MERGER PERFORMANCE OF
FINANCIAL INSTITUTIONS IN MALAYSIA

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Merger performance of financial institutions in Malaysia

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ABSTRACT

This paper investigates and compares pre and post-merger operating performance of acquiring banks of the recent banks mega mergers in Malaysia. A sample of 47 banks for period beginning 1992 through 2002, a period characterized by major changes in the banking sector was utilized in this study. The merger exercises provide an opportunity for Malaysian banks to improve their efficiency and to enhance their competitiveness in view of ongoing financial liberalization. The findings reveal that bank characteristics such as bank growth and market growth are found to be significant and played a role in explaining the differences in pre and post-merger performance. Also, capital asset is found to be significant in explaining the impact of the post-merger of the acquiring banks.

ABSTRAK

Kertas kerja ini menyelidiki dan membandingkan prestasi operasi bank pengambilalih sebelum dan selepas penggabungan yang merupakan penggabungan mega di Malaysia. Sampel sebanyak 47 bank dari tempoh bermula tahun 1992 hingga 2002, satu tempoh yang dikategorikan sebagai perubahan utama di dalam sektor perbankan digunakan dalam kajian ini. Perlaksanaan penggabungan tersebut memberi peluang kepada bank di Malaysia untuk menambahbaikkan kecekapan mereka dan juga meningkatkan persaingan untuk menempuhi liberalisasi kewangan. Dapatan kajian mendapati ciri-ciri bank seperti pertumbuhan bank dan pertumbuhan pasaran adalah signifikan dan memainkan peranan penting dalam menerangkan perbezaan prestasi sebelum dan selepas penggabungan. Modal aset juga didapati signifikan dalam menerangkan kesan kepada bank pengambilalih selepas penggabungan.

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CHAPTER ONE

INTRODUCTION

1.0   Introduction

Many bank analysts as well as academic researchers have argued that bank mergers resulted in efficiency gains. Therefore, this study investigates the empirical reasons for the financial institutions in Malaysia merger exercise since the mid to late 1990s, particularly to determine whether merger improve the operating performance of acquiring banks (pre-merger and post-merger period). The rationale of this study is to discover whether mergers could also provide an important experiment to examine the public policy tradeoff between potential cost efficiency gains, which arise from consolidation and potential social efficiency losses resulted from greater exercise of market power. This chapter explains the motives behind the "mega-merger" which shapes the Malaysian financial sector into a new landscape after the Asian crisis turbulence and the strive to face ever mounting competition due to the financial globalization and liberalization.

Since the early nineties the world has seen an accelerating trend towards merger and consolidation, particularly in the financial service sectors. Various impetuses were justified to the pressing need of the merger activities. The initial propulsion was due to gradual liberalization in the United States, gaining momentum after the repeal of the Glass-Steagall Act in 1998. Further driving force towards the merger and consolidation was due to the integration within Europe and the creation of Euro. These paved the way for increased global competition in the financial services

sector. The changing landscape in the financial service sectors experienced by the developed countries has spread the waves to the developing countries. Coupled with forces from factors like, technological innovation, financial liberalization, opening up of the capital account, and the growing trend of disintermediation, has added to pressures on the banks operating in the developing countries. The pressures on the developing countries are more heightened as they open up their banking sector to foreign competition in accord with the provisions of the WTO agreement on financial services. In addition, another important factor contributed towards the increased momentum on the merger and consolidation were the repeated concurrence of banking crisis since the eighties and the global move towards privatization of the banks. The nineties alone recorded over 2500 mergers in the banking system which amounted to nearly $700 billion.

1.1 Historical background of the merger movement in the Malaysian banking industry.

The Malaysian banking system has undergone major changes in the last thirty years. The country had witnessed its bank mergers as early as in 1932, late 1960s and the process peaked in mid-1980s as a result of the economic recession (Geeta, Ridzwa & Perumal, 2003). A severe recession, in the early 1980's, revealed the weakness of the banks' financial positions and their inability to adjust to new conditions despite a decade of prudent macroeconomic policies, which resulted in the low inflation, strong external reserves and current account surplus.

The 1997-98 Asian economic and financial crises again tested the capacity of the financial institutions to absorb economic downturns that indeed has left the darkest moment in the Malaysian economic development history. Prior to the onset of the financial crisis, Malaysian banking sector was highly fragmented which comprised of 22 domestic commercial banks, 13 foreign commercial banks, 12 merchant banks and 16 finance companies, in which the domestic commercial banks dominated 77% of the total assets and 78.5% of the total deposits. Nevertheless, despite the dominance, the foreign commercial banks have established a strong presence in the banking sector due to their high return on equity/assets, operational efficiency and product innovations. The success was attributed by their focus on the high value corporate clients, access to highly-skilled human resources, superior in technology and the global network they have established.

Besides, the Malaysian economic recession in 1985 caused the GDP to fall by 1%, just a mild change compared to the 7.5% contraction in 1998. The financial institutions were badly hit by the 1985/86 recession as they were saddled with huge NPLs. However, the merger called left unintended by the affected banks, as their shareholders were more concerned in protecting their self-interests above that of national considerations. The result has been dismal, as shown in Table 1.1. It shows a very slow reduction in the total number of banking institutions before and after the merger was called. For example, during the crisis 1997-98 periods, the market experienced only a gradual diminution in the number of banks.

Table 1.1: Number of banking institutions 1980-2002

Banking System	1980	1990	1997	1999	2002
Commercial banks:					
• Domestic	21	22	22	21	10
• Foreign	17	16	13	13	13
Finance companies	47	45	39	25	12
Merchant banks	12	12	12	12	10
Total	97	95	86	71	45

Source: The Star-Business (1999) and Bank Negara Malaysia (2002)

The idea of restructuring the banking sector was not new and as in the mid-1980, there had been calls for mergers, particularly following an economic crisis or slowdown. The issue becomes more pressing with the rapid pace of globalization and financial liberalization, competition and countries has to open up their financial market to allow entry of foreign banks. In addition, Bank Negara Malaysia (BNM) has long advocated and recognized that a financial system with numerous small-sized banks is less efficient and unstable. At the same time, BNM has always encouraged banking institutions to merge in order to achieve economies of scale and higher level of efficiency. However, the policy has always been to allow market forces to dictate the merger pace.

Therefore, in recognizing and proving the importance of having a few but stable banks, these small banks have to be merged to enable they survived the onslaught of incoming and greater competition. As such, efficiency, economic of scale and liberalization of the Malaysian system makes consolidation inevitable for banks to become more competitive in the global market.

Despite the slow merger movement in the mid 80s, the banking crisis had propelled a number of weak commercial banks and finance companies into solvency and financial distress. As such, merger alternative cannot be avoided. For example, United Asian Bank Berhad (UAB) was subsequently merged with Bank of Commerce (M) Berhad. The name of UAB was then changed to Bank of Commerce (M) Berhad. Since then, the only market-oriented mergers in banking sector were between Kwong Yik Bank and DCB Bank, which became RHB Bank Berhad and Chung Khiaw Bank and United Overseas Bank (M) Berhad and many others.

Apparently, the last 1997-98 economic crisis has given the opportunity for BNM to speed up and accelerate the consolidation and rationalization process of the banking sector. The crisis also provided both the urgent necessity and the opportunity for banking sector consolidation through government intervention. The deteriorating economic conditions also adversely affected the asset portfolio of banking institutions, resulting in growing levels of non-performing loans (NPLs) that weaken the capital bases. As the results, the cumulative losses of financial institutions were estimated to equal 4.7% of GDP (Sheng, 1995). As such, banking institutions became overly occupied with managing their deteriorating asset portfolio and this hampered their lending activities.

Also, the banking sector restructuring either in Malaysia and other countries has cost government huge sum of money to bail out weak banks (refer to table 1.2). Although, the banking system as a whole continued to remain sound without much disruption to the loan intermediation process, it became evident that some banking institutions began to face difficulties. Therefore, for the economy to recover, it is crucial that the banking sector is re-energized so that it is able to perform its

intermediation function effectively. Thus, reform and restructuring of the banking

sector is vital if economies are to recover and get into a correct path to achieve

sustainable growth.

Table 1.2 : The costs of banking crisis

Country	Year	Peak Nonperforming Loans as % of Total Loan	Cost of restructuring: as % of GDP
Chile	1978-83	19	41
United States	1984-91	4	5-7
Norway	1988-92	9	4
Finland	1991-93	9	8-10
Sweden	1991-93	11	4-5
Mexico	1995-97	13	14
Argentina	1995	-	2
Brazil	1995	15	5-10
Thailand	1997	47	24
South Korea	1997	25	17
Indonesia	1997	55	58
Malaysia	1997	25	10
Philippines	1998	12	7

Sources: IMF, World Economic Outlook, May 1998; JP Morgan, Asian Financial Markets, 28 April 2000; World Bank, Global Economic Prospect and Developing Countries, Table 3.6; Barth, Captio and Levine (2000), Table 2; Central banks from BIS "The Banking Industry in Emerging market Economics: Competition, Consolidation and Systemic Stability" 2001

The above scenarios provided the urgent necessity and also the opportunity for

banking sector consolidation through government intervention. On the other hands,

for a nation of 26 million people, Malaysia was considered and reported as "over-

banked "[1] and resources were said to be wasted due to replication of branches in the

same locality. In 1999, there were 71 banking institutions in the country, with 2,712

branches. (The Star Business, 1999). As the results, the cumulative losses of

financial institutions were estimated to equal 4.7% of GDP (Sheng, 1995). This

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[1] An "Over –banked "financial sector is charaterised by a fragmented structure,which is asymptom of the industry over-capacity. This fragmentation can be measured by the share of assets held by the three largest banks. A small share indicates the presence of many BIs and hence a fragmented industry. The three largest BIs in Malaysia held 28% of the total banking assets. In comparison,in the United Kingdom, the share nwas 50%, in Australia 55% and Canda 60%.(Mahani, 2002, p. 180)

scenario led to over competition for assets and resources, which put great strains on profitability of the banks.

The 1997 – 1998 financial crises again saw the history repeats itself. This gave the much-needed push for the industry to consolidate and in June 1999, for instance RHB Bank absorbed Sime Bank, while Bank of Commerce (M) Bhd merged with Bumiputra Malaysia Bhd in October 1999 and became Bumiputra Commerce Bank Bhd. During this period, further measures were adopted to restructure the banking sector. The measures included the setting up of three bodies by the Central Bank namely, Danaharta (the national asset management company to address the rise in non-performing loans (NPLs)), Danamodal (a special vehicle to address the erosion of capital in some banking institutions) and Corporate Debt and Restructuring Committee (CDRC) (to resolve the debt problem of larger corporations). However, the impending need to merge was finally comprehended by the financial institutions.

In general, the financial institutions have been given the flexibility to form its own merged group and to identify its anchor bank or lead partner to spearhead the consolidation process. The total number of banking institutions as at 20th October 1999 was 55, which made up of 20 commercial banks, 23 finance companies and 12 merchant banks. They have been given a dateline by end of January 2000 to forward their comprehensive proposal to the Central Bank. At the same time, banking institutions were offered incentives to merge, such as tax incentives to reduce acquisition costs as well as operational dispensations. However, the anchor banking groups were discouraged from reducing their workforce immediately after the merger, in order to maintain staff morale and to avoid negative social consequences.

After the successful merger process, as at January 2001, the banking sector in Malaysia comprised of 31 commercial banks, 19 finance companies, 12 merchant banks, 2 Islamic banks and 7 discount houses. However, it is worth noting that many of the banks had been consolidated under the banking merger process since then. The move came under the BNM's mandate for a merger of Malaysia's financial institutions into only 10 anchor banks and need to satisfy the requirement of having a minimum of RM2 billion shareholders fund and a minimum total asset of RM25 billion.

With the completion of these mergers, the domestic banking system has been transformed from one that was highly fragmented with 71 institutions prior to the Asian crisis to only 30 banking institutions grouped under 10 anchor banking groups (refer to Table 1.3). This merger and consolidation was consistent with the policy at that time not to bail out weak companies but to rationalize businesses towards higher productivity and efficiency. Thus, it is apparent that without the merger, the small financial institutions are likely to disappear as a result of globalization and increased competition. Therefore, Malaysia's banking institutions are now well-positioned to realize the synergies reaped from the mergers following the completion of the integration of the banking operations, especially in terms of technology and delivery platforms as well as human resources. The reengineering of operations through the pooling of resources capability, cross-selling of products and services and outsourcing of non-core operations have also resulted in gradual improvements in productivity and the level of customer service. As consequences, a massive banking merger exercise was undertaken that saw Malaysia's 54 financial institutions being whittled to 10 banking groups.

In fact, the need to merge is even more imperative in the face of increasing pressure under World Trade Organization (WTO) for countries to open up their financial markets to further entry of foreign banks. All countries are now moving towards consolidating their banking system and Malaysia cannot be the exception. As such, BNM's Governor emphasized that the merger exercise will not in any way, weaken the financial strength of the merged entities. The creation of the six domestic financial groups will ensure that the domestic banking institutions will be able to withstand pressures and challenges arising from globalization and from an increasingly competitive global environment especially with the foreign banks.

Table 1.3 depicts the 10 banking groups formed under the merger exercise namely, Malayan Banking (Maybank), Commerce Asset-Holdings, RHB Capital, Public Bank, AMMB Holdings, Hong Leong Bank, Affin Holdings, Alliance Bank, Southern Bank and EON Bank. But, the government has been hinting for some time that even 10 banking groups are probably still too many, especially once the market opens to foreign banks in 2007. Given the strengthen position of the banking system and significant progress achieved in the restructuring of the financial sector, the main thrust of the policy measures in 2002 which focused on enhancing the capability and capacity of domestic banking institutions to compete in a more liberalized environment were well realized by the institutions. These efforts were complemented by initiatives taken to promote efficiency, innovation and dynamism within the banking sector.

Table 1.3: The merger program of financial institutions

Number	Original anchor banking group	Merged with	Resultant entity after merger
1.	**AFFIN BANK BERHAD GROUP** Perwira Affin Bank Bhd Asia Commercial Finance Bhd Perwira Affin Merchant Bank Bhd	BSN Commercial Bank (M) Bhd BSN Finance Bhd BSN Merchant Bank Bhd	Affin Bank Bhd AFFIN ACF Finance Bhd Affin Merchant Bank Bhd
2.	**ALLIANCE BANK BERHAD GROUP** Multi-Purpose bank Berhad	International Bank (M)Bhd Sabah Bank Bhd Sabah Finance Bhd Bolton Finance Bhd Bumiputra Merchant Bankers Bhd Amanah Merchant Bankers Bank Bhd	Alliance Bank Bhd Alliance Finance Bhd Alliance Merchant Bank Bhd
3.	**ARAB-MALAYSIAN BANK BERHAD GROUP** Arab Malaysian Bank Bhd Arab Malaysian Finance Bhd Arab Malaysian Merchant Bhd	MBf FinanceBhd	Arab Malaysian Bank Bhd Arab Malaysian Finance Bhd Arab Malaysian Merchant Bhd
4.	**BUMIPUTRA COMMERCE BANK BERHAD GROUP** Bumiputra-Commerce Bank Bhd Bumiputra-Commerce Finance Bhd Commerce International Merchant Bankers Bhd		Bumiputra-Commerce Bank Bhd Bumiputra-Commerce Finance Bhd Commerce International Merchant Bankers Bhd
5.	**EON BANK BERHAD GROUP** EON Bank Bhd EON Finance Bhd	Oriental Bank Bhd City Finance Bhd Perkasa Finance Bhd Malaysian International Merchant Bankers Bhd	EON Bank Bhd EON Finance Bhd Malaysian International Merchant Bankers Bhd
6.	**HONG LEONG BANK BERHAD GROUP** Hong Leong Bank Bhd Hong Leong Finance Bhd	Wah Tat Bank Bhd Credit Corporation Malaysia Bhd	Hong Leong Bank Bhd Hong Leong Finance Bhd
7.	**MALAYAN BANKING BERHAD GROUP** Malayan Banking Bhd Mayban Finance Bhd	The Pacific Bank Bhd PhileoAllied Bank (M) Bhd	Malayan Banking Bhd Mayban Finance Bhd

	Aseambankers Malaysia Bhd	Sime Finance Berhad Kewangan Bersatu Bhd	Aseambankers Malaysia Bhd
8.	**PUBLIC BANK BERHAD GROUP** Public Bank Bhd Public Finance Bhd	Hock Hua Bank Bhd Advance Finance Bhd Sime Merchant Bankers Bhd	Public Bank Bhd Public Finance Bhd Public Merchant Bank Bhd
9.	**RHB BANK BERHAD GROUP** RHB Bank Bhd RHB Sakura Merchant Banker Bhd	Delta Finance Bhd Interfinance Bhd	RHB Bank Bhd RHB Delta Finance Bhd RHB Sakura Merchant Banker Bhd
10.	**SOUTHERN BANK BERHAD GROUP** Southern Bank Berhad	Ban Hin Lee Bank Bhd Cempaka Finance Bhd United Merchant Finance Bhd Perdana Finance Bhd Perdana Merchant Bankers Bhd	Southern Bank Bhd Southern Finance Bhd Southern Investment Bank Bhd

Source: Bank Negara Malaysia Annual Report 2001 (p. 111)

The merger process between commercial banks, for example, the merger between Sime Bank Bhd and RHB Bank Bhd was successfully completed on 30 June 1999. The merger between BSN Commercial Bank Bhd with Perwira Affin Bank Bhd was completed by end-September 1999. The commercial banking industry rationalized the merger between Southern Bank Bhd with Ban Hin Lee Bank Bhd. As a whole, the results of the merger program observed the Malayan Banking Berhad and Bumiputra Commerce bank Berhad emerged as the strongest banks with 25.4% and 12.6% of market share respectively in 2001 (table 1.5).

Table 1.4 : Size of Banking Groups (RM million)

Banking Groups	Loans		Assets	
	Total	% Share	Total	% Share
Malayan Banking1	92,654.0	21.1%	149,897.3	25.4%
Commerce Assets-Holding2	42,214.9	9.6%	74,370.3	12.6%
RHB Capital	35,465.5	8.1%	56,045.5	9.5%
Public Bank3	23,400.6	5.3%	44,234.6	7.5%
AMMB Holdings4	7,878.6	1.8%	10,926.7	1.9%
Hong Leong Bank5	22,127.5	5.0%	39,543.6	6.7%
Affin Holdings	92,953.6	21.1%	15,646.4	2.7%
Southern Bank	16,150.8	3.7%	23,446.4	4.0%
EON Bank	15,829.4	3.6%	24,813.0	4.2%
Alliance Bank6	12,473.5	2.8%	17,119.7	2.9%
Utama Banking Group7	4,537.8	1.0%	9,619.8	1.6%
Foreign Banks	74,125.0	16.9%	124,302.7	21.1%
Total	439,811.2	100%	589,966.0	100%

Note: *The above represents the proforma statistics of the banking groups compiled by a simple amalgamation of the total loans and total assets of the anchor bank and its mergers partners based on the latest available balance sheets. **Unless stated otherwise figures are as at 31 December 2000
1. As at 30 June 2001.
2. As at 31 December 2001
3. As at 31 December 2001
4. As at 30 September 2001
5. As at 30 June 2001
6. As at 31 March 2001
7. As at 30 June 2001

Source: Individual Banks' Annual Report from Shanmugam and Nair, 2004

1.2   Definition and motives of merger

Banks can be consolidated through a merger or an acquisition. A merger is the unification of two banks under a single charter. An acquisition refers to a bank holding company's purchase of a bank that is subsequently maintained as a separate subsidiary. A merger always involves an exit because a bank charter is eliminated but in an acquisition no charter is eliminated.

There are a number of motives in the merger activity. The most general motive is simply that the purchasing firm considers the merger to be a profitable investment. The most common theme found in the work of economists, who have written about

merger activity is that mergers are often thought of as an alternative form of investment. A firm will undertake merger when it is the most profitable means of enhancing capacity, obtaining new knowledge or skills, entering new product or geographic areas or reallocating assets into the control of the most effective managers or owners. Thus, many of the similar factors that influence major investment decisions would also influence merger activity. Yet, this view of mergers as a special case of business investment is not universally accepted. For example, Scheffman (1993) argues that managers seldom consider static cost reductions or price increases in making decisions.

In addition, Andrade, Mitchell and Stafford (2001) note that much merger activity occurs as a reaction to deregulation and thus is clustered in the post-deregulatory other than a simple extension of business investment. Regardless of the general motivations for mergers, there are a few categories of factors that ought to play in at least some mergers, such as inefficient management. Manne (1965) emphasizes the marker for corporate control and views as a threat if a firm's management lags in performance, either because of inefficiency or because of agency problems. More generally, if one firm's management is more efficient than another firm's, the inefficient firm's performance can be increased if the two firms merge.

1.3   Research problem

The rapid pace of consolidation has revitalized interest in the topic to see whether mergers can have a beneficial impact on Malaysian banking sector and the public as a whole. Many believed that overcapacity which existed in the banking

sector during the 1980s and 1990s had caused banks to be unable to compete on both the liability and the asset sides of their balance sheets. For example, following the deregulation at the end of 1980s and the early 1990s, banks began to lose many of their high-quality corporate borrowers to the commercial paper market; furthermore, their retail deposit base was eroded by competition from money market mutual funds.

A variety of reasons have been advanced as to why banks merge. The rationales behind the increase in the merger activities are being constantly analyzed to identify or provide answers to the frequently asked question about merger exercise: can merger affect bank post performance? Merger suggests a non-value-maximizing effort for the firms involved, although in most cases; mergers are justified on the basis that the new enlarged entity will be able to be more efficient in its use of resources, and thus operate at lower cost, or achieve greater revenue from cost base. In either case, the merged institutions should be able to increase returns to shareholders (Berger, Demsetz & Strahan (1999)).

The banks have several possible motives for involving in the merger activities to overcome the troubled in their banks and for the survival of the long-term prospects of banks. For example, as their market shares shrank, banks' profits decreased, thus the banks might face the risks of failing, merging with other banks or downsizing. Yet the contraction may have had a minimal impact on the reason why banks merge, because most banks decided to retrench rather than to exist or downsize. Another point of views that industry analysts and bankers have concluded that the commercial banking sector needs a major overhaul for example, in the Malaysian case, the

government was prepared to be unpopular when it decided to use public funds for restructuring.

Despites the number of commercial banks continued to fall over time, the proponents of consolidation point out that Malaysia still has a large number of banking institutions relative to other industrial countries. As a consequence, too many banks are chasing too few customers, creating an inefficient banking system. They argue that although Malaysian banks outnumber those of other industrial countries, the number of branching offices per capita is actually lower in the Malaysian than in a number of other major developed countries. A question arising from this debate is whether mergers are an effective restructuring tool. One way to resolve this issue is by examining the profitability, efficiency and growth of merger survivors.

1.4   Research objective

The objectives of this research are threefold:

1.6.1. To identify whether mergers improve the profitability of acquiring banks (pre-merger and post-merger).

1.6.2   To determine whether mergers improve the operating performance of acquiring banks (pre-merger and post-merger).

1.6.3. To examine whether there exist any performance difference between acquiring banks and acquired banks.

1.5   Justification of the research

This research is carried out to fulfill several motivations. First, it will describe recent trends in merger activity particularly in the Malaysian financial sector. The ability to discover which banks merger resulted in the improvement or increased in long term ROA or efficiency ratios performance is the second motivation to be fulfilled. This issue is considered as a key success factor in the early recognition and aimed by the government to overcome banks' problems. As mentioned earlier, banks' problems will have negative impact on the country's economic growth, since banking sector has already witnessed a large foreign presence in the banking market. Therefore, the financial sector is seen as strategies industry and its structure should reflect the interest and socioeconomic composition of the country. Lastly, the finding of this study could extend the existing knowledge in this area and provide key evidence towards enhancing the business and financial institutions efficiency and stability in Malaysia.

1.6   Scope of the study

This research covers all financial institutions involved in the merger process during the period of 1992 to 2002. It uses independent T-test and regression analysis for the data analysis. Financial ratios which were gathered from the bank's financial statements prior to and after the merger were used to answer the abovementioned research questions. The work scope was only limited to investigate a maximum of eight variables that have been chosen to make it consistent with the previous and related studies.

1.7 Summary

This chapter presents an overview of the Malaysian commercial banks merger, the rationale and evolution of merger, the definition and motives of merger, the research problem, the objectives and significance of the study. The scope of the study was also justified.

CHAPTER TWO

LITERATURE REVIEW

2.0   Introduction

This chapter begins with the theory of merger which was cited and being used in the previous studies concerning the merger issues. It also reviews the variables that have been used as proxies in the analysis of the previous empirical evidence of the merger and effect of merger activities**.**

2.1   Theoretical motives for mergers and acquisitions

Any theoretical analysis of acquisition involves an examination of the reasons and effects of acquisition. Dale (1973) offers five main rationales of growth by acquisitions, which include lengthening the product line, gaining shares in a market not previously supplied, enlarging a firm's capacity to supply old markets, diversifying interests, and acquiring access to further processing or distribution facilities.

2.2   Efficiency theory

This theory views a merger as being planned and executed to achieve synergies. These synergies can arise from three sources: operational, financial, and managerial synergy.

2.2.1 Operational synergy

Operational synergy results from economies of scale in production and distribution. Haley and Schall (1979) note that this operational synergy has a direct effect on income and cash investment since the combined firms can produce more cheaply (lower expense) or sell the product more efficiently (higher revenue), or that the investment is greater since the merged firms can acquire capital equipment more cheaply or embark on a highly profitable investment program that enables income to exceed investment.

The results of a financial survey in Malaysia by Fauzias and Takiah (1986) reveal that the most common reason for acquisition is to diversify interest. About 52% of the acquisitions reflected this characteristic. While diversification promotes corporate growth, in diversifying into a new kind of activity, the acquiring company inherently accepts the risk of undertaking such activity in which it is less competent than its present one. However, the acquiring company should accept these risks if it is certain that the potential rewards are substantially greater than available from continuing to do more of what it knows best.

Other reasons, namely, lengthening the product line, gaining facilities in the markets not previously supplied, enlarging a firm's capacity to supply old market and gaining access to further processing or distribution facilities are only true for 5%, 1%, 6%, and 2% of the acquisitions respectively.

However, the reason for 34% of the acquisitions cannot be determined (refer table 2.1).

Table 2.1

Reasons for Acquisitions

Reasons	Number	Percent
Lengthening the product line	9	4.8
Gaining facilities in market not previously supplied	2	1.1
Enlarging a firm's capacity to supply old markets	12	6.4
Diversifying interest	98	52.1
Gaining access to further processing or distribution facilities	3	1.6
Not available	64	34.0
Total	188	100.0

Source: Malaysian Mergers & Acquisitions (Fauzias Mat Nor, 2003, pg. 18)

Weston et al (2001) summarizes the merger and acquisition theories into four main topics, namely total value increased, hubris, agency and redistribution. He further elaborates that the sources which contribute to the increase of the total value resulting from the merger and acquisition exercise are efficiency, operating synergy, financial synergy, diversification strategic realignment, the Q-ratio, information and signaling. Hubris here refers to the situation where the acquirer overpays the target, while under agency he discusses the situation where managers make value decreasing mergers to increase the size of firms. The redistribution topic discusses tax, market power, redistribution from bondholders, labor and pension reversions issues.

Nevertheless, it can be said that there is no general or unifying theory about mergers and that there exists other numerous reasons, which can be

explained in three different theories: shareholder's wealth maximization theory, non-value maximization theory and information effect theory.

Shareholder's wealth maximization theory requires that a take-over or merger lead to increased profitability for the bidder as well as the target firms for the merger and take-over to be justified, notably from synergy; either from operations, that is through operating at economies or from the financial side, and the ability to take advantage of each other's positions, or an attempt by the bidder to replace the target's inefficient management.

In contrast, non value maximization theory implies that the take-over or merger is an attempt to maximize top management utility instead of their shareholder's value. However, this non maximizing behavior will be reflected in such areas such as remuneration levels, in which can be increased by corporate size as a result of the takeovers coupled with poor post-acquisition performance. Therefore, there exists a significant increase in top management remuneration if firms significantly increase their size after acquiring another firm, coupled with poor-acquisition performance.

The third theories is the information effects theory that requires certain capital market agents, who is the managers of the bidding firms, posses superior or unique information regarding the true value of the target firms (asymmetric information). However, the dissemination of new information has prompted the market to revalue previously under-valued target shares. If the bidder possessed private information about the target's value, he would reveal

it in his bid and the stock price would increase to reflect this new information Halpern (1973). On the other hand, if the bidder pays too much, it will cause the bidder's stock price to drop, a situation described by Roll (1983) as a world in which bidders overpay due to "hubris" and "winner's curse" problems.

2.2.2 Financial Synergy

The market frictions such as taxes, information asymmetric and agency problems may, however, explain why funds do not always flow to firms with profitable investment opportunities. These problems can be overcome if firms belong to a corporate group and have access to an internal capital market. As a consequence, one would expect financial synergy-based mergers to be more common if there is a mismatch between the bidders' and targets' growth opportunities and financial resources (Palepu, 1986). A second financial synergy states that a combined firm's debt capacity can exceed the firms' individual debt capacities before their merger. By reducing the bankruptcy risk of the combined firm for any given level of debt, a diversifying merger can increase the amount of debt in the firm's optimal capital structure. This, in turn, lowers the firm's cost of capital by lowering the present value of future tax liabilities. Thus, in a merger, the acquiring firm can use the target's assets to increase debt capacity.

2.2.3. Managerial Synergy

Managerial synergy results when the bidder's manager possesses superior planning and monitoring abilities that benefit the target's performance. The cost of managing a large diversified firm, resulting from the formation of conglomerate especially, will substantially reduce relative to operating economies.

Mueller (1969), however, notes that the synergistic effects of a merger will take place only when there is some increase in market power, or when they produce a technological or managerial economy of scale. But, in finance has assumed no synergy, except for financial effect which includes taking advantage of transient errors in the market valuation of acquisition candidates, utilizing the unused debt capacity of an acquired firm subsequent to merger, or simply obtaining a diminished variability of total corporate earnings through the portfolio diversification implied by conglomeration Lewellen (1971).

2.3 Previous banking studies

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In theory, the post-merger performance of the acquiring bank can be influenced by a multitude of factors. Some mergers succeed because the survivor has the good fortune to benefit from a strong regional economy or population growth. There are various other factors in banking that can also influence the profitability and operating cost of a surviving bank, such as the buying bank's product, liquidity and

credit risk mix, the "quality" of the target bank, pots-merger management, relative market location of the target and acquirer and also the impact of other mergers.

Many studies have been conducted to determine the effect of mergers on efficiency and productivity of banks (Berger, 1998; Huizinga, Nelissen and Vennet, 2001; Chen & Chen, 2002). As predicted, they discovered that mergers can be and have been successful in enhancing efficiency. European researchers nonetheless, pointed towards increased efficiency following merger and acquisition (Resti 1998; Haynes & Thompson, 1999). An interesting outcome arises out of a researched completed by Berger et al. (1999) on United States experience on banks merger and consolidation which states that mergers have no significant predictable effect on efficiency since some mergers raise efficiency while the other lower it.

The effect of mergers on banks performance is still clearly left unanswered. Hence, various studies in United States have examined the effect of banks merger on operating performance especially in the period of 1990-93 only to provide little evidence for the view that bank mergers result in improvements in performance. A total of 19 operating performance studies reveal that bank mergers do not lead to improvements in both efficiency and profitability (Rhodes, 1986; Rose 1987a, 1987b; Rhodes 1990; Spindt & Tarhan, 1991; Berger & Humprey, 1992; Cornett & Tehranian, 1992; Linder & Crane, 1993, O'Keefe, 1992; Rose, 1992; Spong & Shoenhair, 1992; Srinivasan & Wall, 1992; Srinivasan, 1992; Crane & Linder, 1993; DeYoung, 1993; Peristani, 1993a, 1993b; Rhodes, 1993).

Other studies discovered that a merger and acquisition process was considered more efficient if a larger financial institution tends to take over a smaller one (Berger & Humphrey, 1992, Pilloff & Santomero, 1998). A European study also found out that smaller, less efficient and less profitable banks are likely to be acquired by a larger, more efficient and more profitable banks (Vander Vennet, 1997). Berger (1998) further elaborates that "on average, bank mergers increase profit efficiency relative to other banks, but have little effect on cost efficiency. Efficiency is much more pronounced when the participating banks are relatively inefficient ex ante, consistent with a hypothesis that mergers may 'wake up' inefficient management or are used as an excuse to implement unpleasant restructuring" (p.79).

A study of bank merger in Japan was conducted by Okazaki and Sawada (2003) using data ranges from 1920 to 1940 which denotes the first wave of banking merger in Japanese banking sector. They found that consolidations had an effect of excluding the unfavourable director interlocking between banks and their related firms, especially in the case of absorbing consolidations. Besides, they also discovered that banks consolidation contributes to the stability of the financial system. Nonetheless, the results showed that there was no evidence that consolidations improved bank profitability.

In New Zealand for example, the wave of deregulation in financial market over the last 20 years has resulted in significant changes in its banking sector landscape. Starting from the year 1984 and thereafter, there have been seven merger cases involving banks actively operate in the retail market. According to Liu and Tripe (2002), a number of reasons contributed to the merger for example, to fulfill

justification that merger can actually enhance efficiency in terms of resource allocation, lower operating cost and generates greater revenue from the same cost base. Besides, the merged institutions should be able to increase returns to their shareholders. Despite these propositions, Liu and Tripe (2002), based on their DEA test found that acquiring banks, which are generally larger than the acquired banks, are not necessarily efficient.

Their results are consistent with the findings from Avkiran (1998) whom studied relative efficiency gains for Australia banks for the period of 1986-1995. The author discovered that acquiring banks are more efficient than target bank. Needless to say, the acquiring bank does not maintain its pre-merger efficiency. Thus, he suggests that government should be more cautious in promoting mergers as a means to increase efficiency.

In Malaysia however, the studies have been centered on measuring efficiency in banking sectors which included studies completed by Lin (1985), Lin (1988), Haron (1996), Balachandler and Shanmugam (1997) and Balanchandler, Staunton and Krisnan (1999). For study done by Balachandler et al (1997; 1999) and Haron (1996), they only concentrated on the determinants of commercial bank profitability while Haron (1996) merely focused on Islamic banks as the sample.

Ratios such as return on assets (ROA) and/or return on equity (ROE) before and after merger relative to peer groups banks have been used to determine the impact of mergers on banks profitability. Some researchers found improved profitability ratios associated with mergers (Rhoades, 1998) although Berger and Humphrey

(1991) and Chamberlain (1998) found otherwise. Remarkably, the Malaysian banking system recorded a significant increase of 107.5% in pre-tax profit for the calendar year 2000 after the merger process took off with increased ROA to 1.5% from 0.7% in 1999. Consequently, the ROE increased significantly from 9.8% in 1999 to 20.4% in 2000, providing the testimony that the banking system had recovered and there was perceived improvement in productivity. The mergers seem to have eliminated excess capacity more efficiently than bankruptcy or other means of exit in part preserving the financial institutions product and services (Shanmugam & Nair, 2004).

CHAPTER 3

METHODOLOGY

3.0   Introduction

There are several different statistical techniques that have been used in the analysis of the merger effect on banks performance.   In this study, the financial statements of all banks are analyzed using ratio analysis and these ratios will form a set of independent variables characterizing each of the banks. These ratios are then used to construct a regression model to establish the relationship of each variable of the pre-merger and post-merger period.

3.1   Sample

This study analyzes the operating performance among commercial banks and finance companies before and after merger during the period from 1992 until 2002. The analysis compares performance banks of pre-merger and post-merger. Acquiring and acquired firms are treated as a combined entity before and after the merger exercise (Cornett & Tehranian, 1992). In measuring the pre-merger performance, the study combines the ratio (accounting data) for the acquiring and acquired banks and finance companies to obtain pro forma performance for the merged banks. A comparison of the post-merger value with the pre-merger benchmark allows us to measure the impact of the merger on the performance of the combined banks.

The data consists of the annual reports of the Malaysian Commercial banks and Finance companies. The data were collected from individual banks annual report, the Data Stream and a number of events of bank mergers taken from BNM website. The sample executed in the period 1992 – 2002, the period that has witnessed an unprecedented boom of banks merger activity in Malaysia. The total sample consists of 53 financial institutions. However, only 47 institutions which represent local banks and finance companies were chosen in this study.

3.2 Methodology

Practically, the financial performance of depository institutions is often evaluated using simple ratios derived from balance sheet and income statements. Financial ratios are quite useful because they allow analysts to appraise the profitability, growth and operational efficiency of banks relative to the underlying risks taken (Peristiani, 1996). Most recent studies investigating the effectiveness of bank mergers rely on such financial and accounting measures. Consistent with the studies of Healy, Palepu and Ruback (1991), Hotchkiss (1995) and other studies, the study use an accounting-based industry relative ratio to measure bank performance. In order to assess the real economic impact of bank mergers, we analyze the performance of the participating banks for the period of 1992 until 2002.

3.3 Data collection

The main data sources used to compile the sample for this study are gathered from the annual reports of all Malaysian commercial bank and from the Universiti

Utara Malaysia Data Stream and also reports abstracted from BNM website. The merger sample is only limited to the Malaysia local commercial banks and the sample contains bank mergers executed in the period from the year 1988 to 2002. The final sample of bank mergers consists of 47 local commercial banks and finance companies (refer to table 1.3).

3.4   Data analysis

A multiple regression analysis (Rose, 1992) is used to compare the post-merger values with the pre-merger performance. The statistical analysis allows an assessment of the impact of the merger and comparison of the relative performance indicators for acquiring and acquired banks. A test of the hypothesis for a typical bank merger involves an acquiring bank taking over an under-performing target. The performance indicators consist of variables that capture bank profitability and (operating cost) efficiency. This treatment should indicate whether any observed gains are attributable to revenue or to cost effects. To identify the sources of the pre and post-merger improvements in bank performance, we evaluate merger-related changes in three common bank performance indicators:

3.5   The variables:

The two dependent variables tested, namely profitability and (operating costs) efficiency are intended to reflect the overall performance of the acquired and acquiring bank merger. The profitability variable is measured by net income after taxes and securities gains and losses but before extraordinary items as a percentage of

total assets. The return on asset is used because it has frequently been utilized in the previous researches. Besides, market analysts regard it as the best overall indicator of a bank's performance. The operating cots variable is measured by total operating costs (excludes interest expense) as a percentage of total assets.

Tests covering the years before acquisition should indicate whether the acquired banks perform differently, in terms of profitability and costs, from other banks before they are acquired. Such differences would be apparent if, for example, acquiring firms generally sought out poorly managed firms to acquire. Presumably, such firms would tend to have relatively low profits and high costs. In any case, these tests should indicate whether any observed post-merger differences in profit and cost performance might be a result of the merger rather than simply a reflection of long-run performance differences that existed before the merger.

3.5.1   Independent variable

Several other independent variables that account for characteristics of banks and finance companies are included in the analysis primarily to isolate the effects of merger on performance. Firm size is included to account for the possibility of economies of scale, synergies or some other advantages accruing to larger banks (Dunne & Hughes (1994), Jeffrey (1984)). Bank size is measured in terms of total assets in the year of merger. If such advantages do accrue to larger banks, the bank size variable should positively relate to profit rates and negatively related to operating costs.

A market share variable is included in the analysis because of an apparent statistical relationship with profitability, though the reason is a matter of uncertainty and debate (Rhoades, 1986). This relationship has been variously attributed to efficiency, market power and inherent product differentiation. Whatever the cause, previous research suggests that a positive relationship will exist between market share and ROA. However, the effect of market share on operating expenses is not clear. The market share variable is measured by the percentage of total commercial bank and finance companies deposits in a market held by a bank and finance company in the year of merger.

A loan-asset ratio is included among the independent variables because the volume of loans can be expected to affect a bank's performance. The relatively high cost of administering a loan portfolio (as compared with a securities portfolio) suggests that the loan-asset ratio will be positively related to the operating expense measure (Cornett and Tehranian, 1992). While loans generally yield a higher interest rate than securities and would lead us to suspect that a high loan-asset ratio would result in a relatively high profit rate, most studies find the opposite result. Evidently the higher interest earned on loans is more than offset by their higher administrative costs and by loan losses. Thus, the loan-asset ratio is expected to be negatively related to profitability. The loan-asset ratio is measured by the average of total loans as a percentage of total assets during the period study.

A capital-asset ratio is included in the analysis because it is an indication of management preference for risk, with low capital reflecting higher risk (Cornett and Tehranian, 1992). Higher risk may be expected to yield higher profits but the effect on operating expenses is uncertain. Thus, it is expected that the capital-asset ratio will be negatively related to profits. The capital-asset ratio is measured by the average total capital as a percentage of total assets over the study period.

The final independent variable reflecting bank characteristics is bank growth, measured by the change in deposits (Rhoades, 1986). The bank growth effect on profits and operating expenses is not clear. High growth may indicate that growth rather than profits is the primary management objective and therefore, may be associated with high expenses and low profits. On the other hand, it is arguable that high growth reflects successful operations, which may be reflected in high profits and low operating expenses. The signs on bank growth in relation to profits and expenses are not predicted. Bank growth is measured by the annual percentage change in deposits over the period study.

Market growth is included in the analysis to control for basic market conditions (Rhoades, 1986). If there is rapid short-term growth in a market, the supply of bank services may not have had time to expand and should lead to relatively high profits and low operating expenses. Thus, market growth is expected to be positively related to profits and negatively related to expenses.

Market growth is measured by the percentage change in commercial banking deposits in the market during the period study.

3.6   Hypotheses:

Studies of performance effects of US bank mergers have failed to yield unanimous conclusions. Rhoades (1986) concludes that the operating performance of acquired banks before and after acquisition is generally similar to that of non-acquired banks. Thus, acquiring banks do not seek out unusually good or bad targets. Rose (1992) also finds that mergers are not associated with improved profitability and that efficiency and risk exposure do not change. Linder and Crane (1993) find that merger banks did cut expenses but this was more than offset by a loss of business to competitors.

Srinivasan and Wall (1992) report an increase of expense ratios after merger, although this effect turns out to be an industry-wide phenomenon. For a sample of 898 bank mergers over the period 1981 until 1986, Rhoades (1993) concludes that efficiency becomes worse in the post-merger period. Only Cornett and Tehranian (1992) report an improvement of cash flow returns for a sample of 15 intrastate and 15 interstate bank mergers between 1982 until 1987. European evidence is very scarce and always based on limited country-specific samples. In an examination of staff costs in UK building society mergers in the 1970 until 1978 period, Barnes (1985) finds a tendency towards higher operating costs after merger. Therefore, it is hypothesized that merger activity does not improve the banks and finance companies performance in Malaysia.

H$_1$: Merger activity does not improve the banks and finance companies performance in Malaysia

Generally, finding on profitable of acquired firms before merger is mixed, and acquired banks tend to be similar to other banks in terms of their profit performance. The acquiring firms do not generally acquire outstanding performers (in term of profitability) or unusually poor performers that are badly managed and ripe for a turnaround. As such the acquiring firms calls into question that the hypothesis of merger generally tend to purge the system of inefficient firms and presumably, bad managers. Therefore, it is hypothesized that acquired firms are generally poor performers (whether due to bad management or other reasons).

H$_2$: Merged banks are generally poor performers relative to non-merged bank.

Cornett and Tehranian (1991) find that the asset size of the banks continues to grow after the acquisition. In the post-merger period the industry-adjusted asset growth rate increases 25.76% above the pre-merger level. 78% of the sample banks report an increase. Given the above results, this growth appears to be well managed and again provides an explanation for the improved cash flow return of the sample banks in relation to the industry.

Table 3.1 : The measurement of the Performance Indicators

1. Profitability indicators	Measure overall performance.
2. Efficiency indicators	Measure the bank's ability to generate revenue, pay expenses and measure employee productivity.

Table 3.1 displays the measurement in analyzing the operating performance among commercial banks and finance companies before and after mergers during 1992 until 2002. The analysis compares performance rank from before merger to after the merger process. Acquiring and acquired firms are treated as a combined entity before merger and after. To measure pre-merger performance, the study combines the ratio (accounting data) for the acquiring and acquired banks and finance companies to obtain pro forma performance for the merged firms. A comparison of the post-merger value with this pre-merger benchmark allows us to measure the impact of the merger on the performance of the combined firm (Rhoades, 1986; Healy et al, 1990).

For each of the years surrounding the merger, we calculate the mean value of different ratios for the banks involved. In the case of bank mergers, the profitability and efficiency indicators, which are variables, are obtained for all the participating banks in each of the years prior to and after the merger. Analysis treats acquiring and acquired banks as separate entities before merger and as a combined entity after merger. For mergers, we compute a pro forma balance sheet by consolidating the balance sheets of the banks involved throughout the period 1992 – 2002, so as to consider them as a single bank from the beginning.

The tests are intended to determine whether acquired banks and finance companies perform differently from banks that are not acquired, before and after merger. The basic model tested, using Independent t-test and multiple regression analysis and sample sizes varying across years from 47 banks and finance companies.

$$P_i = f (S, MS, L/A, C/A, BG, MG)$$

Where

P_i = Performance measures

P_1 = NI/TA = Net income/Total assets (Period study average, before merger)

P_2 = OE/TA = Operating expenses/Total assets (Period study average, before merger)

S = Assets size of bank

MS = Bank's share of market deposits

L/A = Loan –asset ratio

C/A = Capital-asset ratio

BG = Growth of total bank deposits

MG = growth of total market deposits

The specific measures used to represent these factors are defined in table 3.2. We examine these two indicators of bank performance in an attempt to identify specific areas within the merged banks where improvement occurs.

The measurement of profitability is return on assets (ROA). Profit variables are calculated both before and after taxes. Tax liabilities in banks can be managed number influenced mainly by international activities and loan loss accounting, which may be unrelated to the merger (Linder & Crane, 1993). Due to the unavailability of market data, the study uses book values of assets.

Table 3.2 : List of variables and their measurements

Variables	Measurements
Profitability	Return on asset (ROA)
Efficiency (Operating costs)	Total operating costs (excludes interest expenses) as a percentage of total assets
Firm size	Total assets in the year of merger
Market share	Percentage of total commercial bank deposits in a market held by a bank in the year of merger

Loan-asset ratio	Average of total loans as a percentage of total assets over the period study
Capital-asset ratio	Average total capital as a percentage of total assets over the period study
Bank growth	Annual percentage change in deposits over a period study
Market growth	Percentage change in commercial bank and finance companies deposits in the market during the period study

Bank and corporate performance

Researchers in the strategic management field have offered a variety of models for analyzing corporate performance. However, little consensus has emerged on what constitutes a valid set of performance criteria (Cameron, 1981; Lewin & Minton, 1986). For example, researchers have suggested that studies on corporate performance should include multiple criteria analysis (Hitt, 1988). This multidimensional view of performance implies that different models or patterns of relationships between corporate performance and its determinants will emerge to demonstrate the various sets of relationships between the dependent and the independent variables in the different models specified (Ostroff & Schmitt, 1993).

Weiner and Mahoney (1981) have indicated that there are numerous measures of corporate performance that could serve as dependent variables. However, more important than the specific measures chosen is the use of multiple measures because different criteria of performance are likely to be differently affected by the various independent variables (Lieberson & O'Connor, 1972). As documented by many evidence, performance is a difficult concept, in terms of both definition and measurement. It has been defined as the end result of activity and the appropriate measure selected to assess corporate performance is considered to depend on the type

of organization to be evaluated and the objectives to be achieved through that evaluation.

Studies of performance effects of US bank mergers have failed to yield unanimous conclusions. Rhoades (1986) concludes that the operating performance of acquired banks before and after acquisition is generally similar to that of non-acquired banks. Thus, acquiring banks do not seek out unusually good or bad targets. However, the study also finds that mergers are not associated with improved profitability and that efficiency and risk exposure do not change. Linder and Crane (1993) found that merger banks did cut expenses but this was more than offset by a loss of business to competitors.

Srinivasan and Wall (1992) report an increase of expense ratios after merger, although this effect turns out to be an industry-wide phenomenon. For a sample of 898 bank mergers over the period 1981 until 1986, Rhoades (1993) concludes that efficiency becomes worse in the post-merger period. Only Cornett and Tehranian (1992) report an improvement of cash flow returns for a sample of 15 intrastate and 15 interstate bank mergers between 1982 until 1987. European evidence is very scarce and always based on limited country-specific samples. In an examination of staff costs in UK building society mergers in the 1970 until 1978 period, Barnes (1985) finds a tendency towards higher operating costs after merger.

To address some of the problems of prior accounting data studies, Ravenscraft and Scherer (1987) employed disaggregated line of business data for 1975 to 1977. They find that firms acquired of the 1960s and early 1970s tended to have above-

average profits before acquisition and experience profit decline following acquisitions. The profit declined appeared regardless of the accounting methods used to record the merger, although it was greatest where the acquiring firm used purchase accounting (as to pooling-of-interests). The authors argue that the profit decline was likely due to a loss of managerial control by the acquiring firms (mostly conglomerates, in this sample) or to the use of acquired firms as "cash cows."

Ravenscraft and Scherer (1987) also compared the post-merger profitability of different types of mergers. They find that horizontal and related-business mergers tended to be more profitable than conglomerate mergers. They further find that negotiated mergers tended to be more profitable than mergers conducted by tender offer. Among tender offer mergers, no significant differences in profitability appeared between mergers resulting from hostile takeovers and those from takeovers by "white knights".

In part, as a reaction to the work of Ravenscraft and Scherer (1987), a new study appeared that combines the analysis of accounting and financial data with stock market analysis of merger effects. One early entry in this new field was Ravenscraft and Pascoe (1989), who examined 244 mergers occurring between 1963 and 1977. The authors compared operating income to sales ratios before and after the mergers and found that the abnormal returns of the stocks of the merging provided a better guide to the likely outcome of the merger than did guessing alone.

Similarly, Healy et al (1990) combined financial accounting analysis and stock market even study techniques to examine the post-merger outcomes of 50 large

mergers occurring between 1979 and 1984. The authors focus on a comparison of pre-merger net cash flow returns with post-merger cash flow returns relative to those cash flow returns for the rest of the industry. The authors find that industry-adjusted net cash flow rates of return are around 3% points higher after the merger. These increases in cash flow returns are also significantly correlated with the stock market's net positive response to the merger announcements. As is normally found, it appears that the target firm shareholders tend to capture most of those value increases. The authors also investigated several possibilities and concluded that operating efficiencies are the most likely explanation. Other explanations for improved cash flow after the mergers do not appear consistent with other financial evidence or are too small to matter.

Sirower and O'Byrne (1998) also examined the stock market performance and accounting performance for merging firms, but use a different accounting measure-economic value added[2]. Using 1970 to 1989 data for 41 mergers in which the buyer was not a frequent acquirer and the target was relatively large, they follow the firm's accounting performance for 5 years and compare it to the short-run predictions of the stock market around the time of the merger. They found that (1) accounting returns show that a large majority of deals lose money relative to alternative investments, and (2) the accounting outcomes match the short-run stock market predictions in 66% of cases and explain 46% of the variation in the market. Thus, the market predicts actual outcomes with some accuracy.

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[2] **Economic value added is defined as net operating profit after taxes minus a capital charge reflecting a normal return to invested capital.**

More recent studies of post-merger accounting performance have been more encouraging than the earlier studies. For example, Andrade, Mitchell and Stafford (2001) examined changes in operating margins using Compustat data following mergers from 1973 to 1998 and found that post-merger operating margins rose 1% relative to their regression benchmark. Similarly, Trimbath (2002) examined post-mergers changes in costs for firms listed in the Fortune 500 from 1980 to 1997 and finds that operating cost reductions after the mergers (reductions in costs per unit revenue) were 3% in the 1980s and 1% in the 1990s compared to the control group of non-merging firms. He also used hazard models to predict the probability that any Fortune 500 firms will be taken over and finds that poor pre-merger performance is associated with higher probability of merger. Ghosh (2002) finds in a large sample of 315 deals with firms matched for size and performance that cash flow measures improve following the merger for deals funded by cash, but cash flow declines for deals using stock as the payment mechanism. On net, the author found small positive effects of mergers for each performance measure studied, but none appear significant.

Three studies focusing on large sample of banking mergers took differing approaches to the estimation of post-merger effects, but none of the three find much evidence of net efficiencies from the mergers. Rhoades (1993) examined 898 horizontal bank mergers from 1981 through 1986 and compared the change in bank efficiency ratios of the merger firms to that of all other banks that did not merge during the period. Rhoades uses two measures of bank efficiency: (1) the change in the ratio of total expenses to assets, and (2) the change in the ratio of total assets to operating revenues. Using ordinary Least Squares (OLS) and logit regression analyses, he found no evidence that the expense ratios of the banks declined 3 years

after the merger, nor did an efficiency ranking of the merged banks rise relative to that of non-merging counterparts[3]. Thus, he concludes that there are likely no efficiencies on average from the 1980s mergers.

Berger and Humphrey (1992) examined as many as 57 large bank mergers occurring from 1981 – 1989. Using a multi-product translog cost function, they define an efficient cost frontier for banking firms. The banks were ranked based on their closeness to the efficient frontier and the authors to see if the merged firms improve their relative ranking after the merger. The authors found that, although acquired banks tended to be purchased by more efficient banks, the more efficient buyer did not pass on its cost efficiency characteristics to the merger partner. The combined bank's efficiency rating did not improve after the merger relative to its counterparts whether that efficiency was measured by efficiency relative to an efficient-firm frontier, scale efficiency, return on assets, average total cost per dollar of assets or average operating cost[4]. The authors argued that even if any gains in productive efficiency exist, they are lost due to scale diseconomies associated with the merger[5].

Peristiani (1997) confirmed those results in his examination of the outcomes of over 1000 bank mergers that occurred in the 1980s. Using data for up to 16 quarters before and after the mergers and focusing mainly on translog cost efficiency estimates, he found that merged banks did not improve their x-efficiency rank

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[3] The regression model controls for the merger/non-merged status of the bank, the deposit overlap of the banks, total assets size, the loan/asset ratio, deposit growth, the number of branches, large deposit to total deposit ratio and 50 state dummies.

[4] These comparisons of performance improvements are made via regressions that control for various pre-merger characteristics including the extent of difference in performance between the acquiring bank and the target bank, the amount of overlap in the banks' deposit areas, the extent of retail deposits, firm size, market share and marker concentration.

[5] There has recently been a number of studies of the effects of large banking mergers on cost efficiency, profit efficiency, revenues and prices.

following mergers relative to non-acquiring banks. Banks did, however, on average move closer to efficient scale following mergers, compared to the control banks. Using cross-section regressions to try to explain the post-merger changes in costs or profits that he observed, he found that market concentration growth was negatively related to profits changes. In summary, he found relatively little in the way of cost efficiency gains from 1980s bank mergers.

Akhavein et al. (1997) who examined profit efficiency (not cost efficiency) for 57 large bank mergers from the 1980s compared to all large banks, they found substantial gains to the merging banks, not from market power, nor from cost reductions, but rather from improved technical profit efficiency due to shifts in products mix toward loans and away from securities. Why one would need mergers to accomplish these changes in product mix is unclear, but the product mix changes apparently did not happen to the same extent in the non-merged control sample. The authors used a regression model to explain the change in profit efficiency following the merger and their model is found to explain 80% of the variance in profit efficiency. They found that the profit efficiency gains are due to the improved use of both banks assets as both banks are "wakened" to available profit opportunities by the merger. The profit efficiency gains did not appear related to either marker concentration or to bank market share and the authors found only very small effects on loan and deposit rates following mergers, although their price data were rather crude.

Other banking industry literature on mergers has recently been surveyed by Berger, Demsetz and Strahan (1999). They note that mergers appear to be associated

with enhanced profit efficiency and portfolio diversification. Cost efficiency may have improved on average after some 1990s bank mergers although, the evidence from the 1980s was that cost efficiency was not improved after mergers (Rhoades, 1998). It does appear that cost efficiency improves after mergers in cases where the merging banks are particularly inefficient prior to the merger. On average, they did not see large effects (for good or ill) from mergers. Perhaps the absence of any large negative effects (especially price effects) should not be too surprising given that the mergers have all been reviewed and allowed by bank regulators. The weakness of the evidence regarding beneficial cost efficiency effects, on the other hand, is a bit more surprising. Given the received wisdom in the literature that banks generally are not very efficient, mergers would have seemed to be one means of weeding out of laggards (Calomiris, 1999). He would argue that the bank mergers have been more efficient than Berger et. al (1999) realized because the correct comparison should be to other banking systems and the consolidation of U.S. banking over the past several years has made U.S. banking relatively much more efficient when compared to the European industry.

Calominis and Karceski (2000) discuss the consolidation of banking in the U.S. generally over the past 20 years and argued that it has likely been efficient even if the large sample studies of banking have so far failed to find such efficiencies. They also examined nine banking mergers from the mid-1990s. The mergers were located in Chicago, Detroit, St. Louis and the Northeast. The cases involved buy-outs of entrenched management, merger to avoid future hostile takeovers, purchases of specialty banks, geographic extensions, mergers to expand in-area market share or to achieve initial entry in an area or expand the services that could be offered to

customers. Most but not all, of the acquiring firms thought some cost savings might

be forthcoming from the mergers.

CHAPTER FOUR

FINDINGS AND CONCLUSION

4.0   Introduction

In this section, we present the empirical test results based on two sets of profile. The comparison of the relative performance indicators for acquiring banks allows an assessment of the impact of the merger. The test of the hypothesis on merger involves the acquiring bank taking over an under-performing bank.

4.1   Profile Analysis

This section explains the descriptive statistic and the mean difference of the acquiring banks before and after merger. Descriptive statistics provide preliminary information before a discussion on the analysis is made. Descriptive statistics discuss the mean values of variables between the acquiring banks and acquirers banks.

4.1.1   Descriptive and Inferential statistic

In this section, we present the empirical test results based on two sets of profile. The comparison of the relative performance indicators for acquiring banks allows an assessment of the impact of the merger. The test of the hypothesis on merger involves the acquiring bank taking over an under-

performing bank. The performance indicators consist of variables of bank profitability and operating cost. Independent t-tests and multiple regression analysis are used to determine whether acquiring financial institutions performed differently before and after merger.

Table 4.1 provides a list of all empirical variables with the descriptive statistic of the acquiring financial institutions. The means for the eight variables range from 0.0056 to 23.63.   The standard deviations for each variable range from 0.10 to 1.26

Table 4.1 : Descriptive Statistics of the acquiring financial institutions

	Range	Mean	Std. Deviation	Variance
Roa	.0786	.005609	.0113323	.000
opecost	.0543	.024850	.0100185	.000
Fsize	9.1169	23.630206	1.2553630	1.576
mktshare	.2447	.065759	.0615657	.004
loanaset	.3957	.613727	.0851571	.007
capasset	.1349	.049935	.0276032	.001
bankgrwt	2.0774	.231593	.3892845	.152
mktgrwth	1.7896	.131658	.3152482	.099
Valid N (Listwise)	174			

In other words, the descriptive statistic on the mean percentage for ROA is 0.01%, operating cost is 0.02%, firm size is 23.63%, market share is 0.07%, loan asset is 0.61%, capital asset is 0.05%, bank growth is 0.23% and for market growth is 0.13%. Thus, the means for the eight variables range from 0.005609 to 23.677705.

Table 4.2 : Correlations

		Roa	opecost	fsize	mktshare	loanaset	capasset	bankgrwt	mktgrwth
Roa	Pearson Correlation	1							
opecost	Pearson Correlation	-.794**	1						
fsize	Pearson Correlation	.097	-.103	1					
mktshare	Pearson Correlation	.110	-.085	.657**	1				
Loanaset	Pearson Correlation	-.221	.308*	-.296*	-.160	1			
Capasset	Pearson Correlation	-.015	-.002	-.417**	-.379**	.057	1		
bankgrwt	Pearson Correlation	.040	-.281*	-.038	-.050	-.105	.091	1	
mktgrwth	Pearson Correlation	-.052	-.192	.036	-.017	-.099	.118	.955**	1

** significant at the 0.01 level (2-tailed).

* significant at the 0.05 level (2-tailed).

Table 4.2 shows that firm size, market share, loan assets, capital assets, bank growth and market growth have weak correlations with ROA. Loan asset has the highest correlation (-0.221), market share is the next largest (0.110) but the capital assets has the lowest correlation (-0.015). The firm size, market share and bank growth have positive relationship with ROA and this figure shows that one percent increase in firm size, market share and bank growth will increase ROA by 0.97%, 1.10% and 0.40% respectively. In addition, all independent variables have weak correlations with operating costs. Loan assets has the highest correlation (0.308), bank growth is the next largest (-0.281) but the capital assets has the lowest correlation (-0.002). All of these independent variables have negative relationship with operating cost except

for loan asset. This figure shows that one percent increase in firm size, market share, capital assets, bank growth and market growth will decrease operating cost by 1.03%, 0.85%, 0.02%, 2.81% and 1.92% respectively. However, the result is different for loan assets because this variable has positive relationship with operating cost. The positive sign indicates that as loan asset increase one percent, operating cots tends to increase by 3.08%.

About 6.7% of the ROA variation in acquiring banks' performance is explained by firm size, market share, loan asset, capital asset, bank growth and market growth. This shows that the relationship between these variables and acquiring banks performance in Malaysia is weak. The operating costs result shows that approximately 19.2% of the variation in operating cost is explained by firm size, market share, loan asset, capital asset, bank growth and also market growth. Therefore, the result indicates that the influence of independent variable on acquiring banks performance in Malaysia's is less as compared to other factors.

Table 4-3 (a, b, c , and d) presents the independent variables to check if there exist any undesirables situation (multicollinearilty problem) of one independent variable is a linear function of other independent variables. The study re-examine by checking at the Variance Inflation Factors (VIF) or the ratio of a variable's actual variance to the perfect variance of Zero collinearity. The results of the VIF were based on two events of before bank merged and after bank merged, and the degree of multicollinearity problem of the bank after merged is acceptable since a figure show below 10. However, the results

of both independent variables of bank growth and market growth before bank merged were more than 10. It is important to include market growth as to control for market conditions. For example, if there is rapid short-term growth in a market, the supply of bank services may not have had time to expand and should lead to relatively high profits and low operating expenses. The effect of high market growth on the change in market share of the individual banks is not clear. Thus, market growth is expected to be positively related to profit, negatively related to expenses, and have an uncertain effect on the change in market share.

Table 4-3(a) Multicollinearity Test Using VIF (Before Merger)

Variables	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
Firm size	.102	9.768
Market share	.125	7.999
Loan asset	.798	1.253
Capital asset	.722	1.386
Bank growth	.069	14.488
Market growth	.067	14.818

a.   **Dependent Variable: Return on asset**

Table 4-3(b)   Multicollinearity Test Using VIF(After Merger)

	Collinearity Statistics	
Model	Tolerance	VIF
1 (Constant)		
Firm size	.374	2.671
Market share	.447	2.238
Loan asset	.848	1.179
Capital asset	.681	1.469
Bank growth	.899	1.112
Market growth	.977	1.024

a.   **Dependent Variable: Return on asset**

Table 4-3(c) Multicollinearity Test Using VIF (Before Merged)

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Firm size	.102	9.768
	Market share	.125	7.999
	Loan asset	.798	1.253
	Capital asset	.722	1.386
	Bank growth	.069	14.488
	Market growth	.067	14.818

a. Dependent Variable: Operating cost

Table 4-3(d) Multicollinearity Test Using VIF(After merged)

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Firm size	.374	2.671
	Market share	.447	2.238
	Loan asset	.848	1.179
	Capital asset	.681	1.469
	Bank growth	.899	1.112
	Market growth	.977	1.024

a. Dependent Variable: Operating cost

Table 4.4 : Coefficients – Return on assets

Model		UnStandardized Coefficients (Beta)	t	Sig.
1	(Constant)	-.067	-.482	.632
	fsize	.003	.596	.554
	mktshare	-.009	-.124	.902
	loanaset	-.022	-1.111	.272
	capaasset	.052	.836	.407
	bankgrwt	.036	2.430	.019**
	mktgrwth	-.045	-2.480	.017**

a Dependent Variable: Return on asset

** $P < 0.05$

Table 4.3 indicates that the significant value for all variables is greater than 0.05 except for bank growth and market growth. Therefore, there is no significant relationship between ROA and firm size, market share, loan asset and capital assets. On the other hand, we can conclude that the relationship between ROA and these independent variables is statistically not significant. However, the result is different for bank growth and market growth because their significant value is less than 0.05. Therefore, the study concludes that a significant linear relationship exists between ROA and bank growth and market growth.

Table 4.5 : Coefficients – Operating Costs

Model		Unstandardized Coefficients (Beta)	t	Sig.
1	(Constant)	.142	1.412	.163
	fsize	-.005	-1.316	.193
	mktshare	.041	.783	.437
	loanaset	.027	1.931	.058
	capaasset	-.060	-1.343	.184
	bankgrwt	-.034	-3.079	.003**
	mktgrwth	.035	2.590	.012**

a Dependent Variable: Operating cost

**P<0.05

Table 4.4 also yields similar result with the ROA coefficient result, which is the significant value for all variables are greater than 0.05, except for bank growth and market growth. Therefore, there is no significant relationship between operating cost and firm size, market share, loan asset and capital asset. However, the result is different for bank growth and market growth because their significant value is less than 0.05. Therefore, the study concludes that a

significant linear relationship exists between ROA and bank growth and market growth.

Table 4.6 : Group Statistics of the Acquiring Banks

	Mean before merger	Mean after merger	Std. Dev before merger	Std. Dev after merger	t-value	P-value
roa	.006097	.005350	.0109841	.0108550	0.495	0.521
opecost	.024608	.025066	.0098116	.0096189	-0.278	0.776
fsize	23.565265	23.832795	.8208855	1.6058994	-0.563	0.277
mktshare	.057998	.079606	.0570289	.0674764	-1.392	0.368
loanaset	.613493	.608863	.0871447	.0850016	-0.030	0.831
capasset	.050242	.051203	.0322233	.0219711	0.158	0.022**
bankgrwt	.284147	.098082	.4481527	.2941268	1.456	0.085
mktgrwth	.137472	.124571	.3556242	.2163700	0.200	0.247

**Indicates statistical significant at P<0.05

The acquiring financial institutions performance and efficiency after and before merger are shown in Table 4.5. According to the above result, the significant p-value for all variables are not significant (>0.05) except for capital asset. Therefore, we can conclude that there is no significant difference in all variable measurement for acquiring financial institutions performance before and after merger except for capital asset. For capital asset, the significant value is less than 0.05. Thus, we conclude that there are significant differences in capital asset measurement for acquiring banks performance before and after merger. The finding is consistent with Rose (1987), which also found that profitability of acquiring firms does not improve after merger. Cornett and Tehranian (1992) also found the same result; which is no improvement in return on asset or cost efficiency (operating cost).

However, Spong and Shoenhair (1992) found an evidence of an improvement in overhead cost efficiency (operating cost) as a result of merger but still no significant improvement in return on assets.

Table 4.7 : T-Test

Performance measure	Acquired means	Acquiring means	t-value	P-value
Roa	0.016923	0.007919	0.473	0.260
Opecost	0.026200	0.023466	1.034	0.136
Fsize	21.892091	23.719390	-8.141	0.002**
mktshare	0.130838	0.066776	1.186	0.044**
Loanaset	0.624659	0.596480	1.529	0.823
Capasset	0.054621	0.055321	-0.082	0.468
Bankgrwt	0.207433	0.318049	-1.252	0.006**
Mktgrwth	0.035187	0.159688	-1.763	0.001**

**Indicates statistical significant at P<0.05

According to Table 4.6, the P –value for ROA, operating cost, loan assets and capital assets are not significant (>0.05). Therefore, we can conclude that there is no significant different in ROA, operating cost, loan assets and capital asset measurement between acquiring and acquired banks performance before merger. However, the P-value for firm size, market share, bank growth and market growth are significant (<0.05). Therefore, the study concludes that there is significant difference in firm size, market share, and bank growth and market growth measurement between acquiring and acquired banks performance before merger.

Conclusion

This study aims to investigate and compare the pre-merger and post-merger operating performance of the acquiring banks of the banks merger in Malaysia. The study concluded that the ROA and operating cost performance do explain a weak correlation in the process of banks during pre and post-merger in the recent merger. Worthy to note that both ROA and operating cost are not significantly improved by the independent variables chosen. However, bank growth and market growth does affect the performance of the bank merger. It is consistent with almost all of the studies that discovered neither gain in performance nor improvement in profitability resulted after the merger. However, other studies show at least some indication of performance improvements in some cases. In this study, the merger exercise is considered as forced merger due to the financial crisis rather than by the market competitiveness. Therefore, the results of the acquiring bank's performance were influenced by a condition of bank merger exercise and not due to bank choices and preference of the acquiring banks.

Despite the results drawn from the analysis, we found several limitations which restricted the findings. The result yielded a very weak model to explain the profitability and efficiency of before and after merger performance of banks. Therefore, it may not be used as a model to explain the performance of banks in Malaysia. Additionally, the sample used in this study only includes Malaysian banks, which were all involved in the merger process, thus comparison cannot be made with other unmerged banks. The sample also did not consist of foreign banks to enable us to compare the profitability and efficiency of the merged banks. There were also limitations of the variables. Lastly, small and inadequate study period (1992 – 2002;

only accounts for two years time-frame after the merger process) also contributes to the limitations of the study.

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APPENDICES