



# Mergers, Acquisitions and Market Concentration in the Banking Sector: The Case of Vietnam

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## Abstract

Following the global trend, Vietnam also started opening up its economy and domestic reforms in 1986 and implemented a number domestic market reforms including in the banking and finance system. The merger and acquisitions (M&A) of banks have been a main component of the reform process. There have not been serious attempts to evaluate the M&A process and its impacts on the banking industry in a systematic way. The main purpose of this study is to fill that literature gap by providing a historical narrative of the M&A activities in Vietnam's banking industry and analyzing its impacts on the system and market structure via quantitative and qualitative approaches, particularly using concentration indices.

**Keywords:** Merger and acquisition (M&A), Banking sector, Market concentration, Market structure, Competitiveness, Monopoly.

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Citation | Hoang Thi Thanh Hang; Phan Dien Vy; Jay Bandarlage (2016). Mergers, Acquisitions and Market Concentration in the Banking Sector: The Case of Vietnam. Asian Journal of Economics and Empirical Research, 3(1): 49-58.

DOI: 10.20448/journal.501/2016.3.1/501.1.49.58 

ISSN (E): 2409-2622

ISSN (P): 2518-010X

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Contribution/Acknowledgement: All authors contributed to the conception and design of the study.

Funding: This study received no specific financial support

Competing Interests: The authors declare that they have no conflict of interests.

Transparency: The authors confirm that the manuscript is an honest, accurate, and transparent account of the study was reported; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained

Ethical: This study follows all ethical practices during writing.

History: **Received:** 13 February 2016/ **Revised:** 27 February 2016/ **Accepted:** 4 March 2016/ **Published:** 8 March 2016

Publisher: Asian Online Journal Publishing Group

## 1. Introduction

The banking sector in every country around the world has been rapidly changing in recent decades in order to adapt to the globalization, the marvelous development of technology and economic reforms. In Vietnam, after the shift from mono banking system to a dual ones, Vietnam banking industry has been growing quickly in terms of size and the number of networks, enabling Vietnam's economy to transform from a centralized planning economy to a market economy. For the past few years, however, the commercial banking industry has showed the inadequacies and shortcomings such as low charter capital and liquidity, increasing bad debt ratio, weak internal governance, non-transparent ownership structure in Commercial joint-stock banks. To deal with these issues, on the 1st of March 2012 The Prime Minister approved the Project 254 on: "Restructuring the system of credit institutions in the stage of 2011-2015". The experience of the implementation of the two-third of project so far demonstrates that there has been some success. However, the experience so far suggests that there are some failures and the implementation of the project is facing a number of problems: (1) the process of merger and acquisition is lagging behind and so that it has not achieved objectives set out for the period 2011-2015 (which requires the merger and acquisition of the weak credit institutions to reduce the quantity of low-performance banks); (2) the process of financial restructuring has not brought impressive results, in which the bad debt and cross-ownership are the key issues, (3) internal management of banks does not meet its objectives (which are to create a banking system with the efficient and advanced internal management).

As a response to the above failures and problems, the Government has implemented a series of measurements to make the project successful and rectify some problems it is facing. The merger and acquisition ("M&A") of banks is one of these measurements and it can be considered as an effective method to improve the performance of commercial banks. Although the M&A activities have been quite active in Vietnam over the past 8 years, there is a long way to go. Despite the importance of the process of M&A in the banking sector in Vietnam and its impacts on the overall economy, there has not been much effort to evaluate the process of M&A and its impact on the economy in Vietnam. There is a limited amount of literature in Vietnamese.. However, the impact of M&A on the degree of concentration and competition in the banking market has not been evaluated systematically in recent literature.

Indeed, a number of critical questions are to be further addressed, for example, how the progress of restructuring the banking system in Vietnam through M&A is, whether this restructuring project brings any success or failure after the M&A, whether there is any obstacle in the process of restructuring, how to improve the progress of the restructuring. Regarding the concentration of the banking market, a legal question is that as a form of economic concentration, whether the concentration and competitiveness level of Vietnam's banking market after the restructuring (post M&A) is still in compliance with the conditions of market share (to avoid monopoly and unfair competition) under current Vietnam's Law on Competition in general and antitrust regulations of banking and finance area in specific.

Against the above background this study attempts to achieve a number of objectives. Firstly, we expect to provide a historical narrative of M&A activities in banking industry from 1990 to 2005 in Vietnam in order to understand the main issues and problems it is facing. Base on that, we evaluated the impacts of M&A to banking business performance in term of number of banks, bank size, non – performing loan, human resource, management. (2) Secondly, we attempt to measure the degree of concentration of Vietnam banking sector in relation to competitive market structure. These issues have not been address systematically by previous research.

The rest of this paper is structured as follows: Section 2 provides a historical narrative on the process of M&A in Vietnam; Section 3 presents a brief literature survey on M&A in Vietnam; Section 4 discusses the methodology and data sources used in this study; Section 5 present the results; and Section 6 presents concluding remarks.

## 2. An Overview of M&A Bank in Vietnam: A Historical Narrative

The purpose of this section is to present a brief overview on the M&A process in Vietnam. Table 1 provides the historical details of M&A in Vietnam.

Table-1. Historical Details of M&A Cases in Vietnam

Year	Number of M&A	Target Banks Or Financial Institutions	Acquirer Banks	Impacts
1997	1	Dong Thap Agriculture Bank	Southern Bank	This acquisition did not have major impact on the market because the charter capital (of the target) is just around 1 billion VND.
1998	2	Dai Nam Bank	Southern Bank	This acquisition did not have major impact on the market because the charter capital (of the target) is just from 1-3 billion VND.
		Quang Ninh Bank	Hanoi Housing Bank (Habubank)	This acquisition did not have major impact on the market because the charter capital (of the target) is just around 1 billion VND.
2001	3	Long Xuyen Bank	Dong A Bank	This acquisition did not have major impact on the market because the charter capital (of the target) is just from 1-3 billion VND.

Continue

		Nam Do Bank	BIDV	This acquisition did not have major impact on the market because the charter capital (of the target) is just from 1-3 billion VND.
		Chau Phu Bank	Southern Bank	This acquisition did not have major impact on the market because the charter capital (of the target) is just from 1-3 billion VND.
2002	1	Thach Thang (Can Tho) Bank	Saigon Thuong Tin Commercial Joint Stock Bank (Sacombank)	This acquisition did not have major impact on the market because the charter capital (of the target) is just from 1-3 billion VND.
2003	2	Cai San (Can Tho) Bank	Southern Bank	This acquisition did not have major impact on the market because the charter capital (of the target) is just from 1-3 billion VND.
		Tay Do Bank	Orient Commercial Joint Stock Bank	This acquisition did not have major impact on the market because the charter capital (of the target) is just from 1-3 billion VND.
2004	1	Tan Hiep (Kiên Giang) Agriculture Bank	Dong A Bank	This acquisition did not have major impact on the market because the charter capital (of the target) is just from 1-3 billion VND.
2011	1	Saigon Commercial Bank (SCB)	SCB	The three commercial banks were merged into one bank, named after the bigger bank Saigon Commercial Bank. This merger had considerable impact on the market because after the merger: - The accumulated charter capital is reaching VND 10.583 billion. - The total credit is at VND 32.409 billion - Currently, it is ranked as the fourth biggest bank in Vietnam in terms of charter capital and fifth biggest bank in terms of total asset. However, the non-performing loan ratio also increases significantly.
		Tin Nghia Bank		
		First Commercial Bank		
2012	1	Habubank	Saigon Hanoi Bank (SHB)	This merger also has impact on the banking sector as the charter capital reached VND 8.865 billion. The non-performing loan grew from 12,88% to 21,32%.
2013	1	Western Bank	Petro Vietnam Financial Company	This acquisition did not have major impact on the market because the scale of the target bank is too minor.
2014	1	Construction Bank	Vietinbank	This merger also had minor impact because the scale of the target bank is small.
7/2015	3	Mekong Housing Bank	BIDV	This merger has several impacts as the Mekong Housing Bank is a medium-sized SOCBs. We do not have specific statistic for this merger as this case is recent.
		Petrol Gas Bank	Vietinbank	This merger has some major impacts because the three acquired banks are quite large and have significant non-performing loan rate. We do not have statistic for this merger as this case is recent.
		Global Petrol Bank		
	18	Ocean Bank		

Source: Compiled by authors using different sources.

As shown in Table 1 20 M&A cases have been conducted in the whole Vietnam commercial bank system from 1990 to 2015. In terms of the significance of M&A in Vietnam the history of M&A can be categorized into two periods. The first period is 1990 -2011. Although there were a number of M&A cases during this first phase or period the size of cases was small and these activities were taken place within the framework of the process which converted credit cooperatives and rural joint stock banks to urban joint stock banks. Therefore, the significance and the impact of M&A during the first period were considerable. The second period of M&A is 2011 -2015. This is the

most significant period of the History of M&A in the banking sector in Vietnam because 9 large size M&A were taken place during this period. For example, SCB, SHB, Vietinbank, BIDV were merged with or they acquired some smaller banks. However, it did not violate the law on competitiveness against monopoly and concentration.

One of the main results of M&A in Vietnam is the drop in the total number of banks in recent years as shown in Figure 1.

Figure 2 demonstrate the magnitude of the activities of M&A in the banking sector. It indicates that M&A activities have been very significant in recent years.

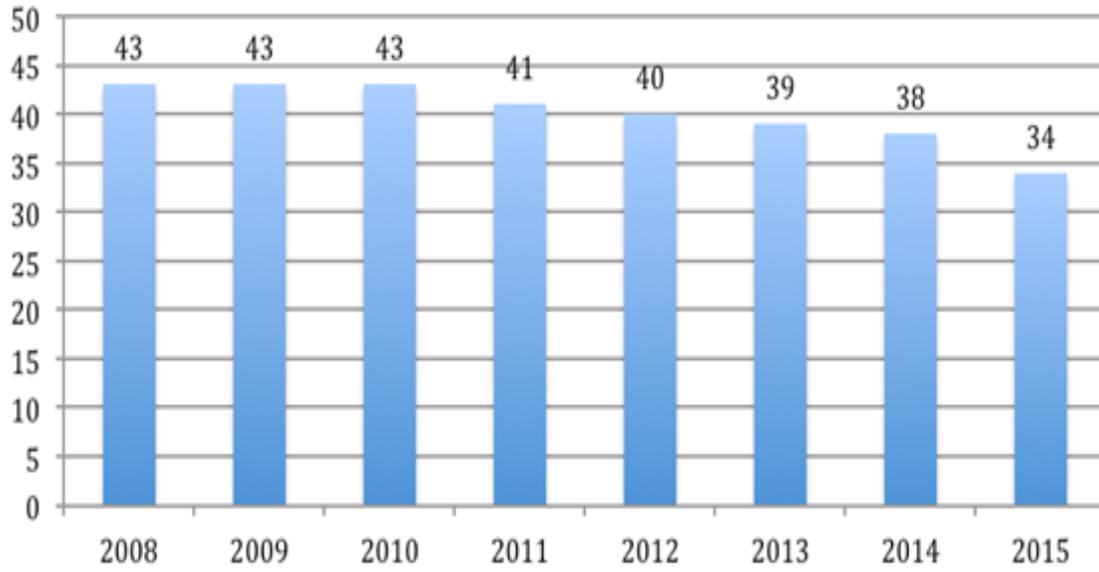


Figure-1. Number of Bank in the period 2008-2015

Source: calculated by authors

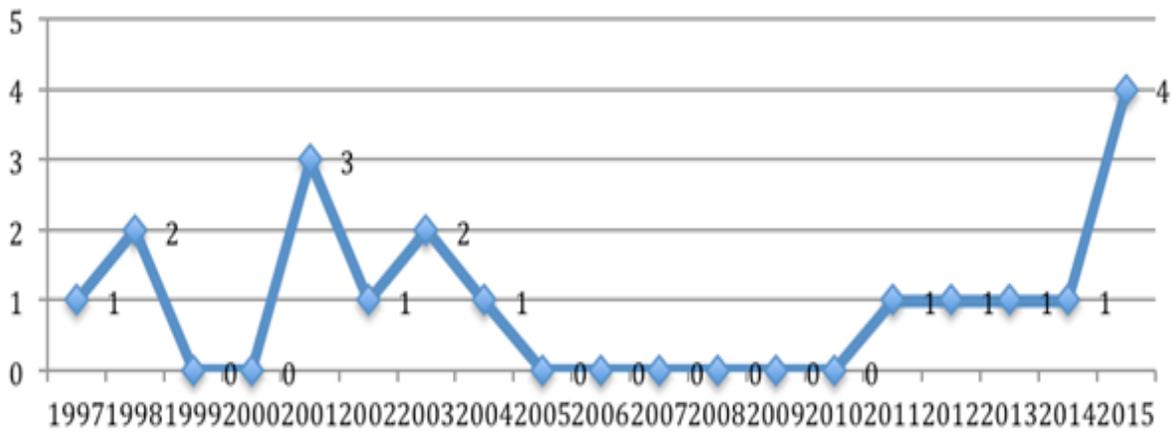


Figure-2. Number of M&A in the period 1997-2015

Source: Calculated by authors

### 3. A Brief Literature Review on M&A

The purpose of this section is to undertake a brief literature survey on studies on M&A. We first focus on the literature in general in the first part of this section. Then we move on to the literature on M&A in Vietnam. Mergers and acquisition have become more common characteristics in banking sectors in many developed and developing countries around the world. As a result, there is a large body of literature on activities of mergers and acquisitions around the world.

The banking sector in the world has been on a major reform in recent years so as to deal with the aftermath of global financial crisis or regional economic issues (Sharma and Bal, 2010). Mergers and acquisitions (of banks) are considered as an effective method used to handle the turmoil in the banking system by reducing the number of low-performance banks. There are a number of studies on M&A activities in banking sector and the impacts of these activities on the banking system and the market concentration. The below studies are several relevant research:

+ Walter (1987) This research argued that in the banking sector, the banks need a certain growth in the business cycle to maintain and increase market share, generate economic advantages and bring profits to shareholders. In this process, the merger and acquisitions play a key role to help the business grow faster than competitors, generate more profits for shareholders and refrain from going bankrupt. Mergers and acquisitions is an important part of any well-growing economy, in this economy, businesses can generate revenue for both owners and investors.

+ Benston et al. (1995): This study discussed one of the motives affecting the financial institutions' decision to go for an M&A transaction is to increase revenue and to reduce costs. In addition, the study also indicated that the impetus for M&A of the enterprise is to maximize the value that the enterprise can, thereby improving operation efficiency in the post-M&A period.

+ Davis (2007) this article referred to the empirical evidence showing the growth of the banking industry and the economy, and technology development will inevitably lead to high concentration in the banking market. The article also discussed the influence of the concentration of the banking sector on the stability of financial system.

+ [Sharma and Bal \(2010\)](#) the article examined the concentration level in India's banking system and its impact on competition. The article focused on how to measure the relative and absolute concentration. The article found many evidences showing the changes in the structure of banks in India. The CR and HHI index are used as the indicators for the market in structure methods to measure competition, such as the Structure- Conduct- Performance model (SCP) and the efficient structure hypothesis (ESH). The practical results showed that the concentration ratio based on HHI and k index fell during the 2008-2009 to 1998-1999, reflecting the unbalance between banks in the India.

In general, the studies showed that the process of restructuring in the banking sector by reducing the number and increasing scale through M&A is one of the popular methods. M&A activities bring positive effects to the banks after M&A. This study inherited the theoretical and empirical research from the previous research and studies, especially the methodology to measure the bank concentration level and competition of banks on banking market.

– Vietnam's researches on M&A and market concentration

Mergers and acquisitions (in banking sector) has developed for a long time in the developed countries, however this is still a new method for bank restructuring in Vietnam. The legal framework has formed and been developing from the early 90s to the present, however there are a great number of researches on the M&A in Vietnam as follows:

+ [Vuong et al. \(2009\)](#) presented the concept of M&A, forms of mergers and acquisitions, the advantages and disadvantages of M&A in Vietnam market. However, the research just discusses the M&A in general, but do not discuss the M&A in a specific field.

+ [Le \(2014\)](#): This research measured the level of concentration and competition in Vietnam's banking sector through using two indices which are CR<sub>k</sub> and Hirschman-Herfindal (HHI) to identify the market concentration level in 2007, 2009, 2012; simultaneously evaluated the market concentration level in Vietnam's banking system through the Panzar- Rosse method with the unbalanced data chain of 33 banks in the period from 2004 to 2013. However, the article did not mention the status of M&A activity and the impacts of this activity.

There were many research papers on M&A or analysing market structure in finance and banking industry worldwide as well as in Vietnam. However, there was no previous research which analysed and evaluated systematically and comprehensively bank M&A activities and its impacts on market structure in Vietnam. So, our research aim to : (1)Firstly, we systematically described M&A activities in banking industry from 1990 to 2005. Base on that, we evaluated the impacts of M&A to banking business performance in term of number of banks, bank size, non – performing loan, human resource, management. (2) Secondly, we attempt to measure the degree of concentration of Vietnam banking market in relation to competitive market structure. These issues have not been solved systematically by previous research.

## 4. Methodology and Data

This section briefly outlines the methodology used in this study and the data sources.

### 4.1. Methodology

We use both qualitative or descriptive ap and quantitative approaches to evaluate the nature of M&A in Vietnam and its impacts of the economy. As we explained in Section 2, we use the descriptive approach to explain M&A activity in the Vietnam banking sector in the period time from 1990 to 2014 by using data published by SBV in its report of commercial banks. The impact of M&A can also be evaluated by using the qualitative approach by describing the impact of M&A on commercial banks through the data before and after M&A of these banks and the report of State Bank Vietnam.

We also use the quantitative approach to measure the competition and the concentration of the banking sector in Vietnam with the process of M&A. As mentioned in the introduction, one of the objectives of study is to assess the level of market concentration in Vietnam's banking sector in the process of restructuring through M&A. The degree of concentration will lead to structural changes in markets thereby affecting the level of competition in the banking sector. [Bikker and Haaf \(2002\)](#) provide a comprehensive literature survey on the methodologies used in this area. As surveyed by them, the level of concentration is measured through concentration indicators. These indicators can be calculated to explain the level of competition in the banking market structure in each stage of M&A.

+ **CR<sub>k</sub> index**

CR<sub>k</sub> is the total market share of a group's banks with the largest market share. The simplicity and less data have helped this index to become one of the most commonly indexes used to measure the concentration in practice. This index assesses the degree of the concentration of market share has fallen in whether a group of banks or not. The index is determined by total market share of k largest banks in the banking sector:

$$CR_k = \sum_{i=1}^k S_i$$

$S_i$  is the market share of large banks  $i$  in the sector.

Normally, this index is calculated based on the number of banks from 3 or more depending on the size of the market. Index value from 0% to 100%.

The higher this ratio demonstrates the degree of market concentration greater when market power is located in the largest commercial banks.

Based on the level of concentration, the market can be classified into the following types:

- Perfect competition, with very small concentration ratio
- Quite Competition, CR<sub>3</sub> <65%, the average concentration
- Oligopolies or dominant market, CR<sub>3</sub>> 65%, high concentration
- Monopoly, CR<sub>1</sub> is approximately 100%

+ **HHI index**

In banking sector, the Herfindahl-Hirschman (HHI) is used to identify the degree of market competition is perfect or monopolistic. In the USA, the Ministry of Justice used this index to assess the level of monopoly or oligopoly in trading activities, M&A among banks. HHI index is calculated by squaring the market share of all commercial banks in the banking system.

$$HHI = \sum_{i=1}^n S_i^2 \quad (1)$$

N is the total number of banks and  $S_i$  is the share of banks  $i$  in the sector

HHI index value from  $1/n$  to 1, and the lowest value ( $1/n$ ) when all the banks in the market are the same size, and has a value of 1 in case monopoly.

HHI index may be determined by other means:

$$HHI = \frac{1}{n} + nV \quad (2)$$

N: number of banks in the system

V: the variance of banks' market share

$$v = \frac{\sum_{i=1}^n (S_i - \frac{1}{n})^2}{n}$$

If all banks have equal market shares (it means that if the market structure is perfectly symmetrical, ie  $s_i = 1/n$  for all  $i$ ), then  $V = 0$  and  $H = 1/n$ . If number of banks is constant, the larger variance due to the asymmetric level of market share among banks would create a higher index value.

Through HHI index, the market will be classified the degree competition as follows:

- $HHI < 0.01$ : perfectly competitive market
- $0.01 \leq HHI \leq 0.1$ : The competition level is high
- $0.1 \leq HHI \leq 0.18$ : The competition level is average
- $0.18 \leq HHI$ : The degree of concentration is high and tends to monopoly

This is the underlying index when competition management authorities consider the change in market structure occurred after M&A. Law on competition of many countries defined the degree of economic concentration through the HHI index in checking the evolution of economic concentration.

In this study, due to the number of banks and the indicators about the scale of banking system (total asset, mobilization capital, loans) is determined, so this study uses the formula (1)

$$HHI = \sum_{i=1}^n S_i^2 \quad (1)$$

## 4.2. Data

In order to measure the level of concentration of Vietnam's banking system data published in the State commercial banks and Joint stock commercial banks' audited financial statements have been used in this study. We collected data for the period 2008 – 2014 to calculate concentration measurements with 2.889 samples:

Year	2008	2009	2010	2011	2012	2013	2014
Number of banks	43	43	43	41	40	39	38

To measuring the level of market concentration of Vietnam's banking sector assess the market structure with 3 aspects are used: (1) Total assets; (2) Market share in deposits and (3) Market share of lending from 2008 to 2014.

We have not been able to calculate concentration indicators for the years before 2008 due to unavailability of audited financial statements of commercial banks before 2008.

Data related to foreign banks and branches of foreign banks operating in Vietnam are excluded because this study only focus on the market concentration of Vietnam's banking sector.

### – Accessing the impacts after M&A

Data is used to assess the impacts of M&A of Vietnam's banking sector in the process of restructuring of credit institutions in the period from 2011-2015 under Project 254, including reports of the typical M&As, with the largest scale in the process of M&A in Vietnam's banking sector.

## 5. Results and Discussions

### 5.1. The Post – M&A Impacts on Vietnam Commercial Banking System

Over the period, M&A activities in Vietnam commercial banking system generally have made positive impacts on individual banks as well as the whole system. Fundamentally, it was corresponding to the goals of banking system restructuring project, such as:

#### – Impacts on Non – performing loan resolving :

Obviously, the impact of M&A activities to banking system in term of NPLs was insignificant. The restructuring process through NPLs resolving and M&A lead to positive results, NPLs went down to approximately 3-4% currently. The business operation of these banks are stable and developing, banks after M&A focused on collecting debt, creating loan provisions and transferring debt to VAMC.

Regarding M&A banks, the overall remarks is the rise of NPLs in several years after M&A and banks have concentrated on resolving it. Specifically :

+ In 2010, before M&A execution, NPLs ratio of SCB, TNB and FCB were 10.04%; 0.83%; 1.14% respectively ( the average of banking industry is 1.73%), they provided loan mainly to companies which is closely related to bank majority share holders. (“backyard companies”), financing for variety of investment activities of companies which are owned by the same group of owners.

+ In case of SHB, in 2011 before M&A execution, NPLs ratio of this bank was 2.33%, while this ratio of

HHB was 16.73% ; after M&A in 2012, NPLs of SHB rose to 11.88% due to huge loan that HHB had provided to Vinashin.

**- Impacts on banks size**

After M&A execution, some banks have experience a significant increase as the result of merging with or acquiring other banks. However, It didn't lead to the change of banking market structure , because banks which joined in M&A cases was not a large bank compared to other banks in the banking system, specifically:

+ SCB was not a small bank among Vietnam commercial banks in term of total asset. When M&A deal was executed, total asset of SCB was 77.985 billion VND up to 3<sup>rd</sup> quarter of 2011, was ranked 13<sup>rd</sup> in commercial banking system behind VPB – the smallest bank in group of 12 largest banks (G12) with 79.984 billion VND total asset. TNB was placed in the position of 18<sup>th</sup> with total asset reached 59.073 billion VND and FCB was in the position of 35<sup>th</sup> with 17.105 billion VND total asset. After M&A, total asset of new SCB reached 242.222 billion VND, ranked 5<sup>th</sup> among commercial banking system at that time. Regarding SHB, the total asset increased from 70.989 billion VND before M&A to 116.537 billion VND after M&A, total asset of SCB reached 169.035 tỷ VND in the end of 2014, was 2.4 times larger than this number before M&A and being ranked 10<sup>th</sup> among the Vietnam commercial banking system currently.

+ Regarding market share of lending and deposit, all FCB, TNB and SCB had minor proportion. At the end of 2010, the deposit and lending market share of G12 were 69,64% and 67,61% while this number of SCB were 2,86% and 2,77% respectively, ranked 9<sup>th</sup> among Vietnam commercial banking system. However, after M&A execution, all main indicators of M&A banks such as total asset, deposit and outstanding loan increase rapidly.

**Table-2.** Indicators of SCB and SHB before and after M&A Unit: billion VND.

Bank	Total Asset			Deposit			Loan		
	Before M&A	After M&A	% (+,-)	Before M&A	After M&A	% (+,-)	Before M&A	After M&A	% (+,-)
SCB	60.183	144.814	+140,62	35.122	58.633	+ 66,94	32.409	64.419	+98,77
SHB	70.990	116.538	+ 64,16	34.786	77.599	+123,07	28.807	55.689	+93,32

Sources: Summarized from consolidated financial statement of SCB and SHB

Note: SCB (before M&A is data of 2010, after M&A is data of 2011; SHB (before M&A is data of 2011, after M&A is data of 2012).

**Impacts on regulation on competitiveness and monopoly**

From bank M&A practices during the recent years, some of legal issues are related to bank M&A have been clarified. Firstly, M&A activities are regulated by many of legal documents which promulgated and supervised by different government bodies , currently, Vietnam do not have a separate law for bank M&A. Secondly, State bank of Vietnam lacks experience on forecasting and dealing with bank bankruptcy.

**Impacts on organizational structure and human resource**

Bank M&A affect to bank restructuring process in term of enhancing management and leadership capacity, acquiring experienced and high – skilled staff without spending time and money on recruiting and training. But the shaking of human resource before and after M&A may cause marked positive consequences to banks performance. According to Towers Watson consultant company, in 2014, about 10% of employees have quitted their jobs in banking industry to find jobs in other industries. Several reasons can be explained for that facts, from banks – specific perspective, the merge and acquisition between banks may cause the personnel redundancy, otherwise human resource restructuring policy of banks to select the most efficient staff lead to the massive cutting down in banking labor market . For example, Just in June 2014, 666 employees (approximately 15% of total employees) had to leave their jobs in SHB. Managerial personnel also experienced some change in 2015, such as:

+ In Nam A Bank, before general shareholder meeting (14/7/2015) , the bank had assigned Mr. Trần Phúc Vũ (CEO) and Mr. Trần Ngọc Tâm (Deputy CEO) to leave Nam A bank to become candidate for membership of B.o.D of Eximbank 2015 -2020.

+ Similarly, there were several change and swap of senior managers between OCB, VietA bank and Techcombank

+ Particularly, in solvency – problem banks acquired by State Bank of Vietnam at price of 0 VND per share, all key personnels have been changed. For example, after being acquired by SBV, B.o.D and B.o.M of Construction Bank have been completely changed, all new members were from Vietcombank by the steering of SBV. Similarly, Boards of Ocean bank had been replaced by new members from Vietinbank.

**- Impact on shareholders interest:**

+ The interest of minority shareholders may be ignored. The decisions to merge or acquire with/to other banks are made by members in B.o.D and B.o.M, who normally work as the representative of majority shareholders, corresponding to the will of majority shareholders. The suggestion of minority may be presented or reserved but the decisions are made by majority shareholders and it might conflict to the interest of minority shareholders. Sometime, they even have been forced to transfer their share to other shareholders.

+ Interest conflict between majority shareholders. In preparing for M&A deal bank owners or majority shareholders have to decide several issues, such as: M&A partners, consultant, lawyer, M&A model... These issues may cause conflict between shareholders in this group when they pursue different interests.

**- The impact on corporate culture:**

Culture of banks could be changed. Actually, culture of different banks can be mixed up after the merge and acquisition, the previous banks' core values can be destroyed. It take a lot time for staff from different banks to adjust and integrate to the new working environment and colleagues. The new bank may select the outstanding cultural factors of the previous banks to built the new culture of bank on the basis of preserving and developing the existing core value or select the most prominent culture or built a quite new culture.

In summary, lacking of experienced experts, professional M&A consultant, the integration of employees and corporate culture are the main challenges of banks after M&A.

**5.2. The Degree of Concentration of Vietnam Banking Market**

The degree of concentration of banking market in the period 2008 -2014 can be measured by 3 main indicators: Total assets, capital mobilized (deposit) and loan of the whole commercial banking system.

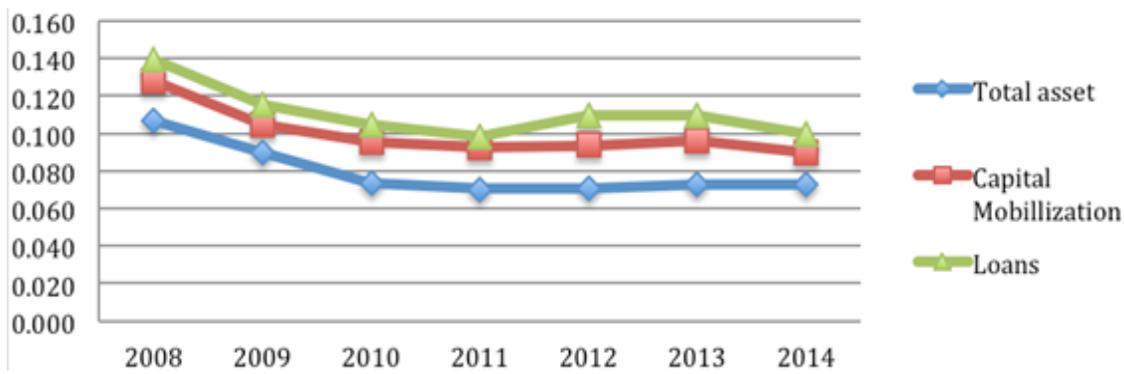
**Table-3.** The Degree of Concentration of Vietnam Banking Market

Index	Indicators	Year						
		2008	2009	2010	2011	2012	2013	2014
HHI	Total asset	0.107	0.090	0.074	0.070	0.071	0.073	0.073
	Capital Mobilization	0.128	0.105	0.096	0.093	0.094	0.097	0.090
	Loans	0.140	0.115	0.105	0.099	0.110	0.110	0.100
CR3	Total asset	48.4%	42.8%	38.0%	36.1%	37.5%	38.6%	38.3%
	Capital Mobilization	54.1%	47.5%	43.9%	42.8%	40.7%	40.3%	38.1%
	Loans	57.9%	50.6%	49.3%	47.7%	47.9%	46.8%	44.0%
CR5	Total asset	65.1%	59.9%	53.3%	52.4%	51.4%	52.4%	53.4%
	Capital Mobilization	70.0%	63.4%	60.0%	62.1%	55.9%	54.9%	54.9%
	Loans	71.5%	70.1%	63.0%	62.1%	61.9%	60.7%	59.4%
CR10	Total asset	79.5%	76.3%	73.0%	72.3%	70.7%	70.1%	70.3%
	Capital Mobilization	84.4%	79.2%	76.9%	76.4%	74.3%	73.4%	74.9%
	Loans	83.9%	83.7%	78.1%	78.0%	78.5%	76.8%	77.5%

Source: calculated by authors

The degree of concentration tend to decrease in term of all three indicators. Regarding total assets, HHI index declined from 1.017 (  $0.1 \leq HHI \leq 0.18$  present the average competitiveness) to 0.07 (  $0.01 \leq HHI \leq 0.1$  present the high competitiveness), it mean that the degree of concentration move from average to low level. However, regarding the deposit and loans, HHI index has experienced a decrease during 2008 – 2011 (from 0.128 – 0.093 and from 0.140 to 0.099 respectively) after the went up again in the period of 2012 -2014. It is one of the impacts of M&A execution during 2011 -2014 result in establish several large banks in term of total assets, deposit and loans.

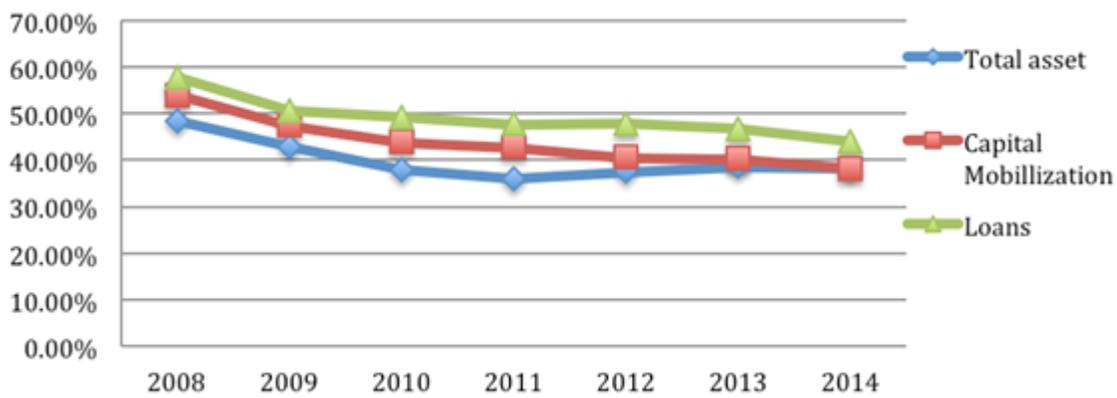
The volatility of HHI index was obviously presented in Graph 2 all indicators went down during 2008 -2011, after experienced the stability and slightly increase from 2011 – 2014. Nevertheless, the degree of concentration of Vietnam commercial banks system is still belongs to group of high competitiveness and low concentration markets ( $0.01 \leq HHI \leq 0.1$ ) despite of its increase due to restructuring processes through M&A activities.



Graph-1. HHI Index 2008 – 2014

Source: Calculated by author

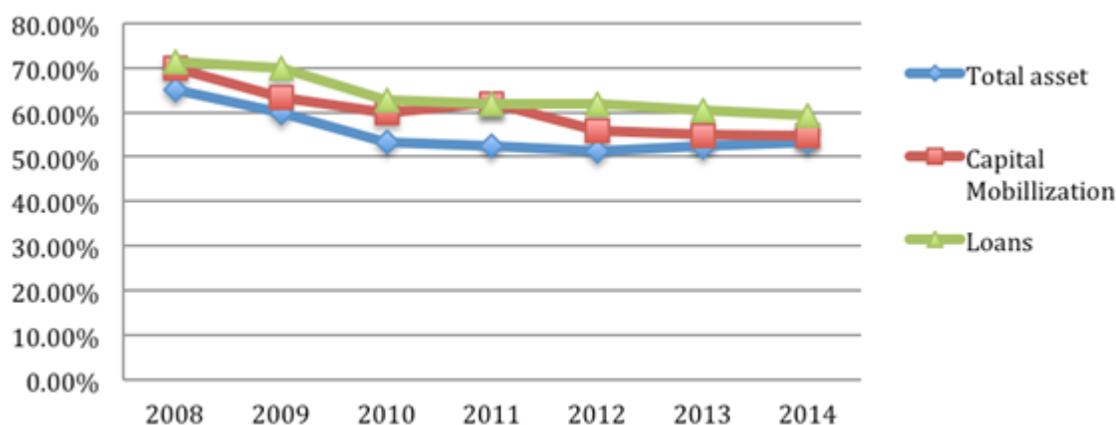
Regarding the degree of concentration among three largest banks (CR3) : This indicator in the period of 2008 - 2014 is showed in Table 2. In which, market share of 3 largest banks regarding deposit and loan market share have experienced a continuously decrease. CR3 regarding deposit market share fell from 54.1% in 2008 to 38.1% in 2014; loan market share declined from 57.9% in 2008 to 44% in 2014 . The fall of this indicator present the higher competitiveness of Vietnam commercial banking system. Before that, SOE commercial banks dominated banking market for a long period of time.



Graph-2. CR3 Index 2008 – 2014

Source: Calculated by author

Regarding the degree of concentration among five largest banks (CR5): The degree of concentration among this group tended to decrease continuously in term of 3 indicators : total asset, deposit and loans. Another issue should be examined is the presence of new joint stock commercial banks in the group of 6 largest banks. In additional, the gap of size and market share between banks in this group have been narrowed gradually. It is the obvious impact of M&A execution.



Source: Calculated by author

### 5.3. Cross – Countries Comparison

HHI of Vietnam banking system has tended to decrease gradually, moreover, the market concentration index of Vietnam banking market including HHI and group concentration index (CR) of 3,5 and 10 largest banks in the system are in the medium level in compared to other countries (Table 4). It is once again showed that the Vietnam banking market become more and more competitive up to the time that this paper are being conducted.

Table-4. Concentration indices for 20 countries, based on total assets (1997)

Countries	Index				No. of banks
	HHI	CR3	CR5	CR10	
Australia	0.14	0.57	0.77	0.90	31
Austria	0.14	0.53	0.64	0.77	78
Belgium	0.12	0.52	0.75	0.87	79
Canada	0.14	0.54	0.82	0.94	44
Denmark	0.17	0.67	0.80	0.91	91
France	0.05	0.30	0.45	0.64	336
Germany	0.03	0.22	0.31	0.46	1,883
Greece	0.20	0.66	0.82	0.94	22
Ireland	0.17	0.65	0.73	0.84	30
Italy	0.04	0.27	0.40	0.54	331
Japan	0.06	0.39	0.49	0.56	140
Luxembourg	0.03	0.20	0.30	0.49	118
Netherlands	0.23	0.78	0.87	0.93	45
Norway	0.12	0.56	0.67	0.81	35
Portugal	0.09	0.40	0.57	0.82	40
Spain	0.08	0.45	0.56	0.69	140
Sweden	0.12	0.53	0.73	0.92	21
Switzerland	0.26	0.72	0.77	0.82	325
UK	0.06	0.34	0.47	0.68	186
US	0.02	0.15	0.23	0.38	717
Averages	0.11	0.47	0.61	0.75	
Vietnam*	0.07	0.38	0.53	0.70	34

Source: Calculated by authors

CR-3. Index in Asia countries

Year	2001	2006	2011
Thailand	48.40%	44.70%	45.30%
Indonesia	62.60%	47.30%	44.00%
China	75.20%	70.10%	50.80%
Sigapore	97.80%	85.20%	90.00%
Nguyen Hong Son and et la			
		2008	2011
Vietnam		48.44%	36.11%

Source: Calculated by authors

## 6. Conclusion

Vietnam commercial banking system have been experienced the significant change in the restructuring process by reducing the number of weak bank and creasing bank size through M&A activities which aim to building a safe banking system with high competitive competence.

The empirical research on Vietnam commercial banking system in the period of 2008 -2014 by structured approach showed that:

**Regarding M&A activities and its impacts on Vietnam commercial banking system.**

- M&A cases in banking sector had been conducted since 1990s, however these activities increased significantly in the period of 2011 -2015 in term of size and economics meaning. One hand, it presented the intrinsic adjustment of the banking system to the economics environment . On the other hand, it is the result of the change of SBV's policy approach in regulating banking and financial business.

- Generally, M&A activities have created the positive impacts on Vietnam commercial banking system, achieving its targets in term of : reducing NPLs, increasing competence, stabilization and safety.

- The changes of personnel, organizational structure, management were generally appropriate aim to specialization and utilization.

**Regarding the degree of concentration and market structure**

- The empirical research on Vietnam commercial banking system in the period of 2008 -2014 by structured approach show that: Despite of the higher concentration after some M&A cases, the degree of concentration still stay in the average level, it is right not only in the whole banking system but also in the group of largest banks. The high competitiveness in banking market is one of factors support Vietnam commercial banking in enhancing its efficiency – one of the important goals of restructuring project.

- The results also present that, the concerns about the size concentration by the M&A activities in Vietnam commercial banking system will lead to the increase of monopoly or group monopoly, which may cause harm to competitive environment have not taken place up till now.

- However, market situation may be changed significantly regarding the degree of concentration if one or several in the largest group are being merged. This is a notice for regulatory and supervisory body in the next time.

- In addition, the concentration index can not fully reflect the influences of a group of bank on the market. HHI and CR5 measured in this research show the high degree of competitiveness, medium degree of concentration, however, all of four largest banks in Vietnam commercial bank system are stated – own banks. There are concerns that policies from SBV and government may benefit these banks in some circumstances. For this reason, the index can not fully reflect the banking market structure.

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