UNIVERSITI PUTRA MALAYSIA

EFFECTS OF BANK MERGERS AND ACQUISITIONS ON REVENUE EFFICIENCY DURING THE PRE-MERGER AND POST-MERGER PERIODS IN THE MALAYSIAN BANKING SECTOR

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GSM 2011 15

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By

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Thesis submitted to the Graduate School of Management, Universiti Putra Malaysia, in Partial Fulfillment of the Requirement for the Degree of Master of Science

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in partial fulfillment of the requirement for the degree of Master of Science

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November 2011

Chair: **Dr Junaina Muhammad, PhD**

Faculty: **Graduate School of Management**

The objective of this study is to identify the effects of the mergers and acquisitions (M&As) on revenue efficiency over the pre-merger and post-merger periods in the Malaysian banking sector. The main goal of bank M&As is to enhance and maximise the profit efficiency. Nevertheless, revenue inefficiency could contribute to lower profit efficiency when banks produce too few outputs for the given inputs, and produce too little of a high-priced output and too much of a low-priced output. This finding is supported by previous studies carried out in developed and developing countries which practice voluntary and forced M&As (Ariff and Can, 2008 and Houston et al., 2001).

The study also examines the potential bank specific determinants that influence revenue efficiency during post-merger period. Although several studies have identified the potential bank specific and macroeconomic determinants that could contribute to higher level of efficiency to reduce revenue inefficiency, the results remain inconclusive.

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The data gathered in this study are divided into two event windows; namely, pre-merger period (1995-1996) and post-merger period (2002-2009). The data collected included the year of mega-merger 2000 in which M&As took place in Malaysia (Sufian, 2009). To represent the Malaysian banking sector, a sample of 34 local and foreign commercial banks including the control group of banks were selected to participate in the study.

The level of revenue efficiency was measured using Data Envelopment Analysis (DEA) method which applied the intermediation approach. The data were tested by using the parametric (t-test) and non-parametric Mann-Whitney (Wilcoxon) and Kruskal-Wallis tests. The results showed that revenue efficiency in Malaysian banking sector did not improve during the post-merger period.

The determinants that could improve the revenue efficiency in Malaysian banking sector during the post-merger period were identified using Multivariate Regression Analysis (MRA). The analysis applied the Generalized Least Square (GLS) method consisting of Fixed Effect Model (FEM) and Random Effect Model (REM) run by Hausman test. Three bank specific determinants were found to influence the improvement of revenue efficiency: size of bank, market power and management quality. Another factor, the inflation factor (macroeconomic) was also found to influence the improvement of the revenue efficiency in Malaysian banking sector during the post-merger period.

The research concludes that findings from studies on M&As on revenue efficiency in the Malaysian banking sector provide guidance, better information and fill in the gap

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in current literature which can benefit the regulators, the banking sector itself, investors and academics when they make decisions on future M&As.

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Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia untuk memenuhi sebahagian daripada keperluan untuk ijazah Sarjana Sains

KESAN PENGGABUNGAN DAN PENGAMBILALIHAN BANK KE ATAS KECEKAPAN HASIL SEBELUM DAN SELEPAS TEMPOH PENGGABUNGAN DALAM SEKTOR PERBANKAN MALAYSIA.

Oleh

FAKARUDIN BIN KAMARUDIN

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Pengerusi: **Dr Junaina Muhammad, PhD**

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Objektif kajian ini adalah untuk mengenal pasti kesan penggabungan dan pengambilalihan ke atas kecekapan hasil sebelum dan selepas tempoh penggabungan dalam sektor perbankan Malaysia. Tujuan utama penggabungan dan pengambilalihan bank adalah untuk menigkatkan dan memaksimumkan kecekapan untung. Walaubagaimanapun, ketidakcekapan hasil boleh menyumbangkan kepada kecekapan untung yang rendah kerana bank menghasilkan output yang terlalu sedikit daripada input yang diberikan, dan menghasilkan terlalu sedikit output yang bernilai tinggi dan terlalu banyak output yang bernilai rendah. Penemuan ini disokong oleh kajian terdahulu yang dijalankan di negara maju dan membangun yang mengamalkan penggabungan dan pengambilalihan sukarela dan paksaan (Ariff dan Can, 2008 dan Houston et al., 2001).

Kajian ini juga mengkaji penentu bank khusus yang berpotensi mempengaruhi kecekapan hasil selepas tempoh penggabungan. Walaupun beberapa kajian telah mengenalpasti penentu bank khusus dan makroekonomi yang berpotensi untuk

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menyumbang kepada tahap kecekapan yang lebih tinggi untuk mengurangkan ketidakcekapan hasil, namun keputusan tersebut tidak meyakinkan.

Dalam kajian ini, data yang dihimpunkan dibahagikan kepada dua acara tetingkap iaitu tempoh sebelum penggabungan (1995-1996) dan tempoh selepas penggabungan (2002-2009). Data yang dikumpul merangkumi tahun (2000) penggabungan mega di mana berlakunya penggabungan dan pengambilalihan secara besar-besaran di Malaysia (Sufian, 2009). Sebanyak 34 buah bank perdagangan domestik dan asing termasuk bank dari kumpulan kawalan telah dipilih untuk mewakili sektor perbankan Malaysia.

Tahap kecekapan hasil ini telah diukur menggunakan kaedah *"Data Envelopment Analysis"(DEA)* dengan menggunakan pendekatan pengantaraan *(intermediation approach)*. Data diuji dengan mengunakan ujian *"parametric"* iaitu *"t-test"* dan ujian *"non-parametric"* iaitu *"Mann-Whitney (Wilcoxon)"*dan *"Kruskal-Wallis"*. Kajian telah menunjukkan bahawa kecekapan hasil dalam sektor perbankan Malaysia tidak bertambah baik selepas tempoh penggabungan.

Penentu yang boleh meningkatkan kecekapan hasil dalam sektor perbankan Malaysia selepas tempoh penggabungan telah dikenalpasti dengan menggunakan Analisis Regresi Multivarian *(MRA)*. Analisis telah menggunakan kaedah *"Generalized Least Square" (GLS)* terdiri daripada Model Kesan Tetap *(FEM)* dan Model Kesan Rawak *(REM)* yang diuji dengan ujian *"Hausman"*. Hasil mendapati bahawa terdapat tiga penentu bank khusus yang mempengaruhi peningkatan kecekapan hasil iaitu, saiz bank, kuasa pasaran dan kualiti pengurusan. Selain itu, faktor inflasi (makroeconomi)

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juga mempengaruhi peningkatan kecekapan hasil dalam sektor perbankan Malaysia selepas tempoh penggabungan.

Kajian ini merumuskan bahawa keputusan terhadap penggabungan dan pengambilalihan ke atas kecekapan hasil dalam sektor perbankan Malaysia ini mampu memberikan panduan, informasi yang lebih baik dan melengkapkan kajian terkini. Semua ini memberikan kemudahan kepada pihak pengawal selia, bank, para pelabur dan ahli akademik untuk membuat keputusan penggabungan dan pengambilalihan pada masa akan datang.

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I certify that an Examination Committee met on **15th November 2011** to conduct the final examination of **Fakarudin Bin Kamarudin** on his **Master of Science** thesis entitled "**Effects of Bank Mergers and Acquisitions on Revenue Efficiency During the Pre-Merger and Post-Merger Periods in the Malaysian Banking Sector**" in accordance with Universiti Pertanian Malaysia (Higher Degree) Act 1980 and Universiti Pertanian Malaysia (Higher Degree) Regulations 1981. The Committee recommends that the candidate be awarded the relevant degree. Members of the Examination Committee are as follows:

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DECLARATION

I hereby declare that the thesis is based on my original work except for quotations and citations, which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at UPM or any other institutions.

FAKARUDIN BIN KAMARUDIN

Date:

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TABLE OF CONTENTS

ABSTRACT..... **ii**
ABSTRAK..... **v**
ACKNOWLEDGEMENTS..... **viii**
APPROVAL..... **ix**
DECLARATION..... **xi**
LIST OF TABLES..... **xiv**
LIST OF FIGURES..... **xv**
LIST OF ABBREVIATIONS..... **xvi**

CHAPTER

1 INTRODUCTION..... **1**
1.1: Introduction..... 1
1.2: Background of the Study..... 1
1.3: Efficiency of Bank Mergers and Acquisitions..... 6
1.4: Problem Statement..... 11
1.5: Objective of the Study..... 14
1.6: Research Questions..... 14
1.7: Significance of the Study..... 14
1.8: Scope of the Study..... 15
2 MOTIVE AND OVERVIEW OF BANK MERGERS AND ACQUISITIONS IN MALAYSIA..... **18**
2.1: Introduction..... 18
2.2: Motives of Bank Mergers and Acquisitions..... 18
2.3: Overview of Bank Mergers and Acquisitions in Malaysia..... 22
3 THEORETICAL FRAMEWORK AND LITERATURE REVIEW..... **27**
3.1: Introduction..... 27
3.2: Definition of Merger and Acquisition..... 27
3.3: Theories on Mergers and Acquisitions..... 29
3.4: Theories Related to the Mergers and Acquisitions Study..... 30
3.5: Evolution of Studies on Bank Efficiency..... 39
3.6: Literature Reviews..... 52
4 DATA AND METHODOLOGY..... **93**
4.1: Introduction..... 93
4.2: Data Collection..... 93
4.3: Approaches on Bank's Roles..... 96
4.4: Methods of Measurement..... 97
4.5: The Econometric Issues..... 130
4.6: Hypothesis Development..... 132
5 RESULTS AND DISCUSSIONS..... **139**
5.1: Introduction..... 139
5.2: Results and Tests of DEA..... 140
5.3 The Economic Issues..... 148

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5.4: Results and Tests of GLS…… 151
5.5: Hypothesis Analysis…… 163
6 CONCLUSION AND RECOMMENDATION……. 169
6.1: Introduction…… 169
6.2: Conclusion……... 169
6.3: Implications of Study…….. 174
6.4: Limitations and Suggestions for Future Research…….. 178

BIBILIOGRAPHY……..... 180

LIST OF APPENDICES……. 195

APPENDICES……. 196

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