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Changes in the Structure of Capital Utilization and Operational Efficiency of Vietnamese Joint-Stock Commercial Banks

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Abstract - **Over the past years, the commercial banking system in Vietnam has been under increasing pressure due to the increase in the number of non- performing loans and this has affected the quality of the assets and lost capital. Not only does this reduce the effectiveness of individual banks but it also brings into question the ability of the financial system as well as the general economic growth. Consequently, determining the areas that can make the operations more efficient and yield better assets has been a growing concern. This paper uses a quantitative research method and structural equation model (PLS-SEM) to test it by means of SPSS 27 and AMOS 20. The evaluation is based on mixed data. Secondary data will be obtained through audited financial statements and annual reports that have been gathered in many years, to reflect the operations status of the commercial banks. The primary data were acquired by use of an online survey with a structured questionnaire that was to be conducted between July 2025 and September 2025. The survey produced valid results of 182 managers who work in 28 commercial banks in Vietnam. The above results suggest that strategic goals, ability to manage risks, and management structure of organizations have a positive and significant impact on the efficiency of the commercial banks. The change in the organization of capital use, is a significant intermediary in this relationship. This study concludes that the recommendation is to ensure that commercial banks enhance capacity of risk management and reorganize operating models to be more flexible and efficient. These initiatives are the key to a crucial requirement of enhancing the performance of operations and promoting a sustainable development in the rapidly changing business environment.**

Keywords: **Asset Quality, Funding Structure, Structural Transformation, Commercial Banks, Operational Efficiency, Capital Adequacy Ratio, Business Environment, Capital Structure**

I. INTRODUCTION

The commercial banks are the key financial intermediaries involved and are the key players in stabilizing the financial markets. Their main purpose is credit intermediation which involves mediating between borrowers and lenders. The contemporary commercial banks are multifunctional entities which offer an entire gamut of financial services comprising of deposit taking, lending, guarantees, payment services, and other banking services. They are also involved in wider market structures in the financial markets in form of subsidiaries dealing with insurance, securities and fund management. In spite of these diversified activities, the banking operations are associated with high risks in nature. These risks are not only posed by internal managerial factors but also by external factors especially the macroeconomic fluctuations and financial positions of clients and counterparties, which deal with banks. Banking risks are usually interdependent. Therefore, the collapse of one financial institution can spread the instability to the system and has dramatic negative impacts to the whole economy, as banks are the depositors and controllers of financial resources of households and the businesses.

As part of their activities, commercial banks are in a constant process of re-placing the framework of capital use at a more rationalist distribution. These adjustments enable banks to create an optimal asset structure and attain a more desirable balance of returns to be incurred and the risks to be made. Simply put, the capital structure changes indicate the alteration of the ratio of various forms of assets in the bank portfolio. These changes are generally measured at a point in time or over a period of time as compared to previous periods by researchers. Practically, the reorganization of capital utilization structure is the redistribution of funds among the activities and items of assets in each of the operating segments. It is more than mere adjustments in position. It presupposes the alterations in both the extent and quality of capital allocation, which have a direct impact on the business performance and safety of operations. A number of motives are behind the reorganization of capital use among commercial banks.

First, Banks would Seek to Meet the Changing Market Demand and Economic Development

Economic and social conditions improve, which makes the complexity and variety of market needs more complicated, and the banks will have to adjust their strategies of capital allocation. Commercial banks of the past eras used to mainly invest funds in lending. However, today, the proportion of capital allocated towards lending has reduced slowly as the amount of activities in investments has increased. Specifically, banks have gained more securities that have generated profitability as well as enhanced liquidity of assets.

Second, the Banks Aim to Diversify their Assets and Risk Diversification

The reorganization of the capital utilization structure motivates banks to have more diversified forms of capital deployment and prevent too much concentration. By holding a high volume of suitably sized loans instead of exposures concentrated in a few large exposures, banks lessen the chances of incurring severe losses in case of some adverse eventualities. The extension of credit to various industries, sectors, and customers not closely correlated assists in ensuring that the losses experienced in one type of loans have minimal impact on the other exposures. Capital allocation diversification is an important aspect of good banking management thus.

Third, it is in Banking Interests to Maximize Risk and Reward Relationship in Asset Portfolio

The main goal will be to set up an optimal capital structure of utilization that would maintain the risk within low acceptable levels and the profitability maximized. Risk and expected returns generally have the same direction: when expected returns are high, the risk levels are generally high and the reverse as well. The banks should therefore strike a balance in such a relationship when formulating and adjusting the capital allocation structures in order to come up with an optimal risk-return trade-off. In addition to reacting to the demand in the market, the banks should also take the required steps to modify their capital utilization structure. These modifications are useful in reducing inefficient expenses, which consists of monitoring and resolving non-performing loans, and eventually increase profitability.

Since the operations carried out by the banking industry are characterized by mobilization of funds, commercial banks do so to loan it out and invest it. The motivation of bank profits is thus primarily by interest earnings on loans, deposits and investment in debt securities, and earnings on equity participations and affiliate investments. Furthermore, banks make profits out of trading business like the securities trading and foreign exchange trading. The quality, structure, and size of capital utilization of commercial banks is therefore directly related to the business performance.

The paper is structured in the following way: Section 1 presents the context, problem of research, and objectives of the research. Section 2 summarizes and examines the past research on capital structure and operation efficiency of banks, thus explaining the lapses in research. Section 3 provides the research methodology which entails the data sources, the research variables and empirical model that will be used in conducting the research which is founded on theory and earlier studies done. Section 4 shows the findings of the empirical research in the form of regression models and hypothesis testing, and comments on the key findings of the study. The Section 5 gives policy implications and governance recommendations based on the findings of the research. The conclusion is mentioned in section 6. The last point is the conclusion, which summarizes the main findings, indicates the limitations of the study, and indicates some possible directions of future research.

II. Literature Review and Theoretical Framework

The author adopts contingency theory proposed of this study. This theory emphasizes the role and influence of situational factors on organizational performance, including that of commercial banks. Highlight the importance of aligning organizational arrangements with the specific conditions faced by each individual bank. Successful commercial banks need organizational structures that correspond to the level of environmental complexity in which they operate, also identify two optimal organizational forms that enable commercial banks to manage and control environmental influences. The first is the mechanistic structure, which suits stable environments. The second one is the organic structure that is suited in an uncertain changing environment. According to this theoretical approach, the paper scrutinizes a number of the key relationships.

** Funding Structure and Shifts in the Capital Utilization Structure of Commercial Banks*

The funding structure of a commercial bank refers to the composition and relative proportions of equity capital, mobilized funds such as deposits, and other borrowing sources used to finance banking operations and lending activities. Mobilized funds usually account for the largest share of total funding, often exceeding 80–90 percent, and therefore play a decisive role in determining the bank's operational capacity. Numerous international studies suggest that capital structure may exert either positive or negative effects on changes in the capital utilization structure of commercial banks. Specifically:

Sheikh & Qureshi, (2017) examine how the choice of an optimal capital structure affects the performance of Islamic commercial banks in Pakistan. The authors collected data from the stock exchange covering the period from 2004 to 2014. Using panel data techniques, they applied both fixed-effects and random-effects regression models. The analysis incorporated several bank-specific variables, including size, profitability, growth, asset tangibility, and income volatility. The statistical results show that conventional commercial banks tend to maintain asset structures with higher leverage ratios compared with Islamic banks. In addition, economies of scale appear more evident in larger banks, which typically achieve higher profitability and more stable income streams than smaller institutions. However, the study also reveals that smaller Islamic banks often maintain higher levels of fixed operating assets and experience stronger growth rates than larger banks. Simultaneously, profitability, growth, and tangibility of the assets are variables that have negative correlation with capital structure. In general, the results indicate that Islamic and conventional banks use dissimilar capital structure decisions, even though the bank-specific factors impact such decisions in a similar way.

The article (Sivalingam & Kengatharan, 2018) examines the association between operational performance and capital structure of licensed listed commercial banks in Sri Lanka. The authors gathered the information of ten commercial banks in the time frame of 20072016. There are various indicators used to measure the capital structure in the study such as ratio of the total debt to total assets, long term debt to total assets and short-term debt to total assets. The operational performance is determined in term of return on assets (ROA) and the return on equity (ROE).

The control variables also encompass bank size and deposit growth as utilized by the authors. This analysis follows a sequence of empirical steps involving descriptive statistics, correlation analysis, and both fixed-effects and random-effects models, with the Hausman test used to determine the appropriate specification. The findings indicate that the total debt-to-total assets ratio is significantly negatively correlated with ROE, whereas deposit growth is significantly positively correlated with ROE. Conversely, no statistically significant relationships were found between the three debt-to-total-assets ratios (long-term and short-term) and either ROE or bank size. The recent empirical research also shows that funding structure has positive effects on the changes in capital utilization structure of commercial banks. The data that attests to such a connection can be found in papers like (Usoro, 2022; Charlotte, 2023; Olawale & Obinna, 2023). According to these results, the author states the following hypothesis:

H1: The funding structure positively influences shifts in the capital utilization structure of commercial banks

** Strategic Objectives and Shifts in the Capital Utilization Structure of Commercial Banks*

The commercial bank strategic objectives are aimed at maximizing sustainable profitability or firm value via financial intermediation and an increase in market share, enhancement of a competitive edge and liquidity safety. Such goals are usually to maximise financing sources, creating technology-based financial products, as well as enhancing the customer experience. Empirical studies have revealed over the past years that the strategic orientation of the banks can either have positive or negative effects on changes in the capital utilization structure of the commercial banks. The following are the relevant studies.

The article (Kimani et al., 2025) studies how technological adjustment affects the performance of the commercial banks in the central business district of Nairobi. The paper is based on various theoretical approaches, such as the organizational life-cycle theory, contingency theory, the three step theory of change proposed by Lewin and the change theory by Lippitt, who identify phases of the change. The research design used by the authors is descriptive survey research design. The population size is made up of 255 observations, which are based on 25 commercial banks which operate in the central business district of Nairobi. The authors choose 119 respondents with the aid of stratified and random sampling methods to do final analysis. The findings show that technological change, employee training and the organizational structure are critical in enhancing the performance of the banks. Banks are thus encouraged to offer life long training to improve on the knowledge and skills of the employees and embrace new banking technologies to stay in the market (Lutta et al., 2020).

According to (Ezeoha, 2011), over the last 10 years, commercial banks in Kenya have been associated with a decreasing performance in operations because of rising competition and unfavourable government policies. The objective of their study is to establish how the business strategies influence the performance of commercial banks. Some of the factors that are evaluated by the research are the capability of the managers, the organization systems and processes, product innovation, and the association between capital expenditure and bank performance. The authors gather the survey data of 261 workers at Equity Bank Limited based in Kenya. The results show that there are strong effects of managerial capability, organizational systems, product innovation, capital expenditure, human resources, and technological capability on the organizational performance. The study advises banks to develop a culture of lifelong learning, empower employees, create more efficient working processes, become more creative with financial products, and manage the cost of capital as a strategy to improve the efficiency of operations of the banks.

In the study of credit risk management concerns, (Lamichhane, 2023) explores the role that credit portfolio management plays in the microfinance institutions (MFIs) in Nepal. The research objectives are analyzed as the relevant literature is reviewed. MFIs can function as financial intermediaries that directly contribute to economic and social transformation by creating jobs, generating income, and alleviating poverty through both financial and non-financial approaches. The findings demonstrate that robust credit appraisal systems, prudent interest rate policies, active credit monitoring, diversified lending portfolios, capital optimization, a comprehensive risk framework, regulatory compliance, credit control, and dedicated advisory and research efforts collectively mitigate credit risk while ensuring loan effectiveness and long-term financial sustainability. The study recommends that MFI portfolio management strategies prioritize internal, controllable causes of repayment delays and implement practical, feasible solutions to address them. These findings offer valuable insights for financial institutions, lenders, microfinance practitioners, regulators, economists, policymakers, and credit rating agencies. Specifically, portfolio diversification significantly influences the management of credit portfolios in Nepalese microfinance institutions. It is also illustrated by recent research that operational strategies play a significant role in the work of commercial banks (Karanja, 2015; Huang et al., 2024; Muhammed et al., 2024). Therefore, the author comes up with the following hypothesis based on the empirical evidence discussed above:

H2: Strategic objectives positively influence shifts in the capital utilization structure of commercial banks

Risk management competency of commercial banks is the capacity to identify, quantify, monitor and manage multiple forms of risks such as credit risk, market risk, liquidity risk and operational risk in a systematic manner in an attempt to reduce losses, capital protection and maximize profitability. Such ability is an indication of the quality of the human resource and the technological infrastructure, the internal processes, and the risk culture culture of the bank in general. An enhanced risk management capability enables banks to be financially stable, react positively to the changes in the market, and improve their competitive standing. Empirical researchers also point out the important role of risk management capability in driving changes in the capital utilization structure of the commercial banks as depicted in the studies below.

According to (DeAngelo & Stulz, 2015), high leverage can be an ideal situation with commercial banks where liquidity risk management and other risk management systems are functioning well. In this case, the banks have the ability to optimize their capital structure and investments. According to the model, safe debt creates liquidity risk premiums and that financial institutions with well-developed risk management systems are able to meet such debt in their capital structure to a higher degree. This model aids in understanding why banks are normally run with large leverage ratios as compared to most non-financial companies. It also emphasizes the importance of risk management as a core element to the banking policy and also the reason why the leverages and capital allocation habits have risen tremendously in the banking industry in the last 150 years. Simultaneously, the competitiveness of regulated banks as compared to unregulated shadow banking institutions can be constrained by regulatory leverage constraints.

The article (Ye & Zhang, 2021) evaluates the worsening of the quality of assets of commercial banks following the COVID-19 pandemic. The larger the amount of non-performing assets, the more difficult it was to cope with the deteriorating quality of assets the banks had. The authors intend to solve this problem by evaluating the asset quality pressure of domestic commercial banks based on data on 36 banks that are listed in the A-share market in the 20162020 period. The paper uses a system generalized method of moments model to determine the relationship between the asset quality deterioration and the risk management ability of the banks. The empirical findings indicate a higher level of risk management capacity will enable the commercial banks to counteract effectively the deterioration of the quality of assets.

According to (Barakat et al., 2024), the quality of assets is a determinant of how commercial banks perform financially, profitability, and efficiency in operational performance. Close monitoring and good management of non-performing loans should thus be implemented to reduce the incidences of lending fraud and losses. The authors explore the connection between asset quality management and the profitability of the bank by paying attention to such essential indicators as return on equity or the return on assets. The analysis is based on the data of ten banks during the years 201712021. The dependent variables are ROE and ROA that denote profitability whereas the explanatory variables are the asset quality that can be managed and they include the ratio of impairment losses to operating income and the ratio of impairment losses to total loans. The findings show that there is a great positive correlation between effective asset quality management and the profitability of the bank. In active management of asset quality, banks are likely to perform well financially. Increased provisioning of impaired assets also adds to increased stability and resilience in commercial banks.

Based on the empirical findings, which have been discussed above, the research claims the following hypothesis:

H3: Risk management capability positively affects shifts in the capital utilization structure of commercial banks

** Organizational Management Structure and Shifts in the Capital Utilization Structure of Commercial Banks*

A commercial bank has the common organizational management structure comprising of the Board of Directors, the Supervisory Board, and the Executive Board. In an attempt to achieve mobilization of funds, extend credit and offer financial services, banks are usually structured either in line- functional or matrix forms. These organizational structures have to be in strict regulations regarding risk governance, internal control system and operations procedures that go out of the head office to the branch networks.

According to (Omondi et al., 2017), the issue faced by commercial banks is the need to create powerful knowledge management systems that enhance competitive strength. The paper examines the processes through which organizations build knowledge capabilities, deploy them to strategic decisions and enhance performance results. The authors also look at how organizational structure impacts on the performance of commercial banks in Kenya. They gather information by means of structured questionnaires on the chief executive officers of 43 banks. The data obtained is analyzed by applying the descriptive and inferential statistical methods. According to the results, the strategic knowledge capability as influenced by the organizational structure does not have statistically significant influence on the bank performance.

Baskerville et al., (2020), The digital technology and human aspect is becoming more noticeable in the multi-channel approach of banks, working towards the creation of harmony between digital services and direct contact with customers. In addition, the digital transformation is also making banks reconsider and reorganize the internal processes and use technological solutions to increase efficiency in management, boost innovation potential, and streamline decision-making.

Consequently, the trust of the population in online financial instruments and procedures is increasing.

The fast evolution of technologies like artificial intelligence (AI), machine learning, big data analytics, and blockchain technology, as well as cryptocurrencies, are introducing the underlying shifts in the work of financial organizations. These technologies do not only improve the analysis and risk management of data, but also help to achieve a higher level of operational efficiency, lower transaction costs and increased financial services. The COVID-19 pandemic may be regarded as a turning point, as it significantly altered the process of communication, further work, and financial transactions among people.

Kitsios et al., (2021) according to that, in the given study, the authors will investigate the intensity of digital transformation acceptance in the Greek banking industry. The collected research data was in form of a survey that involved 161 employees that worked in banks in Greece. The analysis of variables of the Technology Acceptance Model (TAM) was done through a multivariate regression approach. The findings of the research indicate the level of awareness and attitudes of the bank workers regarding the use of new technologies in their work.

The authors examine the question of whether digital transformation lowers risk and enhances operations efficiency in commercial banks with reference to credit risk, insolvency risk, and liquidity risk (Hoque et al., 2024). The authors use the OLS, PCSE, and FGLS estimation in examining the influence of digital transformation on reducing risks through panel data of 26 commercial banks in Vietnam between 2013 and 2022. The results show that digital transformation is a strong factor that decreases credit risk, as it enhances the ability to manage risks and decrease the information asymmetry. It also minimizes the chances of insolvency by reducing the cost of operation and increasing profitability, which eventually boosts the efficiency in operation. Nonetheless, the effect of digitalization on liquidity risk is not substantial, as the most typical operations of digital channels in this case include lenders and depositors. The research gives empirical evidence on how digital banking transformation plays in reducing risk in commercial banks in the developing economies.

In (Shen et al., 2025), the authors examine the dependency between the digital transformation, operational efficiency, and asset adjustment in the context of the Chinese panel data of 131 commercial banks between the years 2013 and 2022. The findings indicate that digital transformation increases the efficiency of operations through diversification of business, information asymmetry, efficiency of capital allocation and minimization of risk exposure. In addition, the heterogeneity analysis shows that the effect of digital transformation on the cost efficiency is different based on the size of the bank, capital conditions, asset structure, and ownership structure.

The hypotheses of the study, according to the presented empirical evidence above, are the following:

H4: Organizational management structure positively influences shifts in the capital utilization structure of commercial banks.

** Business Environment and Shifts in the Capital Utilization Structure of Commercial Banks*

The commercial bank business environment is a combination of external forces both macro- and micro-environment that include the economic environment, political and legal environment, technological environment and social environment. These external conditions directly affect banks' ability to mobilize funds, extend credit, and provide financial services. The business environment therefore plays an important role in shaping both operational performance and risk exposure within the banking sector.

Emphasize that the experience of the global financial crisis highlighted the importance of maintaining a healthy banking system, especially given the transmission of financial instability from monetary markets to the real economy. The authors analyze factors influencing asset quality ratios as a key indicator of banking system stability. Their study focuses on business cycles, macroeconomic variables, and bank-specific factors during the period 2001–2018. The dataset includes 29 banks operating in Iran. Using a dynamic panel model estimated through the system GMM method, the study finds a significant negative relationship between the business cycle and asset quality within the banking system. In addition, both macroeconomic variables and bank-specific characteristics show significant relationships with asset quality ratios.

Arrawatia et al., (2019) analyze the determinants of asset quality deterioration in Indian commercial banks. Over recent years, Indian banks have faced a substantial increase in non-performing loans, particularly among corporate borrowers, which has weakened lending quality and bank efficiency. The authors construct a dataset covering 47 commercial banks during the period 2000–2014. Their regression model incorporates bank-specific factors, industry characteristics, macroeconomic variables, ownership structures in both public and private sectors, and the impact of financial crises. The findings show that the combination of factors at bank level, industry conditions, and macroeconomic variables is responsible of the sudden increase in non-performing loans in the Indian banks. The research findings also indicate that the macroeconomic and industry factors should be included in models that predict non-performing assets besides the bank-specific determinants.

The following hypothesis will be the subject of the study based on the empirical evidence outlined above:

H5: The business environment positively influences shifts in the capital utilization structure of commercial banks.

** Shifts in the Capital Utilization Structure and the Operational Performance of Commercial Banks*

Operational performance of commercial banks is an indicator of how well they can maximise profits by mobilising deposits and lending their money and remain financially safe, and adequately manage risks and costs as well. Such performance is realized in terms of profitability, sustainability in growth and consistency in providing financial services. Empirical research brings in inconsistent findings on the nature of the relationship between capital utilization structure change and bank performance.

Mammah & Ohazurike, (2025) focus on the opportunities to turn loss-making areas of commercial banks into profitable, sustainable, and inclusive service units in terms of operational, digital, and organizational innovations. The authors develop a multi-project intervention in the multi-market and integrates the quasi-experimental quantitative analysis with the qualitative information gained through the stakeholders. The results show that profitability recovery is not mainly caused by cost reduction. Rather, it is created as a result of simplifying processes, capabilities with the help of artificial intelligence, integration of ecosystems, and effective change leadership. These processes increase profitability and at the same time retain customer confidence and financial inclusion. The research is theoretically valuable to the field of banking as it expands on the dynamic capability theory as well as the socio-technical systems theory to banking, it also provides a practical insight on how banks can change their strategies.

The following hypothesis will be the subject of the study based on the empirical evidence outlined above:

H6: Shifts in the capital utilization structure positively influence the operational performance of commercial banks.

III. Research Methodology and Model Specification

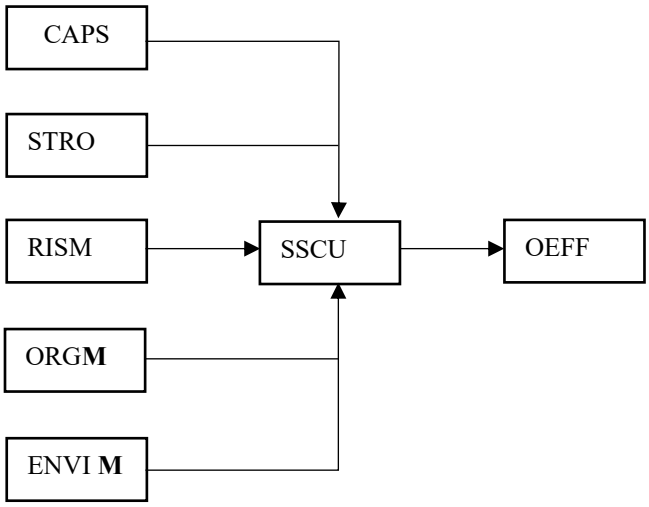

Fig. 1 Research Model

Source: Developed by the author.

Data collection in the study is a structural equation modeling (SEM) approach that is done in SPSS 27 and AMOS 20. The analytic model is based on the contingency theory put forward to investigate the correlation between the change in the capital utilization structure and the operational performance of commercial banks in Vietnam. Primary data will be gathered using online survey with a structured questionnaire between the period of July 2025 and September 2025. The last dataset is composed of 182 valid responses of the managers representing 28 commercial banks that work in Vietnam. Fig. 1 gives the proposed research model.

The relationships can be expressed in equation form as follows: SSCU = f(CAPS, STRO, RISM, ORG, ENVI); OEFF = f(SSCU).

Where:

CAPS = Capital structure STRO = Strategic objectives

RISM = Risk management

ORG = Organizational management structure

ENVI = Business environment

SSCU = Shifts in the structure of capital utilization

OEFF = Operational efficiency

The measurements of all variables in the model are done on the five-point Likert scale (Sheikh & Qureshi, 2017), with the following coding mechanism: 1 strongly disagree, 2 disagree, 3 neutral, 4 agree, and 5 strongly agree. This is scientific research that follows the principles of ethics. The process of data collection was voluntary. The research objectives, content of the questionnaire, and the right of the participants to withdraw without being pressured and influenced were all well explained to them before the survey.

The information obtained is kept in confidentiality and anonymity and can only be utilized in the academic research and the identity of the participants is not disclosed. No commercial or personal interests are connected with survey data that is gathered and processed statistically.

To refine the questionnaire, the author came up with the survey instrument according to the literature review and a thorough interview with five banking professionals. All the interviews took one to two hours and were carried out either through a face-to-face interview or by telephone. Then the research conducted the formal survey on managers employed in commercial banks. The responses obtained were subsequently put into an Excel dataset. Respondents were categorized according to their positions in the bank, that is, 55 were bank executive board members and 127 were bank management board members. This distribution indicates the nature of governance of the banking industry in Vietnam where policy decisions connected with credit policy

implementation, risk management and non-performing loans resolution are concentrated at the branch level.

This structure allows for evaluation tools in the composition that reflect the work of commercial banks in practice. By gender, there are 101 men, accounting for 55.49%, and 81 women, accounting for 44.51% in the sample. Although the proportion of men and women are not much different, it can be judged that there is no sex discrimination in the sample, and the basis for quantitative analysis is more reliable. By age, the number of people under 40 years old is 22, accounting for 12.09%, 65 people between 40-45 years old, accounting for 35.71%, 92 people between 45-55 years old, accounting for 50.55%, and more than 55 years old, accounting for 1.65%. A large number of samples of people between 40-55 years old indicate that the bank managers have more working experience and are more familiar with deep understanding of the banking operations, especially the lending business, so they can make more reliable judgments. By education background, there are 170 people with a bachelor's degree, accounting for 93.41%, and 12 people with a master's degree, accounting for 6.59%. This conforms to the current human resource development policies of commercial banks, and also reflects the basic levels of professional knowledge that respondents have mastered in order to better understand and answer the questions in the survey. Details are in table I below.

TABLE I DESCRIPTIVE STATISTICS OF THE SURVEY RESPONDENTS

No.	Respondent Category	Number of Respondents	Percentage (%)
	Position		
1	Bank Executive Board	55	30,22
2	Branch Executive Board	127	69,78
	Gender		
1	Male	101	55,49
2	Female	81	44,51
	Age group		
1	Under 40 years old	22	12,09
2	40–45 years old	65	35,71
3	45–55 years old	92	50,55
4	Over 55 years old	3	1,65
	Educational Level		
1	Bachelor's degree	170	93,41
2	Postgraduate degree	12	6,59

Source: Author's compilation from field survey results.

All in all, the sample used in the surveys is highly representative of the sample of bank managers especially at the branch level where asset management and credit risk management activities are directly applied. The comparative gender balance, the fact that the respondents belonged to experienced age groups, and that they had high-quality professional education increases the data reliability and the extrapolation of the research results.

IV. RESEARCH RESULTS

TABLE II RESULTS OF THE MEASUREMENT SCALE ANALYSIS

Item-Total Statistics					
Variable name	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
CAPS6	25.24	67.077	0.645	0.533	0.909
CAPS7	25.36	66.415	0.687	0.543	0.907
CAPS8	25.23	65.751	0.668	0.639	0.908
CAPS9	25.42	66.887	0.643	0.578	0.910
CAPS1	25.20	64.986	0.738	0.562	0.903
CAPS2	25.34	65.822	0.713	0.745	0.905
CAPS3	25.50	65.890	0.741	0.739	0.903
CAPS4	25.55	65.951	0.743	0.663	0.903
CAPS5	25.29	65.380	0.755	0.622	0.902
Cronbach's Alpha Based on Standardized Items = 0.916, This scale has an overall alpha coefficient >0.7 and a total item-total correlation coefficient >0.3, meeting the validation standard and indicating a high-quality scale.					
STRO1	7.24	2.872	0.746	0.590	0.831
STRO2	7.31	3.009	0.820	0.674	0.757
STRO3	7.13	3.445	0.705	0.520	0.862
Cronbach's Alpha Based on Standardized Items = 0.873, This scale has an overall alpha coefficient >0.7 and a total item-total correlation coefficient >0.3, meeting the validation standard and indicating a high-quality scale.					
RISM1	9.36	8.039	0.610	0.404	0.670
RISM2	9.28	8.024	0.621	0.429	0.664
RISM3	9.25	8.374	0.574	0.338	0.690
RISM4	8.83	9.136	0.423	0.382	0.771
Cronbach's Alpha Based on Standardized Items = 0.758, This scale has an overall alpha coefficient >0.7 and a total item-total correlation coefficient >0.3, meeting the validation standard and indicating a high-quality scale.					
ORG1	5.85	5.315	0.629	0.411	0.721
ORG2	5.46	5.020	0.681	0.467	0.664
ORG3	5.88	5.547	0.591	0.355	0.761
Cronbach's Alpha Based on Standardized Items = 0.792, This scale has an overall alpha coefficient >0.7 and a total item-total correlation coefficient >0.3, meeting the validation standard and indicating a high-quality scale.					

ENVI1	7.23	3.472	0.382	0.356	0.488
ENVI2	7.04	4.195	0.339	0.322	0.544
ENVI3	7.46	3.406	0.445	0.399	0.383
Cronbach's Alpha Based on Standardized Items = 0.714, This scale has an overall alpha coefficient >0.7 and a total item-total correlation coefficient >0.3, meeting the validation standard and indicating a high-quality scale.					
SSCU1	18.87	31.759	0.597	0.414	0.891
SSCU2	19.38	29.828	0.730	0.557	0.875
SSCU3	19.17	30.478	0.701	0.504	0.879
SSCU4	19.26	30.163	0.700	0.531	0.879
SSCU5	19.19	30.193	0.739	0.605	0.874
SSCU6	19.17	30.944	0.706	0.556	0.879
SSCU7	19.02	30.791	0.697	0.505	0.879
Cronbach's Alpha Based on Standardized Items = 0.895, This scale has an overall alpha coefficient >0.7 and a total item-total correlation coefficient >0.3, meeting the validation standard and indicating a high-quality scale.					
OEFF1	18.80	39.735	0.763	0.648	0.890
OEFF2	18.74	38.958	0.819	0.723	0.883
OEFF3	18.90	40.704	0.750	0.597	0.891
OEFF4	18.96	40.737	0.763	0.682	0.890
OEFF5	18.80	40.112	0.801	0.723	0.886
OEFF6	18.76	43.310	0.585	0.644	0.909
OEFF7	18.72	43.610	0.586	0.637	0.908
Cronbach's Alpha Based on Standardized Items = 0.905, This scale has an overall alpha coefficient >0.7 and a total item-total correlation coefficient >0.3, meeting the validation standard and indicating a high-quality scale.					

Source: Calculated using SPSS 27

The research tests the validity of the measurement scales by employing the Cronbachs alpha that is a popular measure of the internal validity of scale items. The criterion reliability assumes that the overall Cronbachs alpha coefficient should be more than 0.7, as well as the corrected item-total correlation of each variable that is observed should be more than 0.3. Variables that fail to meet these thresholds are excluded from the analysis. The final measurement scales satisfy the reliability requirements. Detailed results are presented in table II above.

The sample consists of 182 data, which is less than the recommended 350. As such, the absolute factor loading that is used for interpretation in this study is set at 0.3. The KMO measure gave a sampling adequacy of 0.812 which falls within the range of 0.5 and 1 for adequate analysis. The Bartlett's Test of Sphericity gave a p-value of 0.000. This means the variables are highly correlated and are appropriate for factor analysis. Also, the factor loading coefficients of all variables were found to be greater than 0.3, indicating that the data conforms to the criteria of Exploratory Factor Analysis (EFA) as can be seen in table III.

TABLE III SUMMARY OF THE EXPLORATORY FACTOR ANALYSIS (EFA) RESULTS

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.812
Bartlett's Test of Sphericity	Approx. Chi-Square	5337.204
	df	630
	Sig.	.000

Structure Matrix							
Variable name	Component						
	1	2	3	4	5	6	7
CAPS5	0.814						
CAPS3	0.802						
CAPS4	0.801						
CAPS1	0.801						
CAPS2	0.776						
CAPS7	0.761						
CAPS8	0.747						
CAPS9	0.726						
CAPS6	0.721						
OEFF2		0.895					
OEFF5		0.879					
OEFF1		0.855					
OEFF4		0.852					
OEFF3		0.835					
OEFF6		0.622					
OEFF7		0.612					

SSCU5			0.824				
SSCU2			0.811				
SSCU6			0.793				
SSCU4			0.789				
SSCU3			0.784				
SSCU7			0.781				
SSCU1			0.690				
STRO2				0.918			
STRO1				0.866			
STRO3				0.836			
RISM2					0.812		
RISM1					0.811		
RISM3					0.771		
RISM4					0.590		
ORG2						0.849	
ORG3						0.815	
ORG1						0.761	
ENVI3							0.698
ENVI2							0.692
ENVI1							0.624
Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization.							

Source: Calculated using SPSS 27

According to the theoretical framework, the proposed model must satisfy several measurement scale validation criteria. The measurement model is considered consistent with the empirical data when it meets five goodness-of-fit indices: (i) CMIN/df, (ii) TLI, (iii) CFI, (iv) NFI, and (v) RMSEA. The estimated results are shown in fig. 2 below:

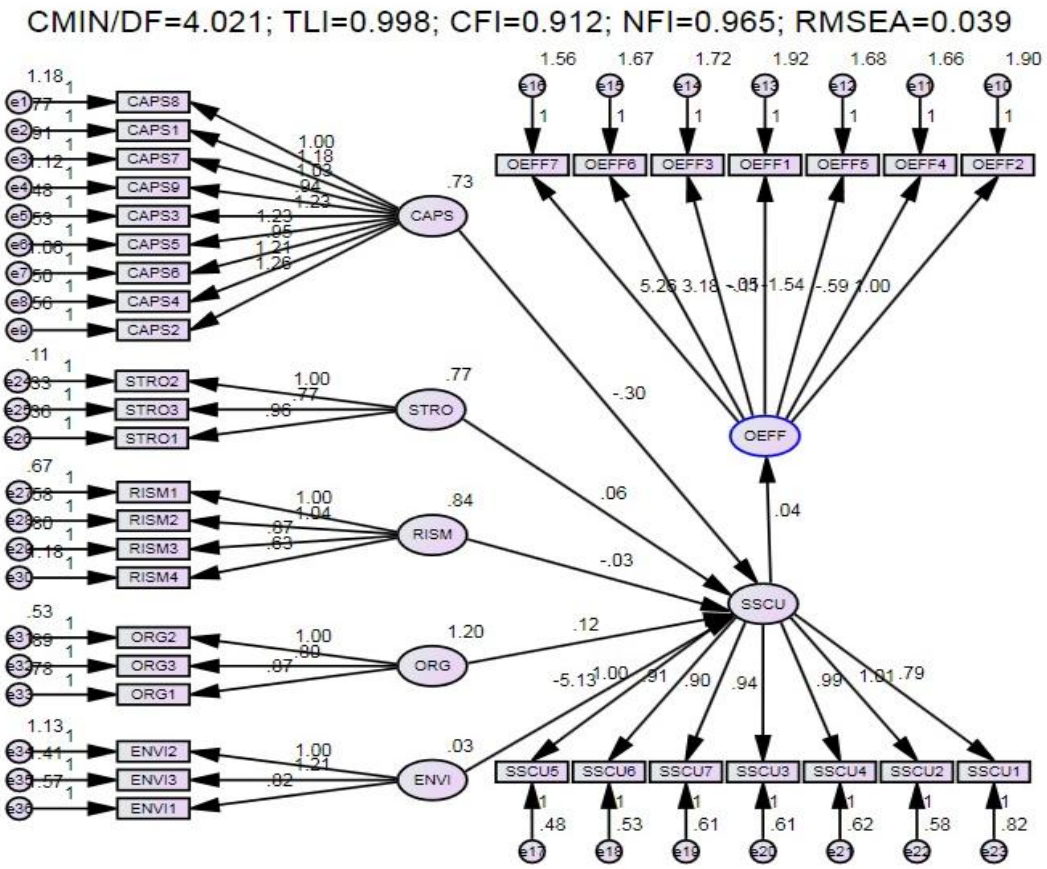

Fig. 2 Regression Estimation Results of the Model

Source: Author's calculations using SPSS 27 and AMOS 20

Table IV indicates that the integrated model fits the empirical data well, as it satisfies the required goodness-of-fit criteria, as detailed below.

TABLE IV MODEL FIT ASSESSMENT

No.	Fit indices and Tests	Symbol	Reference value	Model value
1	Adjusted Chi-square divided by degrees of freedom (Cmin/df)	x2/d.f (Cmin/df)	$x^{2/d.f} <= 5$ Cmin/df<=5	4.021
2	TLI (Tuker-Levis Index)	TLI	TL>0,90	0.998
3	CFI (Comparative Fit Index)	CFI	CFI>0,90 and closer to 1 indicates better fit	0.912
4	NFI (Normal Fit Index)	NFI	NFI close to 1 indicates good fit	0.965
5	RMSEA (Root Mean Square Error Approximation)	RMSEA	RMSEA<0,05 indicates good fit	0.039

Source: Compiled by the author using SPSS 27 and AMOS 20

From table V, we found that the hypotheses H2, H3, H4 and H6 are valid since all the coefficients were highly significant at p-value ≤ 0.05 and the confidence level was above 95 %. In the above table, it is found that coefficient of variable under consideration is highly significant (p-values less than 0.05) which leads us to accept the hypotheses and on the other hand coefficients of the variables in the model are significant at confidence level above 95 % which leads us to reject the hypothesis. Hence, the hypothesis H1 is rejected.

For hypothesis H2, the results indicate that strategic objectives exert a positive effect on shifts in the capital utilization structure of commercial banks, with a high level of statistical significance at 1 percent. This finding is consistent with prior studies such as (Lamichhane, 2023; Muhammed et al., 2024). This finding is indicative of the environment of the Vietnamese banking industry with the majority of commercial banks slowly pursuing an active strategy of reorganizing their capital utilization framework. According to orientations of industry development, demand in the market, strategic goals, the expected levels of risk and anticipated profitability, the banks determine the best capital allocation structures. They then come up with policies and put in place adequate mechanisms to track and manipulate the capital allocation in accordance with the strategic targets. In this way, banks are able to predict the possible profitability and risk in their portfolios and are better able to manage the risk-return trade-off.

TABLE V HYPOTHESIS TESTING RESULTS

Hypothesis	Relationship			Estimate	S.E.	C.R.	P	Label
H1	SSCU	<---	CAPS	0.062	0.069	0.9	0.368	Rejected
H2	SSCU	<---	STRO	0.302	0.075	4.012	***	Accepted
H3	SSCU	<---	RISM	0.034	0.07	0.478	***	Accepted
H4	SSCU	<---	ORG	5.132	2.177	2.357	0.018	Accepted
H5	SSCU	<---	ENVI	0.115	0.059	1.956	0.051	Rejected
H6	OEFF	<---	SSCU	0.036	0.1	0.366	***	Accepted

Source: Compiled from SPSS 27 and AMOS 20 statistical results

For hypothesis H3, it is found that the risk management capability has a positive impact on the change in the capital utilization structure of commercial banks at the same 1 percent level of statistical significance. The result is in accordance with previous sources, including (DeAngelo & Stulz, 2015; Ye & Zhang, 2021; Barakat et al., 2024). As of the Vietnamese banking industry, the ability to manage risk directly affects the quality of assets and the provisioning expenses, cost of operations, and the performance of the business in general. Sound risk management also gives the required platform to the banks to achieve their strategic goals. Over the past years, a number of Vietnamese banks have been keen on changing their lending models towards retail and consumer lending models including VPBank and Techcombank. Consumer lending is a relatively risky activity but at the same time has a higher interest margin. Proper risk management enables banks to manage such risks and record good financial results hence aiding in restructuring credit portfolios according to strategic objectives.

For hypothesis H4, the findings correspond to the fact that the management structure of an organization has a positive impact on the changes in the capital utilization structure of the commercial banks, again with a statistical significance of the relationship at the level of 1 percent. The finding is in line with previous research including (Omondi et al., 2017; Hoque et al., 2024; Shen et al., 2025). In the Vietnamese banking industry, the adoption of up-to-date management models especially centralized capital management, enterprise risk management models, and properly established systems of delegation is significant in how the capital allocation decisions are developed. By having banks consolidate capital management at the level of the head office banks are able to trim down the percentage of non-performing or low-yield assets and refocus the capital on assets that are more profitable and liquid like trading and investment securities portfolios or interbank lending. Meanwhile liquidity risk and interest rate risk may be taken centrally at the head office and the branches concentrate more on the main business activities.

For hypothesis H6, the findings validate that the changes in the capital utilization structure have a positive impact on the operational performance of commercial banks, which has a statistical significance of 1 percent. This observation is supported by the past studies including (Mammah & Ohazurike, 2025), but it also corresponds to the situation in the Vietnamese banking system. In the context of banks changing their capitals distribution to produce an optimal asset structure, such as increasing the investment asset and high-quality loan ratio and decreasing the high-risk asset exposure, operational performance is enhanced. These adjustments contribute to the minimization of liquidity risk, increase in the profitability, and sufficiency of capital adequacy ratios (CAR).

Nevertheless, the empirical findings fail to give adequate grounds that might convince of a positive correlation between the capital structure or the business environment and changes in the capital utilization structure of commercial banks.

V. Recommendations

According to the outcomes of the PLS-SEM structural model estimation, the research will offer a number of policy suggestions intended to enhance the operational performance of the commercial banks due to the changes in the capital utilization structure. Specifically:

First, Developing Appropriate Strategic Objectives

Strategic objectives offer the long-term placement and identity that a bank wants to attain. They thus form the basis of policy formulation, implementation processes organization and maximizing the capital utilization structure. According to these strategic goals, commercial banks are able to build strategic pillars in their operations, which are, customers, shareholders, employees, regulatory compliance, social responsibility, and internal governance. Besides conventional objectives, which are profitability and financial security, commercial banks are advised to consider the social responsibility factor when formulating their strategies.

Considering the current process of digital transformation, as well as the green transformation, in Vietnam, the distribution of credit and investments in the sphere of sustainable development should be given a higher priority. Increasing the proportion of bank credit that is channeled to renewable energy, clean energy projects and other environmentally friendly projects will help in establishing a more sustainable banking system. As a result, green finance and green banking should be considered a strategic direction in commercial banks.

With the continuously growing volatility of a business environment, re-evaluation and constant optimization of business strategies has become the basis of enabling banks to modify their capital utilization setups in an effective manner. Currently, numerous commercial banks use the SWOT matrix method in the process of strategy planning. This model examines internal opportunities and threats as well as internal strengths and weaknesses so as to develop strategic directions. Nevertheless, the subjective and objective factors have curtailed the efficiency of strategic planning in a few banks. Business strategies in most cases react in the short-term conditions in the environment, but the conditions needed to support an extensive strategic planning process are inadequate. As a result, certain periods have witnessed excessive growth in banking activities, including rapid expansion into new business areas and overly aggressive increases in mobilized funds, lending, and investment. Such growth patterns have exposed banks to rising levels of financial and operational risk.

Second, Strengthening Risk Management Capacity

Risk control will only become an effective instrument of capital allocation if banks are able to optimize their capital usage structure. In this regard, banks must enhance their early warning systems for risk monitoring and integrate them into the main banking system. This would enable the risk manager to have all the information he needs to spot potential risk triggers and hence to monitor risks in an optimum manner. The main banking system should in future also enable data management and analytical functions for evaluating qualitative data and for risk classification and detection. Boosting bank asset quality requires banks to enhance their operational capacities to manage non-performing loans and mitigate the incidence of new NPLs, particularly in sectors with higher default risks. Moreover, banks are required to improve the efficiency of their labour force and to enhance their credit assessment, approval, monitoring and risk management capabilities for advancing and managing advance and investment portfolios. Several urgent measures include the following:

- *Adjusting the Structure of Risk-weighted Assets to Comply with Basel II and Basel III Standards*

While capital adequacy ratios of commercial banks in Vietnam in our study period far exceed the requirements of the State Bank of Vietnam (SBI), the capital adequacy ratio would actually fall if market risk and operational risk were to be fully captured in risk-weighted assets under Basel III. We argue that banks in Vietnam have insufficient capital to currently achieve the Basel III minimum requirement on common equity and total capital, and therefore need to further improve credit and market risk measurement and management, including risk-weighting of assets and the composition of investments. Under the current capital constraint, banks need to reposition their risk-weighted assets and investment portfolio to lower risk and more sustainable investments. In more detail, the banks are advised to gradually reduce high-risk portion in their assets and aim to increase profitable and safer assets. For example, banks need to invest more in high-safe securities, and to avoid high risk exposure to sectors such as real estate investment for speculative purpose, securities investment or highly-leveraged and opaque firms.

- *Restructuring Lending Portfolios in Line with Green Credit Strategies*

The transition to green banking for the banking sector is required and all the time commercial banks have to follow sustainable lending practices. Vietnam is considered as one of the countries in the most vulnerable against climate change in the world and the emission from production activities is still very high. In accordance with the objectives of taking climate change, sustainable management of natural resources and environmental protection into the socio-economy development plan, Vietnam's banks have to allocate investment to the development of environmental-related services and to implement green banking principles in their main business activities.

- *Developing Modern Technology-based Lending Distribution Channels*

The banking industry is known for being at the forefront of the application of information technology for the automation of the internal activities and procedures. Currently, the lending activities are based on the traditional commercial network of banks (branches and sales offices). We are of the opinion that in the future the banks will have to increase the portion of e-banking channels (internet banking and telephone banking) in servicing individual clients. It is important to also cross-sell other banking products, such as deposits, insurance and payment products in relation to lending products. Additionally, by using electronic sales channels in the long-term it will be possible to significantly reduce costs of transactions carried out in the scope of lending activities, and consequently lower interest rates for customers. Of course, the banks will also have to develop internal management and infrastructure to ensure effective management of the risk arising from new sales channels.

- *Diversifying Lending Methods and Credit Products*

The main channel for credit business in commercial banks is still the traditional lending channel. Other credit tools such as discount, factor and guarantee accounts are relatively small. With the development of international trade, the demand for trade finance will still increase, and banks should take the initiative to cultivate more clients in this field in order to improve the scale of credit business and improve fee business.

- *Diversifying and Improving Investment Methods*

Investment diversification is a phenomenon that coincides with the maturation of banks' investment activities. Banks may invest for a variety of reasons ranging from short-term liquidity management and generating income from interest to long-term capital appreciation, market-making and obtaining strategic control. Different investment techniques entail different investment objectives and sources of funding. It is therefore important that banks are aware of the purposes and characteristics of the various investment activities they engage in, in order that they can establish an appropriate mode of funding, optimise their capital and effectively manage risks. Actively addressing and preventing non-performing loans Commercial banks shall review, classify the outstanding debts according to the provision of the State Bank of Vietnam in order to make it clear and reflect accurately and transparently the non-performing loan statistics.

Third, Restructuring the Organizational Management Model

The commercial banks in Sri Lanka have to adopt a more reformed structure to the bank that is more centralized and customer – focused. They have to divide the whole business in to separate sections, according to the customer segments in the market place and the management and operational functions have to be more centralised in the Head Office so that the business units or the customer – focused branches will have to look after the sales activities only in the commercial banking sector. Banks should split their activities into corresponding organisational modules both along the lines of customer segments and functions. Core business units will generally be composed of wholesale, retail and capital markets businesses. Functions such as risk management, IT, finance and support services are provided through separate units. Departments in group headquarters need to verify their areas of responsibility and functions and optimise these on a cross-bank basis in order to avoid duplication of work. Branch units should be broken down into customer-related sales, service and optimisation functions as well as into operational functions. In addition, banks should apply international governance practices by adopting the three-lines-of-defense risk control model. They should enhance the centralised capital management functions to balance the profitability and liquidity of assets. At the same time, they should reconsider their costly branch network in the context of the "financial shift" caused by the comprehensive digitalisation of banks. They should also speed up their own digitalisation processes, increase digital channels in the lending sector, and promote green lending activities to ensure the long-term sustainability of their business operations.

VI. CONCLUSION

Commercial banks aim to make the maximum possible profit from an acceptable level of risk. Profitability is made possible only through efficient banking operations. By extending the contingency theory, which was developed to explain the conduct of an organization, this study makes a structural model to find out the relationship between capital utilization restructuring and operational efficiency of the banks. The empirical test showed that the strategic objectives, risk management ability and management structure of the bank all have a positive and statistical effect on the bank's performance through the adjustment channel of capital utilization restructuring. Therefore, the study suggested some relevant policy recommendations. Firstly, commercial banks need to adapt their strategic objectives to the new era of the "dual transformation" of the financial industry, which includes the track of digital transformation and the track of green transformation. Secondly, commercial banks are

required to improve their own risk management ability and adjustment management structure, so as to meet the new demands of management and operation from the aspect of organizational design such as adaptability, efficiency and long-term development.

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