The Evaluation of Effectiveness of Commercial Banks Participating In M&A In Vietnam

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Mergers and Acquisitions on Commercial Banks Performance in Vietnam.

ABSTRACT

Mergers and acquisitions (M&A) are seen as the principle ”mechanisms” that are intended in the corporate world to achieve the increasing importance and attention especially with the advent of intense globalization. This is evident from the magnitude and growth of deal values and resultant ‘mega-mergers’ transacted in recent times. This research work attempts to assess the implication of merger and acquisition of commercial banks in Vietnam on their profitability and other associated measures of performance. The result of the analysis revealed that there is significant relationship between pre and post merger/acquisition capital base of commercial banks and level of profitability, there is significant difference between pre and post-merger acquisition earnings per shares. Merger/acquisition have also increased the capitalization of commercial banks with evidences of changes in company’s share ownership, increase in the cost of services and changes in bank lending rates. Based on these findings, it can be concluded that the merger and acquisition of programmed has improved the overall performances of banks significantly and also has contributed immensely to the growth of the real sector for sustainable development. The banking industry is currently experiencing the most significant merger movement in its history. There has been a quantum jump in the number of mergers and acquisitions in the past few years. The increase in the number of mergers is even more significant because the average size of each transaction is also increasing. The consequence of these two trends is that in 1983 alone, over $40 billion in assets were acquired within the commercial banking merger activity.

Keywords: Mergers and acquisitions, Vietnam, banking industry, profitability, capitalization, commercial banks earning processes by trading issues.

Introduction.

One of the most destructive disasters for human beings is no doubt catastrophe of the financial sphere of human activity and world financial system. Therefore, after the financial crisis of 2008, and, with the collapse of a series of major banking systems worldwide, many lessons have been learnt about credit risks. Of course, the social republic of Vietnam is not an exclusion and obviously was undergone the financial reforms, were taken as attempts of correction and stabilization of the Vietnamese financial field.

In Vietnam, commercial banks[1] are established with great responsibilities for the country's economy (Whitting & Pany, 2001;

[1] A commercial bank is a financial institution which performs the functions of accepting deposits from the general public and giving loans for investment with the aim of earning profit.

Onumah et al., 2012). They are a source of capital for the economy, a bridge of businesses to the market, a tool for the state to regulate the macro economy and be a bridge of national finance to international finance. However, in fact, their activities are not really effective: the phenomenon of bad debt continuously increased, the efficiency of using capital was low, more and more banks went bankrupt. In front of the situation above, to survive and develop sustainably, each commercial bank itself needs to develop policies and measures aimed at managing its banks so that the activities always reach highest efficiency. Commercial banks need to improve and enhance the efficiency of internal audit to prevent fraud and errors. This paper is designed to identify the factors affecting the effectiveness of internal control in joint stock commercial banks in Vietnam. With the target object of the effectiveness of internal control at commercial banks, the results of the research will contribute to further improve internal control at commercial banks nowadays. In addition, the study also provides recommendations for the State Bank[2] to provide reasonable policy mechanisms to commercial banks.

Banks are the "background," the fundamental basis of any economy. They occupy central position in the country's financial system and are essential agents in the development process. By intermediating between the surplus and deficit savings' units within an economy, banks mobilize and facilitate efficient allocation of national savings, thereby increasing the quantum of investments. Through financial intermediation[3], banks facilitate capital formation (investment) and promote economic growth.

The period, which lasted from 2005 exactly up to the 2011 was particularly traumatic for the banking industry of Vietnam.

Merger and acquisition (M&A) in Vietnam are governed and defined by the 2005 Enterprise Law[4]. One or several companies of the same type (called a merged company) may merge with another company (called the acquiring company) by transferring all assets, rights, obligations and rights. legal interests and benefits to the merging company, and at the same time terminate the existence of the merged company. (Clause 1 - Article 153 of the 2005 Enterprise Law).

Two or several companies of the same type (hereinafter referred to as consolidated companies) may be consolidated into a new company (hereinafter referred to as consolidating companies) by transferring all assets, rights and obligations. Services and benefits to the consolidating company, at the same time to cease the existence of the consolidated companies. (Clause 1 - Article 152 of the 2005 Law on Enterprises). An enterprise's purchase of all or a part of another enterprise's assets is sufficient to control or dominate the whole or a business line of the acquired enterprise. (Clause 3 - Article 17 of the 2004 Competition Law[5])

Mergers and acquisition or any other form of consolidation may influence bank interest rates, competition and transmission mechanism of monetary policy in so far as the increase in size and the opportunity for reorganization involved may either provide gains in efficiency that bear on marginal costs or give rise to increase in market power, or

[2] The State Bank of Vietnam (Vietnamese: Ngân hàng Nhà nước Việt Nam) is the central bank of Vietnam. It currently holds an about 65% stake of VietinBank - the country's largest listed bank by capital.

[3] A financial intermediary is an institution or individual that serves as a middleman among diverse parties in order to facilitate financial transactions. Common types include commercial banks, investment banks, stockbrokers, pooled investment funds, and stock exchanges. Financial intermediaries reallocate otherwise uninvested capital to productive enterprises through a variety of debt, equity, or hybrid stakeholding structures.

[4] This Law provides for the establishment, management organization and operation of limited liability companies, shareholding companies, partnerships and private enterprises in all economic sectors (hereinafter referred to as enterprises); provides for corporate groups. (CHAPTER I General Provisions Article 1 Governing scope)

[5] The 2004 Law on Competition applies to organisations and individuals conducting business (collectively known as 'enterprises'), enterprises conducting business in State monopoly industries and sectors, and foreign enterprises operating in Vietnam. It also covers industry associations operating in Vietnam.

both together. Gains in efficiency would be obtained in moving on to greater scale of activity (if there are economies of scale).

Since the essence of any reforms is to bring greater efficiency not only in the operation but also their contributory role to the overall economy, then it is important to also raise the issues whether the recent mergers and acquisitions have really impacted positively on both credit allocation and saving mobilization through reduced cost of borrowing and increased returns on savings.

Whether or not bank mergers actually achieve these expected performance gains still remain critically an empirical question. If consolidation does, in fact, lead to gains, then shareholder wealth can be increased. On the other hand, if consolidating entities do not lead to the promised positive effects, then mergers may lead to a less profitable and valuable banking industry. Mergers and Acquisitions are commonplace in developing countries of the world but are just becoming prominent in Vietnam especially in the banking industry.

1. Theoretical and Conceptual Framework History of Banks Recapitalization in Vietnam.

1.1. Drawbacks of internal control in Vietnam of the pre-crisis period and the dynamics during worldwide crisis.

The whole variety of researches have been devoted to the various aspects of internal control[6] activities as well as the factors affecting the effectiveness of internal control in many different countries around the world. The authors mainly study the internal factors of internal control according to the COSO's[7] report but have not really paid much attention to the specific characteristics of Vietnamese economy. Amudo and Inanga (2009) investigated the internal controls of countries under the control of the African Development Bank[8] and provided a general model to consider and evaluate internal control including independent variables[9]: control environment; risk assessment; information and communication system; control activities; monitoring; information technology. The dependent variable in this study was: the effectiveness of internal control. The two regulatory variables also included: authorization and collaboration relationship. This research has shown that the lack of some elements of internal control will make the effectiveness of internal control not achieve as expected.

1.2. Reconsideration of banking strategies after worldwide financial crisis.

Nguyen and Ha (2010), on the basis of the principles of Basel II, believe there are 5 groups of factors affecting the effectiveness of internal control in commercial banks, including: control, environment and supervision of the Board of Directors; identify and assess risks; control and assignment tasks; information and communication; monitoring activities and correcting errors. In 2011, with the study in 6 private banks listed in Bangladesh, Sultana and Haque conducted empirical research and pointed out that to evaluate the ability to ensure the organization's activities are consistent with the target, first we need to determine the internal control structure in this

[6] A critical component of safe and sound bank management is constituted by an effective and efficient system of internal controls, which help to ensure that the goals and objectives of a bank will be met, that long-term profitability targets will be achieved, and maintain reliable financial and managerial reporting. Such a system can also ensure that the bank will comply with laws and regulations as well as policies, plans, internal rules and procedures, and decrease the risk of.

[7] Committee of Sponsoring Organization of Treadway Commission

[8] The African Development Bank Group (AfDB or ADB) or Banque Africaine de Développement (BAD) is a multilateral development finance institution headquartered in Abidjan, Ivory Coast, since September 2014. The AfDB is a financial provider to African governments and private companies investing in the regional member countries (RMC).

[9] Dependent and independent variables are variables in mathematical modeling, statistical modeling and experimental sciences. Dependent variables receive this name because, in an experiment, their values are studied under the supposition or hypothesis that they depend, by some law or rule (e.g., by a mathematical function), on the values of other variables. Independent variables, in turn, are not seen as depending on any other variable in the scope of the experiment in question. In this sense, some

organization. The results of the study show a model with these independent variables: control environment, risk assessment, communication information system, control and monitoring activities. The dependent variable is the effectiveness of the internal control system; and two regulatory variables are: Authorization and Collaborative relationship. According to Sultana and Haque (2011), the advantage of that study was to show that this model would be reasonable when the independent variables and control objectives of the bank had a close relationship. That means each part of the internal control system (independent variable) working effectively will confirm the reasonableness of control objectives and thus ensure the effectiveness of the internal control system.

1.3. The revealed benefits of commercial regulators.

Also using the above model but omitted the two regulating variables, Gamage et al. (2014) studied the effectiveness of the internal control system at 2 state-owned commercial banks together with 64 branches of these 2 commercial banks in Sri Lanka[10]. The paper reported that there was a positive effect of independent variables: control environment; risk assessment; information and communication; control activities and monitoring to the dependent variable of the effectiveness of internal control. Ho Tuan Vu (2016) with the research topic “Factors affecting the effectiveness of internal control systems in Vietnamese commercial banks-empirical evidence in Vietnam” fully mentioned about the internal control system. The authors identified 7 factors affecting the effectiveness of internal control in Vietnamese commercial banks: control environment; risk assessment; control activities; information and communication; monitoring; political institutions and group interests. However, research is limited by the southern space and the new specific factors were not general for internal controls in particular.

1.4. Summary of changes and transformation in Vietnamese banking landscape especially connected with M&A banking policy before, during and after crisis.

The banking system of Vietnam has been undergone remarkable changes over the years, in terms of the number of institutions, ownership structure as well as depth and breadth of operations. He observed that these changes have been influenced largely by challenges posed by deregulation of financial sector, globalization[11] of operations, technological innovations and adoption of supervisory and prudential requirements that conform to international standards.

Its specific capitalization is an important component of necessary reforms in Vietnam banking industry, owing to the fact that a bank with a strong capital base has the ability to absolve losses arising from non performing liabilities. Attaining capitalization[12]

[10] Commercial Banks of Sri Lanka. Banks with Internet Payment Gateways (IPG). Commercial Banks of Sri Lanka. Amana Bank. ... This was the first bank to be privatized in 1991 and the bank was purchased by a consortium of Pakistani corporate groups led by Nishat Group. As of June 2008, the Nishat Group owns a majority stake in the bank. ... Sampath Bank PLC is a licensed commercial bank incorporated in Sri Lanka in 1986 with 229 branches and 373 ATMs island wide. It has won the “Bank of the Year” award by “The Banker” of Financial Times Limited – London, for the second consecutive year and the “National Business Excellence Awards 2010”.[citation needed] It has become the third largest private sector bank in Sri Lanka with Rs.

[11] Globalization, or globalisation (Commonwealth English; see spelling differences), is the process of interaction and integration among people, companies, and governments worldwide. Globalization has accelerated since the 18th century due to advances in transportation and communication technology. This increase in global interactions has caused a growth in international trade and the exchange of ideas and culture.

[12]Capitalization (North American English) or capitalisation (British English) is writing a word with its first letter as a capital letter (uppercase letter) and the remaining letters in lower case, in writing systems with a case distinction. The term also may refer to the choice of the casing applied to text. Conventional writing systems (orthographies) for different languages have different conventions for capitalization, for example the capitalization of titles. Conventions also vary, to a lesser.

requirements may be achieved through consolidation of existing banks or raising additional funds through the capital market.

2. Banks Consolidation Through Merger and Acquisition.

2.1. Difference between economic and banking terms: mergers and acquisitions.

Mergers and acquisitions (M&A) is a general term that describes the consolidation of companies or assets through various types of financial transactions[13], including mergers, acquisitions, consolidations, tender[14] offers, purchase of assets, and management acquisitions.

The terms mergers and acquisitions are often used interchangeably, however, they have slightly different meanings. When one company takes over another and establishes itself as the new owner, the purchase is called an acquisition. Acquisition takes place where a company takes over the controlling shareholding interest of another company. Usually, at the end of the process, there exist two separate entities or companies. The target company becomes either a division or a subsidiary of the acquiring company.

On the other hand, a merger describes two firms, of approximately the same size, that join forces to move forward as a single new entity, rather than remain separately owned and operated. This action is known as a merger of equals. Case in point: Both Daimler-Benz and Chrysler ceased to exist when the two firms merged, and a new company, Daimler Chrysler, was created. Both companies' stocks were surrendered, and new company stock was issued in its place. A purchase deal will also be called a merger when both CEOs agree that joining together is in the best interest of both of their companies.

2.2. Banking consolidation.

Consolidation is achieved through merger and acquisition. A merger is the combination of two or more separate firms into a single firm. The firm that results from the process could take any of the following identities: Acquirer target or new identity.

While consolidation involves merger and acquisition of banks, convergence involves the consolidation of banking and other types of financial services like securities and insurance.

Unfriendly or hostile takeover deals, in which target companies do not wish to be purchased, are always regarded as acquisitions. A deal can be classified as a merger or an acquisition based on whether the acquisition is friendly or hostile and how it is announced. In other words, the difference lies in how the deal is communicated to the target company's board of directors, employees, and shareholders.

3. M&A classification

M&A is divided into three categories based on the competing relationship between related parties, namely: horizontal merger, vertical merger and combination merger.

3.1. Horizontal and vertical mergers.

- Horizontal merger: Merger or consolidation between two trading companies and competition on the same product line, in the same market. From that, creating a highly competitive firm, minimizing competitors, saving costs due to scale.
- Vertical merger: It takes place between businesses of the same business sector, but different in the production or processing stage. It could be between a company and its

customers or suppliers. This merger creates value by leveraging the experience and capabilities of companies in a chain to create added value for customers. Vertical merger has 2 sub-groups: **a.** Merging progress: A company acquires its customer company, for example a garment company acquires a clothing retail chain.

b. Back merger: one company acquires its supplier, such as a dairy company that acquires a dairy company.

[13] A financial transaction is an agreement, or communication, carried out between a buyer and a seller to exchange an asset for payment. It involves a change in the status of the finances of two or more businesses or individuals.

[14] A tender is an invitation for a company to bid on a project. In investing, a tender offer is used in stock buybacks and in response to a takeover.

3.2. Merging combinations

Merging combination: Merging between companies that are not in the same business field. The purpose of these merger transactions is to diversify business activities, multiple industries after the merger, including 3 groups:

a. Merging a pure combination: The two parties have no relationship with each other, for example, a medical equipment company merges with a fashion company.

b. Merging geographical expansion[15]: 2 companies produce the same product type but consume it in 2 different geographic markets, like a restaurant in Hanoi that buys a restaurant in Korea.

c. Merging and diversifying products: 2 companies produce 2 different types of products but apply the same production or marketing technology almost the same, for example, a detergent manufacturer buys a manufacturing enterprise produces sanitary bleach.

4. Current state of M&A in Vietnam

4.1. The period from 1986 to 2005

Business M&A activities in Vietnam can be divided into 3 phases, namely *The period from 1986 to 2005* This is an early stage of merger and acquisition (M&A) in Vietnam when the legal framework for this activity is not yet available. Historical data records very few deals, mostly foreign companies acquiring enterprises through joint ventures or associates. In this period, more and more rural banks were merged into urban banks. These deals are mostly due to the arrangement of state management agencies[16] but not from market factors.

4.2. From 2005 to 2013

This can be considered a period of forming M&A market in Vietnam with a quite strong wave. An important milestone of this period is that the issuance of important legal documents such as

the Competition Law, the Enterprise Law, the Investment Law[17], and the Securities Law have created a legal framework for trading, transferring. capital. M&A increased five times in value,

from US $ 1.08 billion in 2005 to US $ 5.1 billion in 2012; 77% of deals are related to domestic enterprises, but the value is not large with the scale of less than 10 million USD (47% of the

deals) (MAF, 2013). This period witnessed a breakthrough in M&A transactions in banking, consumer goods and real estate industries. Along with the restructuring process, the banking industry has a number of major deals such as Saigon Commercial Joint Stock Bank which is merged from three banks, Habubank merged into SHB. Acquisitions on the stock exchange have also occurred. In addition, M&A officially became a channel to attract foreign investment. From 2011 to 2013, Japanese corporations contributed up to US $ 2.5 billion to M&A in Vietnam, especially in consumer goods and finance-banking. Typically, Vietcombank issued a 15% stake to Mizuho; Bao Viet and Vietinbank[18] are also destinations of Sumitomo Life and UFJ Mishubishi Bank[19].

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[15] Geographical expansion definition: Geographical or geographic means concerned with or relating to geography . [...] | Meaning, pronunciation, translations and examples. ... These examples have been automatically selected and may contain sensitive content that does not reflect the opinions or policies of Collins, or its parent company HarperCollins. We welcome feedback: you can select the flag against a sentence to report it.

[16] A government or state agency, sometimes an appointed commission, is a permanent or semi-permanent organization in the machinery of government that is responsible for the oversight and administration of specific functions, such as an administration

[17] The Investment Laws Navigator is a comprehensive and regularly updated collection of national investment laws. It contains the full text of the laws and offers user-friendly tools for searching and filtering for selected provisions that are specifically relevant to foreign investors. The Navigator is designed to provide accurate and authoritative information and all laws are identified through a systematic review of government and business intelligence sources and verified to the fullest extent possible. ... Law on Investment. Law No. 67/2014/QH13. Pursuant to Constitution of Socialist Republic of Vietnam; The National Assembly promulgates the Law on Investment. Chapter I. General provisions. Article 1. Scope.

[18] Vietinbank (Vietnam Joint Stock Commercial Bank for Industry and Trade) (Vietnamese: Ngân hàng Thương mại Cổ phần Công thương Việt Nam) is a state-owned Vietnamese bank. It has strategic partnerships with the International Finance Corporation and Mitsubishi UFJ

Table 1: M&A of credit institutions in Vietnam before *2005.*

M&A deals	
1997	Dong Thap Rural Commercial Joint Stock Bank is merged into Phuong Nam Commercial Joint Stock Bank
1999	Dai Nam Joint Stock Commercial Bank merges into Southern Bank
2001	Chau Phu Commercial Joint Stock Bank merged with Phuong Nam Commercial Joint Stock Bank
2001	Dong A Commercial Joint Stock Bank acquired Tu Giac Long Xuyen Rural Commercial Joint Stock Bank
2002	Phuong Nam Commercial Joint Stock Bank bought Dinh Cong People's Credit Fund
2002	Thach Thang Commercial Joint Stock Bank merged with Sai Gon Thuong Tin Commercial Joint Stock Bank
2003	Cai San Rural Commercial Joint Stock Bank is merged into Southern Commercial Joint Stock Bank
2003	Tay Do Rural Joint Stock Commercial Bank merges with Orient Commercial Joint Stock Bank
2003	Bank for Investment & Development of Vietnam acquires Nam Do Commercial Joint Stock Bank
2003	Saigon Finance Company merges Da Nang Commercial Joint Stock Bank
2004	Tan Hiep Rural Commercial Joint Stock Bank is merged into Dong A Commercial Joint Stock Bank

This period witnessed the recovery of M&A after falling by more than 50% in 2013. The legal framework for this activity continued to be improved by amending a number of laws such as the Law on Investment, the Law on Enterprises, Real Estate Law. The provision of "room" expansion for foreign investors (Decree No. 60/2015 / ND-CP) contributes to encourage foreign investors to invest in domestic enterprises. According to statistics of the Swiss Merger and Acquisition Institute (IMAA), Vietnam had 313 M&A cases in 2014, with a value of up to 4.2 billion USD. In 2015, there were 341 cases with a total value of 5.2 billion USD and even in 2016 was even higher with 611 cases and 5.8 billion USD.

5. Objectives of the study

During the course of the study the researches pursue the realistic assignments reflected in the item of financial environment existing indeed on Vietnamese spaces. Therefore, they were vitally interconnected with the commercial banking atmosphere of Vietnam as the impact of commercialism is no doubt figured out by its serious, though relatively invisible interference in the state banking system of the country. Thus, the emerged objectives were of course quite subjective and denoted the real state of affairs of clear economic dependence of Vietnam on foreign banking system. However, in this article we propose a number of solutions for regulatory agencies, commercial banks and the State Bank of Vietnam to develop M&A activities in Vietnam in the near future to.

- Take advantage of the experience from mergers and

acquisitions in banking sector,

- Achieve many good results, contributing to the healthier

banking sector, helping Vietnam's financial market to grow
resiliently.

6. Research methodology

The basic research design used in this study was survey. The population of the study consisted of banks that emerged victoriously

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Financial Group. It has a market capitalisation of VND 53.22 trillion (around $2.5 billion) as of late 2012, making it one of Vietnam's largest listed companies. According to the VNR500 (Top 500) ranking, Vietinbank is Vietnam's 13th largest company.

[19] Sumitomo Mitsui Banking Corporation (SMBC) was formed by the merger of The Sumitomo Bank and Sakura Bank in April 2001. Sumitomo Bank was a major Japanese bank founded in 1895; while Sakura Bank was a descendant of Mitsui Bank, another major Japanese bank founded in 1876, but with operations dating back to 1683, when the Tokugawa Shogunate granted Mitsui Takatoshi permission to act as a money changer. ... August 2004: SMBC Group launched competing bid to acquire ailing Japanese bank UFJ, challenging a takeover of UFJ by the Mitsubishi Tokyo Financial Group (see Mitsubishi UFJ Financial Group). While it eventually lost that bid, SMBC is credited with increasing competition within Japan's once staid banking industry.

during the consolidation exercise in Vietnam. The sampling method used to select ten banks out of the population was simple random sampling technique. With this sampling procedure, every bank had an equal chance of being selected out of the population of the study. Table 1 shows the number of banks involved and the number of questionnaires distributed and returns of questionnaires. The three hypothesized statements were tested using correlation co-efficient and T-Test

7. Data Summary

Based on the questionnaire prepared and administered on 106 respondents that made up the sample of the study, the following data in the table № 2 below was generated from the population of the study through purposive sampling technique.

S/N	*Bank/C.I*	*No Distributed*	*% of No Distributed*	*No Returned*	*% of No Returned*	*No Not Returned*
1	A	6	5.7	4	4.21	2
2	B	6	5.7	4	4.21	2
3	C	6	5.7	4	4.21	2
4	D	6	5.7	5	5.26	1
5	E	6	5.7	5	5.26	1
6	F	6	5.7	4	4.21	2
7	G	6	5.7	5	5.26	1
8	H	6	5.7	6	6.32	0
9	I	6	5.7	6	6.32	0
10	J	6	5.7	6	6.32	0
11	*Customer/ Investors*	35	33	25	26.32	0
	TOTAL	106	100	95	100	11

Table № 2. Sources: Field Survey Data, June 2020

A total of one hundred and six (106) copies of questionnaires representing 100% were distributed to the members of the senior staff, junior staff, management staff and customers/investors of the ten (10) randomly selected banks in Vietnam, out of which ninety-five (95) representing 90% were returned, while eleven (11) copies of the questionnaire indicating 10% were not returned. Consequently, only ninety-five (95) questionnaires representing 90% were eventually used for data analysis.

8. Model specification

The correlation co-efficient[20] r2 was used in measuring the degree of correlation or association between the two variables of this study. For the variables that can conveniently be grouped as dependent (Y) and independent (X). Some variables of this research may not be put as dependent and independent, therefore, the use of letters X and Y was used to delineate the variables but not a causative arrangement. It is these variables that would demand ascertainment of correlation. Where:

Coefficient of correlation, r =:

[20] In mathematics, a coefficient is a multiplicative factor in some term of a polynomial, a series, or any expression; it is usually a number, but may be any expression (including variables such as a, b and c). When the coefficients are variables, they are often called parameters. For example, has the real coefficients 2, -1, and 3 respectively, and., has coefficient parameters a, b, and c respectively- assuming x is the variable of the equation.

$$\textit{Correlation Coefficient } r = \frac{NSumXY - (SumX)(SumY)}{\sqrt{[NSumX^2 - (SumX^2][NSumY^2 - (SumY^2]}}$$

Where:

X = deviation of each value in one variable from the means of the variable

Y = deviation of each value in the other variable from the mean of that variable

XY =product of the deviation in one variable and the deviation in the other variable

N =numbers of cases compared

If r is between – 1 to 1, there is a correlation between x and y, but where; r = o there is no correlation.

9. Tests

9.1. The T-Test

The t-test[21] is used to determine the prior and post-performance of an activity. This sort of test, according to Okpara (1998:17), could be used for testing performance before and after economic, political or social policy has been adopted and displayed (see also Ali, 2020:14), and on a group after some treatment has been meted upon the groups. In our own case, we shall use it to evaluate the effect of Merger and Acquisition on corporate performance of commercial banks in Vietnam. The t-statistic is given by the formula.

$$\sqrt{\frac{N\sum d^2 - (\sum d)^2}{N-1}}$$

Where:

d = the difference between each paired observation

d^2 = the square of the difference between each paired observation

N = the number of paired observation

$\sum$ = the usual sigma notation

N-1 = the degree of freedom

Decision Rule[22]

If the probability (or significance) of the t calculated is less than 5%, we accept the alternative hypothesis and otherwise, we should accept the null hypothesis.

9.2. Test of Hypothesis[23]

The three hypotheses are stated below:

Ho: there is no significant relationship between pre-merger/acquisition equity capital base and profitability of commercial banks.

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[21] The t-test is any statistical hypothesis test in which the test statistic follows a Student's t-distribution under the null hypothesis. A t-test is the most commonly applied when the test statistic would follow a normal distribution if the value of a scaling term in the test statistic were known. When the scaling term is unknown and is replaced by an estimate based on the data, the test statistics (under certain conditions) follow a Student's t distribution.

[22] In decision theory, a decision rule is a function which maps an observation to an appropriate action. Decision rules play an important role in the theory of statistics and economics, and are closely related to the concept of a strategy in game theory. In order to evaluate the usefulness of a decision rule, it is necessary to have a loss function detailing the outcome of each action under different states. Given an observable random variable X over the probability space.

[23] A statistical hypothesis is a hypothesis that is testable on the basis of observed data modelled as the realized values taken by a collection of random variables. A set of data is modelled as being realized values of a collection of random variables having a joint probability distribution in some set of possible joint distributions. The hypothesis being tested is exactly that set of possible probability distributions. A statistical hypothesis test is a method of statistical inference.

H1: there is significant relationship between pre-merger/acquisition equity capital base and profitability of commercial banks.
Ho: there is no significant relationship between post-merger/acquisition equity capital base and profitability of commercial banks.
H1: there is significant relationship between post-merger/acquisition equity capital base and profitability of commercial banks.
H0: There is no significant difference between pre-merger and post-merger earnings per share.
H1: There is significant difference between pre-merger and post-merger earnings per share

10. Results

The result of the first hypothesis showed that capital base is very significant in influencing the profitability of commercial banks as value of r2 falls between 0.8 to 1.0 which shows very high relationship. We, therefore accept alternate hypothesis (H1) which states that there is positive relationship between capital base and profitability of commercial banks. We therefore, reject null hypothesis (Ho).
In the second hypothesis, falls between 0.8 to 1.0 which shows very high relationship? We, therefore accept alternative hypothesis (H1) which states that there is positive relationship between capital base and profitability of commercial banks. We therefore, reject null hypothesis (Ho) The third hypothesis propounded for empirical investigation deals with one major challenge. In connection with this hypothesis we employ the t-test of statistical analysis. We got 2.262 (tabulated), since this value is less than the calculated value above (i.e. 7.16), we therefore reject the null hypothesis and accept the alternative hypothesis which states that there is significant difference between pre and post-merger/acquisition earnings per share of commercial banks

11. Findings

The research findings are summarized as follows:

i. Mergers and acquisitions of commercial banks has consequently increased the capital base of banks.
ii. Increase in capital base of commercial banks does not only enhance revenue generation but acts as a hedge against future losses, economic slow-down and to secure the capital of shareholders.
iii. There are drastic changes during pre and post- merger and acquisition of commercial banks in terms of asset structure, liquidity and capital structure.
iv. Consolidation has helped to curb the problem of illiquidity (customer's deposit were used for trading and check inadequate capital to meet maturing obligations as at when due) in the capital structure of commercial banks.
iv. Mergers and acquisitions, has significantly affected the earnings per share of investors.
v. The financial activities of the bank being a fall-out of the merger process have to some extent benefited most of the customers and the shareholders. Among such benefits are improvements in the bank profitability, improved asset structure, strong capital base, increased stock value, liquidity among others.
vi. The study further shows that the merger and acquisition of banks have acted as a catalyst for enhanced control, rapid growth and survival of banks in Vietnam.
vii. Recapitalization was made possible as a result of merger and acquisition of commercial banks.
ix. Mergers and acquisitions of banks has significantly influenced dividend per share of shareholders.
x. Consolidation of the banking sector has led to changes in company's share ownership.
xi. Mergers and acquisitions have significant impact on the level of stock value of commercial banks.
xii. Higher risk exposure is a possibility

12. Conclusions

In this study, attempts have been made to assess the resultant effect of mergers and acquisition in Vietnam banking sector with respect to its profitability performance and the economy. From the analysis carried out, it is evident Hypothesis, the study concludes that mergers and acquisition have increased profitability and enhanced control, and survival of banks in Vietnam.

The study shows that the mergers and acquisitions in the banking industry have significantly influenced profitability of commercial banks, earnings per share and dividend per share of shareholders.

Equally important, is the fact that introduction of consolidation through merger and acquisition has brought about changes in ownership structure. It has brought about decentralization of ownership to many shareholders contrary to over centralization of ownership in the hand of few shareholder's prior merger and acquisition of commercial banks in Vietnam.

More importantly, the merger has helped to curb the problem of illiquidity characterized by the banks trading with customer's deposits. The idea underlying the consolidation policy is that bank consolidation would reduce the insolvency risk through asset diversification.

The study further shows that one of the fall outs of the mergers is the shrinkage in the industry from 89 to 24 banks. Vietnam now have mega banks with huge capital to invest, but it is instructive to note that size and huge capital do not necessarily make a good and sound bank. What makes a sound bank is really how effective and efficient the management of the bank is deploying the available resources.

Generally, the study affirms that for a bank to survive in the current dispensation it needs to maximize its comparative advantage (strength), by promoting its uniqueness in the areas where it performs best. The decisive factors for competition and profitability in the new era would be the optimization of reduces by the emerging mega banks. If any bank wishes to compete in the coming era, now is the time to plan for optimal resources structure, because the banks with the best brains and best hands would have an uncommon edge not only for future profitability but also survive future shocks.

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