



EFFECT OF BOARD DIVERSITY ON FINANCIAL PERFORMANCE OF THE VIETNAMESE LISTED FIRMS



 My Tran Ngo¹⁺
Thi Hong Van Pham²
Thi Thai Tam Luu³

¹Deputy Head of Business Administration Department College of Economics, Can Tho University, Vietnam.

Email: nmtran@ctu.edu.vn

²Master Student in College of Economics, Can Tho University, Vietnam.

³PhD Student in College of Economics, Can Tho University Lecturer in School of Economics and Business Administration, An Giang University, Vietnam



(+ Corresponding author)

ABSTRACT

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This study investigated the impact of board diversity on the financial performance of listed firms on the Vietnamese stock exchange. Four demographic characteristics of board members (gender, nationality, level of education and level of age) were used as the proxies for diversity. The data were analyzed by different methods including Pooled OLS regression, Fixed Effect Model (FEM), Random Effect Model (REM) and Generalized Method of Moments (GMM) using a sample of 482 companies listed in the period from 2015 to 2017. The results showed that the percentages of female members, foreign members and members with post-graduate degrees on the board, were statistically associated with improvement in financial performance. However, there was no evidence that the percentage of members under 45 years old on the board affected the performance of listed firms on the Vietnamese stock exchange.

Contribution/ Originality: This study is one of very few to investigate board diversity in Vietnamese listed firms. The results could add to the empirical evidence on board diversity literature and be a useful reference for structuring board composition for listed firms in Vietnam.

1. PROBLEM STATEMENT

The Board of Directors (BOD) is the highest governing body in a company which protects the interests and assets of the company as well as ensuring profitable investments for investors (Campbell and Mínguez-Vera, 2008). Every decision on the operational strategy of an enterprise must originate or be approved by the BOD. The power and role of the BOD has an important impact on the company's activities. Therefore, the appointment of board members who can take on and best fulfill the responsibilities of the Board is a challenge.

Up to now, there has not been any study that can identify the standard requirements to appoint suitable members of a BOD. In recent years, several scholars in the world are interested in the diversification of boards. However, the results of previous studies have not been consistent. Diversification refers to employing people with differing socio-economic characteristics and backgrounds to better represent consumers and stakeholders from those groups. The diversity on a board is determined by many different factors such as age, gender, nationality, academic and professional qualifications of members, life experiences, attitudes and personalities (Milliken and Martins, 1996). Some scholars believe that diversification among BOD members may offer many benefits. For

example, they can raise broader perspectives on decision-making through higher creativity and innovation (Cox and Blake, 1991). Meanwhile, others argue that the heterogeneity of a board may lead to more conflict due to different goals, reduce the effectiveness of decision-making and be more destructive than creating value (Smith *et al.*, 2006). The main cause of the inconsistency in previous studies may be due to the differences in measuring the diversity and due to which kinds of diversities are examined. These differences can be influenced by the institutional, cultural and economic characteristics of each country (Campbell and Mínguez-Vera, 2008).

Over the past decade, the number of studies on diversity has been constantly increasing. The results of research on BOD diversification are useful references for structuring the composition of BODs. However, this cannot be stereotyped due to the differences between countries. Therefore, the need for research in many contexts has been raised. There is also the fact that research on BOD diversification in Vietnam has been minimal. As a result, a study on the impact of BOD diversification on the performance of Vietnamese listed companies is essential.

2. METHODOLOGY

2.1. Hypotheses and Research Model

Previous studies have found some evidence on the positive influence of female participation on a BOD on company performance. Carter *et al.* (2003) pointed out that a BOD composing of at least two female members performs better than BODs with fewer or no female members. Besides, Erhardt *et al.* (2003); Darmadi (2011); Nguyen *et al.* (2015) provided evidence that the presence of female members on a BOD positively affected the performance of enterprises. However, there are also some studies showing that there is no relationship between the appointment of female members on a BOD and a firm's value (Campbell and Mínguez-Vera, 2008; Man, 2011; Sajjad and Rashid, 2015). Some previous studies have shown that the relationship between the presence of female members on a BOD and the performance of the company has inconsistent results. However, there are several reasons why this study expects that the presence of female members on a BOD will have a positive impact on company performance. Firstly, there will be higher creativity and innovation under a heterogeneous BOD. Secondly, higher levels of diversity can lead to a better and more efficient corporate image. Third, if the process of selecting board members only includes male candidates, companies are choosing managers from a smaller sample, which may lead to the omission of well-qualified women candidates.

Vietnam is a country that was influenced by an ideology centered around men. Nevertheless, Vietnam has been one of the countries to support gender equality and has achieved many important breakthroughs and achievements. Gender equality in Vietnam has been evaluated by the United Nations as one of the bright spots in the implementation of the Millennium Development Goals with one of the fastest gender gap reductions in the past twenty years. According to the 2016 *Human Development Report*, Vietnam's GII index is 0.337, ranked 71 out of 183 countries. The Vietnam's GGI index is 0.007, ranked 65/183 countries and Vietnam's GDI index of 1,010 is in the top five ranking on gender equality with respect to the Human Development Index value. Gender equality is defined as both men and women accessing the same opportunities to promote their full potential and having the opportunity to equally participate, contribute and benefit from political, economic, cultural and social development activities. As a result, the hypothesis is set as follows:

H₁: The proportion of female members on a BOD is associated with the better performance of listed companies.

It is assumed that people who have worked for a long time have gained a lot of experience and expertise. However, for the important role on a BOD, the rejuvenation trend of senior managers and board members around the world, in general, and in Vietnam in particular, has also happened. Among the other core elements, age is also a factor to be considered when appointing a new member of the board. Morck *et al.* (1988) defined that the age of young leaders should not be more than 60, while Darmadi (2011) defined a young manager as having the age of no more than 50. From the point of view of business management knowledge, the age of the manager could reflect his business experience, self-understanding and maturity in directing the business. However, the most common

weakness of older managers is conservatism, authoritarianism and limited creativity (Darmadi, 2011). In contrast, young managers are supposed to capture fast-paced trends, and progress in the workplace (Bantel and Jackson, 1989). The next hypothesis is set up as follows:

H₂: The higher the percentage of young members in the board, the higher the performance of listed companies.

Some researchers propose that organizations should focus on ethnic and cultural diversity to take advantage of a diverse council. Oxelheim and Randøy (2003) argued that the presence of foreign members on a BOD is expected to contribute a competitive advantage to the company via an international network, commitment to shareholder rights and responsibilities. Foreign board members can be more independent and bring high value to the company through experience and understanding from another country which will help companies with increasing their ability to do business or attract more investment resources. For example, companies can participate in new markets or expand their worldwide contacts with suppliers, government officials, manufacturers, customers and distributors (Larcker and Tayan, 2015). In recent years, Vietnam has been one of the leading countries in attracting foreign investment. The total amount of capital contribution via buying shares of foreign investors has been continuously increasing. Following this trend, the presence of the foreign member on boards has also increased significantly. From the above argument, the expectation is set as follows:

H₃: The higher the ratio of members with foreign nationalities, the higher the performance of listed companies.

Boards of Directors wants to improve company performance so the capacity of board members should be one of the leading factors being considered. Many authors have conducted in-depth research on the relationship between the level of education of senior managers and the performance of companies. However, the results of previous research are still controversial. Using education as a measure of managers' capacity is quite a shortcoming because the degree is only a part of everyone's recognized knowledge and expertise. No qualification can fully and comprehensively reflect other factors such as skills, experience or background knowledge.

Jalbert *et al.* (2002) provided evidence that board members with graduate degree are associated with better performance. Similarly, Bertrand and Schoar (2003) showed that in companies where managers have a master's degree, it is more profitable. In addition, Cheng *et al.* (2010) also argued that the educational level of managers is an important characteristic contributing to the increase of operational efficiency for the company.

Education is one of the areas of high interest and investment in Vietnam. The education system is constantly innovated to improve the quality of labor workforce. In general, education level is still the priority when selecting managers and leaders. This requirement occurs not only in Vietnam but also globally. Therefore the following hypothesis is proposed:

H₄: The higher the percentage of board members with higher education, the better the performance of listed companies.

From the above hypotheses, the proposed research model is presented in Figure 1 below as follows:

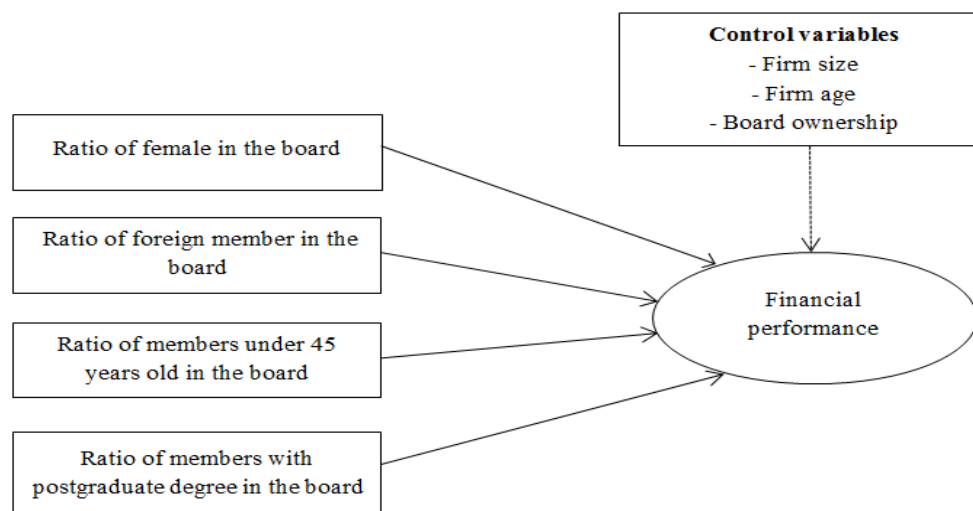


Figure-1. Research model.

2.2. Data and Analyzing Method

2.2.1. Data

Secondary data is hand-collected from annual reports of companies listed on the Ho Chi Minh City Stock Exchange (HOSE) and Hanoi (HNX) from 2015 to 2017 with the following criteria: (i) that the company's fiscal year ended on December 31 every year and that there was no change in the fiscal year during the research period; and, (ii) that the business process was not interrupted during the research period. As of December 31, 2017, HOSE and HNX had 631 listed companies. After removing listed companies with insufficient information, the total number of listed companies used in the project was 482 companies across all industry sectors. The total number of firm-year observations of sample is 1,446.

2.2.2. Analyzing Method

First, the Pooled OLS regression was used to initially identify the most basic issues of the relationship between independent variables and dependent variables. The regression equation was estimated as follows:

$$\text{Tobin's } Q = \beta_0 + \beta_1 \text{PWOMEN} + \beta_2 \text{PFOREIGN} + \beta_3 \text{PYOUNG} + \beta_4 \text{PLEVEL} + \beta_5 \text{LNASSET} + \beta_6 \text{LNFIRMAGE} + \beta_7 \text{OWN} + \varepsilon \quad (1)$$

Where Tobin's Q represented firm performance. To measure the performance of enterprises, there were two groups of measurements in previous studies. One group used an accounting method using ROI and the other applied market value using Tobin's Q . ROI is an effective indicator for the production and business results that firms have achieved in the past periods. This indicator is supposed to be associated with short-term assessments and cannot show long-term results. Tobin's Q indicator represents the future expectations of the market. The biggest advantage of the Tobin's Q index is the measurement of the sensitivity of investment capital reflected by the expectation of future returns. Therefore, Tobin's Q was used in this study to represent business performance.

The independent variables included the percentage of female members on a BOD (PWOMEN), the proportion of members with foreign nationality on a BOD (PFOREIGN), the percentage of members under 45 years old on a BOD (PYOUNG) and the percentage of members having post-graduate degree on a BOD (PLEVEL). The details of the measurement of variables are presented in Table 1 below.

Table-1. Measurement of variables used in the research model.

Variable code	Variable name	Measurement	Expected sign	Citation
Tobin's Q	Firm performance	Market value of stock – book value of stock / Total asset		
PWOMEN	Ratio of female in the board	Total female in the board / Total board members	+	Darmadi (2011); Sajjad and Rashid (2015); Smith <i>et al.</i> (2006)
PFOREIGN	Ratio of foreign member in the board	Total foreign members in the board / Total board members	+	Darmadi (2011); Sajjad and Rashid (2015)
PYOUNG	Ratio of members under 45 years old in the board	Total members under 45 years old in the board / Total board members	+	Darmadi (2011); Sajjad and Rashid (2015)
PLEVEL	Ratio of members with postgraduate degree in the board	Total members with postgraduate degree / Total board members	+	Vo and Phan (2013); Jalbert <i>et al.</i> (2002)
OWN	Board ownership	Total number of shares owned by the board members / Total shares of the company	+	Brickley <i>et al.</i> (1988)
LNASSET	Firm size	Ln (Total asset)	+	Foyeke <i>et al.</i> (2015)
LNFIRMAGE	Firm age	Ln (number of years of operation)	+	Loderer and Waelchli (2010); Akben-Selcuk (2016)

Control variables included firm size (LNASSET), firm age (LNFIRMAGE) and board ownership (OWN). Firm size was measured by logarithms of total assets. Most empirical studies showed that company size has a positive effect on performance (Foyeke *et al.*, 2015). Some studies suggested that companies which have been established and have operated for a long time will have better performance due to their experience and benefits from branding (Akben-Selcuk, 2016). When Jensen and Meckling (1976) examined management behavior, agency costs and ownership structure, they recommended linking interests between shareholders and managers through share ownership. Supporting this view, Brickley *et al.* (1988) concluded that ownership of the board is an effective encouragement for the Board to align the interest of the board and shareholders.

Then, the fixed effect model (FEM) and random effect model (REM) were used to estimate the model (1). The test of Hausman (1978) was carried out to determine which estimation method is best suited. Finally, model (1) was estimated by Generalized Method of Moments (GMM). This method can solve problems related to endogenous variables, residual autocorrelation problems, overcoming the autocorrelation between explanatory variables in the model as well as resolving issues related to time series data (Nguyen *et al.*, 2015).

3. RESULTS

3.1. Descriptive Statistics and Correlation Matrix

Table 2 shows the descriptive statistics for the variables used in the research model. The results show that the average value of Tobin's Q of listed companies on Vietnamese stock market was 0.057 times. The average percentage of female members on a BOD of listed companies was 17.2%, which was 5% higher than those of Nguyen *et al.* (2015). The foreign members on a board accounted on average for 11.6% of total board members. This average value was much lower than those found in Sajjad and Rashid (2015) for Pakistan (38%), but higher than those of Darmadi (2011) in Indonesia (9%). It could be said that the appointment of foreign members on BODs in Vietnamese listed companies is relatively low.

Table-2. Descriptive statistics.

Variable	Mean	SE	Min	Max
Tobin's Q	0.057	0.507	-1.251	6.925
PWOMEN	0.157	0.172	0	1
PFOREIGN	0.039	0.116	0	1
PYOUNG	0.38	0.279	0	1
PLEVEL	0.288	0.27	0	1
OWN	0.225	0.314	0	4.087
LNASSET	13.768	1.761	9.625	20.907
LNFIRMAGE	2.433	0.504	0.693	7.069

Source: Results of data processing from the sample of 482 firms listed in HOSE and HNX from 2015 to 2017.

The average percentage of members aged under 45 on BODs is 27.9%. This ratio was a good sign that the trend of rejuvenating management in Vietnam is gradually catching up with the trend in the world. However, the proportion of members under 45 years old on BODs of companies listed on the Vietnamese stock market was still quite low compared to other countries in Southeast Asia. When Darmadi (2011) examined the diversification of BODs of listed companies in Indonesia, the results showed that the average percentage of board members under 45 was 47%.

The results in Table 2 indicate that members with postgraduate degrees on BODs have accounted for 27% of the total board members. With respect to board ownership, board members own an average value of 22.5% in the shareholding of listed firms.

Table 3 shows the correlation matrix between variables in the research model. The correlation coefficients among independent variables of model (1) were relatively low which implies that the multicollinearity is not a problem in the estimated model.

3.2. Results on the Impact of Diversification on a Bod on the Performance of the Vietnamese Listed Companies

3.2.1. Results of Pooled OLS

Pooled OLS regression was used to get an overview of the relationship between the independent variables and dependent variables. The results estimated for model (1) by Pooled OLS regression in Table 4 showed that the ratio of female members on BODs, the percentage of foreign members on BODs and the proportion of members with postgraduate qualifications on BODs were positive and statistically significant, which implied that all these factors positively affected the performance of listed firms. The proportion of members aged under 45 on BODs was not statistically significant. With respect to control variables, only the coefficient of yearly operations was positively significant at 1%.

It could be said that the results estimated by Pooled OLS regression initially supported the first three hypotheses that the ratio of female members on BODs, the percentage of members with foreign nationality on the BODs and the proportion of members with postgraduate degree on BODs have a positive impact on the performance of listed firms. OLS regression is a basic, simple and easy-to-use regression method but the estimation results are easy to deviate.

To test the phenomenon of multicollinearity, VIF coefficients were used. All the VIF values of each variables in the model was less than 5 (The largest VIF) coefficient was only 1.19, which confirmed that the model did not suffer from the multicollinearity phenomenon. However, when testing autocorrelation, the $\text{Prob} > F = 0.0017 < 5\%$ index showed that the model had autocorrelation. Hence, the results from Pooled OLS were not effective. To overcome this problem, FEM and REM were used to re-estimate model (1).

3.2.2. Results of FEM, REM and GMM

The results estimated from the random effect model (REM) was quite similar to the those of the Pooled OLS regression. However, the results from the Hausman test showed the selection of the fixed effect model (FEM). The results of the fixed impact model (FEM) showed the significance of only two control variables (firm size and the number of years of operation). No diversification variables were statistically significant. This is because the FEM model had a variance of variance error and changes in autocorrelation. To overcome these problems, model (1) was re-estimated by GMM which is considered a highly effective and reliable solution.

The GMM regression results showed that the percentages of female members, foreign members and members with post-graduate degrees on BODs were positively associated with the better performance of listed firms. Thus, the evidence supports hypotheses H_1 , H_3 and H_4 . These results imply that BODs composed of higher numbers of female members, foreign members and members with post-graduate degrees will perform better. These results were consistent with many previous studies in different countries such as Carter *et al.* (2010); Erhardt *et al.* (2003); Oxelheim and Randøy (2003) also in Vietnam as Nguyen *et al.* (2015). There was no statistical evidence that the percentage of members under 45 years old on BODs affected the performance of listed firms.

The control variable of firm size was statistically significant, but it had a negative value. This result reflected that a large-scale enterprise is not necessarily effective. In fact, many large corporations continuously reduce profits due to expanding investment in many new fields while not understanding the new context or not having enough experience. There was no statistical evidence on the relationship between board ownership and the performance of listed firms in this study.

In summary, the fixed impact model (FEM) after overcoming the variance of variance error and the occurrence of autocorrelation by the GMM estimation method gave quite consistent results with the estimation of Pooled OLS. This reinforced the stability and reliability of the estimation results of model (1). To test the conformity of GMM estimation, the Hansen test was used. The p value of this test was greater than 10% which confirmed that there was no correlation between the tool variable and the error. This result implied that the GMM estimation model was suitable and provided a high reliability for model (1).

Table-3. Correlation matrix.

Variable	Tobin's Q	Pwomen	Pforeign	Pyoung	Plevel	Own	Lnasset	Firmage
Tobin's Q	1							
PWOMEN	0.0515	1						
PFOREIGN	0.0849*	-0.0501	1					
PYOUNG	-0.1136*	0.1080*	-0.0422	1				
PLEVEL	0.1111*	0.0269	0.1227*	0.2069*	1			
OWN	-0.0277	0.0525*	-0.1288	-0.0372	-0.0092	1		
LN(ASSET)	0.0599*	0.0189	0.2142*	-0.0552*	0.3204*	-0.0334	1	
LN(FIRIMAGE)	0.1930*	-0.0498	0.0179	-0.0981*	0.0301	0.0217	0.0701*	1

Note: (*) represents for the significant level at 5%.

Table-4. Estimated results of model (1) by Pooled OLS, FEM, REM và GMM.

Variables	OLS	FEM	REM	GMM
Ratio of female in the board	0.2281***	-0.1342	0.1711*	8.145**
Ratio of foreign members in the board	0.2928***	0.5324	0.2918**	16.197***
Ratio of members with age under 45 years old in the board	-0.2365***	0.1167	-1.6667***	-0.152
Ratio of members with postgraduate degree in the board	0.2362***	-0.2112	0.1862***	5.917**
Board ownership	-0.0561	-0.0705	-0.0633	-0.051
Firm size	-0.0070	0.1733***	0.0042	-0.395***
Firm age	0.1822***	0.2841**	0.1969***	-0.665
Constant	-3.0318***	-3.0318***	-0.4925***	
Observation	1,446	1,446	1,446	964
Prob>F	0.0000	0.0000	0.0000	0.0000

Note: (*), (**), (***) represent for the significant level at 1%, 5% và 10% respectively.

4. CONCLUSION AND POLICY IMPLICATION

This study examined the impact of diversification on a BOD on the performance of listed companies in the Vietnamese stock market. Data were collected in the period of 2015–2017 from 482 companies listed on the Ho Chi Minh Stock Exchange and Hanoi Stock Exchange. The final sample consisted of 1,446 firm-year observations. Tobin's Q was used as a proxy for the performance of listed companies. The diversity variables considered in this study included the percentages of female members, foreign members, members under 45 years of age and members with postgraduate degrees on BODs. The main analyzing methods used in this study included Pooled OLS, REM, FEM and GMM

The descriptive statistics showed that the percentages of female members, members under 45 years old and members with postgraduate qualifications on the BODs of the companies was relatively high, except for the percentage of foreign members in BOD. The estimated results by GMM showed that the percentages of female members, foreign members, and members with post-graduate degree on BODs were positively associated with the higher performance of listed firms. There was no evidence on the relationship between the percentage of members under 45 years old on BODs and firm performance. Board ownership was found to have no impact on the performance of listed firms.

Based on the above results, some policy implications with reference to the composition of board of directors are proposed as follows:

4.1. Increasing the Number of Female Members on the Board

In the trend of integration and development of the country, the Vietnamese women continue affirming their role and position in the development of society. As the economy grows, women have more opportunities to break the rigid division of labor by gender. Promoting women's participation in leadership positions and policy-making processes will help to express different perspectives which will result in more comprehensive and more appropriate decisions as well as policies for the firm. The enterprises need to create a fair environment for women when appointing members to the board.

4.2. Increasing the Presence of Foreign Members on the Board

In recent years, Vietnamese executives have constantly improved their skills and management skills to meet the requirements of work. However, in general, with reference to many respects, human resources in Vietnam still have many weaknesses in thinking, vision, organization and mobilization in management. Participation of foreign members on boards is seen as an effective solution for improving strategy as well as policy formulation, which are the two most important functions of BODs.

4.3. Qualified Board Members

The main role of the board is to decide on the business strategy and plan for the business. The board of directors will not be able to function effectively if its members do not have a certain level of knowledge. It is essential to continuously improve the qualifications of the board members. Postgraduate programs can offer invisible assets to learners such as deep understanding, prestige, developing career skills and developing critical thinking for leaders in analyzing, assessing, critiquing, planning as well as solving problems.

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