THE IMPACT OF BOARD OF DIRECTORS' STRUCTURE ON BANK PERFORMANCE IN VIETNAM

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Abstract. *This article analyzes the impact of the Board of Directors' structure on operational efficiency of commercial banks in Vietnam, using secondary data of 29 commercial banks with 290 observations in the period 2011 - 2020, applying regression analysis of panel data to estimate regression coefficients. Empirical results show that Board of Directors' size, independent board members, board members with postgraduate qualifications, and board members with political connections have a positive impact on the bank performance. In contrast, the proportion of state ownership has a negative impact on bank performance. However, in Vietnam, no relationship has been found between female board members, foreign board members and board members participating in management with the bank performance.*

Keywords: *Board of Directors, operational efficiency, commercial banks, Vietnam*

1. Introduction

The Board of Directors is the most important decision-making body. The Board of Directors is responsible for approving important strategic and financial decisions, and changes in capital structure, as well as for the most important task of all Boards of Directors which is to hire and fire the top executive team. In the Project for restructuring the system of credit institutions in the periods of 2011–2015 and 2016–2020, it is proposed to restructure the banking governance system including: increasing transparency in information disclosure, changing proportion of capital ownership of commercial banks, improving conditions and standards of governance capacity, working experience and professional qualifications for key leadership and management positions at credit institutions such as chairman of the Board of Directors/Members' Council, General Director/Director, members of the Board of Directors/Members Council, etc. (Government, 2012, 2017) [4, 5]. Studies on the impact of Board of Directors' structure on bank performance have been carried out by Liang et al (2013) [7] and Dong et al (2017) in China [2], and Pathan and Faff (2013) in the U.S. [9], Stančić et al (2014) in Europe [11], García-Meca et al (2015) [3] in 9 developed countries, Mamatzakis and Bermpei (2015) in the U.S. [8], Setiyono and Tarazi (2018) in Indonesia [10]. Results from studies vary as positive, negative or unrelated, even mixed effects or inconclusive in previous studies in developed countries. And, these studies, when tested in emerging markets, do not match the results of studies in developed markets. Vietnam is a developing country in which the legal environment is in the finishing stage to integrate with other countries in the region. Therefore, there is a need to study the impact of the Board of Directors' structure on operational efficiency of commercial banks in Vietnam. The results of this study will be an useful reference for researchers interested in this field and help bank managers make reasonable decisions, bringing high efficiency to their bank.

2. Theoretical foundations and research methods

2.1. Theoretical foundations

Liang et al (2013) used a sample of the 50 largest Chinese banks for the period 2003-2010 [7]. The study used a set of characteristics of the Board of Directors (size, composition and functions of BOD) and analyzed the impact of these characteristics on operational efficiency and asset quality of banks in China. Research results show that the number of board meetings and the proportion of independent board members have a positive impact on both operational efficiency and asset quality, while BOD's size has a negative impact on operational efficiency.

Research by Pathan and Faff (2013) examined whether the structure of the Board of Directors (BOD's size, independence and gender diversity) in banks affects efficiency or not [9]. The study used panel data of large U.S. bank holding companies for the period 1997 – 2011. The results show that both BOD's size and independent board members reduce bank efficiency. In addition, gender diversification improves bank efficiency.

Stančić et al (2014) analysed the impact of ownership structure and Board of Directors on the profitability of 74 commercial banks from four transition economies of Southeast Europe in the period 2005-2010 [11]. The results show that, BOD's size has a negative and statistically significant correlation with bank profitability, while the proportion of independent board members has a negative, but not statistically significant correlation with profitability. In addition, factors such as bank size, bank capitalization also affect profitability.

García-Meca et al (2015) analysed the influence of diversification in the Board of Directors on bank performance [3]. The study used unbalanced panel data with 877 observations from 159 banks in 9 countries (Canada, France, Germany, Italy, Netherlands, Spain, Sweden, U.K, and U.S.A) over the period from 2004 to 2010. Research results show that gender diversification increases bank performance, but

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nationality diversification reduces it. This study also shows that in the context of the regulatory environment and low investor protection, diversification in the Board of Directors has little impact on bank performance.

Mamatzakis and Bermpei (2015) focused on studying the impact of corporate governance on the efficiency of investment banks in the U.S. in the period 2000 – 2012 [8]. The results show that the Board of Directors' size negatively affects the efficiency of the bank and is consistent with agency theory. In addition, the increase in proportion of BOD's ownership in a bank has a negative impact on the bank performance.

Research by Dong et al. (2017), used data obtained from banks operating in China in the period 2003 - 2011 to analyse the impact of BOD's structure (such as size, composition and function) to efficiency and risks of banks [2]. The results of the empirical study show that the proportion of female board members, independent board members has a positive impact on the bank performance, while the duality (Chairman cum CEO) has a negative impact on the bank performance. Among the control variables, the study finds that liquidity has a negative effect on the bank performance.

The study by Setiyono and Tarazi (2018) examined the effect of diversification of board members on the efficiency and risk of banks in Indonesia from 2001 to 2011 [10]. The research results show that the Ethnic diversity reduces efficiency, and diversification of experience, qualifications and tenure of the Board of Directors increases operational efficiency. However, the proportion of female board members does not affect the bank performance.

2.2. Research Methods

2.2.1. Research models and methods

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Based on the research models of Pathan and Faff (2013) [9] and Dong et al (2017) [2] as the basis, with further adjustment of the explanatory variable to suit Vietnam, the study applies the following model:

$$PERFOR_{it} = \beta_0 + \alpha \, PERFOR_{it-1} + \beta_1 Bsize + \beta_2 Bindep + \beta_3 Femdir + \beta_4 Fordir + \beta_5 Execdir + \beta_6 Edu + \beta_7 Soe + \beta_8 Pol + \beta_9 SIZE + \beta_{10} LAR + \beta_{11} CAP + \beta_{12} LDR + \beta_{13} GDP + \varepsilon_{it}$$

In which, **PERFOR$_{it}$**: bank performance i at time t; **Bsize**: *Board of Directors' size*; **Bindep**: *proportion of independent board members*; **Femdir**: *proportion of female board members*; **Fordir**: *proportion of foreign board members*; **Execdir**: *proportion of board members participating in management*; **Edu**: *proportion of board members with postgraduate qualifications*; **Soe**: *state ownership*, **Pol**: *board members with political connections.* **SIZE**: *bank size*; **LAR**: *loan balance/total assets*; **CAP**: equity size; **LDR**: *loan balance/total deposit*; and **GDP**: *economic growth.*

This study uses the GMM method introduced by Arellano and Bond (1991) to handle the latent endogeneity in the model and the estimate of Arellano and Bond (1991) is also consistent with the short panel data with small time series T (10 years) and large N (29 banks) [1]. The studies by Pathan and Faff (2013) [9] and Dong et al (2017) use the 2-step GMM method to estimate the regression coefficients [2].

2.2.2 Research data and samples

The data used in this study have been taken from annual reports, audited consolidated financial statements, corporate governance reports, annual shareholder meeting documents of Vietnamese joint stock commercial banks, World Economic Outlook (WEO) dataset of the International Monetary Fund (IMF) for the period

2011-2020. As of December 31, 2020, Vietnamese commercial banks have 35 banks. Data were collected and selected after removing banks that did not disclose information or had incomplete information. As a result, a balanced panel data sample consisting of 29 banks with 290 observations was used for the study. Table 1 described the mean, standard deviation, minimum and maximum values of these variables.

Table 1. Table of statistics describing observed variables

Variable	Observation number	Average value	Standard deviation	Minimum value	Maximum value
ROA	290	0,0068	0,0068	-0,0551	0,0266
ROE	290	0,0780	0,0846	-0,8200	0,2682
NIM	290	0,0256	0,0123	-0,0064	0,0813
Bsize	290	1,9459	0,2412	1,3863	2,7081
Bindep	290	0,1486	0,0678	0,0000	0,4000
Femdir	290	0,1825	0,1602	0,0000	0,6250
Fordir	290	0,0893	0,1232	0,0000	0,4286
Execdir	290	0,1565	0,1245	0,0000	0,4444
Edu	290	0,5514	0,2457	0,0000	1,0000
Pol	290			0	1
Soe	290	0,1405	0,2614	0,0000	1,0000
SIZE	290	18,4527	1,1154	16,3976	21,122
LAR	290	0,5487	0,1261	0,1473	0,7538
CAP	290	0,0928	0,0403	0,0293	0,2384
LDR	290	0,8575	0,1909	0,3719	1,805
GDP	290	0,0629	0,0062	0,0525	0,0708

3. Results and discussion

The study examines the possibility of multicollinearity between the variables by establishing the correlation coefficient matrix of the variables and the VIF index (Variance inflation factor). The result of correlation coefficient between pairs of variables in no case exceeds 0.8. The largest VIF co-index of the independent variables in this study was 5.02 and smaller than 10 (Gujarati, 2004) [6]. Therefore, the phenomenon of multicollinearity in the research model is not significant.

Regression results

The regression results are shown in Table 2

Table 2. Results of regression analysis by the SGMM method

Variable	ROA (p-value)	ROE (p-value)	NIM (p-value)
ROA_{t-1}	0,2489*** (0,000)		
ROE_{t-1}		0,2208*** (0,000)	
NIM_{t-1}			0,6418*** (0,000)
Bsize	0,0041** (0,018)	0,0336** (0,034)	-0,0007 (0,786)
Bindep	0,0114*** (0,001)	0,0844* (0,086)	-0,0201 (0,186)
Femdir	0,0018 (0,276)	0,0088 (0,919)	-0,0025 (0,866)
Fordir	-0,0014 (0,489)	-0,0531 (0,165)	0,0004 (0,901)

Variable	ROA (p-value)	ROE (p-value)	NIM (p-value)
Execdir	0,0036 (0,397)	-0,0293 (0,403)	-0,0019 (0,641)
Edu	0,0020 (0,531)	-0,0271 (0,231)	0,0040** (0,022)
Pol	0,0014* (0,077)	0,0155* (0,070)	0,0047*** (0,000)
Soe	-0,0083*** (0,000)	-0,0274 (0,189)	- 0,0147*** (0,000)
SIZE	0,0045*** (0,000)	0,0300*** (0,000)	0,0016** (0,138)
LAR	-0,0411*** (0,000)	- 0,3215*** (0,000)	0,0105 (0,397)
CAP	0,1126*** (0,000)	0,2472 (0,235)	0,0736*** (0,010)
LDR	0,0230*** (0,000)	0,2127*** (0,000)	0,0222*** (0,001)
GDP	0,2166** (0,000)	3,0237*** (0,000)	0,0616 (0,501)
Hằng số	-0,1109 (0,000)	-0,7708 (0,000)	-0,0528 (0,003)
AR(1)	0,018	0,003	0,005
AR(2)	0,153	0,834	0,684

Variable	ROA (p-value)	ROE (p-value)	NIM (p-value)
Hansen test	0,149	0,205	0,469
F-test	0,000	0,000	0,000

*Note: : *, ** and *** means the values which are equivalent to 10%, 5% and 1%*

In the model, Hansen's test has p-value greater than 0.1, so the hypothesis H_0 is accepted: the model is correctly defined and the instrumental variables are reasonable. The F-test in the model has a p-value of 0.000 which is less than 0.01, so we reject the hypothesis H_0: all the coefficients estimated in the equation are zero, or the coefficients of the solution like to be statistically significant. Thus, the estimated results are reliable. The AR(1) test of the model has p-value less than 0.1, so it rejects the hypothesis H_0: there is no first order series correlation, that is, there is first order series correlation. The AR(2) test of the model has a p-value greater than 0.1, so the hypothesis H_0 is accepted: there is no 2nd order series correlation in the residuals of the regression model.

The regression coefficients of the variables ROA_{t-1}, ROE_{t-1}, NIM_{t-1} are positive and statistically significant, showing that the bank performance depends on the operational efficiency of the previous year, and also showing that the regression method used is suitable. This result is also consistent with the studies by Liang et al (2013) [7], Pathan and Faff (2013) [9], Dong et al (2017) [2].

The first variable considered here is the Board of Directors' size, which has a positive and statistically significant correlation with the performance variable (ROA and ROE). The positive correlation indicates that the larger the BOD's size of Vietnamese commercial banks, the higher the operational efficiency will be, due

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to taking advantage of the knowledge and experience of the members of the Board of Directors as well as the relationship with customers.

The proportion of independent board members has a positive and statistically significant correlation with the performance variable (ROA, ROE). The positive correlation indicates that the higher the proportion of independent board members in Vietnamese commercial banks, the higher the operational efficiency will be, as their presence makes it easier to monitor and discipline managers, reduce opportunity costs and protect shareholder interests more effectively. The results of this study are consistent with previous research results by Dong et al. (2017) in Chinese commercial banks [2].

The proportion of board members with postgraduate qualifications has a positive and statistically significant relationship with NIM. The results of this study show that the higher the proportion of board members with postgraduate qualifications in Vietnam, the higher the operational efficiency will be. Boards of directors with highly educated members are often willing to accept changes in the structure or strategy of the bank, because they are able to minimize risks in the process of change thanks to strategic perspectives, unique strategy, quick problem solving and deep understanding of the banking business.

The proportion of board members with political connections has a positive and statistically significant correlation with ROA, ROE and NIM during the research period. The results of this study show that the higher the proportion of board members with political connections in Vietnam, the higher the operational efficiency will be. The fact that board members represent state ownership or have political connections can give their opinions indirectly to help the bank's development to be more effectively.

The proportion of state ownership has a negative and statistically significant correlation with ROA and NIM during the study period. The results of this study

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show that in Vietnam, the higher the proportion of state ownership, the lower the operational efficiency will be. This result also reflects the reality in Vietnam when state-owned banks, in addition to the business goal of maximizing profits, also have to perform a number of tasks for the Government such as implementing monetary policy objectives. giving preferential loans to key national projects, implementing many support programs to ensure common economic goals. The results of this study are consistent with the results of previous studies by Liang et al. (2013) in Chinese commercial banks [7].

4. Conclusion and policy implications

4.1. Conclusion

The article studies the impact of the BOD's structure on performance of commercial banks in Vietnam in the period 2011-2020. The study uses balanced panel data with 290 observations. The analytical method uses 2-step SGMM regression. The study shows evidence in Vietnam market that, the variable of BOD's size (Bsize), proportion of independent board members (Bindep), proportion of board members with postgraduate qualifications (Edu), proportion of board members with political connections (Pol), and proportion of state ownership (Soe) has an impact on the bank performance. However, the variable proportion of female board members (Femdir), proportion of foreign board members (Fordir) and proportion of board members participating in management (Execdir) are not statistically significant with bank performance.

4.2 4.2 Policy implications

From the experimental results, the study recommends the following policies:

First, commercial banks need to continue to maintain and ensure a reasonable number of BOD's members in line with the development strategy of each bank and the economic context of Vietnam.

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Second, it is necessary to ensure a minimum number of independent board members, having many independent members in the Board of Directors will increase the bank performance.

Third, this is necessary to improve the conditions and standards of governance capacity, work experience and professional qualifications for key leadership and management titles of banks. Developing a team of highly qualified banking managers and staff, with a sense of responsibility and good professional ethics.

Fourth, board members with political connections play an important role, especially in the political system of Vietnam, their presence on the Board of Directors helps to increase the operational efficiency of commercial banks.

Finally, reduce state ownership in commercial banks. The research results show that reducing state ownership will improve the operational efficiency of commercial banks, so the Government should further promote the improvement of the law, creating a premise to accelerate the process of state capital divestment in Vietnamese commercial banks and gradually reducing the proportion of state ownership, contributing to improving the operational efficiency of the Vietnamese commercial banking system.

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