DETERMINANTS OF TECHNICAL EFFICIENCY OF BANKS IN YEMEN

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DETERMINANTS OF TECHNICAL EFFICIENCY OF BANKS IN YEMEN

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ABSTRACT

The main objective of this thesis is to identify the efficiency level and the determinants of efficiency of the Yemeni banks over the period from 1998 to 2011. This thesis consists of three specific objectives. The first objective is to determine the technical, pure technical and scale efficiency score of banks. The second objective is to analyse the differences in efficiency in terms of banks identity, bank type and internationalization of banks. The third objective aims to identify factors that determine efficiency. The two-stage approach which consists of data envelopment analysis (DEA) and Tobit regression is employed in analyzing the data. Specifically, the DEA was used to estimate banking efficiency in the first stage, while the Tobit regression was applied in examining the determinants of the efficiency obtained from the first stage. The results of DEA show that, on average, technical, pure technical and scale efficiencies for all banks over the sample period are 74.5%, 86.3% and 85.5%, respectively. The results also indicate that most Yemeni banks are facing scale problems due to decreasing returns to scale. In addition, the results reveal that there are significant difference in efficiency among banks operating in Yemen based on their identity, bank type and internationalization of banks. Moreover, the results from Tobit regression illustrate that there is a positive relationship between efficiency scores and internationalization of banks, type of banks, intellectual capital performance and gross domestic product, while banks size and profitability have significant negative influence on efficiency. A major contribution that arises from the study is that this is the first study that shows the importance of intellectual capital performance in ensuring banks efficiency especially in Yemen.

Keywords: technical efficiency, pure technical efficiency, scale efficiency, data envelopment analysis, intellectual capital performance

ABSTRAK

Objektif utama tesis ini adalah untuk mengenal pasti tahap kecekapan dan penentu kecekapan bank-bank di Yaman bagi tempoh 1998 hingga 2011. Tesis ini mengandungi tiga objektif khusus. Objektif pertama ialah untuk menentukan skor kecekapan teknikal, skor kecekapan teknikal tulen dan skor kecekapan skala untuk bank-bank. Objektif kedua ialah untuk menganalisis sama ada terdapat perbezaan dalam kecekapan dari segi identiti bank, jenis bank dan pengantarabangsaan bank. Objektif ketiga bertujuan untuk mengenal pasti faktor-faktor yang menentukan kecekapan. Pendekatan dua peringkat yang terdiri daripada analisis penyampulan data (APD) dan regresi *Tobit* digunakan untuk menganalisis data. Secara khususnya, APD digunakan untuk menganggarkan kecekapan perbankan pada peringkat pertama , manakala regresi *Tobit* digunakan dalam meneliti penentu kecekapan yang diperoleh daripada peringkat pertama. Keputusan APD menunjukkan bahawa secara purata, kecekapan teknikal, kecekapan teknikal tulen dan kecekapan skala untuk semua bank dalam tempoh kajian adalah masing-masing 74.5 peratus, 86.3 peratus dan 85.5 peratus. Keputusan juga menunjukkan bahawa kebanyakan bank di Yaman menghadapi masalah skala kerana pulangan berkurangan mengikut skala. Di samping itu, keputusan menunjukkan bahawa terdapat perbezaan yang signifikan dalam kecekapan antara bank-bank yang beroperasi di Yaman berdasarkan identiti bank, jenis bank dan pengantarabangsaan bank. Selain itu, keputusan daripada regresi *Tobit* menunjukkan bahawa terdapat hubungan yang positif antara skor kecekapan dan pengantarabangsaan bank, jenis bank, prestasi modal intelektual dan keluaran dalam negara kasar, manakala saiz bank dan keuntungan mempunyai pengaruh negatif yang ketara terhadap kecekapan. Sumbangan utama yang terhasil dari kajian ini ialah ia merupakan kajian pertama yang menunjukkan kepentingan prestasi modal intelektual dalam menentukan kecekapan bank terutama di Yaman.

Kata kunci: kecekapan teknikal, kecekapan teknikal tulen, kecekapan skala, analisis penyampulan data, prestasi modal intelektual

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LIST OF ABBREVIATIONS

AE	Allocative Efficiency
ATM	Automated Teller Machines
CBY	Central Bank of Yemen
CEE	Capital Employed Efficiency
Crisis	Financial Crisis
CRS	Constant Returns to Scale
DEA	Data Envelopment Analysis
DFA	Distribution-Free Approach
DMUs	Decision Making Units
DRS	Decreasing Returns to Scale
EE	Economic Efficiency
FINCP	Financial Capital
GATS	Agreement on Trade in Services
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
HCE	Human Capital Efficiency
HIC	Human Intellectual Capital
ICP	Intellectual Capital Performance
IMF	International Monetary Fund
INTSU	Internationalization of Banks
IRS	Increasing Returns to Scale
IT	Information Technology
MENA	Middle East and North Africa
NPL	Non- Performing Loans
PTE	Pure Technical Efficiency
ROA	Return on Assets
ROE	Return on Equity
SCE	Structural Capital Efficiency
SE	Scale Efficiency
SIC	Structural Intellectual Capital
SFA	Stochastic Frontier Approach
TE	Technical Efficiency
TFA	Thick Frontier Approach
TYPE	Type of Banks
VA	Value Added
VAIC	Value Added Intellectual Coefficient
WTO	World Trade Organization
YBRD	Yemen Bank for Reconstruction and Development

CHAPTER ONE

INTRODUCTION

1.1 Introduction

It is widely believed that the banking system is the core of the economic structure of any country, and represents the engine of any development initiative. In addition, it plays a significant role in the growth and development of an economy, as evidenced academically and practically by the literature (Al-Marri, Ahmed & Zairi 2007). Therefore, as the financial institutions and banking system become more effective and stronger, the more roles they play in the economic development through efficient production of products and services (Al-Hajri & Tatnall, 2008). Hence, to carry out this role, each bank needs to be efficient in order to maintain its business successes, given increasing competition in the financial markets, and to contribute to the economy.

Efficiency in economics is a term that describes how well a system performs in producing the maximum output for a given quantity of inputs. If more outputs are produced without altering inputs, or if fewer inputs are used for the same quantity of output produced, efficiency is said to be improved. In the banking industry, efficiency is measured as the difference between the bank's position and its best production frontier. These measures are critical as they enable us to distinguish banks that will survive from those that will not. As such, the present study examines the efficiency of the banking sector in Yemen over the period from 1998 to 2011.

The contents of the thesis is for internal user only

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