FOREX Publication
Open Access | Rapid and quality publishing

International Journal of
Business and Management Research (IJBMR)
Research Article | Volume 11, Issue 2 | Pages 66-70 | e-ISSN: 2347-4696

The Relationship between Commercial Banks Characteristic and Economic Growth in Vietnam

Nguyen Thanh Dong[1*] and Do Nguyen Thi My Dung [2]

[1]Ho Chi Minh City Industry and Trade College (HITC), Ho Chi Minh City, Vietnam, nguyenthanhdong@hitu.edu.vn
[2] Ho Chi Minh City Industry and Trade College (HITC), Ho Chi Minh City, Vietnam, dntmydung@gmail.com

***Correspondence:** Nguyen Thanh Dong; nguyenthanhdong@hitu.edu.vn

ABSTRACT- This paper examines the relationship between commercial banks' characteristics and economic growth in Vietnam using the FEM and REM models to test the effect of commercial bank characteristics on economic growth in Vietnam. Using a panel dataset of 28 commercial banks from 2010 to 2021, we investigate the impact of bank characteristics on economic growth and provide some important findings. Our findings show that bank characteristics significantly affect economic growth. These results suggest that policymakers should focus on controlling banks' activities to support economic growth in Vietnam. Overall, this study contributes to the existing literature on the role of commercial banks in promoting economic growth in developing countries like Vietnam.

Keywords: Commercial Bank, Economic Growth, Vietnam.

ARTICLE INFORMATION

Author(s): Nguyen Thanh Dong and Do Nguyen Thi My Dung
Received: 27/04/2023; **Accepted**: 11/05/2023; **Published**: 26/06/2023;
e-ISSN: 2347-4696;
Paper Id: IJBMR 2704-02;
Citation: 10.37391/IJBMR.110202
Webpage-link:
https://ijbmr.forexjournal.co.in/archive/volume-11/ijbmr-110202.html

1. INTRODUCTION

Economists emphasize that sustainable economic growth is heavily reliant on improving the ability to accumulate physical and human capital to enable more efficient resource utilization. Furthermore, they argue that financial development is a crucial prerequisite for achieving high levels of economic growth. This is known as the "supply-leading" role of financial development, as outlined by Kirkpatrick (2009). According to this hypothesis, a well-developed financial sector facilitates financial transactions, savings mobilization, and the allocation of deposits towards domestic economic activities. Financial development stimulates economic growth by appropriately allocating financial resources to those in the economy who require capital to foster economic growth (Levine, 1998; Q. Nguyen & Dang, 2020; Q. K. Nguyen, 2020). Calomiris and Mason (2003) have argued that inadequate financial development leads to inefficient credit allocation or poor loan quality, which can negatively impact economic growth. Despite over 50 countries in the world having a GDP per capita less than five thousand dollars, highlighting that economic growth is still a pressing issue, the key to promoting economic growth remains an important concern.

Vietnam is a rapidly developing country in Southeast Asia that has experienced significant economic growth over the past few decades. From 1986 to 2018, Vietnam's real Gross Domestic Product (GDP) grew at an average rate of 6.6% per year, transforming it from one of the world's poorest countries to a middle-income country. Vietnam's economic growth has been driven by several factors, including market-oriented economic reforms, increased foreign investment, and strong export performance. Vietnam's transition from a centrally planned economy to a market-oriented economy began with the Doi Moi policy in 1986, which aimed to liberalize the economy, reduce state control, and promote private enterprise. The policy led to the removal of price controls, the establishment of a stock market, and the reduction of trade barriers. The "Doi Moi" policy has played a significant role in spurring economic growth in Vietnam, as it has helped to create a more business-friendly environment and attract foreign investment.

Foreign investment has also been a critical driver of economic growth in Vietnam. Since the late 1980s, Vietnam has opened up its economy to foreign investment, and the country has attracted significant foreign direct investment (FDI) in recent years. According to the United Nations Conference on Trade and Development (UNCTAD), Vietnam was ranked the 15th largest recipient of FDI in the world in 2020, with an inflow of over 16 billion USD. FDI has played a crucial role in promoting economic growth in Vietnam, as it has helped to boost investment in infrastructure, technology, and human capital. Moreover, foreign investors have also played a significant role in promoting exports, which have been a critical driver of economic growth in Vietnam. The country's export-oriented strategy has enabled it to diversify its exports and capture a larger share of the global market, particularly in textiles, electronics, and agricultural products. Overall, Vietnam's economic growth has been driven by a combination of market-oriented economic reforms, increased foreign investment, and strong export performance, and the country's continued economic development will depend on its ability to maintain this growth trajectory in the years to come.

FOREX Publication
Open Access | Rapid and quality publishing
International Journal of Business and Management Research (IJBMR)
Research Article | Volume 11, Issue 2 | Pages 66-70 | e-ISSN: 2347-4696

In recent years, Vietnam's economy has been impacted by various global and domestic factors, including the COVID-19 pandemic and trade tensions between the US and China (Almustafa et al., 2023). However, the government has implemented several measures to address these challenges and maintain economic stability. The Vietnamese government has introduced fiscal stimulus packages, increased public investment, and implemented measures to support businesses affected by the pandemic. The government has also pursued a proactive foreign policy and diversified its trade relationships to reduce its dependence on any one country or region. These measures have helped to support Vietnam's economic growth, and the country is expected to continue its strong growth trajectory in the coming years. Additionally, Vietnam's accession to several free trade agreements, including the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and the EU-Vietnam Free Trade Agreement (EVFTA), is expected to further boost the country's economic growth by promoting exports and attracting more foreign investment. Despite challenges, Vietnam's strong economic growth and its ability to adapt to changing global economic conditions demonstrate its potential to continue to emerge as a major economic power in Southeast Asia (Dang et al., 2020; Dang & Nguyen, 2021a, 2021b).

The relationship between the banking system and economic growth is a crucial one, as a well-functioning banking system can help to promote economic growth by providing financing for investment, mobilizing savings, and allocating resources efficiently. Banks play a critical role in providing credit to businesses and individuals, allowing them to invest in new projects and expand their operations. This, in turn, leads to increased productivity, job creation, and higher economic output. Additionally, banks also mobilize savings from depositors and channel these funds towards investment, which helps to finance economic growth (Dang & Nguyen, 2022; Dang et al., 2022). Furthermore, banks also play an important role in allocating resources efficiently by directing credit towards those businesses and industries that have the greatest potential for growth and productivity. Moreover, a well-functioning banking system can also help to promote financial stability, which is essential for sustained economic growth. Financial stability is achieved when the banking system is able to effectively manage risks and absorb shocks, preventing systemic risks from spreading throughout the economy. This, in turn, promotes investor confidence and helps to maintain the flow of credit and investment. However, a poorly functioning banking system can have adverse effects on economic growth. Banks that do not effectively manage risk, allocate credit inefficiently, or fail to provide adequate financing for investment can hinder economic growth. Additionally, a banking system that is susceptible to financial instability can lead to negative spillover effects throughout the economy, such as credit crunches, recession, and unemployment.

It seems that the development of the banking system and economic growth have a certain relationship. However, up to now, there have been no empirical studies showing the relationship between bank characteristics and economic growth in Vietnam. Therefore, this study uses FEM and REM models to test the effect of banks' characteristic on economic growth in Vietnam.

2. LITERATURE REVIEW

Merton (1977) and Law and Azman-Saini (2012) suggest that the level of financial intermediation in the world impacts the distribution of financial resources. As the banking industry becomes more efficient, obtaining financial information and conducting transactions becomes less expensive, resulting in a more efficient allocation of credit. The stock and bond markets also provide more investment opportunities than traditional savings. Imperfect credit markets create market imperfections, which drive the growth of financial intermediation. Therefore, a highly developed financial system enhances the efficiency of financial resource allocation, leading to economic growth. Boyd and Graham (1986) argue that a well-developed financial system reduces information costs and improves capital allocation, making fund allocation more efficient for those in need of capital for investment. Financial intermediaries play a vital role in mobilizing savings for lending, minimizing investment costs, and boosting economic production and business. Boyd and Smith (1999) concur that developing financial intermediaries reduces transaction costs and increases the efficiency of financial resource allocation, promoting economic growth. As more people utilize financial services, financial intermediaries can improve the quality and efficiency of resource allocation.

Conversely, a lack of financial market development can hinder economic growth. De Nicoló et al. (2006) suggest that a well-developed financial system reduces income inequality by enabling efficient allocation of credit capital, which in turn increases investment in human capital. Inefficient capital allocation limits investment in human capital and negatively impacts accumulated human capital due to imperfect capital markets. Therefore, imperfect financial markets hinder economic growth. Kirkpatrick (2009) proposed two hypotheses regarding the causal relationship between development finance and economic growth. The first hypothesis is demand-following, which suggests that economic growth drives the expansion of the financial system. The lack of financial growth is an expression of the lack of demand for services. The second hypothesis is supply-leading, which proposes that expanding the financial system to meet the demand for services would foster economic growth. Lee and Zhao (2014) analyzed data from 56 countries and found that the supply hypothesis is valid in underdeveloped countries, while the demand-push theory is accurate in developed countries. Therefore, the role of financial intermediaries in promoting growth may vary at different stages of economic development. In times of transformation, the supply-pull hypothesis prevails, and the development of financial intermediaries will promote economic growth. However, when the economy has developed, the demand-push hypothesis prevails, and economic growth will lead to an increase in demand for financial services.

3. DATA AND METHODOLOGY

FOREX Publication
Open Access | Rapid and quality publishing
International Journal of Business and Management Research (IJBMR)
Research Article | Volume 11, Issue 2 | Pages 66-70 | e-ISSN: 2347-4696

3.1 Data

The paper uses panel data from 2010 – 2021 and macro data is collected from the World Development Indicator (WDI) of the World Bank - WB) and other data collected from the annual report of 28 Vietnamese commercial banks. The variables used in the model synthesized from previous studies (Acharya & Ryan, 2016; Q. K. Nguyen, 2021, 2022a, 2022b, 2022c; Zhou et al., 2018).

3.2 Research Model

The study uses regression method with unbalanced panel data. According to Levine (1996) the model is written as follows:

$$GDP_t = \alpha + \beta_1 CRE + \beta_2 DEP + \beta_3 ROA + \beta_4 ROE + \beta_5 DRR + \beta_6 NIM + \beta_7 NPL + \beta_{39} INF + GDP_{t-1} + \varepsilon_{it}$$

where *table 1* shows the description and the variables used in the proposed model.

Table 1: The meaning and expectation of variables in the research model

No. Dependent variable	Meaning	Expected
GDP	Economic growth rate	
Independent variables		
CRE	Credit balance / total assets ratio	+
DEP	Deposit balance / total assets ratio	+
ROA	Return On Asset	+
ROE	Return on equity	+
RPL	Risk provisioning levels	+
NIM	Net Interest Margin	-
NPL	Non-performing loan rate	-
OPE	Trade openness	+
INF	Inflation rate	-/+

To estimate this model, we use the fixed effect and random effect model. The fixed effects model controls for all time-invariant characteristics of the individuals, groups, or entities in the panel by including a set of dummy variables for each individual, group, or entity in the model. This model assumes that all unobserved characteristics of the individuals, groups, or entities are constant over time. It estimates the effect of changes in the explanatory variables within each individual, group, or entity. Therefore, it is suitable for analyzing datasets where the interest lies in the within-group or within-individual variation. On the other hand, the random effects model treats the unobserved characteristics of the individuals, groups, or entities as random variables and assumes that they are uncorrelated with the explanatory variables. The random effects model is more flexible than the fixed effects model and can estimate both within-group and between-group effects. The random effects model is appropriate when the unobserved characteristics of the individuals, groups, or entities vary randomly over time. Both the fixed effects model and the random effects model have their advantages and disadvantages, and the choice between the two models depends on the research question and the nature of the data. These methods are used in large literature (Adams & Mehran, 2008; Casu & Molyneux, 2003; Q. K. Nguyen, 2022d; Q. K. Nguyen & Dang, 2022a, 2022b; Tabak et al., 2016).

4. RESEARCH RESULTS

Using the data that was gathered and the model that was suggested, the research conducted regression analysis on panel data, utilizing both Fixed Effects Model (FEM) and Random Effects Model (REM). The outcomes of the regression analysis can be seen in *table 3*.

In order to determine the FEM or REM more effectively in this study, the author continues to conduct Hausman test to select the appropriate model. The hypothesis with the Hausman test is in *table 2*.

H_0: Estimation of FEM and REM are not different
H_1: Estimates of FEM and REM are different

Table 2: Hausman test results

	FEM	REM	Difference
CRE	0.4484244	0.9211704	0.214284
DEP	-1.407012	-0.4878112	-0.8478004
ROA	0.2477027	0.214179	0.0417097
RPL	14.48918	19.24474	-1.477427
NIM	-0.1447744	-0.1494921	-0.0444199
NPL	-0.071488	-0.0719484	-0.0001979
OPE	0.0224804	0.0210077	0.0014411
INF	0.0020778	0.0047814	-0.0029822

The Hausman test shows that P-value > 5% we conclude that there is no difference between the fixed effects model and the random effects model, which is statistically significant, that is, the hypothesis H_0 no rejection was made so it was appropriate to choose a randomized impact model.

Table 3: Regression results

	FEM		REM	
	β	**P_value**	**β**	**P_value**
Dependent variable: GDP				
Independent Variables				
CRE	0.4355355	0.039**	0.9322705	0.025**
DEP	-2.507023	0.000*	-0.4595223	0.002*
ROA	0.3592097	0.007*	0.324299	0.005*
ROE	-0.0055595	0.575	-0.0029533	0.739
RPL	25.35925	0.279	29.33394	0.033**
NIM	-0.2457744	0.000*	-0.2395932	0.000*
NPL	-0.092455	0.000*	-0.0929455	0.000*
OPE	0.0335504	0.000*	0.0320097	0.000*
INF	0.0030995	0.993	0.0057524	0.335
Const	3.399495	0.000	3.20793	0.000
R-sq	0.9539		0.7922	
P_value	0.000		0.000	

*,** *significance at* 1% and 5%

FOREX Publication
Open Access | Rapid and quality publishing
International Journal of Business and Management Research (IJBMR)
Research Article | Volume 11, Issue 2 | Pages 66-70 | e-ISSN: 2347-4696

The regression in *table 3* show some important findings. The variables that showed significance at the 1% significance level in the Fixed Effects Model (FEM) are DEP, ROA, NIM, NPL, OPE, and at the 5% significance level is CRE. When the R-Square value was high and the P-value was 0.000, the FEM model was found to have relatively high significance.

DEP variables hold significance in fixed effects models as well as random effects models, making them practical as capital mobilization is an efficient means of drawing in unused capital from the public. Nonetheless, the mark of DEP contrasts with what the paper initially anticipated. In situations where banks are hoarding cash and not lending out their deposits, this could lead to a lack of credit available for businesses and individuals, which could slow down economic growth. Additionally, if banks are not managing their deposits effectively and taking on excessive risk, this could lead to financial instability and potential economic downturns. The sign of the CRE variable in the model of random effects is consistent with the initial expectation of the study, meaning that the higher the ratio of credit to total assets of the bank, the more economic growth will be promoted. This is consistent with the reality in Vietnam because commercial banks are the channel to allocate credit capital of the economy while the stock market has not fully played its role.

The bank's performance is gauged using two variables, namely ROA and ROE. Findings from regression analysis indicate that the performance of banks affects economic growth in Vietnam. However, the ROE variable contradicts the original assumptions and has no logical basis in both fixed effects and random effects. On the other hand, the ROA variable shows that improved performance of commercial banks leads to a more significant contribution to economic growth in Vietnam. The coefficient of ROA is positive mean that there is a positive relationship between firm performance and economic growth. When firms perform well and generate profits, they can invest in new technologies, expand their operations, and hire more workers. This can lead to increased productivity and output, which can stimulate economic growth. Additionally, successful firms can contribute to overall economic development by creating new products, developing new markets, and improving the quality of goods and services available to consumers. Furthermore, a strong and competitive private sector with high-performing firms can attract foreign investment, which can further fuel economic growth. However, the relationship between firm performance and economic growth can also be influenced by various factors such as government policies, access to finance, market conditions, and other external factors that affect the overall business environment.

In the selected REM model, the RPL variable is statistically significant and aligns with the initial expectations. This is easily understandable as an increase in outstanding loans results in a rise in the general provision of commercial banks.

In both FEM and REM models, the NIM variable is statistically significant at a 1% significance level and aligns with the original expectations. This is because a lower net interest income rate indicates that commercial banks are willing to forego a portion of their profits to provide capital for the economy, which can contribute to economic growth. A negative relationship between the NIM (Net Interest Margin) ratio of banks and economic growth suggests that a decrease in the NIM ratio, which means banks earn less interest income on loans, can have a positive impact on economic growth. This could be because a lower NIM ratio indicates that banks are offering more favorable lending rates, making it easier for businesses and individuals to borrow money for investments and consumption. This increased access to credit can then stimulate economic activity and growth. On the other hand, a high NIM ratio could indicate that banks are charging higher interest rates, which can limit access to credit and slow down economic growth. However, it is important to note that the relationship between NIM ratio and economic growth can vary depending on other factors at play in a given economy or banking system (Dwumfour, 2017; Yu, 2015).

A negative relationship between the non-performing loan (NPL) ratio of banks and economic growth suggests that a decrease in the NPL ratio, which means a lower percentage of loans are not being repaid on time, can have a positive impact on economic growth. This could be because a lower NPL ratio indicates that banks are managing their loan portfolios effectively, and there are fewer defaults on loans. This, in turn, increases the confidence of investors and lenders in the banking system, making it easier for businesses and individuals to access credit for investments and consumption. This increased access to credit can then stimulate economic activity and growth. On the other hand, a high NPL ratio can lead to a decrease in investor and lender confidence in the banking system, resulting in reduced access to credit and slower economic growth. However, it is essential to note that the relationship between the NPL ratio and economic growth can vary depending on other factors at play in a given economy or banking system (Zhang et al., 2016).

Out of the two macro variables, OPE and INF, only OPE is statistically significant at a 1% level and affects economic growth. This suggests that there is a relationship between economic integration and growth. Specifically, as the economy becomes more integrated and trade is opened up, there is a positive impact on economic growth. The more an economy integrates and opens up to trade, the higher the economic growth rate because it allows for increased specialization and efficiency in production, leading to higher levels of productivity and output. When an economy is open to trade, businesses can access a larger market for their goods and services, which can result in increased demand and revenue. This increased demand can then lead to higher levels of investment, innovation, and job creation, further boosting economic growth. Additionally, opening up to trade allows for the flow of new ideas, technology, and knowledge, which can lead to increased efficiency in production and the adoption of best practices. However, it is important to note that the relationship between economic integration, trade, and economic growth is complex and can vary depending on a range of factors, such as the types of goods and services being traded, the structure of the economy, and the policies in place to facilitate trade.

FOREX Publication
Open Access | Rapid and quality publishing
International Journal of Business and Management Research (IJBMR)
Research Article | Volume 11, Issue 2 | Pages 66-70 | e-ISSN: 2347-4696

5. CONCLUSION

The aim of this study was to investigate how commercial banking development impacted economic growth in Vietnam from 2010 to 2021. The results indicate that Vietnamese commercial banks played a crucial role in promoting economic growth during this period, particularly by providing capital to domestic enterprises for investment in production and business infrastructure. Therefore, it is important to continue promoting the role of commercial banks in the future, with a focus on expanding and improving the quality of investment loans for the economy. To achieve this, businesses should make their information transparent so that credit institutions can easily approve loans and disburse capital. Additionally, non-cash payment methods should be further developed in the economy, which can help improve the reliability of business financial statements and provide a legal basis for commercial banks to assess the financial capacity of businesses when appraising loan offers. Commercial banks should also diversify their loan product packages to suit different sectors and regions of enterprises, as well as streamline loan procedures for businesses by loosening loan condition requirements.

REFERENCES

[1] Acharya, V. V., & Ryan, S. G. (2016). Banks' financial reporting and financial system stability. Journal of accounting research, 54(2), 277-340.

[2] Adams, R. B., & Mehran, H. (2008). Corporate performance, board structure, and their determinants in the banking industry. FRB of New York staff report (330).

[3] Almustafa, H., Nguyen, Q. K., Liu, J., & Dang, V. C. (2023). The impact of COVID-19 on firm risk and performance in MENA countries: Does national governance quality matter? PloS one, 18(2), e0281148.

[4] Boyd, J. H., & Graham, S. L. (1986). Risk, regulation, and bank holding company expansion into nonbanking. Quarterly Review, 10(Spr), 2-17.

[5] Boyd, J. H., & Smith, B. D. (1999). The use of debt and equity in optimal financial contracts. Journal of Financial Intermediation, 8(4), 270-316.

[6] Calomiris, C. W., & Mason, J. R. (2003). Consequences of bank distress during the Great Depression. American economic review, 93(3), 937-947.

[7] Casu, B., & Molyneux, P. (2003). A comparative study of efficiency in European banking. Applied Economics, 35(17), 1865-1876.

[8] Ibtissem ISSOUI and Mahmoud Sami NABI (2022), Liquidity Shocks and The Bank Lending Channel: Evidence from Lower-Middle Income Economies. IJBMR 10(2), 40-52. DOI: 10.37391/IJBMR.100202.

[9] Dang, V. C., & Nguyen, Q. K. (2022). Audit committee characteristics and tax avoidance: Evidence from an emerging economy. Cogent Economics & Finance, 10(1), 2023263.

[10] De Nicoló, M. G., Jalal, A. M., & Boyd, J. H. (2006). Bank risk-taking and competition revisited: New theory and new evidence: International Monetary Fund.

[11] Dwumfour, R. A. (2017). Explaining banking stability in Sub-Saharan Africa. Research in International Business and Finance, 41, 260-279.

[12] Kirkpatrick, G. (2009). The corporate governance lessons from the financial crisis. OECD Journal: Financial Market Trends, 2009(1), 61-87.

[13] Law, S. H., & Azman-Saini, W. N. W. (2012). Institutional quality, governance, and financial development. Economics of Governance, 13(3), 217-236. doi:10.1007/s10101-012-0112-z

[14] Lee, J. W., & Zhao, T. F. (2014). Dynamic relationship between stock prices and exchange rates: Evidence from Chinese stock markets. Journal of Asian Finance, Economics and Business, 1(1), 5-14.

[15] Levine, R. (1996). Foreign banks, financial development, and economic growth, Chapter 6 in International Financial Markets: Harmonization Versus Competition, ed. Claude E. Barfield: The AEI Press (Washington, DC).

[16] Levine, R. (1998). The legal environment, banks, and long-run economic growth. Journal of Money, Credit and Banking, 596-613.

[17] Merton, R. C. (1977). An analytic derivation of the cost of deposit insurance and loan guarantees an application of modern option pricing theory. Journal of Banking & Finance, 1(1), 3-11.

[18] Nguyen, Q., & Dang, V. (2020). Audit committee structure and bank stability in Vietnam. ACRN Journal of Finance and Risk Perspectives, 8(1), 240-255.

[19] Nguyen, Q. K. (2020). Ownership structure and bank risk-taking in ASEAN countries: A quantile regression approach. Cogent Economics & Finance, 8(1), 1809789.

[20] Nguyen, Q. K. (2021). Oversight of bank risk-taking by audit committees and Sharia committees: conventional vs Islamic banks. Heliyon, 7(8), e07798.

[21] Nguyen, Q. K. (2022a). Audit committee effectiveness, bank efficiency and risk-taking: Evidence in ASEAN countries. Cogent Business & Management, 9(1), 2080622.

[22] Nguyen, Q. K. (2022b). Audit committee structure, institutional quality, and bank stability: evidence from ASEAN countries. Finance Research Letters, 46, 102369.

[23] Nguyen, Q. K. (2022c). Determinants of bank risk governance structure: A cross-country analysis. Research in International Business and Finance, 60, 101575. doi:https://doi.org/10.1016/j.ribaf.2021.101575

[24] Nguyen, Q. K. (2022d). The impact of risk governance structure on bank risk management effectiveness: evidence from ASEAN countries. Heliyon, e11192.

[25] Costas Siriopoulos (2022), Financial Markets are not efficient: Financial Literacy as an Effective Risk Management Tool. IJBMR 9(1), 65-73. DOI: 10.37391/IJBMR.090110.

[26] Nguyen, Q. K., & Dang, V. C. (2022b). The Effect of FinTech Development on Financial Stability in an Emerging Market: The Role of Market Discipline. Research in Globalization, 100105.

[27] Tabak, B. M., Fazio, D. M., de O. Paiva, K. C., & Cajueiro, D. O. (2016). Financial stability and bank supervision. Finance Research Letters, 18, 322-327. doi:https://doi.org/10.1016/j.frl.2016.05.008

[28] Yu, C.-P. (2015). Financial policies on firm performance: The US insurance industry before and after the global financial crisis. Economic Modelling, 51, 391-402.

[29] Zhang, D., Cai, J., Dickinson, D. G., & Kutan, A. M. (2016). Non-performing loans, moral hazard and regulation of the Chinese commercial banking system. Journal of Banking & Finance, 63, 48-60.

[30] Zhou, H., Owusu-Ansah, S., & Maggina, A. (2018). Board of directors, audit committee, and firm performance: Evidence from Greece. Journal of International Accounting, Auditing and Taxation, 31, 20-36.