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INTERNATIONAL EVIDENCE ON COST, REVENUE, AND PROFIT EFFICIENCY OF CONVENTIONAL AND ISLAMIC BANKS

MOHAMMED KHALED I. BADER.

GSM 2007 4

INTERNATIONAL EVIDENCE ON COST, REVENUE, AND PROFIT EFFICIENCY OF CONVENTIONAL AND ISLAMIC BANKS

By

MOHAMMED KHALED I. BADER

Thesis Submitted to the Graduate School of Management, Universiti Putra Malaysia, in Fulfilment of the Requirement for the Degree of Doctor of Philosophy

July 2007

UPM

DEDICATION

I dedicate this thesis

To the memory of my father Khaled Ibrahim Bader (1936-1989) who urged me to the value of knowledge;
To my tender mother who instilled in me the meaning of sacrifice;
To my devoted wife who covered me with love and support;
To my dearest children, Hadi, Hadil, Bashar, and Sama who represented to me the meaning of hope;
To my siblings and the whole family who provide me with encouragement and care;
To the Administration, colleagues and students of Al-Quds University who granted me their support;
To my supervisor and entire committee who pointed to me the way throughout my research; and
To the many people that helped me to pursue my studies up to this level.

ABSTRACT

Abstract of thesis presented to the Senate of University Putra Malaysia in fulfilment of the requirement for the degree of Doctor of Philosophy

INTERNATIONAL EVIDENCE ON COST, REVENUE, AND PROFIT EFFICIENCY OF CONVENTIONAL AND ISLAMIC BANKS

By

MOHAMMED KHALED I. BADER

July 2007

Chairman: **Professor Shamsher Mohamad Ramadili, PhD**

Faculty: **Graduate School of Management**

Bank efficiency is important in achieving the competitive edge for survival in a globalised banking industry. Conventional and Islamic banks operate on different principles in maximizing the wealth of their shareholders and are subjected to the competitive regulatory environment. Minimising cost and maximising revenues and profits to ensure survival are the two aims of all banks. These aims ensure the efficiency of financial sector and contribute to the overall economic growth.

An important issue that needs to be addressed is the differences in the level of efficiency of these banks. In spite of the overwhelming empirical evidence on the efficiency of conventional banks, to date, there is no comprehensive evidence on the comparative cost, revenue, and profit efficiency of conventional and Islamic banks. This study fills this gap by analysing and comparing the efficiencies of Islamic and conventional banks in 21 countries during the period 1990-2005.

The cost, revenue, and profit efficiency of Islamic banks and conventional banks are analyzed based on size, age, and region. The average and over-time efficiency for these banks are analyzed using Data Envelopment Analysis (DEA) and Financial Ratios. Overall cost and profit efficiencies are ascertained using the Stochastic Frontier Approach (SFA).

The findings suggest that there are no significant differences between the overall efficiency results of conventional and Islamic banks irrespective of the method of analysis. Based on the documented evidence on efficiency of conventional banks, these findings imply that the banking transactions compliant with the *Shari'ah* are not an impediment to efficiency of Islamic banks. However, there is a substantial avenue to further improve the cost, revenue and profit efficiencies in both the banking systems.

The DEA based findings show no significance difference in average efficiency scores between big and small banks and between new and old banks in both the banking streams. However, geographical location explains the significant differences in revenue and profit efficiency. Further, the results show that, on average, banks are better in utilising their resources than in generating revenues and profits. In general, more inefficiency comes from the revenue side and banks in both banking streams need to further improve their revenue efficiency.

The evidence, based on SFA, suggests no significant differences between the cost and profit efficiency scores between conventional and Islamic banks based on size, age, and region. Similar evidence is observed from the Financial Ratios analysis.

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Overall, the results on the efficiency of conventional and Islamic banks are consistent with the documented literature. The robustness of the results has been tested based on single-country analysis and also a group of selected countries representing relatively less-developed and more-developed countries. Except for minor differences the results of these tests are consistent with the overall results, further substantiating the fact that there are no significant differences in cost, revenue and profit efficiency of conventional and Islamic banks.

ABSTRAK

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

BUKTI ANTARABANGSA PERBANDINGAN KECEKAPAN KOS, HASIL DAN KEUNTUNGAN ANTARA BANK KONVENSIONAL DAN BANK ISLAM

Oleh

MOHAMMED KHALED I. BADER

Julai 2007

Pengerusi: **Profesor Shamsher Mohamad Ramadili, PhD**

Fakulti: **Sekolah Pengajian Siswazah Pengurusan**

Kecekapan bank adalah penting untuk mencapai kelebihan persaingan dan penakatan dalam industri perbankan global. Bank konvensional dan bank Islam beroperasi untuk memaksimumkan pulangan kepada pemegang saham dengan prinsip yang berbeza dan tertakluk kepada persekitaran berperaturan persaingan. Meminimumkan kos dan memaksimumkan hasil dan keuntungan untuk menentukan penakatan merupakan dua objektif semua bank yang seterusnya akan menyumbangkan kepada kecekapan sektor kewangan dan pertumbuhan ekonomi secara menyeluruh.

Isunya ialah kecekapan bagi kedua-dua aliran bank tersebut. Sungguhpun terdapat banyak bukti empirik yang mencatatkan tahap kecekapan bank konvensional, sehingga hari ini tidak ada catatan yang komprehensif mengenai perbandingan kecekapan kos, hasil dan keuntungan antara bank konvensional dan bank Islam. Kajian ini berusaha untuk mengisi ruang tersebut dengan mengkaji tahap kecekapan kos, hasil dan keuntungan bank konvensional dan bank Islam di 21 buah negara

untuk tempoh 1990- 2005. Kecekapan kos, hasil dan keuntungan kedua-dua aliran bank tersebut dianalisakan berdasarkan perbezaan saiz, tempoh masa kewujudan bank dan lokasi atau wilayah tempat bank beroperasi. Purata dan arah aliran kecekapan mengikut masa kedua-dua aliran bank dianalisa dengan menggunakan kaedah '*Data Envelopment Analysis*' (DEA), kaedah nisbah kewangan dan kecekapan kos dan kentungan secara menyeluruh dengan menggunakan kaedah '*Stochastic Frontier Analysis'* (SFA).

Penemuan utama kajian mendapati tiada perbezaan yang signifikan terhadap kecekapan yang menyeluruh di antara kedua-dua aliran bank walaupun menggunakan kaedah yang sama. Berdasarkan bukti empirik yang didokumenkan mengenai kecekapan bank konvensional mendapati bahawa ianya adalah lebih mantap dan cekap, dan penemuan ini memberi implikasi yang urusniaga perbankan berdasarkan prinsip Shariah tidak menjadi halangan kepada pencapaian kecekapan yang setara dengan bank konvensional. Walaubagaimanapun, masih terdapatnya ruang untuk mempertingkatkan lagi tahap kecekapan kos, hasil dan keuntungan di kedua-dua sistem perbankan tersebut.

Penemuan berdasarkan keadah DEA menunjukan tiada perbezaan yang signifikan terhadap kecekapan purata di antara bank bersaiz kecil dengan bank bersaiz besar, bank yang baharu wujud dengan bank yang telah lama wujud, bagi kedua-dua aliran bank yang dikaji. Walaubagaimanapun, lokasi geografi memberi gambaran perbezaan yang signifikan terhadap kecekapan hasil dan keuntungan di antara kedua-dua aliran bank. Tambahan pula, secara purata, penemuan menunjukkan bahawa bank lebih cekap mengguna sumber-sumber berbanding menjanakan hasil

dan keuntungan mereka. Pada keseluruhannya, kebanyakan ketidakcekapan datangnya dari hasil dan oleh yang demikian kedua-dua sistem perbankan perlu meningkatkan kecekapan hasil mereka.

Dengan menggunakan kaedah SFA, kecuali kecekapan keuntungan bank yang bersaiz besar berbanding dengan bank yang bersaiz kecil, penemuan menunjukkan tiada perbezaan yang signifikan antara kecekapan kos dan keuntungan antara bank konvensional dan bank Islam berdasarkan faktor saiz, umur, kawasan operasi bank tersebut. Penemuan berdasarkan analisis nisbah kewangan juga mendapati tiada perbezaan kecekapan yang bererti bagi kedua-dua aliran bank tersebut.

Secara keseluruhanya, penemuan kajian ini berkaitan dengan kecekapan bank konvensional dan bank Islam adalah tekal sepertimana pada sorotan yang didokumenkan. Keteguhan penemuan kajian ini telah di uji berdasarkan analisis satu negara dan juga kumpulan negara terpilih yang mewakili negara membangun dan negara maju. Kecuali beberapa perbezaan kecil, penemuan kajian ini adalah tekal dengan keseluruhan keputusan. Ini bermakna ia mengukuhkan lagi fakta bahawa tiada perbezaan yang signifikan pada kecekapan kos, hasil dan keuntungan bagi bank konvensional mahupun bank Islam.

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Lastly, acknowledgment would not be complete without recognizing my devoted wife, and beloved children for their profound support, tolerance, and love. Without them, I would not have achieved this success today.

APPROVAL

I certify that an Examination Committee met on **May 28th, 2007** to conduct the final examination of **Mohammed Khaled I. Bader** on his **Doctor of Philosophy** thesis entitled "**International Evidence on Cost, Revenue, and Profit Efficiency of Conventional and Islamic Banks**" 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.

MOHAMMED KHALED I. BADER

Date: 28-05-07

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LIST OF ABBREVIATIONS

BBs	Big Banks
BCBs	Big Conventional Banks
BIBs	Big Islamic Banks
CB	Conventional Bank
CBs	Conventional Banks
CE	Cost Efficiency
CRS	Constant Return to Scale
CTIR	Cost to Income Ratio
DEA	Data Envelopment Analysis
DFA	Distribution Free Approach
DMU	Decision-Making Unit
DMUs	Decision-Making Units
E	Efficiency
EFA	Econometric Frontier Approach
FDH	Free Disposal Hull
FF	Fourier-Flexible
FRs	Financial Ratios
IB	Islamic Bank
IBs	Islamic Banks
IDB	Islamic Development Bank
IFR	Islamic Financial Reporting
ME &T	Middle East and Turkey
NBs	New Banks
NCBs	New Conventional Banks
NIBs	New Islamic Banks
NIER	Non Interest Expenses Ratio
NIM	Net Interest Margin
OBs	Old Banks
OCBs	Old Conventional Banks
OIBs	Old Islamic Banks
OPIR	Other Operating Income Ratio
PE	Profit Efficiency
PLS	Profit-Loss Sharing
PM	Profit Margin
RE	Revenue Efficiency
ROA	Returns on Assets
ROAA	Returns on Adjusted (Average) Assets
ROAE	Return on Adjusted (Average) Equity
ROE	Returns on Equity
SFA	Stochastic Frontier Analysis (Approach)
Std. Dev.	Standard Deviation
TFA	Thick Frontier Approach
UAE	United Arab Emirates
USA	United States of America
USD	United States Dollar ($)
VRS	Variable Return to Scale.

CHAPTER ONE

INTRODUCTION

1.1 Background and Motivation

The first chapter provides a general background about the study. It identifies the problem statement and objectives of the research. It also lists the research questions and highlights the importance of this study. The chapter, as well, justifies the benefits and clarifies the implications of this research. Furthermore, the theoretical and empirical contributions are declared in this introductory chapter. Finally, the scope of the study and its proposed chapters are outlined followed by a brief summary.

1.1.1 Background

Banks, like other financial institutions, are simply business organised to 'maximise' the value of the shareholders' wealth invested in the firm at an acceptable level of risk. Iqbal and Molyneux (2005) define the *bank* as a financial intermediary that offers the widest range of financial services -especially credit, savings, and payment services- and performs the widest range of financial functions of any business firm in the economy. In this regard, *Islamic banking* is just another way of performing the financial intermediation function. Instead of using the rate of interest to mobilise savings, Islamic banks mobilise funds on the bases of Profit-Loss Sharing (PLS) with their depositors (Ariff, 2006).

While conventional banking history dates back to the 11th century, the theoretical development of Islamic banking model started in 1950s; meanwhile, the practical

development started from the remote village of Egypt (Mitt Ghamr) in 1963, and the first modern Islamic bank was established in Dubai in 1975 (Homoud, 1985). Interestingly, Islamic banking now reached a level where almost all major international banks are offering Islamic banking products and the practice of Islamic banking has reached all the corners of the globe[1].

Islam is the fastest growing religion in the world and there are about 1.8 billion Muslims in 70 Islamic countries and around the globe. Muslims are increasingly searching for financial instrument that adheres to *Shari'ah* principles. Some non-Muslims are also participating in Islamic banking because they consider it to be commercially sound (Brooks, 1999). Thus, soundness of Islamic banks provides an alternative intermediation avenue in the overall financial system and it is important for the international economy as a whole.

Academic research has increased in number on Islamic banking and finance, thus leading to a better understanding of the new form of banking. This is, perhaps, due to the rapid growth of Islamic banking industry as these institutions have grown worldwide at a remarkable pace during the last three decades. According to a study by the International Monetary Fund[2], the number of institutions rose from 75 in 1975 to over 300 in 2005, in more than 75 countries. Total assets are estimated to be USD 250 billion, which is growing at about 15 percent per year, three times the rate for conventional banks. The total size of Islamic banking assets of USD 250-300

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[1] See Ariff (2006), Iqbal and Molyneux (2005), Aggarwal and Yousef (2000), Chapra and Khan (2000), and Homoud (1985) for history and general review of Islamic banking.

[2] See International Monetary Fund, "Islamic Finance Gears up," *Finance and Development*, Vol. 42 No. 4, December 2005.