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**FINANCIAL RESTRUCTURING
OF VIETNAM BANK FOR AGRICULTURE
AND RURAL DEVELOPMENT**

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SUMMARY OF DOCTORAL THESIS

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PREFACE

1. Rationale

Financial structure is one of the most important aspects of the financial decisions of an economic organization. Brounen & Eichholtz, (2001) argue that the decision on the appropriate financial structure of an economic organization is one of the most confusing aspects of modern corporate finance. According to Watson and Head, (2007) the financial structure of an economic organization includes a mixture of debt and equity, financial structure decisions are very important for any economic organization due to the reality is that it is the manager's responsibility to ensure that the returns to shareholders are maximized and because this decision has enormous effects on the competitiveness of organizations. Decisions about total debt-to-capital ratios are considered strategic for managers, i.e. future-oriented and have long-term effects.

In the world, there have been many studies on financial structure and financial restructuring at commercial banks with empirical evidence giving conflicting views: some studies have found a negative relationship between leverage and profitability as shown by the studies of (Rajan and Zingalas, 1995; Titman and Wessels, 1988) and Taub (1975) through regression analysis found a positive relationship between debt and profitability, in addition a study by (Abor, 2005) also found a strong positive relationship between total debt and profitability. In Vietnam, there are not many studies on financial structure, financial restructuring and the relationship with commercial bank performance. Therefore, studying the financial structure and financial restructuring of commercial banks during the period when Vietnamese banks are in the process of implementing the restructuring project of the Government and the State Bank To meet the goals of sustainable, safe and effective development... becomes necessary and especially meaningful. For those reasons, the researcher decided to choose the topic "Financial restructuring of Vietnam Bank for Agriculture and Rural Development" to research.

2. Research purpose

General research purpose

The commentary clarifies the connotation of financial structure, financial restructuring at commercial banks and objectively evaluates the current state of Agribank's financial restructuring, thereby offering a number of solutions and recommendations for restructuring. appropriate financial structure.

Specific research purpose

To achieve the research objectives, the thesis performs the following research tasks:

- Research the theoretical framework of commercial bank financial restructuring, especially clearly analyzing the relationship between financial structure and business performance of banks.

- Objectively analyze and evaluate the current state of Agribank's financial restructuring during the research period; clarify the results, discover limitations and causes, and raise issues in the coming period.

- Provide recommendations and solutions for Agribank's financial restructuring until 2030..

3. Research objective and scope of study

Research object: The thesis studies theoretical and practical issues related to financial structure and financial restructuring of commercial banks.

Research scope:

- Research space: Agribank.

- Research time: Analysis and assessment of the financial restructuring situation of Vietnam Bank for Agriculture and Rural Development in the period 2017-2022; Propose directions and solutions until 2030.

- Research content: The thesis studies financial restructuring of commercial banks according to two major contents: equity restructuring and debt capital restructuring of commercial banks.

4. Research method

The thesis uses the methodology of dialectical materialism and historical materialism to research problems and phenomena in a dynamic state, ensuring logic, comprehensiveness and practicality. In addition to the qualitative and quantitative research methods that will be presented in detail in chapter 1, the thesis uses basic research methods in the field of economics as follows.

Synthetic method: This method is used to selectively inherit domestic and foreign research results on theoretical issues related to commercial bank financial restructuring. On that basis, the theoretical basis for the thesis topic is formed.

Statistical - analytical method: Research collects and synthesizes data from Agribank's financial reports and annual reports. The purpose is to analyze the current state of business operations as well as the financial situation of Agribank in the period 2017-2022. Evaluate Agribank's operations, identify the basic reasons for the bank to conduct financial restructuring.

Comparison method: implemented to propose solutions for Agribank's financial restructuring. Based on the limitations and causes of limitations, the thesis proceeds to identify solutions that impact the causes of limitations in Agribank's financial restructuring to promote strengths and limit weaknesses. in this banking activity.

Forecasting method: used to forecast future macroeconomic fluctuations, thereby determining an appropriate development strategy for Agribank as well as a new financial structure to help the bank operate effectively and minimize risks. ro.

Data envelopment analysis (DEA) method: Data envelopment analysis (DEA) method was introduced by Charnes, Cooper and Rhodes (1978) based on the idea of Farrell (1957) on estimating technical efficiency with production frontier. DEA is a non-random and non-parametric method based on a linear programming approach. It is widely used to measure the relative efficiency of decision-making units (DMUs), using a variety of inputs and outputs. DEA is one of the commonly used methods to evaluate technical efficiency in analyzing commercial bank operations with input and output variables selected flexibly, depending on the research purpose.

5. New contribution of thesis

Theoretically, the thesis systematizes and further clarifies the theoretical basis of financial structure including concepts, components, evaluation criteria and factors affecting the financial structure of commercial banks. In addition, the thesis also presents the viewpoints, content, principles and procedures of financial restructuring, as well as foreign experience on financial restructuring of commercial banks.

In terms of practice, the thesis delves into the current situation of Agribank's financial restructuring; thereby pointing out the achieved results and limitations in this bank's financial restructuring. Find out the reasons leading to limitations in Agribank's financial restructuring. This is the basis for proposing solutions to complete financial restructuring in the direction of improving business efficiency and maximizing Agribank's value in the next period.

6. Layout of thesis

In addition to the table of contents, list of abbreviations, and list of references, the thesis is structured into 3 chapters:

Chapter 1: Theory on financial restructuring of commercial banks

Chapter 2: Current status of Agribank's financial restructuring

Chapter 3: Agribank financial restructuring solutions

CHAPTER1

THEORY OF FINANCIAL RESTRUCTURING OF COMMERCIAL BANKS

1.1. OVERVIEW OF COMMERCIAL BANK

1.1.1. Commercial Bank concept

Commercial banks are always considered a financial department store, providing a wide range of financial products and services. "A bank is a type of financial institution that offers the widest range of financial services - especially credit, savings and payment services - and also performs the widest range of financial functions compared to other financial institutions. any business organization in the economy".

1.1.2. Business activities of commercial banks

- Capital mobilization activities
- Credit granting activities
- Other activities: investment, treasury management, payment,...

1.2. FINANCIAL STRUCTURE OF COMMERCIAL BANK

1.2.1. Perspectives on the financial structure of commercial banks

Financial Structure can be considered the capital structure of a commercial bank, with a combination of liabilities (short-term debt, medium-term debt and long-term debt) with equity. (preferred equity and common equity) can be used to finance the bank's investment decisions.

1.2.2. Financial structure of commercial banks

Equity is the capital resources owned by commercial banks, shareholders in joint stock commercial banks, and members of joint venture banks. Components of equity include: common equity capital, undistributed retained earnings, differences in asset revaluation, capital surplus, funds, and funding sources.

Debt capital Debt capital is a source of capital that accounts for a large proportion of the total capital of commercial banks, must be paid upon request, or when due, and is classified according to many different criteria such as term, purpose, currency, method of payment. Mobilization method... Or in other words, debt capital is the amount of money that commercial banks have the responsibility and obligation to pay to creditors. Based on payment time, the author divides debt capital into three types: short-term debt, medium-term debt and long-term debt.

1.2.3. The impact of financial structure on commercial banks' business operations

1.2.3.1. The impact of financial structure on the risk of commercial banks

The financial structure or capital structure of a commercial bank can directly affect the bank's risk. Among the types of risks of commercial banks, credit risk and liquidity risk are most clearly influenced by the financial structure that commercial banks pursue.

1.2.3.2. The impact of financial structure on business performance of commercial banks

Financial structure can have a positive or negative impact on the business performance of commercial banks.

1.3. FINANCIAL RESTRUCTURING OF COMMERCIAL BANK

1.3.1. Concept of financial restructuring of commercial banks

Financial restructuring is the process of fundamentally changing the financial structure of commercial banks (liabilities and equity structure), to establish a new financial structure to suit each stage of development. development of banks as well as fluctuations in business cycles, with the goal of improving operational efficiency and ensuring capital safety.

1.3.2. The role of financial restructuring for commercial banks

Financial restructuring is often proposed as an important solution in cases where banks have to deal with difficulties that could threaten their existence, especially during times of widespread economic crisis. However, even in cases where the bank is operating normally, the influence of subjective and objective factors also leads to the need for restructuring.

1.3.3. Principles of financial restructuring of commercial banks

- Principles to ensure compatibility
- The principle of trade-off between profit and risk
- The principle of ensuring control
- Flexible funding principles
- Principle of minimizing the cost of capital

1.3.4. Content of financial restructuring of commercial banks

1.3.4.1. Equity restructuring

Equity restructuring is a change in the scale and proportion of equity in the total capital of a commercial bank as well as a change in the structure of equity components. . Objective of equity restructuring.

1.3.4.2. Debt capital restructuring

Debt capital restructuring is a change in the scale and structure of debt as well as the form of debt financing of commercial banks. Unlike businesses, banks can perform debt capital restructuring even when they are not facing financial difficulties. The goal of the debt capital restructuring process can be to maintain a capital mobilization portfolio

in accordance with the business strategy that the bank is aiming for or to improve the bank's capital safety.

1.3.5. Procedure for financial restructuring of commercial banks

1.3.5.1. Analyze the current financial situation and evaluate the financial structure of commercial banks

1.3.5.2. Determine the financial restructuring goals of commercial banks

1.3.5.3. Develop and propose detailed financial restructuring plans

1.3.5.4. Implement financial restructuring plans and evaluate the results of financial restructuring activities

1.3.6. Evaluation of financial restructuring of commercial banks

1.3.6.1. Evaluate commercial bank financial restructuring according to financial indicators

a. Group of indicators on financial situation and capital adequacy ratio

- Authorized capital
- Equity
- Total assets.
- Profit after tax
- ROA (Return on Assets).
- ROE (Return on Equity)
- Liquidity reserve ratio:
- Rate of using short-term capital for medium and long-term loans
- Minimum capital adequacy ratio
- Ratio of outstanding loans to total deposits

b. Group of indicators on the ratio of equity size to a number of asset and capital items

- $EQA = \text{Total equity} / \text{Total assets}$
- $EQD = \text{Total equity} / \text{Total liabilities}$
- $EQL = \text{Total equity} / \text{Total outstanding loans}$
- $EQS = \text{Total Equity} / \text{Total Deposits}$

1.3.6.2. Evaluating commercial bank financial restructuring using data envelopment analysis method

a. Data envelopment analysis (DEA)

The data envelopment analysis (DEA) method introduced by Charnes, Cooper and Rhodes (1978) is based on Farrell's (1957) idea of estimating technical efficiency with the production frontier. DEA is a non-random and non-parametric method based on a linear programming approach. It is widely used to measure the relative efficiency of decision-making units (DMUs), using a variety of inputs and outputs.

b. Research model and variables

Based on the theoretical basis of the content and sequence of financial restructuring of commercial banks, and the qualitative analysis criteria explained, the researcher selected and classified variables to include in the model and built 2 models. DEA to evaluate commercial bank financial restructuring with input and output factors associated with different assessment content:

- DEA1 model: Model considering financial restructuring of commercial banks to ensure safety goals (reducing bad debts, reducing credit risk provision costs...) associated with business efficiency (profit growth): variables Inputs are indicators reflecting the financial situation of commercial banks: Total assets, Customer loans, Total liabilities, Customer deposits, Credit risk provision expenses, Bad debts. The output variables are Profit after tax and Undistributed profits. Therefore, the DEA1 model evaluates commercial bank financial restructuring associated with the process of using resources and controlling risks to create profits.

- DEA2 model: Model for evaluating commercial bank financial restructuring to ensure safety goals, business efficiency and implementation of plans to increase equity capital. In addition to the input variables used in the DEA1 model, the DEA2 model adds 4 output variables: EQA, EQD, EQL, EQS to consider the ratio of equity size to a number of assets and resources. capital. With the goal of evaluating commercial bank financial restructuring associated with the problem of increasing equity capital to ensure capital adequacy ratios of Vietnamese commercial banks, the indicators EQA, EQD, EQL, EQS are selected as variables. output to evaluate whether the financial restructuring process of commercial banks meets the target of increasing equity capital or not.

Table 1.1. Variables in the research model

#	Indicators	DEA1	DEA2
1	Total assets	input	input
2	Customer loans	input	input
3	Total liabilities	input	input
4	Customer deposits	input	input
5	Credit risk provision costs	input	input
6	Non performing loans	input	input
7	Equity	input	
8	EQA		output
9	EQD		output
10	EQL		output
11	EQS		output

12	Profit after tax and Undistributed profits	output	output
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Source: Author's research

c. Grouping commercial banks according to financial restructuring assessment results

The score for evaluating the financial restructuring results of commercial banks is estimated from 0 - 1. Observation samples are classified into 4 groups according to the following score levels:

Table 1.2. Commercial banks group according to estimation results

Estimated point	Commercial banks sub-group
0 to less than 0.3	Low performances
0.3 to less than 0.7	Average performances
0.7 to less than 1	Good performances
1	Best performances

Source: Author's research

After being classified into the above 4 groups, commercial banks continue to be ranked in order within the groups according to estimated points. Particularly, the "Group with the best results" does not rank commercial banks because the estimated scores of commercial banks in this group are all equal to 1. The ranking is carried out according to the principle of priority ranking: position 1 is the highest, corresponding to the highest estimated point and approaches the better group.

1.4. EXPERIENCE IN FINANCIAL RESTRUCTURING OF COMMERCIAL BANKS AND LESSONS FOR AGRIBANK

1.4.1. Experience in financial restructuring of a number of foreign commercial banks

1.4.1.1. Anglo Irish Bank, Ireland

1.4.1.2. Shinhan Bank, Korea

1.4.2. Experience in financial restructuring of a number of domestic commercial banks

1.4.2.1. Joint Stock Commercial Bank for Foreign Trade of Vietnam

1.4.2.2. Vietnam Joint Stock Commercial Bank for Industry and Trade

1.4.3. Lessons learned for Agribank

First, financial restructuring needs to be done simultaneously with strategic restructuring.

Second, debt settlement is always a central issue in financial restructuring.

Third, banks need to be flexible in applying forms of debt settlement.

Fourth, equitization is one of the suitable options for banks when implementing financial restructuring.

Fifth, the state plays an important role in the bank's financial restructuring process because Agribank is still owned by the state.

SUMMARY OF CHAPTER 1

Chapter 1 of the thesis clarifies theoretical issues about commercial banks, financial structure and financial restructuring of commercial banks. In particular, the issues of content and sequence of commercial bank financial restructuring will be the basis for assessing the current state of Agribank's financial restructuring in chapter 2. Some notable contents have been analyzed in Chapter 1 includes: (1) Financial restructuring content including equity restructuring and debt capital restructuring; (2) Evaluate the financial restructuring of commercial banks according to qualitative and quantitative methods.

CHAPTER 2: CURRENT STATUS OF AGRIBANK'S FINANCIAL RESTRUCTURING

2.1. OVERVIEW OF AGRIBANK

2.1.1. The process of formation and development of Agribank

Agribank (Agribank), formerly the Vietnam Agricultural Development Bank, was established on March 26, 1988 under Decree No. 53/HDBT of the Council of Ministers (now the Government) on the establishment of specialized banks. business with activities in the field of agriculture and rural areas in Vietnam. Then the bank changed its name to "Vietnam Agricultural Bank" according to Decision No. 400/CT dated November 14, 1990 of the Prime Minister of the Socialist Republic of Vietnam. And according to Decision No. 280/QD-NH5 dated November 15, 1996, the Bank once again changed its name to "Agribank" as it is today.

2.1.2. Agribank's organizational structure

Agribank is organized according to a 2-level model: executive management level and direct business level. Agribank's organizational structure includes the Board of Members, the Supervisory Board, the Executive Board, Departments and Centers at the Head Office, 171 Type I branches; 768 Type II branches; 1,286 transaction offices; 01 Branch in Cambodia; 03 Representative Offices and 03 Public Service Units, 5 subsidiaries, 3,061 ATMs, 81 CDMs, 24,554 POS devices.

2.1.3. Agribank's business performance

2.1.3.1. Mobilize capital

In the period 2017-2022, Agribank's total capital mobilized from customers continues to increase at a fairly stable pace, from VND

1,007,851 billion in 2017 to VND 1,627,736 billion in 2022, an increase of 61.5 billion VND. %. The growth rate of capital mobilization in the period 2017-2022 ranges from 9.5% to 15%. In particular, the period 2017-2022 witnessed strong growth in capital mobilized from economic entities, with the average growth rate of capital reaching over 10%.

2.1.3.2. Credit granting activities

Table 2.3. Loans to Agribank customers (2017 – 2022)

Unit: billion VND

Indicators	2017	2018	2019	2020	2021	2022
Loans to domestic economic entities and individuals	867.791	996.288	1.114.369	1.205.731	1.308.403	1.438.212
Discount loans for commercial papers and valuable papers	523	618	569	502	521	450
Payments on behalf of customers	153	31	46	130	71	62
Loans using sponsored capital, investment trust	6.968	6.907	5.999	5.510	5.187	4.509
Loans to foreign organizations and individuals	19	20	8	6	10	23
Loans as directed by the Government	784	707	909	745	27	7
Total	876.237	1.004.571	1.121.900	1.212.624	1.314.218	1.443.263

Source: Agribank's financial statements (2017-2022)

Agribank's credit activities in the period 2017-2022 will have outstanding growth, from VND 867,237 billion in 2017 to VND 1,443,263 billion in 2022, an increase of 64.71% respectively. Agribank's bad debt ratio in the period 2017-2022 tends to fluctuate during the research period, decreasing in the period 2017-2019; increase between 2019 and 2021 and then decrease slightly in 2022.

Table 2.4. Loan proportion by debt quality (2017-2022)

Unit: %

Indicators	2017	2018	2019	2020	2021	2022
(1) Qualified debt	94,44	95,06	95,46	95,74	95,74	95,75
(2) Debt needs attention	3,44	3,34	2,97	2,48	2,32	2,44
(3) Substandard debt	0,54	0,31	0,28	0,23	0,27	0,27
(4) Doubtful debt	0,26	0,37	0,17	0,20	0,26	0,22
(5) Debt has the possibility of capital loss	1,31	0,92	1,11	1,35	1,41	1,32
Total	100	100	100	100	100	100
NPL ratio	2,12	1,60	1,56	1,78	1,94	1,81

Source: Agribank's financial statements (2017-2022)

2.1.3.3. Other service provision activities

Table 2.7. Revenue from Agribank's service activities (2017-2022)

Unit: million VND

Indicators	2017	2018	2019	2020	2021	2022
Revenue from payment services	3.423.726	4.123.947	4.921.742	5.335.021	5.328.549	5.501.666
Revenue from treasury services	165.931	209.428	257.668	285.739	192.582	143.583
Revenue from entrustment and agency operations	208.535	253.295	298.546	348.839	359.176	411.801
Revenue from consulting services	117.722	96.952	2.518	25.536	15.103	10.322
Other revenue	291.438	369.187	541.845	538.226	991.194	1.026.380
Total revenue from service activities	4.207.352	5.052.809	6.022.319	6.533.361	6.886.604	7.093.752

Source: Agribank's financial statements (2017-2022)

2.1.3.4. Business performance results

In the 5-year period from 2017 to 2022, Agribank's total assets have changed significantly. Specifically, total assets in 2017 was 1,151,948 billion VND and by 2022, it would reach 1,873,685 billion VND, equivalent to an increase of more than 1.6 times. Agribank's profits

fluctuated in the period 2017-2022, with a rapid increase in the period 2017-2019; decline in 2020 due to the impact of the Covid-19 pandemic and recovery in 2021-2022.

Table 2.9. Agribank's business results 2017-2022

Unit: billion VND, %

Indicators	2017	2018	2019	2020	2021	2022
Total assets	1.151.948	1.281.597	1.451.426	1.566.967	1.694.320	1.873.685
Growth in Total Assets	-	11,25	13,25	7,96	8,13	10,59
Equity	53.691	56.707	67.618	71.417	73.865	84.500
Growth in Equity	-	5,62	19,24	5,62	3,43	14,40
Profit before tax	5.066	7.552	13.804	12.966	14.582	22.087
Profit after tax	4.061	6.048	11.048	10.383	11.675	17.680

Source: Agribank's financial statements (2017-2022)

2.2. CURRENT STATUS OF AGRIBANK'S FINANCIAL RESTRUCTURING

2.2.1. Current status of financial restructuring of Vietnam Bank for Agriculture and Rural Development according to financial indicators

2.2.1.1. Current status of Agribank's financial restructuring according to criteria on financial situation and capital adequacy ratio

Agribank's financial restructuring process is associated with the implementation of the goals of the project "Restructuring the system of credit institutions associated with handling bad debts in the period 2016 - 2020" by the Government. promulgate. On that basis, Agribank continues to build and implement financial restructuring for the next period (2020 - 2025). Agribank's financial restructuring process is associated with the following goals: (1) Enhance financial capacity associated with increasing capital and improving the quality of equity capital; (2) Control credit quality, reduce bad debt, improve asset quality, proactively and synchronously deploy solutions to handle bad debt.

Table 2.11. Agribank's financial situation 2017-2022

Unit: billion VND, %

Indicators	2017	2018	2019	2020	2021	2022
Authorized capital	30.355	30.473	30.591	30.710	34.328	34.447
Owner equity	53.691	56.707	67.618	71.417	73.865	84.500
Equity capital	-	-	-	103.264	110.417	114.502

Total asset	1.151.948	1.281.597	1.451.426	1.566.967	1.694.320	1.873.685
Profit after tax	4.061	6.048	11.048	10.383	11.675	17.680
ROA	0,35	0,47	0,76	0,66	0,69	0,94
ROE	7,56	10,66	16,34	14,54	15,81	20,92

Source: Agribank's financial statements (2017-2022)

Compared to the scale of business operations, growth rate of total assets and requirements to ensure operational safety ratios according to regulations of the State Bank, moving towards Basel II standards, Agribank's charter capital and equity capital still lower than the requirement. Implementing the restructuring project, Agribank has developed a plan to improve financial capacity and submit it to the State Bank of Vietnam and the Ministry of Finance for approval to be implemented in the next phase.

Table 2.12. Some operational safety ratios of Agribank (2017-2022)

Unit: %

Indicators	2017	2018	2019	2020	2021	2022
Liquidity reserve ratio	13,1	14,0	15,8	15,2	15,6	16,6
Ratio of short-term capital to medium and long-term loans	31,9	30,3	29,6	27,4	25,74	25,18
Minimum capital adequacy ratio	10,2	9,54	9,2	10,5	10,5	10,6
Ratio of outstanding loans to total deposits	87,7	89,9	88,3	83,3	82,99	82,83

Source: Agribank's financial statements (2017-2022)

In general, the ratios to ensure the operational safety of commercial banks are well complied with by Agribank according to the instructions of Circular 36/2014/TT-NHNN and Circular 29/2019/TT-NHNN. By December 31, 2022, Agribank's operating limits and safety ratios will ensure compliance with the State Bank's regulations.

Agribank also adjusted its credit portfolio, continued to restructure assets, limited credit to loans in the high risk factor group, and prioritized credit for loans in the low risk group. low risk coefficient, while completing and promulgating internal regulations and processes. Agribank continuously organizes training and guidance conferences and directs branches to review and supplement information and input data on the system to ensure accurate data.

2.2.1.2. Current status of Agribank's financial restructuring according to the ratio of equity capital to a number of assets and capital sources

To make a preliminary assessment of Agribank's financial structure, the researcher calculated the main criteria including EQA (Total Equity/Total Assets); EQD (Total Equity/Total Liabilities); EQL (Total

equity/Total loan balance) and EQS (Total equity/Total customer deposits) are as shown in the table below:

Table 2.13. Criteria for evaluating Agribank's financial structure

Indicators	2017	2018	2019	2020	2021	2022
EQA	0,047	0,044	0,047	0,046	0,044	0,045
EQD	0,049	0,046	0,049	0,048	0,046	0,047
EQL	0,061	0,056	0,060	0,059	0,056	0,059
EQS	0,053	0,051	0,053	0,051	0,048	0,052

Source: Agribank's financial statements (2017-2022)

In the period 2017-2022, the EQA, EQD, EQL and EQS indexes all have quite low values, with insignificant fluctuations. From there, it can be seen that Agribank's business activities are fraught with potential risks, and the fact that equity is too low is a barrier to the bank's development.

2.2.2. Current status of financial restructuring of Vietnam Bank for Agriculture and Rural Development according to data envelopment analysis method

To clarify the current situation of Agribank's financial restructuring, the researcher conducted an assessment of Agribank's financial restructuring results based on comparison with other banks. Data envelopment analysis (DEA) method is applied to data collected from 2018 - 2022 including: 2175 observations of 29 research samples (29 Vietnamese commercial banks).

2.2.2.1. Research data and data collection methods

a. Research data:

The data source is collected from the annual reports of commercial banks, including 29 commercial banks including state-owned commercial banks and joint stock commercial banks.

b. Data processing:

Data of 29 commercial banks in a time series of 5 years from 2018-2022 has created a data table from two components: cross-sectional data and time-series data including 2175 observations. Combining two types of data into a data table structure facilitates the processing and analysis process, especially when observing and analyzing fluctuations in research groups or analyzing differences between groups of research subjects. research target groups. From the collected secondary data, the researcher entered it all into Excel software to calculate additional variables of the research model, then concentrated it in a single spreadsheet. After that, the data according to the output and input variables of each model for each year are included in the calculation by an automation tool written in VBA (visual basic for application), then, the results of the data analysis

are analyzed. Data is calculated using the Solver tool, automated using VBA.

2.2.2.2. Research results

a. Evaluating Agribank's financial restructuring in association with risk control and business efficiency goals

Table 2.17. The commercial bank group has the best financial restructuring results according to the DEA1 model

2018	2019	2020	2021	2022
Vietcombank	Vietcombank	Vietcombank	Vietcombank	Vietcombank
VietinBank	VietinBank	VietinBank	VietinBank	VietinBank
Bac A Bank	ACB	ACB	BAOVIET Bank	BAOVIET Bank
Kienlongbank	Kienlongbank	GPBank	Kienlongbank	Kienlongbank
LPBank	Nam A Bank	Kienlongbank	NCB	PG Bank
MB	NCB	Nam A Bank	PG Bank	SAIGONBANK
Nam A Bank	OCB	PG Bank	SAIGONBANK	Techcombank
NCB	PG Bank	SAIGONBANK	Techcombank	GPBank
OCB	SAIGONBANK	Techcombank	Vietbank	
PG Bank	Techcombank	TPBank	GPBank	
SAIGONBANK	TPBank	Vietbank		
Techcombank	VPBank	BAOVIET Bank		
TPBank	GPBank			
Vietbank				
GPBank				
VPBank				

Source: Author's research

In the period 2018 - 2022, Agribank is mainly in the group of commercial banks with average results (years 2019, 2021, 2022). In 2018, Agribank ranked last in the group with the lowest results as well as overall, this result reflects Agribank's difficult period when the bank has just completed a 5-year restructuring period.

Table 2.18. Results of grouping and ranking Agribank's financial restructuring process from 2018-2022 according to the DEA1 model

Year	Group	Estimated score	Rank within group	Over all ranking
2018	Poor performance	0,22	2/2	29/29
2019	Average performance	0,42	4/13	27/29
2020	Good performance	0,74	8/10	20/29
2021	Average performance	0,56	5/13	23/29
2022	Average performance	0,38	12/13	27/29

Source: Author's research

After 2018, the grouping and ranking results of Agribank's financial restructuring process gradually increased, reaching the best results in 2020, then gradually decreasing until 2022. This result can be explained. Thanks to good business results in 2020: Agribank leads the market in mobilizing residential deposits and credit, most of which are individual customers. Calculated on the scale of units, Agribank owns 3,733 thousand loans, among the banks with the most loans. Loans with a scale of less than 50 million are 337 thousand units. In addition, in 2020, Agribank had 18 million deposit customers; Of which, the size of deposits under 100 million VND for each savings book is 15,280 thousand customers. Residential deposits account for 81% of total deposits, the remaining 19% are from organizations, therefore, Agribank's capital source in this period's financial structure is quite stable and hardly affected by fluctuations. market interest rates. 2020 is also the year of growth in revenue and profit for Agribank with service fee revenue reaching VND 7,109 billion, and Agribank also recorded a large income from bad debt handling despite being strongly affected by the floods in the Central region. and the Covid-19 pandemic. However, despite being classified mainly into groups of commercial banks with average and good financial restructuring results, the rankings within the groups and the rankings in the overall research sample of Agribank according to the DEA1 model are still not high yet.

Table 2.19. Estimate the results of financial restructuring of commercial banks associated with risk control and business efficiency goals

DMUs	DEA2-2018	DEA2-2019	DEA2-2020	DEA2-2021	DEA2-2022
ABBANK	0,73	0,90	0,82	0,83	0,79
ACB	0,87	1,00	1,00	0,81	0,62
AGRIBANK	0,22	0,42	0,74	0,56	0,38
Bac A Bank	1,00	0,97	0,87	0,65	0,69
BAOVIET Bank	0,99	0,99	1,00	1,00	1,00
BIDV	0,82	0,74	0,52	0,37	0,29
Eximbank	0,27	0,38	0,42	0,44	0,45
GPBank	1,00	1,00	1,00	1,00	1,00
HDBank	0,97	0,94	0,54	0,74	0,71
Kienlongbank	1,00	1,00	1,00	1,00	1,00
LPBank	1,00	0,65	0,69	0,53	0,57

MB	1,00	0,99	0,86	0,63	0,61
MSB	0,68	0,77	0,67	0,71	0,64
Nam A Bank	1,00	1,00	1,00	0,84	0,87
NCB	1,00	1,00	0,96	1,00	0,90
OCB	1,00	1,00	0,88	0,68	0,62
PG Bank	1,00	1,00	1,00	1,00	1,00
PVcomBank	0,55	0,39	0,36	0,35	0,35
Sacombank	0,53	0,49	0,52	0,63	0,57
SAIGONBANK	1,00	1,00	1,00	1,00	1,00
SeABank	0,68	0,49	0,56	0,44	0,46
SHB	0,74	0,86	0,67	0,50	0,42
Techcombank	1,00	1,00	1,00	1,00	1,00
TPBank	1,00	1,00	1,00	0,92	0,64
VIB	0,85	0,87	0,77	0,91	0,80
Vietbank	1,00	0,85	1,00	1,00	0,73
Vietcombank	1,00	1,00	1,00	1,00	1,00
VietinBank	1,00	1,00	1,00	1,00	1,00
VPBank	1,00	1,00	0,91	0,89	0,70

Source: Author's research

b. The current status of Agribank's financial restructuring is associated with the goals of risk control, business efficiency and implementation of plans to increase equity capital.

Different from the DEA1 model, the financial restructuring situation of Agribank and commercial banks according to the DEA2 model uses additional output variables which are indicators reflecting the ratio of equity size to a number of asset items. , capital sources (EQA, EQD, EQL, EQS). In this model, adding those 4 indicators to the output variables aims to consider the results of implementing the goal of increasing equity of Agribank and commercial banks when evaluating financial restructuring, not just considering consider profit as the only output as in the DEA1 model. According to research results, the group of commercial banks with Agribank financial restructuring results associated with the goals of risk control, business efficiency and implementation of the best equity increase plan for the period 2018 - 2022. Details are as follows.

Table 2.20. The commercial bank group has the best financial restructuring results according to the DEA2 model

2018	2019	2020	2021	2022
Vietcombank	Vietcombank	Vietcombank	Vietcombank	Vietcombank
VietinBank	VietinBank	VietinBank	VietinBank	VietinBank
Kienlongbank	Kienlongbank	ACB	Kienlongbank	Kienlongbank
MSB	MSB	Kienlongbank	NCB	MSB
PVcomBank	SAIGONBANK	Nam A Bank	Sacombank	SAIGONBANK
SAIGONBANK	Techcombank	SAIGONBANK	SAIGONBANK	Techcombank
Techcombank		Techcombank	Techcombank	VPBank
Vietbank		Vietbank	Vietbank	

Source: Author's research

Bảng 2.21. Results of grouping and ranking Agribank's financial restructuring process from 2018-2022 according to the DEA2 model

Year	Grouping	Rank within the group	Rank within the research sample
2018	Poor performance	1/6	29/29
2019	Poor performance	1/6	27/29
2020	Poor performance	2/6	20/29
2021	Poor performance	2/6	23/29
2022	Poor performance	2/6	27/29

Source: Author's research

Table 2.22 . Estimate the results of financial restructuring of commercial banks associated with the goals of risk control, business efficiency and implementation of plans to increase equity capital.

DMUs	DEA1-2018	DEA1-2019	DEA1-2020	DEA1-2021	DEA1-2022
ABBANK	0,53	0,67	0,51	0,59	0,59
ACB	0,57	0,83	1,00	0,81	0,36
AGRIBANK	0,06	0,15	0,24	0,19	0,11
Bac A Bank	0,91	0,82	0,87	0,65	0,69
BAOVIET Bank	0,76	0,73	0,59	0,73	0,65
BIDV	0,19	0,23	0,18	0,13	0,09
Eximbank	0,25	0,32	0,31	0,40	0,34
GPBank	0,87	0,91	0,82	0,82	0,93
HDBank	0,64	0,59	0,40	0,74	0,64
Kienlongbank	1,00	1,00	1,00	1,00	1,00

LPBank	0,82	0,38	0,42	0,35	0,25
MB	0,63	0,64	0,66	0,48	0,47
MSB	1,00	1,00	0,63	0,68	1,00
Nam A Bank	0,58	0,79	1,00	0,43	0,33
NCB	0,82	0,81	0,95	1,00	0,73
OCB	0,89	0,71	0,69	0,64	0,74
PG Bank	0,87	0,91	0,82	0,80	0,93
PVcomBank	1,00	0,39	0,33	0,28	0,22
Sacombank	0,47	0,28	0,24	1,00	0,25
SAIGONBANK	1,00	1,00	1,00	1,00	1,00
SeABank	0,41	0,34	0,32	0,34	0,35
SHB	0,38	0,39	0,28	0,21	0,20
Techcombank	1,00	1,00	1,00	1,00	1,00
TPBank	0,70	0,76	0,77	0,62	0,55
VIB	0,76	0,58	0,44	0,62	0,44
Vietbank	1,00	0,81	1,00	1,00	0,40
Vietcombank	1,00	1,00	1,00	1,00	1,00
VietinBank	1,00	1,00	1,00	1,00	1,00
VPBank	0,85	0,74	0,71	0,77	1,00

Source: Author's research

2.3. AGRIBANK FINANCIAL RESTRUCTURING EVALUATION

2.3.1. These achievements

Firstly, Agribank has established a specialized department to plan changes to the bank's financial structure.

Second, Agribank has made many efforts in the process of recovering bad debts.

Third, equity is increased annually by annual retained profits.

Fourth, Agribank continues to maintain its position as the leading bank in capital mobilization market share and plays a role in guiding mobilization interest rates in the market.

Fifth, Agribank's mobilized capital structure has changed in a positive direction, increasing the proportion of capital sources from economic entities.

2.3.2. Limitations and reasons

Firstly, the process of increasing equity is still slow, not commensurate with the growth rate of total assets, loan balance and the

bank's capital mobilization scale. The subjective reason leading to this limitation is that Agribank cannot proactively increase its charter capital at a speed consistent with development and competition requirements. The objective reason leading to this situation is the increasingly fierce competition in the Vietnamese banking market combined with the impact of the economic recession due to the Covid-19 pandemic, which has caused Agribank's business results to decline. good as planned.

Second, Agribank's bad debt ratio is still quite high, there are many risks for the bank. Subjective reasons: (1) Agribank's credit risk management model still has some inadequacies; (2) The number of employees is large and uneven, the quality of human resources is limited in terms of qualifications and transaction style, leading to the bad debt management process in many branches in many localities being not good; (3) Agribank's application of the internal credit rating system is not really effective. Objective reasons: (1) Agribank is a bank that helps the State implement agricultural and rural policies; (2) During the 2020-2022 period, the Covid-19 pandemic became complicated, making production and business activities of many customers difficult, with no revenue source to repay debt to banks.

Third, Agribank's capital mobilization sources are not yet diversified. Agribank still mainly mobilizes capital from the urban market rather than the rural market. Subjective reasons: (1) Capital mobilization products meet customer requirements, cross-selling skills are weak, and "product packages" have not been created; (2) Agribank's marketing work to mobilize capital is still ineffective; (3) Information technology in supporting capital mobilization activities is still inadequate. Objective reasons: (1) Fluctuations in the world economy and Vietnam's economy in the period 2017-2022 directly affect Agribank's results and capital mobilization goals; (2) Financial policies and laws in general, especially the capital mobilization work of commercial banks in recent years, lack stability; (3) Fierce competition from other credit institutions in the economy; (4) Vietnam's financial market is still underdeveloped, which makes it difficult for banks to diversify capital mobilization channels.

SUMMARY OF CHAPTER 2

Chapter 2 of the thesis analyzed the current state of Agribank's financial structure, evaluating Agribank's financial restructuring results on the basis of comparison with other commercial banks using 2 data envelopment analysis models DEA1 (evaluation). financial restructuring associated with safety goals and business efficiency) and DEA2 (assessment of financial restructuring to ensure safety goals, business

efficiency and implementation of plans to increase equity capital) . Agribank's financial restructuring results are still quite low when compared to other commercial banks. The main reason is because Agribank is facing many problems in raising equity capital and equitizing the bank.

CHAPTER 3: AGRIBANK FINANCIAL RESTRUCTURING SOLUTIONS

3.1. AGRIBANK FINANCIAL RESTRUCTURING STRATEGY UNTIL 2030

3.1.1. Agribank development orientation until 2030

First, be steadfast in the goal of "Tam Nong" associated with Agribank's mission from the first day of establishment.

Second, Focus on digital transformation to build Agribank into a modern and integrated bank.

Third, Agribank is determined to maintain its position as a commercial bank playing a key role in Vietnam.

Fourth, Build a dynamic and creative Agribank system to adapt to socio-economic fluctuations in new integration conditions.

Fifth, Complete the organizational model, management and administration, towards international standards.

Sixth, Improve productivity and quality of human resources.

3.1.2. Agribank's financial restructuring strategy

Firstly, change the equity structure in the direction of gradually reducing the State's share ownership ratio, ensuring that enterprises are dominated by State capital; strive to have at least 01 reputable foreign strategic shareholder in the market.

Second, Focus on building diverse capital mobilization products and services.

Third, Develop relationships with ministries and branches to access and attract sources of funding and investment trust capital.

Fourth, Strengthen international business expansion.

Fifth, Increase operational efficiency by properly restructuring assets and liabilities.

Sixth, Gradually reduce the implementation of policy functions; Diversify credit structure according to industries, fields and customers

3.2. AGRIBANK FINANCIAL RESTRUCTURING SOLUTIONS

3.2.1. Solutions to increase equity capital to ensure capital safety goals and financial restructuring

The biggest cause of limitations in Agribank's financial restructuring process is the slow increase in equity capital. This problem leads to a

series of other limitations, typically Agribank's failure to meet the capital adequacy ratio during the research period.

The author has built hypothetical data of 29 commercial banks according to each bank's business plan and growth target by 2024 (corresponding to the time of completion of Agribank's capital increase). For each of Agribank's hypothetical capital increase options, the bank's net profit is estimated according to the principle of diminishing returns. After that, the researcher used the DEA2 model to evaluate options for increasing Agribank's charter capital. The results showed that increased charter capital positively affected the results of financial restructuring. The amount of charter capital increase for the best financial restructuring results is 35,500 billion VND. The plan to increase capital more than this amount begins to have a negative impact on Agribank's financial restructuring results. The 3 capital raising options selected are illustrated as follows:

Table 3.1. Estimated score of Agribank's financial restructuring results according to plans to increase charter capital

Indicators	Plan to increase charter capital (billion VND)		
	<i>17.100</i>	<i>35.500</i>	<i>49.300</i>
Estimated point	0,58	0,61	0,52
Grouping	Average	Average	Average
Rank within the group	7/13	6/13	8/13
Overall rating	22/29	21/29	23/29

Source: Author's research

All three options for increasing charter capital do not significantly change Agribank's ranking and grouping results. The capital increase amount of 35,500 billion VND gives an estimated score, ranking Agribank's best financial restructuring results. The amount of capital increase greater than 35,500 billion VND begins to have a negative impact on the results of financial restructuring. The reason is that the rate of equity growth is higher than other financial structure indicators, in addition, the profit margin is also decreasing, so output variables increase slower than input variables.

Therefore, to achieve the goals of capital adequacy ratio, increase profits, increase state budget payments... as well as achieve better results with the goal of financial restructuring, the author proposes solutions to increase charter capital. By 2024, Agribank's value will be higher than

17,100 billion VND, with more money giving better results, up to a maximum of 35,500 billion VND.

3.2.2. Solution group to improve asset quality

- Strengthen bad debt handling
- Credit growth is consistent with management ability, actively supporting economic growth, associated with improving credit quality
- Improve investment efficiency

3.2.3. Credit risk control solution group

- Completing the internal credit rating system according to Basel II standards
- Complete the organizational model in compliance with corporate governance principles
- Build an updated, effective and reliable customer information system

3.2.4. The solution group perfects the organizational structure and improves management and operating capacity

- Restructuring branch operations
- Transform the business model from depending on credit activities to a multi-service business model
- Improve management capacity and transparency in operations
- Handle existing problems through inspection, testing and auditing
- Modernize information technology systems
- Strengthen marketing and communication activities

3.2.5. Solution group to improve capital mobilization efficiency

- a. Improve the efficiency of capital mobilization and balancing activities
- b. Diversify capital mobilization products
- c. Expanding capital mobilization objects

SUMMARY OF CHAPTER 3

Chapter 3 proposed a number of solutions to restructure Agribank's operations and finances and some recommendations to the Government, the State Bank, and relevant Ministries and Departments to facilitate the process. Operational restructuring and financial restructuring at Agribank.

CONCLUDE

Financial structure is the combination of capital sources that commercial banks use to finance their business activities. Building and maintaining an appropriate financial structure to help ensure capital

safety and business efficiency of commercial banks is an important task for every bank. During the operation of commercial banks, due to subjective and objective factors, leading to imbalances in the financial structure, which can affect capital safety or business performance of the bank. Require commercial banks to conduct financial restructuring. Financial restructuring is the process of fundamentally changing the financial structure of commercial banks to establish a financial structure suitable for each stage of the bank's development as well as changes in the business environment in order to achieve the goal of ensuring capital safety and improving the bank's business efficiency. Thus, it can be seen that financial restructuring is considered an important content in the long-term financial strategy of commercial banks.

The thesis has proposed a method to evaluate the financial restructuring of commercial banks on the basis of comparing the financial restructuring results of Agribank with other commercial banks, using a data envelopment analysis model, thereby analyzing the real Status of 2 stages of the financial restructuring process at Agribank: assessing the current state of the financial structure and evaluating the results of financial restructuring. The researcher hopes that his research method will be a suggestion for commercial banks in evaluating and clarifying the financial restructuring process; as well as becoming a reference for related training programs.

LIST OF PUBLISHED WORKS RELATED TO THE THESIS

1. Nguyen Quoc Viet (2020), Vietnam's private economy: growth dynamics and new expectations, Kỷ yếu hội thảo “Finance - accounting for promoting sustainable development in private sector (FASPS 2020)”.
2. Nguyen Quoc Viet (2021), Nâng cao năng lực tài chính của các Ngân hàng thương mại Việt Nam, Tạp chí nghiên cứu tài chính kế toán, số tháng 2/2021.
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4. Nguyen Quoc Viet (2022), Experience in restructuring commercial banks of Countries around the world and lessons for Vietnamese commercial banks, Kỷ yếu hội thảo “Finance and Accounting for The Promotion of Sustainable Development in Private Sector (FASPS-4)”.
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