

# BUSINESS PERFORMANCE OF LISTED COMMERCIAL BANKS IN VIETNAM - CURRENT SITUATIONS AND SOLUTIONS

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**Abstract:** Business performances of commercial banks are able to be measured by variety of indicators, however there are three common financial indicators that play important roles for both commercial banks and related parties, which are: ROA (Returns on assets), ROE (Returns on equity), NIM (net interest margin). According to previous literatures, the authors propose models to examine the current situations about financial performances of 26 commercial banks listed in 3 stock exchanges: HOSE, HNX and Upcom, all commercial banks in the sample satisfy the assumption of ongoing business during the period 2016-2022, accounted for more than 80% in total assets of commercial banks in Vietnam. The authors study the effects of 10 factors on commercial banks' business performances. These factors include: Firm size (SIZE), The ratio of owners' equity to total assets (CAP), The ratio of non-interest expenses to non-interest incomes (CFS), Sales growth rate (SAGR), Firm age (AGE), Loan to deposit ratio, Gross domestic products (GDP), Consumer price index (CPI), Income structure (IR-group) and Covid 19 (COVID). The empirical results show that almost factors have impacts on business performances at different levels with different directions: factors: SIZE, SAGR, CAP, GDP affect positively to business performances, while the opposite is true for other factors: CFS, AGE, LDR, CPI, IR-Group. Covid-19 has an ambiguous effect on business performances. Based on the empirical results, the authors propose solutions to enhance the business performances of commercial banks in the current situation.

• Keywords: business performances, listed commercial banks, factors.

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Tóm tắt: Hiệu quả hoạt động kinh doanh của các ngân hàng thương mại có thể được đo lường bằng nhiều chỉ số khác nhau, tuy nhiên có 3 chỉ số tài chính chung đóng vai trò quan trọng đối với cả ngân hàng thương mại và các bên liên quan, đó là: ROA (Tỷ suất lợi nhuận trên tài sản), ROE (Tỷ suất lợi nhuận trên vốn chủ sở hữu), NIM (biên lãi ròng). Theo các tài liệu trước đây, tác giả đề xuất mô hình kiểm tra thực trạng hoạt động tài chính của 26 ngân hàng thương mại niêm yết trên 3 sàn chứng khoán: HOSE, HNX và Upcom, tất cả các ngân hàng thương mại trong mẫu đều thỏa mãn giả định hoạt động kinh doanh liên tục trong giai đoạn 2016- 2022, chiếm hơn 80% tổng tài sản của các ngân hàng thương mại Việt Nam. Các tác giả nghiên cứu ảnh hưởng của 10 nhân tố đến hiệu quả kinh doanh của các ngân hàng thương mại. Các yếu tố này bao gồm: Quy mô doanh nghiệp (SIZE), Tỷ lệ vốn chủ sở hữu trên tổng tài sản (CAP), Tỷ lệ chi phí ngoài lãi trên thu nhập ngoài lãi (CFS), Tốc độ tăng trưởng doanh thu (SAGR), Tuổi doanh nghiệp (TUỔI), Tỷ lệ cho vay trên tiền gửi, Tổng sản phẩm quốc nội (GDP), Chỉ số giá tiêu dùng (CPI), Cơ cấu thu nhập (nhóm IR) và Covid 19 (Covid). Kết quả thực nghiệm cho thấy hầu hết các yếu tố đều tác động đến hiệu quả kinh doanh ở các mức độ khác nhau theo các hướng khác nhau: các yếu tố: SIZE, SAGR, CAP, GDP tác động tích cực đến hiệu quả kinh doanh, trong khi các yếu tố khác: CFS, AGE, LDR, CPI thì ngược lại. Tập đoàn IR. Covid-19 có tác động không rõ ràng đến hiệu quả kinh doanh. Dựa trên kết quả thực nghiệm, tác giả đề xuất các giải pháp nâng cao hiệu quả kinh doanh của các ngân hàng thương mại trong tình hình hiện nay.

• Từ khóa: kết quả kinh doanh, ngân hàng thương mại niêm yết, các yếu tố.

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## 1. Introduction

The Vietnamese Government sets an annual GDP growth target of around 6.5% in 2023 to continue the 2022 GDP growth of 8.02%, taking considerations on the downward economic cycle trend and risks, negative factors around the world and within the country. However, the GDP growth rate in the first quarter 2023 only reached 3.32%, lower than 4.02% over the same period in 2022, which exposes challenges to achieve the Vietnamese economic growth targets in 2023. Commercial bank is one of the financial institutes who monitor and control medium and short-term capital of capital market. Apart from commercial banks who are operating efficiently, competing strongly, transforming digitally rapidly and professionally, affirming the brands and reputations in the market, there are many other commercial banks who are operating inefficiently, especially in the current economic context showing the signals of stagnation and recessions. In the first six months of 2023, business performances of almost commercial banks decreased compared to the same period. This reduction might affect significantly to the economic growth. Therefore, we decided to conduct the research about current situation of business performances, factors affecting the business performances of listed commercial banks in Vietnam during the period 2016-2022, based on previous literatures and data collected from financial statements of 26 listed commercial banks in the period 2016-2022 to propose solutions for enhancing business performances of commercial banks in the coming time.

## 2. Empirical results and current situations of listed commercial banks

According to data of listed commercial banks in the period from 2016 to 2022 collected from audited financial statements and annual reports which are available in the commercial banks' websites, macro-economic data is collected from reports issued by General Statistics Office of Vietnam and The World bank, after eliminating omission observations and adding 2 dummy variables including Covid and income structures of listed commercial banks. The authors use Stata

14 software to analyse panel data. The models used to study current situations and factors affecting to business performances of listed commercial banks are presented in the Table 1 below:

**Table 1. Variable definitions and hypotheses for studying factors affecting the business performances of commercial banks**

Variables	Name	Measurement	Hypo	Authors
<i>Dependent variables</i>				
ROA	Return on assets	Net profit/Average total assets		Alexandru Ioan Cuza (2014), Isayas, Y. N. (2022), Nghiem Thi Tha., et al (2022)...
ROE	Return on equity	Net profit/Average total equity		Alexandru Ioan Cuza (2014), Isayas, Y. N. (2022), Nghiem Thi Tha., et al (2022)...
NIM	Net interest margin	(Thu nhập lãi thuần - Chi phí dự phòng RRTD)/Tài sản có sinh lời bình quân (Net interest income - Provision expenses for credit losses)/ Average earning assets		Alexandru Ioan Cuza (2014), Isayas, Y. N. (2022)
<i>Independent variables</i>				
SIZE	Commercial bank's size	Natural logarithm of total earning assets	+	Sufian (2009), Alexandru Ioan Cuza (2014), Nghiem Thi Tha., et al (2022)...
SAGR	Sales growth rate	[(Sales in year t)/Sales in year (t-1)] - 1	+	Sufian (2009), Nghiem Thi Tha., et al (2022)...
CAP	Ratio of owners' equity to total assets	Owners' equity/ Total assets	+/-	Alexandru Ioan Cuza (2014), Isayas, Y. N. (2022), Nghiem Thi Tha., et al (2022)...
CFS	Ratio of non-interest expenses to non-interest incomes	Non-interest expenses/ non-interest incomes	-	Alexandru Ioan Cuza (2014), Gupta, N., & Mahakud, J. (2020), Nghiem Thi Tha., et al (2022)...
AGE	Commercial bank age	Studied year - year of establishment	+/-	Isayas, Y. N. (2022), Nghiem Thi Tha., et al (2022)...
LDR	Loan-to-deposit ratio	Total loans/Total deposits	+/-	Shingjergji và Hyseni (2015), Nghiem Thi Tha., et al (2022)...
IR-Group	Income structures	Interest incomes/total incomes	+/-	Proposed by authors
Covid				Proposed by authors
CPI	Consumer price index	Consumer price index	-/+	Alexandru Ioan Cuza (2014), Isayas, Y. N. (2022).....
GDP	GDP growth rate	GDP growth rate	+	Alexandru Ioan Cuza (2014), Isayas, Y. N. (2022).....

Source: The authors synthesized and proposed

Sample includes 170 observations presented by unbalanced panel of 26 commercial banks during period of 7-year from 2016 to 2022. Data is attached as the following link:

<https://docs.google.com/spreadsheets/d/1VkJMmOTxUfAcEbpV8mctJHjup8BD2QnX0UZZPKm0N6ms/edit?usp=sharing>

Extracted from Stata 14 software, descriptive statistic used to describe the current situations of business performances is presented as below:

**Table 2: Descriptive statistic**

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	170	.011	.008	0	.036
ROE	170	.135	.079	0	.303
NIM	170	.025	.01	.007	.053
SIZE	170	12.089	1.138	9.855	14.567
SAGR	170	.186	.166	-.179	1.351
CAP	170	.086	.032	.038	.185
CFS	170	.467	.218	.084	.976
LDR	170	.722	.111	.016	.883
CPI	170	.03	.006	.018	.035
GDP	170	8.132	.12	7.918	8.321
DPR	170	.1	.193	0	2
AGE	170	26.853	11.282	8	65

Source: The result is extracted from Stata14 software.

The business performance of listed commercial banks in Vietnam in the period 2016-2022 fluctuates the most in the ROE ratio, the standard deviation is 7.9%, other business performance ratios also fluctuate quite strongly. Specifically, return on assets (ROA) in the period 2016-2022 has an average value of 0.011 with the smallest value being 0 for NVB in 2022 and the largest value being 0.036 for TCB in 2021 and the standard deviation is 0.008. Thus, during the research period, on average for one dong of assets used in business activities, the commercial banks in the sample earned 0.011 dong of net profit. Return on assets of commercial banks in Vietnam in the past 7 years, although there has not been a significant difference between commercial banks, these results are relatively low, in which TCB achieved the highest ROA. The return on equity (ROE) of commercial banks fluctuates strongly, the smallest value is 0 for

NVB in 2022, the largest value is 0.303 for VIB in 2021, the average value is 0.135, that mean, on average, one dong owner's equity used for business activities, commercial banks earn 0.135 dong net profit during the research period.

These results show that the efficiency of owners' equity management of Vietnamese commercial banks has fluctuated considerably, the benefits for shareholders of some commercial banks such as TCB, VIB, OCB, VCB... are relatively large, which means some commercial banks' stocks are strongly attractive to investors and are considered to have good growth potential. The net interest margin (NIM) measuring the business performances of commercial banks on average in the period 2016-2022 is 0.025, the smallest value is 0.007 for VBB in 2020 and the highest value is 0.053 for VPB in 2017 and the standard deviation is 0.01. Thus, on average, one dong earning asset invested in period generates 0.025 dong net profit, NIM of commercial banks is quite attractive to investors. In particular, during the analysis period, all 26 listed commercial banks achieve positive business performances, no listed commercial banks suffered losses, this is a positive result showing that the development potential of Vietnam's listed commercial banks is very large, therefore listed commercial banks should find the right way to unleash these potentials.

Almost factors affecting to business performances of listed commercial banks in the period 2016-2022 are suitable to hypotheses. Specifically:

+ The descriptive statistics result shows that: the size of commercial banks calculated by the natural logarithm of total assets reaches the smallest value of 9,855 (19,048 billion VND) and the largest value of 14,567 (2,120.609 billion VND). The average of firm size variable during the analysis period is 12,089, however the standard deviation is relatively high at 1,138, showing that commercial banks' sizes in Vietnam has a relatively large difference. Sales growth rate (SAGR) of the research samples averages 18.6%, fluctuates between 17.9% and 135.1%, and the standard deviation

is 0.166, which means the sales growth rate of commercial banks in the analysed sample and during the research period has a relatively large segmentation. Capital structure (CAP) reaches an average value of 8.6%, of which the smallest value is 3.8% and the largest value is 18.5%. The results mean that in the analysed sample, on average, one dong owners' equity finances 0.086 dong Total Assets, this capital structure is relatively suitable for the business characteristics of commercial banks. The average non-interest expense ratio of commercial banks during the research period was 46.7%, ranging from 8.4% to 97.6%, with a standard deviation of 0.218, showing the ability of cost management for business activities apart from credit activities of commercial banks in the research sample are relatively different. The average loan to deposit ratio reached 72.2%, ranging from 1.6% to 88.3%. The average dividend payout ratio in the period 2016-2022 of the studied commercial banks is 10% with the smallest ratio being 0% and the largest ratio being 20%. The average years of establishment and development of commercial banks in the research sample is 26,835 years, ranging from 8 years to 65 years, with a standard deviation of 11,282, showing a huge difference in the history of establishment and development of listed commercial banks in Vietnam.

The results of testing the correlation between independent variables in the research model in Table 2 show that there is no sign of multicollinearity occurring in the model.

**Table 3: Correlation table**

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) SIZE	1.000								
(2) SAGR	0.050	1.000							
(3) CAP	-0.345*	-0.191	1.000						
(4) CFS	0.115	0.106	-0.264*	1.000					
(5) LDR	0.239*	-0.229*	0.197*	-0.231*	1.000				
(6) CPI	-0.071	0.210*	-0.043	0.078	-0.064	1.000			
(7) GDP	0.176	-0.177	0.116	-0.054	0.111	-0.226*	1.000		
(8) DPR	0.254*	0.113	-0.008	-0.134	0.049	0.026	0.012	1.000	
(9) AGE	0.486*	-0.218*	-0.129	-0.030	0.239*	-0.062	0.118	0.027	1.000

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Source: The result is extracted from Stata14 software.

The authors tested 03 linear regression models, studying factors affecting to the business performances of commercial banks measured by 3 variables including ROA (model 1), ROE (model 2) and NIM (model 3), using OLS methods with the condition of fixing the influence of time. The VIF test results of the 3 models are 1.73 and no coefficient is greater than 10, showing that the models do not have multicollinearity. However, the White test results show that model 1 and model 2 have heteroskedasticity at the significance level of 1% and 10%, respectively. Continuing to test 3 models using the fixed effects model (FEM) method and random effects model (REM) method. The results of the Wald-test and Hausman test show that the most effective method for model (1) and model (2) is the FEM model, model (3) is the REM model. However, the results of the Wooldridge test (autocorrelation) and the Breusch and Pagan Lagrangian test (heteroskedasticity) show that all above models have heteroscedasticity and autocorrelation. To overcome referred errors and increase the accuracy of empirical results, authors applied FGLS method to all 3 models.

Summary of results from the linear regression models used to study factors affecting the business performances of commercial banks in the period from 2016 to 2022 by using the following methods: OLS, REM, FEM, FGLS are presented as follows:

**Model 1: Factors affecting to return on assets (ROA)**

$$ROA = 0,005 \times SIZE + 0,007 \times SAGR + 0,146 \times CAP - 0,004 \times CFS - 0,00017 \times AGE - 0,007 \times LDR + 0,011 \times GDP - 0,002 \times IR_{Group} Dummy - 0,146$$

**Model 2: Factors affecting to return on equity (ROE)**

$$ROE = 0,055 \times SIZE + 0,073 \times SAGR + 0,408 \times CAP - 0,049 \times CFS - 0,001 \times AGE - 1,037 \times CPI + 0,12 \times GDP - 0,019 \times IR_{Group} Dummy - 1,425$$

**Model 3: Factors affecting to net interest margin (NIM)**

$$NIM = 0,006 \times SIZE + 0,013 \times SAGR + 0,18 \times CAP - 0,0003 \times AGE + 0,017 \times GDP - 0,194$$

The linear regression results of the three models show that the factors: SIZE, SAGR, CAP, GDP have positive impacts on the business performance ratios of commercial banks with different levels of impact, while the opposite is true for factor AGE. Other factors like CFS, IR-Group have negative impacts on ROA and ROE, CPI affects negatively on ROE and LDR only have positive effects on ROA. Covid have an ambiguous impact on business performances.

The empirical results of studying the impact of factors on business performances of listed commercial banks in recent times help authors to propose some solutions to improve the business performances of commercial banks in the coming time.

**3. Solutions to enhance the business performances of listed commercial banks in Vietnam**

*Firstly*, it is necessary for listed commercial banks in Vietnam to increase the scale of business activities that have impacts on factor "Firm size" (SIZE). The firm size has a positive relation with the business performances of listed commercial banks at the significant level of 1%: if firm size increase by 1%, ROA increases by 0.005%, ROE increases by 0.055% and NIM increased by 0.006%. Each commercial bank must have a roadmap and proactively develop a budget plan to choose appropriate methods of mobilizing resources, assesst structure, focus on investing in modern technology to improve competitiveness. In the current context of Industry 4.0, the advantage is only for banks with strong financial resources to invest in modern facilities (AI, big data...). Promoting digital transformation and develop digital products requires large financial resources. Successful technology investment and digital transformation will help listed commercial banks to improve business performances in the current context.

*Secondly*, increasing financial autonomy and independence by increasing CAP will help commercial banks to have more credibility to partners in financial relationships and have better respond to financial risks. Inadequacies in capital structure, especially too high capital multipliers and too low CAP are one of the reasons why the business performances of many commercial banks are not appropriate to their potential and strengths. Capital structure has a significant positive impact on the business performances of listed commercial banks during the research period. A 1% increase in CAP will increase ROA, ROE and NIM by 0.146%, 0.408% and 0.18% respectively at the significance level of 1%. Financing policies of commercial banks always have a significant impact on business performance, the more commercial banks increase their financial independence from outsiders, the higher their business performances and vice versa, especially for commercial banks who have the high proportion of interest income to total income. To increase CAP, listed commercial banks can choose the following methods: issuing shares, M&A, retaining profits, reasonable dividend policies, restructuring capital... However, increasing CAP will also increase costs of capital, therefore maintaining balance between costs and benefits plays an important role in financing policy of commercial banks. If commercial banks increase CAP through capital mobilization channels to increase both scale and financial autonomy, but do not control investment and capital effectively, especially bad debt management, it can easily lead to solvency risks which means disadvantages outweigh advantages. On the contrary, using capital effectively and simultaneously increasing financial independence will lead to maximum benefits. Therefore, taking full advantages of the dividend policy to increase CAP and managing capital adequacy according to Basel standards will help listed commercial banks increase their business performances more sustainably.

*Thirdly*, expanding financial products and services to ensure revenue and income growth (SAGR) to increase business performances. Sale growth rate (SAGR) has positive impact on all three variables ROA, ROE and NIM. If sale

growth rate increases by 1%, it will increase ROA by 0.007%, increase ROE by 0.073% and increase NIM by 0.013% at the significance level of 1%. This result implies that sale growth rate play a relative important role in contributing to improving business performances of commercial banks, especially commercial banks who have incomes deriving from different types of services. In the context that the business model of commercial banks is transforming from traditional model which focusing on credit activities to retail service model, listed commercial banks who are digitally transforming faster and widely applying fintech will have greater business performances.

**Fourthly**, controlling costs, including interest expenses and non-interest expenses. For commercial banks who develop retail products combined with fintech services, SAGR could be increased but at the same time, non-interest costs and CFS could be increased, and eventually they would face up with the risk of reduction in business performances. Non-interest expense ratio (CFS) has a negative impact on ROA and ROE, but has no relationship with NIM. Specifically, a 1% increase in CFS causes ROA to decrease by 0.004% and ROE to decrease by 0.049% with p-values both less than 1%. CFS of commercial banks who provide retail services (LIR) affect on ROA and ROE more significantly than that of commercial banks who focus only on providing traditional credit services (HIR). Besides that, although results of the entire sample did not show a relationship between CFS and NIM, specific research for each group showed that, for the LIR group, CFS increased by 1% will increase NIM by 0.006% at the significance level of 5% and vice versa, for HIR group, CFS increase by 1%, NIM will decrease by 0.006% at the significance level of 10%. This proves that the more economically and effectively commercial banks manage costs for retail service activities, the higher their business performances (ROA, ROE). This is also an irreversible trend for operation model of commercial banks when per capita income increases, the middle-class accounts for a large proportion of society and personal financial services and financial literacy develop. In addition to interest costs, costs for

retail products, and costs of capital, commercial banks need to strengthen cost management: risk provisions, especially credit risks, expenses for employees, fixed costs,..., reduce CFS reasonably. Listed commercial banks must focus on further promoting the digital transformation process, applying AI technology, developing digital financial products and services, electronic transactions... reasonably reducing payroll and reducing office rents...., have a flexible business strategy, change in accordance with the trends of society, the market, and technology, seize the best opportunities. All of which will enable commercial banks to enhance business performances as well as obtain the sustainable development.

**Fifthly**, taking deposit for lending is a traditional credit activity that is still the strength of many listed commercial banks in Vietnam today, the loan-to-deposit ratio (LDR) factor has a negative relationship with ROA, while the empirical results also show that there is no significant relationship between LDR and the variables ROE and NIM. At the significance level of 5%, a 1% increase in the loan to deposit ratio will reduce ROA by 0.007%. Thus, the more a commercial bank increases the loan-to-deposit ratio, the smaller return on assets and vice versa. In the period 2016 to 2022, commercial banks' credit growth rate is very high, especially real estate loans - long-term loans while commercial banks mainly mobilize short-term deposits, therefore when the real estate market stuck with liquidity risks, commercial banks will be bounded by bad debts, and thus business performances will certainly decline, including technical provisions - due to increased credit risk provisions. Therefore, to solve the root of the problem, listed commercial banks themselves will have to implement many temporary solutions such as debt restructuring, tightening real estate credit, handling bad debt... but in the long term, it is really necessary to transform the business model as mentioned in solutions 3, 4 and improve risk management to enhance business performances in a more sustainable way.

**Sixthly**, the results show that the commercial bank' age has a insignificant negative impact

on ROA, ROE and NIM, there is no difference between 2 groups LIR and HIR regarding to the influence of age on business performances. Thus, it can be seen that the long history of establishment and development is no longer an advantage, an important factor to improve the business performances of commercial banks. Even the conservatism, stagnation, and burden of the apparatus, the management mechanism of long-standing commercial banks in Vietnam can be a factor hindering the business performance of commercial banks themselves. In addition, the authors use two dummy variables, IR\_Group and Covid, to test the impact of income structure and the Covid 19 pandemic on the business performances of commercial banks in the period 2016-2022. The results show that the Covid 19 epidemic outbreak from 2019 to 2022 does not affect business performance (NIM), but Covid is a catalyst to promote digital transformation, diversifying products and services, focusing on customer satisfaction experiences and then contribute to improve the business performances of commercial banks (an increase in ROA and ROE). The IR-group variable, which classifies groups according to the ratio of interest income to total income, has a negative impact on ROA and ROE with significance levels of 5% and 1%, respectively. This means the commercial banks who have lower ratio of interest income to total income will have higher business performances and vice versa. Empirical results show that commercial banks providing diversified products and retail services in group 2 have higher business performances than commercial banks who only focus on providing traditional credit services in group 1. Under the development of science and technology, the foundation for digital banking is ready, the Vietnamese population is also ready to use digital technology in personal as well as professional life, so Vietnamese commercial banks need to promote faster the digital transformation which then lead to an increase in business performances.

**Seventhly**, commercial banks need to study macroeconomic policies to adjust business activities flexibly, because the macroeconomic

environment always has a considerable impact on commercial banks' business activities. When macroeconomic management policies are stable, the economy will grow and develop sustainably, and people's income will increase, then they will contribute to promote and improve business performances of commercial banks and vice versa. The empirical results show that: GDP growth has a positive relationship with ROA, ROE and NIM at the 1% significance level. A 1% increase in GDP growth rate causes ROA to increase by 0.011%, ROE to increase by 0.12% and NIM to increase by 0.017% at the 1% significance level. CPI has no relation to ROA and NIM, but has a significant negative impact on ROE. At the 10% significance level, CPI increased by 1%, ROE decreased by 1,037%. The finding means that higher inflation will have a negative impact on return on equity. In the coming years, according to World Bank forecasts, Vietnam will still be a bright spot in terms of growth and good inflation control compared to international and regional markets, although macroeconomic indicators such as GDP increase slowly, CPI increased faster than the period 2016-2022, but the estimated GDP growth reaching around 6% and inflation around 4% still provide opportunities for commercial banks to increase profitability if they have an effective business management.

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