

**MINISTRY OF GOVERNMENT AND TRAINING
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SUMMARY OF DOCTORAL THESIS

**IMPROVING CREDIT QUALITY AT VIETNAMESE JOINT
STOCK COMMERCIAL BANKS**

Major: Finance - Banking

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INTRODUCTION

1. Rationale of the thesis

As a special type of for-profit organizations, commercial banks are regarded as the most important financial intermediaries of any financial market. Among the various functions of commercial banks, lending ranks among the most fundamental and essential business activities. Along with the growing trend for integration of the global economy and the development of the country, people's living standards have been considerably improved, which mirror the increase in spending capacity and consumption demand. Responding to this higher demand by consumer, businesses have increased their production level which in turn accelerates the demand for credit services. Effective credit management and credit quality control are fundamental to meeting the customers' loan demands, boosting revenue while limiting the risks at the minimum level.

Although credit activities generate an important stream of revenue for banks, they are inherently associated with a high level of risks. Therefore it is imperative that bank pay adequate attention to credit quality management issues including credit safety, loan effectiveness and sustainable development of the bank. The role of credit quality in the growth of banks cannot be overstated. Higher credit quality means lower risk exposure in banking activities and a higher level of competitiveness for the commercial bank in the financial market. Therefore, a study in finding measures to improve credit quality in the context of international economic integration and the technology revolution 4.0 has profound implications for joint stock commercial banks.

These considerations have prompted the PhD student to choose the topic: "*Improving the credit quality at Vietnamese joint stock commercial banks*" for her doctoral thesis.

2. Overview of research on credit quality management

There has been an extensive body of research on the issue of credit quality management by scholars, economists and policymakers in Vietnam and abroad with regards to a number of theoretical and practical issues. An overview of those studies is presented in the following section.

2.1 Domestic research works on credit quality management

The authors Nguyen Van Tien (2015), Nguyen Dang Don (2010), Nguyen Minh Kieu (2012) provided an assessment of credit quality in commercial banks and credit quality analysis criteria, including qualitative and quantitative indicators. Among these indicators, the set of qualitative indicators reflects customers' performance and the bank's credit management activities. The set of quantitative criteria includes indicators such as: overdue debts, bad debts, profitability from credit activities, capital efficiency, provision and credit risk limitations, risk diversification, setting capital adequacy ratio.

The studies by authors Tran Van Du (2010), Nguyen Thi Thu Dong (2012), Ha Thi Mai Anh (2015), Nguyen Van Tuan (2015), etc. established a set of criteria to evaluate credit quality in commercial banks for the new era of global integration, including quantitative indicators showing the financial capacity of commercial banks; their credit safety levels as well as qualitative indicators which reflect their credit management capacity, customer satisfaction level with the banks' financial services. At the same time, the studies also pinpoint the factors affecting credit quality such as credit policy; screening process and regulations; organizational issues; human resource quality, governance capacity; technology; Credit information; Internal inspection and control; capital mobilization, etc.

Other authors including Nguyen Thi Nhu Thuy (2015), Nguyen Van Thanh (2015), Nguyen Duc Tu (2012), Le Thi Huyen Dieu (2007), etc., focus on the issue of credit quality as part of the overall strategies for managing credit risk, bad debt, lending efficiency, improvement of business operations, etc.

In addition, a number of relevant conferences such as National Science Conference (2017) on "Application of Basel 2 in risk management of Vietnamese commercial banks: opportunities, challenges and implementation roadmap" at National Economy University. The results of the studies presented at the conference showed that: the majority of banks have established Basel 2 Project Management Committees; the overall capital adequacy ratio of the banking system was higher than 10% (exceeding the required level of 9% but still falling short of other countries in the region); commercial banks have made strides in further improving the risk management system despite the fact that bad debts remain an imminent threat to the stability of the banking system. Furthermore, there exist considerable

discrepancies in accounting principles and information disclosure requirement between Vietnam and the international standard. Notable challenges in the implementation of Basel 2 standard identified in the studies include: human resources, equity capital growth, establishment of database systems and implementation costs in applying Basel 2 standard at commercial banks.

2.2 Foreign research works on credit quality management

- A. Burak Guner (2007) studied the relationship between lending opportunities and credit quality, credit portfolio analysis. The author pointed out that the more diversified a bank's credit portfolio is, the higher the level of risk diversification can be achieved, leading to improved credit quality. The author also stated that the rigor of credit standards is dependent upon the external factors including potential borrowers. The study was conducted with regards to general credit standards of banks in western countries

- In Faiçal Belaid 's 2014 study on credit quality, the author focuses on researching the impact of the internal factors of Tunisian banks such as: management capacity, cost effectiveness, the size of equity capital, credit growth and profitability on credit quality. The independent variables are the GDP growth rate and the characteristics of corporate customers which affect the quality of credit activities. The author conducted a study on 9000 businesses that were customers of the 10 largest banks in Tunisian - Switzerland from 2001 to 2011. The research results showed that banks which had ineffective cost structure, low equity capital, and large discrepancy in service delivery also experienced low credit quality. GDP growth and customer characteristics are important when assessing banks' credit quality.

- Laivi Laidroo, Kadri Mannasoo (2017) studied credit commitments that affect credit quality. The authors focused on analyzing the risks arising from credit growth and off-balance sheet credit commitments with the potential to grow excessively. Credit quality was investigated both in a macro and micro context, through a survey of 28 European countries in the 2004-2014 period and a survey of 478 European banks in the 2004-2013 period. The dynamic panel data estimation results confirm that an increase in the ratio of credit commitments to total assets is a warning indicator of growth in the ratio of non-performing loans and loan loss reserves. Simultaneous equation estimation illustrates the adverse effect of credit commitments on credit quality stems from the credit boom scenario. The economic

impact of credit commitments to credit quality is significant compared to that of traditional credit quality indicators (real GDP growth and real growth in loans).

2.3 Gap in previous studies

Through a broad overview of previous studies, the PhD student found that there exist several gap in the body of research related to improving credit quality in commercial banks:

Regarding theoretical research:

Studies on improving credit quality based on theoretical frameworks have not been systematic and reflected a current picture of credit quality situations at commercial banks in the modern era, especially during the period the State Bank of Vietnam is implementing the roadmap for meeting Basel 2 Accord.

Regarding empirical research

Firstly, previous studies on credit quality within commercial banks mainly involve the following issues: credit growth, credit efficiency, credit risk, bad debt management, etc. in various specific areas that the banks provide finance such as export-import activities, international payments, loans for small and medium enterprises, etc.

Secondly, the majority of the previous studies focused on credit quality at just a specific commercial bank or in a specific region such as Hanoi, Ho Chi Minh City, Da Nang, etc. However, there has not been a comprehensive research project on the overall improvement of credit quality in Vietnam commercial joint stock banks, especially in the period from 2014 - 2018. This is a group of banks that are in urgent need for restructuring to ensure the security of the national financial system.

Thirdly, from different research perspectives, the previous studies have established quantitative research models on the factors affecting credit quality at commercial banks. However, due to discrepancy in the time frame and geographical locations, as well as in the macroeconomic environment; the direction and extent of impact of the factors may no longer apply in today's context of joint stock commercial banks in Vietnam from 2014 to 2018. Therefore, it is necessary to build a new research model to better reflect the current situation of joint stock commercial banks in Vietnam.

Finally, solutions to improve credit quality of commercial banks need to be suitable to the specific period of the banking system's operation, in accordance to the changes in socio-

economic environment. The previous research projects also proposed a number of solutions to improve the credit quality at commercial banks. However, these measures are not comprehensive and relevant to the bloc of joint stock commercial banks in Vietnam as they were put forward in other historical periods. The system of joint stock commercial banks in Vietnam from 2014 to 2018 is very diverse in terms of ownership, development level, human resources, financial capacity and technology.

By reviewing and selecting the relevant ideas and theories from the previous studies, the PhD student found that there has not been a research project with proper focus on improving credit quality at joint stock commercial banks in Vietnam. With the above analysis, the research topic of the thesis is topical and has great implications in both theory and practice. As the research scope is more expansive and specific, there is no overlap with the object and scope of the previous works. As a matter of fact, the issue of improving credit quality is still an urgent one with many emerging matters requiring research and proper assessment against the backdrop of increasing credit risk. The aforementioned "gaps" in the literature have provided the author new research directions in the implementation of this thesis.

3. Research objectives and tasks

3.1 Objectives of the study: The study aims to propose some solutions to improve credit quality at Vietnamese joint stock commercial banks

3.2 Research tasks: Summarizing and systematizing theoretical frameworks on credit quality management at commercial banks; evaluating the situation of credit quality of Vietnamese joint stock commercial banks from 2014 to 2018; proposing feasible and scientifically based solutions to improve credit quality of Vietnamese joint stock commercial banks by 2030.

3.3 Research questions

- What is credit quality? What factors affect credit quality at commercial banks? What are the criteria for assessing credit quality?

- What is the situation of credit quality at Vietnamese joint stock commercial banks from 2014 - 2018? How are the factors affecting credit quality at Vietnamese joint stock commercial banks from 2014 to 2018 evaluated?

- What are the solutions to improve credit quality at Vietnamese joint stock commercial banks up to 2030?

4. Research subject and scope

4.1 Subject of the study: The thesis focuses on credit quality in credit activities of joint stock commercial banks in Vietnam.

4.2 Scope of the study

4.2.1 Research location

The thesis studies credit quality at 31 Vietnamese joint stock commercial banks in the 2014 - 2018 period, with detailed analyses on data from 15 banks, namely: BIDV, Vietinbank, Vietcombank, Techcombank, MB, SHB, ACB, TPBank, Lietvietpostbank, Maritimebank, VPBank, VIB, HDBank, Sacombank, EximBank.

4.2.2 Research duration

The data analysis of the thesis mainly focus on the period from 2014 - 2018. In several figures, the author may narrow the time frame to just the year 2018 to illustrate some noteworthy data items. In 2019, the author aggregates data and information to conduct an overall analysis and evaluation of main research issues. Solutions, proposals and recommendation are intended for implementation up to 2030.

5. Research methods: scientific methods, statistics, comparative analysis, data synthesis, logical reasoning and data collection.

6. New contributions of the thesis

6.1 Theoretical contributions

Firstly, the thesis has summarized and clarified a number of theories on credit activities and credit quality of commercial banks, especially evaluation criteria and factors affecting credit quality of commercial banks.

Secondly, the thesis has studied the experience of improving credit quality at a number of foreign commercial banks. From there, the thesis draws valuable lessons for Vietnamese commercial banks on improving credit quality

Thirdly, the thesis has built a quantitative research model including 7 factors affecting credit quality of commercial banks. The new model has led to several findings of the thesis. In particular, the research results show a positive impact of the following factors on credit

quality: credit strategy and policy, organization structure and governance, capacity of credit officers, internal control, information technology, credit risk management. Although these results are consistent with the theory and practice of previously published studies, there are key changes in the extent and order of influence caused by these factors. The thesis also provides quantitative evidence showing the positive effects of the factor "Credit risk management" on credit quality of commercial banks which have not been verified by previous studies.

Fourthly, the thesis analyzes groups of criteria to evaluate credit quality such as the magnitude and growth of loans, as well as the assurance of credit safety.

6.2 Practical contributions

First, the thesis has provided detailed analyses of the current situation of credit quality at Vietnamese joint stock commercial banks according to the established criteria. In particular, by collecting information through surveys at joint-stock commercial banks and quantitative models, the thesis has assessed the credit quality of Vietnamese joint stock commercial banks for the 2014 - 2018 period through influencing factors. The combination of qualitative and quantitative methods is instrumental to increasing the reliability of analyses and assessments on credit quality of joint stock commercial banks during the 2014-2018 period in the thesis. Findings from the thesis are essential for policy makers and commercial banks as there is a lack of detailed and scientifically based analyses on the current situation of credit quality at joint stock commercial banks in Vietnam.

Secondly, regarding the strategy for improving credit quality for Vietnamese joint stock commercial banks up to 2030, the thesis has proposed a number of solutions and recommendations to improve the credit quality of Vietnamese joint stock commercial banks. These solutions and recommendations have followed the theoretical analysis and practical assessment of credit quality of Vietnamese joint stock commercial banks to a certain extent.

7. The structure of the thesis

In addition to the introduction, conclusion, list of published works of the author, list of tables, figures, diagrams, references and appendices, the main content of the thesis is structured into 3 chapters:

Chapter 1: Theoretical framework for credit quality of commercial banks

Chapter 2: Current situation of credit quality at Vietnamese joint stock commercial banks

Chapter 3: Solutions to improve credit quality at Vietnamese joint stock commercial banks

CHAPTER 1

THEORETICAL FRAMEWORK FOR CREDIT QUALITY OF COMMERCIAL BANKS

1.1 Overview of credit activities of commercial banks

1.1.1 Overview of commercial banks

1.1.1.1 Definition of commercial bank.

Commercial bank is a type of bank that performs all banking and other business activities for profit-making purposes.

1.1.1.2 Types of commercial banks

There are several types of commercial banks, including: State-owned commercial banks; Joint-stock commercial bank; Foreign commercial bank

1.1.1.3 Activities of commercial banks

- Capital mobilization activities: Receiving deposits, issuing valuable papers, borrowing capital, equity capital of commercial banks
- Capital use activities: Loans, financial investments, funds
- Banking services

1.1.2 Credit activities of commercial banks

1.1.2.1 Definition of bank loan

- A loan is defined as the arrangement between entities in the economy in which one party transfers the right to use an amount of value (possibly in the form of goods or currency) to another party within a certain time agreed by both parties with the condition that the borrowing party reimburses the amount to the lending party before or when the agreed-upon period expires.

- Bank loan definition: A bank loan is the arrangement between a bank and a customer in which the bank transfers to the customer the right to use an amount of value (in the form of

goods or currency) with the conditions and within a certain period of time agreed upon by both parties with the condition that the customer reimburses the amount to the bank before or when the agreed-upon period expires.

1.1.2.2 Key features of bank loans

- A bank loan, which is based on trust, is the transfer of an asset within a definite period.
- Lending arrangements must be based on the principle of unconditional repayment
- Lending is a potentially high-risk activity for the bank which necessitates purpose-based lending and compliance to relevant regulations.

1.1.2.3 Classification of bank loans

- Classification by loan term: including short, medium and long-term loans
- Classification by currency used: Loans in local currency and foreign currency
- Classification by lending method: Lending by line of credit, lending by lump sum loan, overdraft account, syndicated loan, revolving loan, lending by loan contingency, revolving loan
- Classification by customers: legal entities and natural persons
- Classification by disbursement methods: lump sum payment, discounting valuable documents, bank guarantee, factoring, financial leasing, corporate bond issuance

1.1.2.4 Basic lending process

The lending process consists of several stages: credit record preparation, credit analysis, credit decision making, disbursement, monitoring and debt collection, closing credit contract.

1.2 Credit quality of commercial banks

1.2.1 Definition of credit quality of commercial banks

1.2.1.1 Definition of quality

Quality: is the extent by which for-profit organizations provide goods and services and perform business activities in accordance with the regulations and established standards on customer base, revenues, safety level and profitability while satisfying the interests of involved parties under certain conditions.

1.2.1.2 Definition of credit quality of commercial banks

Credit quality is the extent to which a bank achieves its size, safety and profitability objectives in accordance with current domestic laws and international practices. In addition,

credit quality is a general indicator which reflects the results of lending operations of commercial banks, as well as the capacity to manage credit activities to meet the requirements of revenue growth and risk mitigation, ensuring the bank's capital requirement and profitability.

1.2.2 Criteria for assessing credit quality of commercial banks

In order to have a complete understanding of all the aspects of credit quality in commercial banks, the author of the thesis maintains that it is necessary to analyze the following sets of indicators:

- Indicators on loan size and credit growth, including: outstanding loans, credit growth rate, outstanding loans / asset ratio. This set of indicators is intended to assess whether the bank has achieved the pre-set goals or whether the growth exceeds the allowed level.

- Indicators showing profitability from credit activities, including: net interest margin (NIM), return on total assets (ROA), return on equity (ROE). This set of criteria assesses the bank's ability to provide credit in accordance with customers' demand, to ensure that the customers repay loans on time, to make profits, and to ensure the viability and sustainable development of the bank.

- Indicators reflecting the safety level of credit activities, including: Capital adequacy ratio (CAR), total amount bad debt and bad debt ratio, credit risk provision.

1.2.3 Factors affecting credit quality of commercial banks

- Internal factors: Credit strategies and policies, organizational structure, banking technology, credit information, credit risk management, capacity of credit officers, internal control and governance.

- External factors: customers; economic, social, legal, political, natural environment, industrial revolution 4.0, etc.

1.2.4 The importance of improving the credit quality at commercial banks

- Macro management aspect

- Micro management aspect

1.3 Experience from foreign banks in improving credit quality and lessons learned for joint stock commercial banks in Vietnam

1.3.1 Experience in improving credit quality at commercial banks around the world

- Experience in improving credit quality at Citibank - the USA
- Experience in improving credit quality of Korean commercial banks
- Experience in improving credit quality of Bangkok Bank - Thailand
- Experience improving credit quality of ANZ - Australia

1.3.2 Lessons learned in credit quality improvement for joint stock commercial banks in Vietnam

- Clear assignment of responsibility for personnel involved in credit operations, enhancing accountability.
 - Implementing credit risk management in accordance with international practices
 - Selecting an appropriate model of credit risk management based on specific conditions of each commercial bank.
- Preventing and processing bad debts should be given top priority to clean the balance sheet as well as improve the financial capacity of commercial banks.

CONCLUSION OF CHAPTER 1

With the view of establishing the theoretical framework for the entire thesis, the contents presented in chapter 1 include:

- Definition, basic concept and operation of commercial banks in the economy; the basic theories about credit quality of commercial banks such as: the concept of credit quality of commercial banks. In chapter 1, the concept of credit quality is assessed with regards to commercial banks. The author has pointed out that improving credit quality is essential in the current period.
 - On that basis, the thesis has proposed 3 sets of criteria to assess credit quality including: indicators showing the loan size and credit growth; indicators showing the profitability of credit activities; indicators that reflect the capital adequacy level of credit activities.
 - Factors affecting credit quality include 2 groups: Internal factors (Credit policy, credit process and internal inspection, control, credit rating tools for borrowing customers capital, credit system of commercial banks, organizational structure, quality of the human resources, banking technology); External factors (Macro and micro environment, customers)

- The thesis also summarizes the experience of commercial banks from some countries in improving credit quality, thereby drawing valuable lessons for Vietnamese commercial joint stock banks.

The contents presented in chapter 1 serves as the theoretical foundation for assessing the situation as well as offering solutions to improve credit quality of Vietnamese commercial banks in the following chapters.

CHAPTER 2

CURRENT SITUATION OF CREDIT QUALITY AT VIETNAM JOINT STOCK COMMERCIAL BANKS

2.1 Overview of Vietnam's joint stock commercial banking system

2.1.1 History of establishment and development of Vietnamese joint stock commercial banks

a. Number of Vietnamese joint stock commercial banks

By the end of 2018, the number of Vietnam joint stock commercial banks was 31, including 3 previously state-owned commercial banks, namely: BIDV, Vietcombank, Vietinbank and 28 private commercial banks.

b. Number of branches and transaction offices of Vietnamese joint stock commercial banks

By the end of 2018, the system of joint stock commercial banks in Vietnam included 9,068 branches and transaction offices spread throughout the country. Among which, Vietinbank and BIDV are the banks with the largest transaction networks, accounting for up to 50% of the total number of transaction offices of the whole system.

2.1.2. The total asset of Vietnamese commercial banks

Assets of Vietnamese commercial banks have increased gradually over the years. By the end of 2018, the total assets of Vietnamese commercial banks officially surpassed the VND 11 million level, a gain of 10.62% from the 2017 level.

2.1.3. The total capital of Vietnamese commercial banks

The total charter capital of commercial banks increased steadily over the years from 2014 to 2018, of which 2018 recorded the highest aggregate chartered capital in a 5-year period (VND 476,321 billion).

2.1.4. Characteristics of Vietnamese joint stock commercial banks' operation

First: with regards to the number of years on the market, the majority of joint stock commercial banks were founded later than state-owned commercial banks.

Second: Joint stock commercial banks are mostly small and medium-sized banks except for state-owned commercial banks.

Thirdly, operations of commercial banks are increasingly diversified, but credit activities still provide the main source of income.

2.1.5 Performance of joint stock commercial banks in Vietnam from 2014 - 2018

2.1.5.1 Capital mobilization activities: Deposit mobilization of Vietnamese commercial banks experienced a slowdown with the decrease of credit growth. In 2018, deposit mobilization growth reached 12.1%, which was lower than in 2017 (15.2%).

2.1.5.2 Lending activities: The impact strict fiscal policy that limits credit growth has had a strong impact on growth in 2018. Evidently, the growth of outstanding loans of Joint stock commercial banks reached 14% the lowest in the 5-year period from 2014 - 2018.

2.1.5.3 Non-cash payment activities: In the past 5 years, the proportion of cash circulation on the total means of payment has not changed significantly, usually ranging from 11% to 14% depending on the time in year.

2.1.5.4. Earning before tax: In 2014 - 2015, the EBT growth rate was slow (from 6% to 8.81%). In 2018, banks' EBT growth was lower than that of 2017 due to the government's inclination to monetary stabilization policies in which the biggest goals are to curb inflation and maintain exchange rate stability.

2.1.5.5 Operating income: net interest income plays the main role in the structure of total operating income of commercial banks,. Specifically, as of 2018, the total net interest income contributed 78.2% to the total operating income of commercial banks.

2.2 Current situation of credit quality at Vietnamese joint stock commercial banks

2.2.1 Current situation of credit quality of Vietnamese joint stock commercial banks through evaluation criteria

2.2.1.1 Set of indicators showing loan size and credit growth

a. Outstanding loans and growth of outstanding loans at a number of commercial banks in Vietnam

From 2014 to 2018, outstanding loans of commercial banks increased every year, higher than the average increase of credit growth of the whole banking system, with the highest growth recorded in 2015 (an increase of 27.67% from the 2014 level). One possible reason is the mergers of banks in the period of 2014-2015. In 2018, customer loan growth was the lowest in the period, reaching 13.75% because the State Bank implemented tight monetary policy, limiting credit growth,

b. Credit growth of Vietnam's commercial banking system

Credit growth increased sharply in the period from 2015 to 2017. In 2016, the strongest credit growth was due to the loosening of monetary policy by the State Bank in a cautious manner to support economic growth and control inflation. Credit growth in 2016 reached 18.71% compared to the end of 2015. In 2018, credit growth of commercial banks in Vietnam increased by about 14% from the 2017 level (18.17%), which is the lowest growth rate in the 5-year period from 2014 to 2018

c. Outstanding loan/Asset ratio of Vietnamese commercial banks

Data from 2014 - 2018 show that BIDV and VietinBank are the two banks that depend the most on annual lending activities. Specifically, on average, outstanding loans over 5 years accounted for 74.25% of total assets of BIDV, this figure for VietinBank is 72.06%. In general, the ratio of loans to total assets of banks is above 60%.

d. Lending structure over time

Statistics from the 2018 annual report of joint stock commercial banks showed that some banks are opting the safe direction with a high level of short-term loans. More specifically, BIDV has the highest proportion of short-term loans: 62%, Similarly, the figures for VietinBank, Vietcombank, Sacombank, ACB, MB, HDBank are: 56%, 54%, 48%, 58%, 49%, 55% respectively. Meanwhile, SHB and EximBank appear more aggressive with the proportion of short-term loans reaching only 41% and 44% respectively.

2.2.1.2. Set of indicators showing profitability from credit activities

a. Net interest margin (NIM)

In the period of 2014 - 2018, the average NIM of Vietnamese commercial banks increased steadily over the years. Of the 15 commercial banks surveyed, only VPBank had a NIM over 5% in the period of 2017 - 2018, and also the commercial bank with the highest NIM in the system. More specifically, the index reached 8.7% in 2017 and 8.77% in 2018. Meanwhile, 3 state-owned commercial banks all had NIMs below 3% in 2018: BIDV: 2.85%, Vietcombank: 2.94% and Vietinbank: 2.07%

b. ROA and ROE of Vietnamese commercial banks

Regarding ROA: In 2018, state-owned commercial banks had a lower ROA than industry average, except Vietcombank's ROA of 1.39%. BIDV's and VietinBank's ROA stood at the low level of 0.59% and 0, 48% respectively. The highest ROA among 15 banks in 2018 was recorded in Techcombank (2.9%) and VPBank (2.45%).

For ROE: there has been an upward trend and the growth rate is higher than the ROA ratio, from the lowest rate of 8.36% in 2015 to 14.57% in 2018. In contrast to ROA, the average ROE of commercial banks with large and medium size is higher than that of small banks. In 2018, the highest ROE was recorded at ACB with 27.73%, Vietcombank with 25.18%. Meanwhile, BIDV and Vietinbank had a low ROE of 15.08% and 8.3% respectively. In 2018, commercial banks increased equity capital to ensure capital adequacy ratio according to Circular 41/2016 / TT-NHNN. However, the growth rate of after-tax profit of commercial banks increased faster than equity growth, so the ROE ratio remained high, with 10/15 banks having ROE of over 10%.

2.2.1.3 Set of indicators reflecting the safety level of credit activities of commercial banks

a. Capital adequacy ratio (CAR)

From 2014 to 2018, all banks achieved CAR targets of 9% or more. State-owned commercial banks including BIDV, Vietinbank, and Vietcombank have lower CAR than private commercial banks. Techcombank had the highest capital adequacy ratio at the end of 2018: 14.3%. VPBank's CAR in 2018 reached 12.3% (if Basel 2 standard were applied, this bank's CAR would be 11.2%); VIB bank's CAR ratio in 2018 was 12.88%, the lowest in 5 years from 2014 to 2018 (Basel 2 standard were applied, VIB's CAR in 2018 would be 10.2%).

b. Bad debt and bad debt ratio of Vietnamese commercial banks

As of December 31, 2018, there were 2 banks with NPL ratios of above 3%, namely VPBank (3.51%) and Maritimebank (3.01%); the other banks all managed to maintain their non-performing loans ratio to just under 3%. Although the bad debt ratio of banks decreased, the total size of bad debts increased, due to the higher growth rate of outstanding loans.

c. Provision for credit risks of Vietnamese commercial banks

In 2018, at many banks, the provision for losses in the period accounted for half of the net profit from business operations such as BIDV, VietinBank, VPBank, etc. In contrast to the banks with strong increase in provisioning, several others showed a decline in provisions, including: ACB, SHB, MBB, thus dragging profit before tax.

2.2.2. Current situation of credit quality at Vietnamese joint stock commercial banks through influencing factors

2.2.2.1. Research method

The author has built a quantitative research model to assess the impact of different factors on credit quality. Interviews were conducted with credit personnel at 15 representative banks. In addition, 700 questionnaires were distributed to credit officers who are involved in the implementation of the banks' credit policies at their headquarters and a number of branches of the surveyed joint stock commercial banks. The number of valid responses was 518. Valid responses were encoded and entered into SPSS 22.0 software to perform further analysis.

After performing correlation analysis, the next step is to conduct linear regression analysis to determine the linear relationship between the independent variables and the dependent variable which is the credit quality. From the above quantitative analysis, we have a standardized regression model:

Credit quality = 0.229 Credit Strategies and policies + 0.238 Credit management and organization + 0.223 Credit risk management + 0.182 Internal control + 0.1121 Credit officers' capacity + 0.11 Information technology

2.2.2.2 Analysis of quantitative research results

First, the higher the credit rating strategy and policy, the better the lending activity and vice versa. In other words, credit policy components and credit quality are positively correlated.

Second, the appropriate organization and administration of credit in terms of quantity, quality, and specialization have a positive impact on credit quality.

Third, the application of credit risk management according to international practices can enhance the safety, efficiency and sustainability of bank loans which boost bank's overall credit quality. When the Credit Risk Management factor increases or decreases by 1 unit, the credit quality of the bank increases or decreases by 0.223 units.

Fourth, internal control in terms of strict and science-based inspection and internal control processes which are carried out regularly can have a positive effect on credit quality. When the Credit Risk Management factor increases or decreases by 1 unit, the bank's credit quality also increases or decreases by 0.182 units.

Fifth, the higher the capacity, professionalism and ethics of the credit officers are, the better their lending decisions will be. In other words, the capacity of credit officers and lending operations are positively correlated

Sixth: Information technology, modern technology equipment, secure and reliable banking credit rating software, diversified banking information sources, high accuracy of the credit information have a positive impact on credit quality.

2.3 The current situation of credit quality of Vietnamese joint stock commercial banks

2.3.1 Achieved results

2.3.1.1 Results achieved through credit rating criteria of Vietnamese commercial banks

Firstly, the size, structure and credit growth of Vietnamese commercial banks shifted in a positive direction. Credit growth of commercial banks increased steadily from 12.1% (in 2014) to 19% (in 2017) and decreased to 14% in 2018 with a focus on production and business sectors, making valuable contribution to economic growth.

Secondly, the quality of assets and capital of Vietnamese commercial banks is constantly improving. By 2018, joint-stock commercial banks focused on consolidating and comprehensively restructuring operations and continued to steadily grow their chartered

capital by 2.22%, accounting for 45.7% of the total charter capital of the whole system; total assets increased by 10.13%, accounting for 40.6% of the financial market.

Third: Bad debts are being properly handled. In recent years (from 2014 - 2018), the process of restructuring and handling bad debts of Vietnamese commercial banks has shown positive and significant changes, contributing to improving the credit quality of Joint stock commercial banks. NPL ratio decreases over years. A large part of this trend can be attributed to the transfer of debt to the Vietnamese asset management company VAMC, through reform measures implemented by the Government, including measures to enable both the bank and VAMC to seize collateral when the borrower declares bankruptcy which enhances the ability to recover assets from bad debt.

Fourth: Allowance for credit losses is made in a sufficient and timely manner. The management of credit risk has been paid close attention by Vietnamese commercial banks, problematic debts have been converted to bad debts in time and appropriated in accordance with the prescribed deduction ratio. Information and reporting activities are maintained regularly and with relatively high accuracy, in a timely manner which enables the commercial banks administrators to maintain a firm grasp of the situation of provision and risk management of the whole system.

2.3.1.2 Achieved results with regards to factors affecting credit quality of Vietnamese commercial banks

First, regarding credit strategy and policy; all joint stock commercial banks surveyed demonstrated a commitment to integrity and ethical values through statements about their vision, mission and core values that they have strived for or committed to maintaining in the future.

Second, regarding credit management and structure; 100% of banks issued complete set of internal guidance on credit activities. Accordingly, credit activities are carried out according to a well-established credit management system, which is interconnected, well-structured and allows for mutual checks and balance between stages and departments.

Third, regarding credit risk management, according to the survey results at Vietnamese commercial banks, credit risk management factor has the 3rd strongest impact on the credit quality of the bank in the author's research model. A major of credit officers engage in the

process of identifying credit risk when screening customers' loan applications. In addition, in order for credit officers to be able to fully identify credit risk and limit from the outset potential credit risk, officers are also supported by the banks and credit risk management departments/division through internal credit risk management guidelines. Emerging issues that have a major impact on credit activities are also promptly alerted by the relevant department.

Fourth, regarding internal control, questionnaires submitted by credit officers at commercial banks reveal that all banks have internal control procedures in place. Depending on the needs, size and characteristics of each bank, the selection of credit risk management model is different, however, each bank combines the management of credit risk with the three-level control model.

Fifth, regarding credit officers, questionnaires submitted by credit officers at commercial banks reveal that the personnel policy of banks is fairly elaborated and detailed, with standardized job description and staffing allocation. Banks have established a set of standards to evaluate their employees' performance, implemented the performance management system, and reformed the compensation system

Finally: Regarding the application of modern information technology in credit activities, 100% of Vietnam joint stock commercial banks surveyed have established a centralized database to support business forecasting, analysis and decision making, making valuable contributions to the improvement of competitiveness and credit quality.

2.3.2 Remaining issues, limitations and causes

First, raising capital to comply with Basel 2 standards is not a simple task for several commercial banks. Some large banks have difficulty raising capital because they face government restrictions.

Second: there exist major problems in the process of handling bad debts.

Third: Credit strategy and policy are insufficiently stringent. Some senior bank officials are not fully aware of the importance of credit risk management, sacrificing credit quality for short-term benefits.

Fourth: The internal control and audit system at Vietnam's joint stock commercial banks in some instances fail to provide maximum support for credit quality improvement. The

management capacity of Vietnamese joint stock commercial banks is substandard. Furthermore, the pressure from competitors to develop credit market share can lead to the risk of not meeting standards in the credit process.

Fifth: Credit officers are still limited with regards to professional qualifications and ethics some credit officers have not met the requirements.

Sixth: The credit rating system is inconsistent, with an overreliance on qualitative methods

Finally: Security risks to information technology systems and the impact of the industrial revolution 4.0

CONCLUSION OF CHAPTER 2

First, the thesis has provided a general overview of foundation and development history of Vietnam commercial banking system, presenting the operational characteristics of Vietnamese commercial banks.

Second, the thesis analyzes the current situation of credit quality based on the evaluation criteria presented in Chapter 1, and analyzes the assessment results of credit officers with regards to the factors affecting credit quality of Vietnamese commercial banks. Based on those analyses the following regression function can be developed:

Credit quality = 0.296 Credit strategies and policies + 0.238 Organizational structure and governance + 0.223 Credit risk management + 0.182 Internal control + 0.121 Credit officer + 0.11 Information technology

Third, with the systematic analysis of the current state of financial capacity of commercial banks in chapter 2, the section 2.3 summarizes the thesis's conclusions about the achieved results, the limitations on credit quality at commercial banks in response to stricter requirements for banking operations according to international practices as well as the financial capacity requirements in the context of international economic integration. In particular, the thesis analyzed internal and external causes leading to the achieved results and limitations on credit quality of commercial banks today.

The results of the thesis will contribute to the foundation of solutions and recommendations to improve the credit quality of Vietnamese commercial banks in the upcoming period.

CHAPTER 3

SOLUTIONS TO IMPROVE CREDIT QUALITY AT VIETNAM'S JOINT STOCK COMMERCIAL BANKS

3.1 Directions to improve the credit quality of Vietnamese joint stock commercial banks up to 2030

3.1.1 Opportunities and challenges in improving the credit quality of Vietnamese commercial banks in the era of industrial revolution 4.0

- ❖ Opportunities: Keeping up with the global development level, expanding markets, contributing to Vietnam's economic growth. The demand for high technology application and development in banking operations in Vietnam is growing exponentially. Modern technology helps banks not only promote business operations, reduce transaction costs but also increase security, transparency and secure transactions.
- ❖ Challenges: The complex traditional banking system is the biggest barrier to the success of digital banking. Furthermore, the budget for strategic investment in new technologies is limited. In addition personnel with modern technology capacity in Vietnamese banks are both insufficient and substandard, and there is an acute shortage of personnel capable of understanding and applying the latest technologies. Finally, commercial banks also face competition comes from technology-based financial companies.

3.1.2 Directions for improving credit quality at Vietnamese joint stock commercial banks by 2030

3.1.2.1 General strategy of the banking industry toward 2030

The SBV set the target of proactively managing monetary policy, limiting inflation to below 4%, making contribution to an economic growth of 6.7% while gradually reducing the rate of foreign currency credit / total credit, strive to achieve the ratio of foreign currency deposits / balance of payment to nearly 7.5% in 2020 and 5% in 2030; with a view to ceasing loan disbursement in foreign currencies to essentially rectify the dollarization of the economy by 2030.

3.1.2.2 Directions for improving credit quality of Vietnamese joint stock commercial banks up to 2030

3.2 Solutions to improve credit quality of Vietnamese joint stock commercial banks

3.2.1 Accelerating capital expansion, raising capital adequacy ratio: Commercial banks can retain profits or issue shares by dividends to existing shareholders, issue bonds to increase medium and long-term capital. State-owned commercial banks can increase capital by selling government bonds, reducing state ownership.

3.2.2 Handling bad debts: it is important for joint stock commercial banks to review all loans, making objective, comprehensive and accurate assessment of credit risks as well as customers' ability to repay loans, sources of loan payment, restructure loans on the basis of fully evaluating the customers' loan repayment capability, strengthen measures to recover loans and thoroughly handle uncollectible loans.

3.2.3 Reinforcing credit strategies and policies: clearly quantifying plan targets and assigning responsibilities related to credit operations, planning a hierarchical system for reporting on credit operations.

3.2.4 Stringent credit risk management: Joint-stock commercial banks also need to develop an internal credit risk assessment system to be applied in all divisions of the bank to enable the bank to control the customers' credit quality. At the same time, banks also need to establish a credit quality assessment process and early warning system to identify early changes that may occur in the solvency of customers. For loans that show negative signals on loan performance, banks must take the initiative in setting up adequate and timely provisions in accordance with the current regulations besides conducting debt recovery procedures through a specialized division.

3.2.5 Improving the quality of internal control and loan management: Joint-stock commercial banks need to step up the inspection and supervision of the post-disbursement activities of their subsidiary entities (branches, transaction offices, business centers) through a central Credit Quality Review Departments.

3.2.6 Improving the quality of credit officers: Bank recruiters should exercise caution in screening candidates for credit officers; continuously develop staff assessment system the KPI framework for all positions at their branches; headquarters and central departments; Drafting the Regulation on Staff Assessment in accordance with the KPI system; improving the remuneration system, developing the Collective Labor Agreement.

3.2.7 Establishing a modern banking technology system, credit information: Commercial banks should prioritize the comprehensive development of digital banking strategy in all aspects of business activities, processes, products, distribution channels in line with the industrial revolution 4.0.

3.3 Other supporting solutions

3.3.1 Recommended solution package from the government

First: Improving the legal environment related to credit activities. It is essential to resolve issues in the implementation of Resolution 42/2017 / QH14. More specifically, many ministries, state agencies and local authorities fail to implement Resolution 42 in a correct and sufficient manner which leads to inconsistencies in the handling of bad debt recovery procedures for joint-stock commercial banks

Second: Developing a competitive debt trading market. The handling of bad debts in Vietnam should combine the centralized model of bad debt processing and the development of the debt purchase and sale market to socialize the demand for bad debt investment in Vietnam.

Third: Securitizing bad debts. The Government needs to securitize bad debts with two methods. Firstly, if the enterprise has a good business performance history, but is temporarily facing difficulties in repaying its principal debt or due to investment projects that have not been put in operation, it should be allowed to convert part of its original debt into medium-term bonds. This process can provide short-term liquidity and increase viability of the business. Secondly, insolvent or non-performing loans can be converted into shares, otherwise known as bad debt securities. At the same time, it is possible to convert the position of banks from creditors into majority shareholders if it is evident that after restructuring, the enterprise is unlikely to survive and develop.

3.3.2 Group of solutions from the State Bank

First: Foster credit growth in the direction of safety and sustainability. The SBV should let each individual bank to adjust its business plan. Banks themselves should ensure capital adequacy ratio, maintain ratios such as outstanding loans on deposits, bad debt ratio not exceeding 3% etc. Business strategies and day-to-day operations should be left to the discretion of each bank depending in their individual conditions and capacity.

Second: Improving the ability to handle bad debts for VAMC. VAMC needs to be given sufficient authority, with support by specialists in the field, with reasonable development stages, and the development of Vietnam's market for buying and selling debt.

Third: Improve the operational functions of the Credit Information Center (CIC). The State Bank should encourage banks to use credit information from CIC as a mandatory data in the loan appraisal process.

Fourth: Strengthening the inspection and supervision of the banking system. It is necessary to have close coordination with relevant agencies to make accurate and objective inspection conclusions, avoiding the overlapping in the operations of different regulatory agencies such as government inspectors, auditors and tax auditors.

3.3.3 Recommendations to the National Financial Supervisory Commission: there should be a mechanism for publicizing summarizing financial statements of Vietnamese commercial banks over the years.

CONCLUSION OF CHAPTER 3

To implement the research objectives of the thesis, in chapter 3, the author has completed the following contents:

First, specify the opportunities and challenges in improving the credit quality of Vietnamese commercial banks when integrating into the international economy in the era of industrial revolution 4.0. Besides, the thesis also points out major challenges for banks in their efforts to improve credit quality in the era of industrial revolution 4.0 such as complex traditional banking systems, limited technology investment budget , competition from technology-based financial companies, etc.

Second, direction to improve credit quality of Vietnamese joint stock commercial banks up to 2030

Third: Based on the current status of credit quality of commercial banks evaluated in Chapter 2 and direction for development in Chapter 3, the thesis has proposed a number of solutions for commercial banks in improving credit quality such as: accelerating capital expansion, improving capital adequacy ratio to meet Basel 2 standards, processing bad debts, improving credit policies and strategies, enhancing credit risk management, improving the

quality of internal control loan management and organization, improving the capacity of credit officers, establishing banking technology systems and credit information

Fourth: In addition to the solutions from commercial banks, the thesis also presents a number of recommendations to the SBV, the Government as well as relevant ministries and agencies to support commercial banks in improving credit quality. These recommendations focus on removing obstacles and strengthening the role of state management and supervision for commercial banks.

CONCLUSION OF THE THESIS

On the basis of triangulation of research methods, review of practical situations, under the research objectives and scope of the thesis, the thesis has addressed several basic issues as follows:

First: systematizing theories about credit quality of commercial banks. The author has also provided her own view on credit and credit quality of commercial banks. Based on the analysis and arguments, the thesis has pinpointed the specific characteristics, criteria for evaluating credit quality of commercial banks. In particular, the thesis has analyzed the factors affecting the credit quality of commercial banks, which will form the basis for the evaluation and evaluation in chapter 2 as well as the solutions mentioned in chapter 3.

Secondly, the thesis studies the experiences of banks in some countries in the region and around the world, and also draws lessons on improving credit quality such as implementing measures to handle bad debts or increasing equity capital of commercial banks under the guidance of the central bank.

Third, the thesis analyzes and assesses the situation of credit quality of joint stock commercial banks in Vietnam from 2014 to 2018. The author uses SPSS 22.0 software to analyze the impact of factors on credit quality of Vietnam Joint Stock Commercial Bank based on the level of credit officers' evaluation at joint stock commercial banks in Vietnam, from which the regression function is given as follows:

Credit quality = 0.296 Credit strategies and policies + 0.238 Organizational structure and governance + 0.223 Credit risk management + 0.182 Internal control + 0.121 Capacity of Credit officer + 0.11 Information technology

Besides, the thesis points out the achieved results, limitations on credit quality of joint stock commercial banks. Moreover, the thesis analyzed the causes for the factors that influence the credit quality of joint stock commercial banks during the research period.

Finally: The thesis has proposed solutions and recommendations to improve the credit quality of the current joint stock commercial banks up to 2030. These solutions are proposed based on the relevant theoretical framework as well as practical issues at joint stock commercial banks.

**LIST OF PUBLISHED STUDIES RELATED TO THE THESIS BY THE
AUTHOR**

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2. Duong Thi Hoan (2018), "Application of Basel 2 Accord in improving credit quality at Vietnam's Joint Stock Commercial Banks", Journal of Financial and Accounting Research, No. 6 (179) in 2018, p. .48-55
3. Duong Thi Hoan (2019), "Factors affecting credit quality at joint stock commercial banks in Vietnam", Journal of Science & Technology, No. 50, February 2019, p.118 -122