level of 5% ($p < 0.05$). From the table 3 of the regression analysis indicates that there is no significant relationship between the firm performance (EVA) and gender diversity variables in Pakistan. Results indicate that the presence of the female directors in the board and executive office did not carry the value to the firms.

Findings and Discussion

The results in this study reported no significant relation between gender diversity and firm performance in Pakistan. Accordingly, there has been very limited research conducted on this issue in Pakistan as well as
in other developing economies, which resulted very limited evidence to support the findings. This study reported that gender diversity, female CEO as well as proportion of female board members do not have any influence on value based firm performance EVA. This finding is consistent with earlier study conducted by Loscocco et al., (1991), Fischer et al., (1993), Prasso (1996), Alowaihan, (2004), and Shaw et al., (2009). Harrigan (1981) reported that female board members are less likely to affect firm performance due to their diverse career path, while Fischer et al., (1993) supported the view subsequently stating that lack of experience in business and lesser concentration on the profitable sectors are also the reason due to which women are less successful in business compared to male, which was supported by Alowaihan, (2004).

However, results in this study contradict with Nielsen & Huse (2010) who concluded that there is no difference between male and female owned firm performance. They claimed that this is due to women and men have impact on different tasks at different extent among multiple tasks; as a result no overall performance differences can be detected between firms higher and lower performance of women members in the board. Moreover, Salim (2011) reported a negative relationship between women’s presence in the board room and return on asset (ROA) as well as market based performance measure Tobin’s Q, which is also not consistent with the findings in this study. Similar result has been found in Pakistan by Mirza et al., (2012). And the authors reasoned that due to emotional, aggressive, risk averse, less confident and not well educated and some invisible barriers, which are built by society to keep women in lower position.

Results from descriptive statistics (Table 1), Pearson Correlation Coefficient (Table 2) and regression analysis (Table 3) reported that there is no significant relationship between board size and firm performance in Pakistan by public listed companies. Accordingly, the results of the Pearson correlation coefficient (Table 2) from Pakistan did not shown any significant relationship between performance and independent variables. There have been quite a number of studies indicated that board size possesses a positive influence on firm performance which contradicts with findings in this study (Yermack, 1996; Dalton et al., 1999; Kiel & Nickolson, 2003). Abdullah (2004) found that the board size is positively associated with firm performance, where Sulong & Nor (2009) concluded that larger board is effective in oversight duties relative to small boards and are capable of monitoring the actions of top management. Therefore, it can be concluded that higher profitability for firms in Malaysia is due to better management which is result of better monitoring of board, hence this study accepts the null hypothesis (H0), rejecting the alternative hypothesis (H1).

Conclusion

Gender diversity in corporate board room appears to gain intention of academic researchers from various disciplines in developed and developing countries in last few decades. Researchers have made attempts to link the diversity with different aspects within the firm, such as corporate strategic change, organizational innovation, corporate governance, and corporate social responsibility. From the results, the study concludes that there is no relationship between female board members and firm performance in Pakistan, which is consistent with the past research in developing countries.

Instead of providing final conclusion, this study should be considered a useful starting point for further research on gender diversity in emerging markets. Researchers in future may include more variables than our study to find other dimensions of gender diversity in firm performance. In addition, it may also seem useful
to extend samples by including samples from other economies from emerging market apart from Pakistan. Finally, future research should focus on time line of more than 3 years panel data in order to find the consistent effect of gender diversity on firm performance.

References


