Does Board Diversity Matter on Financial Performance?

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Abstract The aim of this study is to examine how the characteristics of boards affect the financial performance of banks that are listed on the Palatine Exchanges. The study uses a quantitative approach to test hypotheses, gathering data on various variables from secondary sources, primarily the annual reports of banks over a ten-year period from 2010 to 2019. Both descriptive and inferential statistical analysis methods are applied to analyze the secondary data. Additionally, panel data regression is utilized to explore how board diversity factors such as gender, age, nationality, education, and experience affect the financial performance of banks, as measured by ROE and ROA. The results indicate that board age diversity has a positive impact on the ROE of banks in Palestine.

Keywords Board diversity · Palestinian banks · Performance

1 Introduction

Modern companies typically focus on improving their financial performance by assessing how efficiently they utilize their skills and resources to generate revenue and achieve desired profits [1, 2]. This measurement provides insights into a company's overall financial well-being during a particular period, facilitating comparisons with similar firms in the same industry or across industries [3]. It is a valuable tool for evaluating a company's financial status over a specified timeframe [4].

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Although financial performance is vital for businesses, it can be affected by the composition of the board. Board characteristics encompass all the qualities and aspects of a company's board that facilitate the effective and efficient pursuit or full achievement of the interests of different stakeholders [5].

Despite its modest economy, Palestine is increasingly adopting effective corporate governance principles. The increasing focus on advancing corporate governance standards by government entities, civil society groups, and the business community demonstrates a heightened acknowledgment of governance's crucial role in creating an attractive investment environment. Consequently, this facilitates the attraction of both local and foreign investments, contributing to enhanced economic growth, lower unemployment rates, reduced poverty levels, and decreased reliance on external assistance [6, 7].

Although the importance of corporate governance is increasingly acknowledged, there is a lack of empirical research investigating how board characteristics relate to the corporate performance of Palestinian companies. Only a handful of studies have delved into this connection within the Palestinian context [6–8]. Examining the link between boards and performance in Palestine is essential for deepening our comprehension of this relationship within the distinct parameters of a small and somewhat isolated economy. This study seeks to fill this gap by exploring how gender, age, nationality, education, and experience diversities impact banks' financial performance using metrics such as ROE and ROA.

Our paper contributes significantly to corporate governance research in the banking sector, echoing the Basel Committee on Banking Supervision's call for more international studies. The banking industry provides a unique setting to explore how board diversity impacts performance, particularly given the global financial crisis aftermath and potential legal liabilities for bank directors. This study is the first known to highlight the importance of bank board diversity in relation to performance within the bank's institutional context.

The rest of the Paper is structured as subsequent sections. Section 2 Literature review and developing hypotheses: Sect. 3 discusses the sample, data, and methodology used for empirical analysis. Section 4 presents the results, while Sect. 5 presents our concluding.

2 Literature Review and Developing Hypotheses

Board characteristics encompass the distinct blend of attributes, traits, and expertise contributed by each member to the decision-making process [9]. In the fields of psychology and organizational management, positive perceptions regarding demographic diversity within workgroups arise from its potential to enhance cognitive task performance, including activities such as planning, idea generation, problem-solving, and decision-making [10]. Research indicates that workgroups with higher diversity levels may operate at a slower pace compared to less diverse ones, as noted by Zwelef and Nour [11] in homogeneous top management teams. However, despite the potential for conflicts, highly diverse workgroups consistently demonstrate superior performance, as evidenced by Momani et al. [12] in mixed groups. The literature on board diversity highlights a positive correlation with enhanced company performance [13–17]. This impact is attributed to diverse boards facilitating extensive information exchange, fostering effective decision-making processes, and promoting independence while considering the interests of minority shareholders [18–21].

There exist at least five theories supporting a positive correlation between board characteristics and company performance. One of these is the widely recognized agency theory, often discussed in literature on demographic diversity [22–24]. This theory emphasizes the diversity of independent supervisory boards, particularly focusing on their independence, as a means to mitigate agency conflicts. The resource dependency theory, on the other hand, views board diversity as a valuable asset for companies, explaining its benefits across executive and non-executive boards. Diversity within the executive board enhances decision-making, while diversity within non-executive boards improves oversight and advisory functions, thereby impacting decision quality. Researchers frequently utilize this theory to examine the relationship between board diversity and bank performance [22–24].

The stakeholder theory posits a mutually beneficial relationship between companies and stakeholders, necessitating diverse corporate boards to meet their needs. Many studies on board diversity draw upon this theory to explain the inherent connection [25, 26]. The critical mass theory suggests that a minority of board members with specific characteristics, such as age, gender, education, and tenure, make significant contributions to the board's duties and functions once they reach a certain threshold [27]. In the financial sector, this theory has been employed in various studies to explore the relationship between diversity and bank performance [28]. Notably, [28] discovered that having women on boards notably improves bank performance. The positive relationship between gender diversity and performance is evident when boards have at least three female members; however, when the number falls below that threshold, the relationship turns negative.

Lastly, the human capital theory argues that differences in perspectives and roles due to demographic variances constitute a form of human capital. Several studies, including those by Farag et al. [23], Talavera et al. [24], use this theory to explain the associated relationship. Despite the endorsement of a positive correlation between board diversity and firm performance by these five theories, empirical evidence remains inconclusive.

Gender Diversity

Historically, boards were predominantly male-dominated. Introducing women to boards increases gender diversity, which is anticipated to enhance organizational value and performance through fresh perspectives [29]. The impact of board characteristics, particularly in terms of gender, on company performance has been extensively researched. As per [30, 31], some studies have observed a positive influence, while others have reported a negative or insignificant effect. Consequently, building on the aforementioned argument, the first hypothesis can be formulated as follows:

H1: Gender diversity significantly increases on the financial performance of the banks listed on Palestine Exchanges.

Age Diversity

Age diversity in a firm can impact performance positively by enhancing skills, resources, knowledge, and relationships. However, it may also lead to cognitive conflicts and weaker team cohesion, negatively affecting firm performance.

Studies have shown that boards with diverse age groups are associated with enhanced financial performance for companies [32–34]. However, contrasting research suggests a potential adverse effect of age diversity on the social performance of firms [24, 35]. On the other hand, certain studies have found no significant correlation between age diversity and firm performance [36].

H2: age diversity significantly increases on the financial performance of the banks listed on Palestine Exchanges.

Nationality Diversity

While nationality fosters national loyalty, diverse board members bring both potential benefits and communication challenges [37]. Studies in developed economies link nationality of board members to positive financial performance [38, 39]. Similar findings in developing economies exist [40], but consistent evidence is lacking [41].

H3: Nationality diversity significantly increases on the financial performance of the banks listed on Palestine Exchanges.

Experience

Board directors need decision-making experience to qualify. Older boards are thought to bring valuable corporate governance experience. This accumulated experience positively impacts overall efficiency and company performance. The connection between board members' educational background and firm performance may vary, but the theory of constrained resources suggests that higher board experience benefits effective management, especially in group settings, enhancing firm performance [42–44] highlighted the importance of corporate management experience for Public Listed Company (PLC) boards. Additionally, there is a clear correlation between firm performance and directors' seniority.

H4: experience diversity significantly increases on the financial performance of the banks listed on Palestine Exchanges.

Education Diversity

Diverse educational backgrounds, functional experiences, and upper management roles are positively linked to financial performance [45, 46]. This diversity in knowledge fosters varied perspectives in top management discussions, aiding strategic decision-making. While some studies show no correlation between educational heterogeneity in upper management and innovation or decision-making, [47] suggest highly educated members may lack practical knowledge, leading to ineffective decisions. Lower-educated board members may gain valuable practical experience. Anticipated benefits of educational diversity among directors include enhanced analytical thinking from those with higher education and practical expertise from those with lower education, ultimately contributing to optimal strategies and improved financial performance.

H5: education diversity significantly increases on the financial performance of the banks listed on Palestine Exchanges.

3 Methodology

3.1 *Population and Sample*

The study's target population consists of all banks that were listed on the PEX from 2010 to 2019. The sample is composed of banks that meet two specific requirements: they must have been listed on the PEX during the mentioned timeframe, and comprehensive data on these banks for that period must be accessible. Consequently, the sample includes 7 banks, totalling 70 observations. The study collects the necessary data from the annual reports of these sampled banks, which are publicly available on the PEX website.

3.2 *Measurement of Variables*

3.2.1 Variables and Their Measurement

This study utilizes three categories of variables. Firstly, the dependent variable focuses on the financial performance of banks listed on the Palestinian exchange, measured through return on assets (ROA) and return on equity (ROE).

Secondly, the independent variables pertain to board diversity, encompassing gender, age, nationality, education, and experience.

Lastly, considering that the unique characteristics of each bank can influence corporate governance practices and potentially impact financial performance, the study includes several control variables in the regression model to address this. These control variables consist of board size, bank age, bank size, bank type, and financial leverage Table 1.

3.3 *The Regression Model*

In order to examine the impact of board characteristics on the banks performance of Palestinian-listed banks between 2010 and 2019, the following multiple regression model was developed:

$$Y_{it} = B_{0i} + \sum_{j=1}^{k} B_j X_{jit} + \varepsilon_{it} (i = 1, 2, \ldots, N; t = 1, 2, \ldots, T; j = 1, 2, \ldots K)$$

Table 1 Variables and their measurement

Variable	Measurement	Reference
Dependent variable (Financial performance)		
ROA	% of net income to total assets	[48]
ROE	% of net income to total equity	[48]
Independent variables (Board characteristics)		
Gender diversity	% of female members to total members	[49]
Age diversity	Standard deviation of ages of board members	[50]
Nationality diversity	% of foreign members to total members	[50]
Education diversity	% of high education members to total members	[50]
Experience diversity	Std. dev. of board members' years of experience	[50]
Control variables (Bank-specific characteristics)		
Board size	Total number of board members	[49]
Bank age	Total number of years since incorporation	[49]
Bank size	Natural log of total assets	[49]
Bank type	0 if commercial bank, 1 if Islamic bank	[49]
Bank leverage	% of total liabilities to total assets	[49]

4 Result and Discussion

4.1 Descriptive Statistics

In Table 2 The study finds that return on assets (ROA) has a mean value of 0.010, indicating a $0.010 profit on average for every dollar invested in assets, ranging from – 0.060 to 0.052. Gender diversity shows a mean of 5.3% females on boards, varying from 0 to 33%. The age dispersion of board member's averages 10 years (7.4–13.7), while foreign board members average 20% (0–62%).Board experience has a mean dispersion of 3.5 years (0–7.2), and 57% of board members hold high education degrees (23–100%). Palestinian banks have an average of 10 board members (6–13), an average age of 27 years (14–59), and an average asset size of $952 million ($11.3 million to $5,260 million). The average financial leverage is approximately 76% (8–92%).

Table 2 Descriptive statistics of variables for Palestinian banks

Variable	Minimum	Maximum	Mean	Std. Dev
Dependent variable (Financial performance)				
ROE	− 0.069	0.183	0.071	0.052
ROA	− 0.060	0.052	0.010	0.015
Independent variables (Board diversity)				
Gender diversity	0.000	0.330	0.053	0.078
Age diversity	7.350	13.740	10.073	1.425
Nationality diversity	0.000	0.620	0.199	0.191
Experience diversity	0.000	7.150	3.532	2.097
Education diversity	0.230	1.000	0.569	0.183
Control variables (Bank-specific variables)				
Board size	6.000	13.000	9.714	1.787
Bank age	14.000	59.000	27.714	13.348
Bank size ($million)	11.366	5,260.000	952.00	1,1140.000
Bank type	NA	NA	NA	NA
Bank leverage	0.075	0.920	0.758	0.274

5 The Matching Function Approach

5.1 *Statistical Analysis*

Both descriptive and inferential statistics are employed in the data analysis process. Descriptive statistics, such as minimums, maximums, standard deviations, and means, are utilized to provide a descriptive overview of the dependent, independent, and control variables in the study.

Conversely, inferential statistics are used to explore the influence of board characteristics on the financial performance of banks. Specifically, panel data regression is utilized to investigate this impact on the financial performance of banks listed on selected Middle Eastern Exchanges. This technique is chosen due to the panel nature of the data, which includes both time series and cross-sectional elements.

Finally, it is worth saying that the descriptive and inferential data analysis is carried out using the SPSS software.

5.2 *Panel Regression Model Analysis*

Table 3 presents the panel regression results for Palestinian banks with return on equity (ROE) as the dependent variable. The model, comprising five diversities and

Table 3 Regression results for Palestinian banks using ROE

Constant and variables	Coefficient	Std. error	t-statics	Sig.
Constant	− 0.190667	0.073677	− 2.58788	0.0121
Gender diversity	− 0.038449	0.128364	− 0.299531	0.7656
Age diversity	0.008661	0.00342	2.532326	0.0140*
Nationality diversity	− 0.039207	0.036304	− 1.079957	0.2846
Education diversity	0.019268	0.043121	0.446827	0.6566
Experience diversity	0.004321	0.003265	1.323518	0.1908
Board size	0.007456	0.00465	1.603673	0.1141
Bank age	0.001402	0.000862	1.626573	0.1092
Bank size	2.57E−12	1.23E−11	0.208402	0.8356
Bank type	0.004863	0.014201	0.342464	0.7332
Bank leverage	0.056965	0.045778	1.244358	0.2183
R^2	0.610875			
F-Statistic	0.000000			

* Significant at the 0.05 level

five bank-specific variables, explains about 61% of ROE variation ($R^2 = 0.610$). The F-statistic (< 0.05) confirms the overall significance of the regression model.

Table 4 displays the panel regression findings for Palestinian banks with return on assets (ROA) as the dependent variable. The model, featuring five diversities and five bank-specific variables, accounts for around 27% of ROA variation ($R^2 = 0.2669$). The F-statistic (< 0.05) affirms the overall significance of the regression model.

6 Testing Hypothesis and Results

6.1 Hypotheses Testing

H1: Gender diversity has a significant positive impact on the financial performance of the banks listed on Palestinian exchange.

The study reveals that Palestinian banks with more gender-diverse boards do not show higher return on equity (ROE) and return on assets (ROA) when compared to banks with less diverse boards. It is evident that banks with more gender diversity on their boards do not achieve superior ROE and ROA compared to those with less diversity. The researcher attributes this finding to the low percentage of female representation on bank boards. This outcome aligns with the findings of [51] who similarly concluded that gender diversity does not have a significant impact on financial performance.

Table 4 Regression results for Palestinian banks using ROA

Constant and variables	Coefficient	Std. error	t-statistic	Sig.
Constant	0.064388	0.027994	2.300076	0.0250
Gender diversity	− 0.022128	0.048772	− 0.4537	0.6517
Age diversity	− 0.000463	0.0013	− 0.35598	0.7231
Nationality diversity	− 0.053646	0.013794	− 3.88914	0.0003*
Education diversity	0.038358	0.016384	− 2.3412	0.0226*
Experience diversity	0.004562	0.001241	3.677502	0.0005*
Board size	0.001524	0.001767	0.86252	0.3919
Bank age	0.000516	0.000328	− 1.57379	0.1209
Bank size	5.26E−12	4.69E−12	1.121602	0.2666
Bank type	0.002925	0.005396	0.541988	0.5899
Bank leverage	− 0.051432	0.017394	− 2.95691	0.0045*
R^2	0.266900			
F-Statistic	0.034231			

* Significant at the 0.05 level

H_2: Age diversity has a significant positive impact on the financial performance of the banks listed on Palestinian exchange.

Palestinian banks exhibit greater age diversity on their boards, resulting in higher return on equity (ROE) compared to banks with less diverse boards. However, despite having more age-diverse boards, they do not achieve higher return on assets (ROA) compared to less diverse banks. The researcher attributes the positive impact of age diversity on ROE in Palestinian banks to the effective collaboration and brainstorming among older and younger board members. This observation is consistent with the findings of [32].

H_3: Nationality diversity has a significant positive impact on the financial performance of banks listed on Palestinian exchange.

Initially, Palestinian banks demonstrate greater diversity in terms of nationality on their boards, yet they do not achieve higher return on equity (ROE) when compared to banks with less diverse boards. Conversely, although they have more diverse boards in terms of nationality, they achieve lower return on assets (ROA) compared to less diverse banks. The researcher attributes this negative impact of nationality diversity on ROA in Palestinian banks to the inadequate communication and discussion among board members from different nationalities. This finding is supported by the results of [1, 52, 53].

H_4: Education diversity has a significant positive impact on the financial performance of banks listed on Palestinian exchange.

Palestinian banks that feature diverse educational backgrounds among their board members achieve a higher return on assets (ROA), although they do not exhibit a similar increase in return on equity (ROE) compared to banks with less diverse boards, aligning with the findings of [46]. However, studies conducted by Fares and

Nour [51], Abdelhaq et al. [52] did not identify a significant impact on financial performance from board education diversity.

H_5: Experience diversity has a significant positive impact on the financial performance of banks listed on Palestinian exchange.

Palestinian banks demonstrate increased diversity in board experience without experiencing a higher return on equity (ROE) when compared to less diverse boards. Nevertheless, they do achieve a higher return on assets (ROA) with more diverse boards in terms of experience compared to less diverse ones. The researcher credits the positive influence of experience diversity on banks' ROA in Palestine to the improved capacity of board members with diverse experiences to generate innovative ideas and solutions, in accordance with [54].

7 Conclusion

The preceding findings suggest certain commonalities regarding board characteristics and firm performance. Consistent with prior literature, these results support the idea that the makeup of board characteristics positively influences firm performance. The primary aim of this study is to examine the impact of board characteristics on the financial performance of banks listed on the PEX.

To achieve this objective, we utilized data from banks listed on the Palestinian exchange, specifically focusing on seven banks over the period from 2010 to 2019, with a total of 70 observations. The sample is restricted to banks only, and financial performance is measured solely using ROA and ROE.

Our findings reveal that the financial performance of Palestinian listed banks is not associated with gender diversity. However, this indicates that the presence of women on boards is not widespread in the country, despite robust initiatives under the Code of Corporate Governance in Palestine aimed at promoting gender equality in various sectors.

We observed a positive relationship between age, education, and experience characteristics with ROA, while their impact on ROE was not significant. Additionally, age diversity showed a positive impact on ROE but not on ROA.

Future studies could explore the influence of board characteristics, encompassing both executive and non-executive directors, on bank performance. This would contribute to enhancing the existing corporate governance literature. Furthermore, the study suggests investigating other non-financial sectors to gain a comprehensive understanding of board characteristics' impact on performance.

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