AN EMPIRICAL INVESTIGATION INTO THE RELATIONSHIP BETWEEN BANKS PERFORMANCE AND ECONOMIC GROWTH: A COMPARATIVE STUDY OF ISLAMIC AND CONVENTIONAL BANKING SYSTEM

by

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LIST OF ABBREVIATIONS

ADF	Augmented Dickey Fuller
ARDL	Autoregressive Distributed Lag
BFIs	Bank Financial Institutions
BIMB	Bank Islam Malaysia Berhad
CPI	Consumer Price Index
CRS	Constant-Returns-to-Scale
DEA	Data Envelopment Analysis
DEA*P*	Envelopment Analysis (Computer) Program
DMU	Decision-Making Units
DPM	Dynamic Panel Model
EAC	East African Community
EPS	Earnings Per Share
ES	Economies of Scale
EU	European Union
FIs	Financial Institutions
FRA	Financial Ratio Analysis
GCC	Gulf Cooperation Council
GDP	Gross domestic product
GMM	Generalized Method of Moments
KSA	Kingdom of Saudi Arabia
MENA	Middle East & North Africa
N-BFIs	Non-Bank Financial Institutions
OIC	Organization of Islamic Cooperation
OLS	Ordinary Least Square

LIST OF ABBREVIATIONS

PM	Profit Margin
ROA	Return on Assets
ROE	Return on Equity
SFA	Stochastic Frontiers Analysis
UAE	United Arab Emirates
UK	United Kingdom
USA	United States of America
VAR	Vector Autoregressive Models
VECM	Vector Error Model Correction Model
VRS	Variable-Returns-to-Scale
ZIRP	Zero Interest Rate Policy

LIST OF SYMBOLS

B	Vector of unknown parameters in Tobit model
BLQ_{jit}	Banks liquidity
Bpf_{jit}	Banks profitability
DS_{jFI}	The total deposits and short term findings
E_s	Efficiency performance
F_i	The distribution function of the standard normal evaluated at $\beta' xi/\sigma$
FLv_{jit}	Banks financial leverage
i_{th}	Output produced
I	A country
J	A bank
j_{th}	Input produced
L	Likelihood function
LnI_{jit}	Banks net loans to total asset
N_{iIO}	Banks net income in DEA model
O_{jEI}	Banks other operating expenses in DEA model
P	p-value
P_{iEI}	Banks personal expenses in DEA model
Reg_{jit}	The region as a dummy variable
SU_{jit}	Personal expenses in Tobit model
T	Time
TD_{jit}	Banks market share
T_{iLO}	Banks total loans in DEA model
TyB_{jit}	A bank dummy factor in Tobit model

LIST OF SYMBOLS

u_i	The output weight
v_j	The input weight
v_{i1}	The weight of the quantity produced from the banks total loans
v_{i2}	The weight of the quantity produced from banks net income
w_{j1}	The weight of the quantity of the total deposits and short term findings
w_{j2}	The weight of the quantity produced from the other operating expenses
w_{j3}	The weight of the quantity produced from the personal expenses
x1	Total deposits and short term funding
x2	Personal or administrative expenses
x3	Other operating expenses
x_{js}	Quantity inputs
y_i	Quantity outputs
y1	Total loans
y2	Net income
yi∗	A latent variable in Tobit model
θ_{it}	Efficiency performance
εi ~ N (0, σ2)3	Vector of explanatory variables in Tobit model
ξ_s or TE	Total Technical Efficiency
ω_i	Error term

Kajian Empirikal Terhadap Hubungan Antara Prestasi Bank dan Pertumbuhan Ekonomi: Satu Kajian Perbandingan di Antara Sistem Perbankan Islam dan Konvensional

ABSTRAK

Perbankan Islam adalah sektor yang semakin berkembang pesat dalam sistem ekonomi dan kewangan global. Kajian-kajian empirikal terdahulu tentang hubungan antara kewangan dan pertumbuhan ekonomi adalah lebih berdasarkan kepada sistem konvensional manakala konsep kewangan Islam amat jarang dibincangkan dan agak terhad dari segi skop kajian dan lebih tertumpu kepada perspektif agama. Tesis ini bertujuan untuk mengkaji perkaitan dan hubungan sebab-penyebab di antara kecekapan bank dan pertumbuhan ekonomi negara untuk jangkamasa 2015-2016. Sampel kajian terdiri daripada 44 buah bank Islam dan 44 buah bank konvensional dari negara-negara di Asia, Afrika, Timur Tengah, Negara-Negara Teluk, dan Eropah. Kajian ini menggunakan Analisis Sampul Data (DEA), regresi Tobit, dan ujian sebab-penyebab Granger untuk mencapai objektif-objektif kajian yang telah ditetapkan. Tesis ini juga menilai kesan faktor-faktor dalaman bank terhadap kecekapan bank, yang seterusnya akan mempengaruhi arah dan kekuatan hubungan antara kecekapan bank dan KDNK. Hasil kajian menunjukkan bahawa perbankan Islam dan perbankan konvensional adalah tidak cekap sepenuhnya secara teknikal. Ketidakcekapan yang berlaku didapati besar berpunca daripada saiz operasi bank yang tidak sesuai. Perbankan Islam secara relatifnya didapati lebih cekap dan mempunyai daya tahan yang lebih baik berbanding perbankan konvensional dalam menghadapi kesan krisis ekonomi dunia pada tahun 2008. Keputusan kajian selanjutnya menunjukkan bahawa keuntungan bank, usia bank dan jumlah pinjaman yang dikeluarkan mempengaruhi kecekapan bank secara positif manakala penggunaan kemahiran bank didapati secara negatifnya mempengaruhi skor kecekapan bank. Kesan regresi gabungan KDNK terhadap kecekapan bank, dan sebaliknya, tidak dapat dipastikan, kecuali untuk jangkamasa selepas krisis kewangan yang menunjukkan sokongan yang lemah terhadap hipotesis "pertumbuhan berasaskan kewangan" dan hipotesis "saluran kecekapan". Sungguhpun demikian, analisis peringkat negara yang mengkaji hubungan antara KDNK dan kecekapan bank mengesahkan wujudnya hubungan antara kewangan dan pertumbuhan ekonomi bagi beberapa buah bank dan negara, maka, hipotesis-hipotesis tertentu dalam kajian ini tidak dapat digeneralisasikan. Hasil kajian menyokong kewujudan hubungan sebab-penyebab dua hala antara kecekapan bank dan pertumbuhan ekonomi bagi perbankan Islam dalam jangkamasa pendek dan panjang. Hasil kajian mencadangkan bahawa perbankan Islam adalah sistem yang lebih baik, berdaya tahan dan bermanfaat untuk menggantikan sistem perbankan konvensional.

Kata kunci: Perbankan Islam, perbankan konvensional, pertumbuhan ekonomi, krisis kewangan, Analisis Sampul Data, regresi Tobit, hubungan sebab-penyebab Granger

An Empirical Investigation Into the Relationship Between Banks Performance and Economic Growth: A Comparative Study of Islamic and Conventional Banking System

ABSTRACT

Islamic banking is a fast growing sector in the global financial and economic systems. Previous empirical studies on the finance-growth relationship were conventional based while the concept of Islamic finance was discussed in very rare works which are limited on their coverage, scope and extremely from a religion point of view. The purpose of this thesis is to bridge the gap in the existing research literature by examining the association and causality between banks efficiency and countries´ economic growth over the period of 2005-2016. The sample consists of 44 Islamic and 44 conventional banks from Asia, Africa, the Middle East, Gulf region, and Europe. This thesis utilizes the Data Envelopment Analysis (DEA), Tobit regression, and the Granger-causality test to achieve the study objectives. Additionally, the thesis assessed the effect of banks´ internal factors on banks´ efficiency, which could in turn influence the direction and strength of the relationship between banks efficiency and GDP. Findings reveal that Islamic and conventional banks are not fully efficient technically. Banks´ inefficiencies are largely due to inappropriate size of banking operations. Islamic banks showed a less volatile efficiency and thus appeared to be better immune to the adverse effects of the global crisis of 2008. Results further showed that banks profitability, age and lending intensity positively affect banks efficiency, while banks skills utilization negatively affects banks efficiency scores. The combined-effect of the GDP on banks´ efficiency and vice-versa was found inconclusive, except in the post crisis period, indicating a weak support to both the finance-led growth and the efficiency channel hypotheses. Yet, a country level analysis of the relationship between GDP and banks´ efficiency verified the finance-economic growth nexus for some banks and countries therefore the respective hypotheses in this present study cannot be generalized. Eventually, results support the bidirectional causation running in the short and long run between banks efficiency and economic growth for Islamic banks only. Findings suggest that Islamic banking is a proper, sustainable and beneficial substitute to the conventional banking system.

Keywords: Islamic banking, Conventional banking, Economic growth, Financial crisis, Data Envelopment Analysis, Tobit regression, Granger-causality relationship

CHAPTER 1: INTRODUCTION

1.1 Introduction

Over the past years, Islamic banks´ financial transactions made up only a small part of less than 1 percent of the total traditional banking industry (Ernst & Young, 2016). Nevertheless, due to its moral and spiritual values, Islamic finance has gradually gaining a global growth among Muslims and non-Muslims countries alike. Recently, Islamic banking is growing tremendously and Islamic banks have significantly expanded their financial operations into Muslim majority countries and most importantly into foreign countries to serve the international financial markets. It is estimated that the Islamic finance global total assets value has reached US$2.432 trillion in 2017. Total Islamic finance assets are projected grow to reach US$3.5 trillion in 2021. Islamic banking is the biggest contributor to the total value of Islamic finance assets. In 2017, Islamic banking's share of Islamic finance assets was about US$1.854 trillion. It is expected that Islamic banking sector will grow to reach US$2,825 trillion in 2021 (Thomson Reuters, 2017).

In spite of having observable tremendous growth in Islamic financial assets, Islamic finance industry is still relatively small as compared to the global financial industry (Ahmed, 2017). Islamic financial assets are mainly concentrated in the Gulf Cooperation Council (GCC) countries as well as in Iran and Malaysia (Standard & Poor's, 2018). Therefore, there has been a question about Islamic banks´ sustainability and long-run ability to continue growing (Aliyu, 2016), particularly during the reverse market conditions (Ahmad & Abdul Majid, 2017). Consequently, a reliable empirical

examination and evaluation of Islamic banks´ versus conventional banks´ performance is essential within and outside Muslim majority countries.

Islamic banking is the biggest contributor to the global Islamic finance assets (Thomson Reuters, 2017) and has a significant impact on the countries´ real economy (Sarwer et al., 2013). Therefore, the relationship between Islamic finance performance and economic growth is considered an important issue that needs more investigation and unbiased analysis. Consequently, this study focuses also on measuring the relationship between banks´ performance and countries´ economic growth.

1.2 Background of the Study: Islamic Economics

The relationship between the performance of the financial institutions and countries´ economic growth has been a focus of research in the last few decades (Popov, 2017).

This section highlights the key characteristics of Islamic banking, which differentiate it from conventional banking. Moreover, it explains the relationship between the performance of Islamic financial sector and economics growth in order to shed some light on the insufficiency in existing literature on this issue.

1.2.1 A Basic Guide to Islamic Economics, Banking and Finance

The fundamental principles of Islamic ideology are the belief in the unity of the Creator- Allah (swt) (so called Tawhid), the prophethood (or Nubuwwa), and the ultimate

return to the Creator for the final judgment (Hakim, 1993). These three axioms govern all of human's actions and decisions. They encourage justice and fairness, support cooperation in socially beneficial activities and prohibit cooperation in harmful operations. In practice, justice is defined as acting in accordance with the Islamic Law (Shari'ah) (Amilin et al., 2018). In addition to the importance of the core relationship between people and the Creator (known as aqidah (faith)), what make Islam different from other systems of thoughts is the fact that it prescribes a set of Shari'ah principles and rules for all human life aspects namely; social, economic, and financial. The Shari'ah principles are derived from the Qur'an and its operationalization by the Prophet Mohammad (pbuh). Shari'ah supports ethics (akhlaq) in social, political, and economic life (muamalat). Muamalat defines the conduct of activities within the economic system, which ultimately lays down the rules for financial and banking systems (Askari et al., 2015).

In addition to both the holy quran and hadith, Ijtihad is considered another source to derive rules for resolving issues arising in economics and finance. Ijtihad refers to the efforts of jurists and Muslim scholars to find solutions to problems that are not clearly addressed in the primary sources. Ijtihad is based on the earlier consensus of jurists (ijma'), analogy (qiyas), judicial preference (istihsan), public interest (maslahah) and customs (urf) (El-Gamal, 2006).

Given the above discussion, Islam proposes a distinct economic and financial system. Islamic economics and finance have the following distinguished principles (Franzoni & Allali, 2018): The prohibition of interest (riba). Riba means literally ''an excess''. It is generally defined as the unjustified positive, fixed and predetermined increase of capital in sales and/or loans. Islam encourages profits (determined ex post)

earning because it is symbolize creative entrepreneurship and create additional wealth. In the contrary, interest (determined ex ante) is a cost that is accrued regardless of the outcome of business operations. In case of if there are some business losses, interest may not create wealth.

The second important principle of the Islamic economics and financial system is the ‘’risk sharing’’ (El-Gamal, 2006). As interest is prohibited in Islam, debt securities are eliminated from the financial system and thus depositors “suppliers of funds’’ become investors, rather than creditors. Borrowers and lenders share rewards and/or losses in an equitable fashion. The prohibition of debt and the risk sharing principle leads to the third principle of Islamic finance. This principle suggests that all financial contracts are asset-based and fully backed by real sector assets and risk-sharing among partners. This indicates that the Islamic financial system links financing operations directly with the underlying assets to ensure the close relationship between financing activities and the real-sector activities.

The fourth principle is that money is only a medium of exchange and store of value. Money is not a commodity in which it has a price for its use. Money is “potential” capital. It becomes actual capital only when it is combined or used with other resources to undertake a productive activity. Therefore, the time value of money is recognized in Islam only when it acts as capital, not “potential” capital. Eventually, Islam prohibits speculative and gambling activities. These activities and transactions include a clear and excessive uncertainty (gharar), which occurs when either party to a contract has information regarding the subject of the contract.

The economic activities in any economic system are generally viewed as contracts between different agents in an economy. A financial instrument is also a contract, whose terms and conditions define the risk - and - return profile of the instrument. If a financial contract does not involve any of the prohibited elements mentioned above, it is thus considered islamically valid. The Islamic financial system has a set of core contracts. These contracts are classified into three main types; transactional contracts, financing contracts, and intermediation contracts (Askari et al., 2015). Transaction contracts include for example: 1) Bay' al - salam (sale by immediate payment against future delivery. 2) Bay' al - istisnah (sale on order) where the item for sale is yet to come into existence at the time of the contract. 3) Ijarah (Lease) which is considered a sale of the usufruct of an asset. In addition to the absence of compound interest in ijarah, the leasing agency must own the leased object for the duration of the lease.

Financing contracts on the other hand includes: 1) Murabahah (cost - plus sales) where the financier purchases a product on behalf of an entrepreneur who does not have enough capital to buy this particular product. The financier then sells the product to the entrepreneur with a profit margin added to the cost of the product. The payment is delayed for a specified period of time. 2) Tawarruq or "reverse Mudarabah," where a person buys a commodity from the seller on credit. Once the commodity is purchased, it is then immediately sold to a third party in the market at a spot price lower than the purchase price. The price will be paid, either in instalments or in full but in the future.

Intermediation contracts consist for example both Musharakah and Mudarabah contracts. 1) Musharakah (partnership) where two or more parties combine either their capital or labor to share the profits and losses. Every partner is considered an agent of and for the other. Under Musharakah contracts, the profit is shared in any pre agreed

proportion while both party shares the proposed loss in a strict proportion to the contributed capital. Islamic banks can use also what so called diminishing Musharakah (Musharakah Mutanaqisah), where the bank keeps on reducing its ownership (equity share) in an asset against clients' periodical rental payments until the client becomes the sole owner for the asset. 2) Mudarabah is another participatory mode whereby one party of the contract provides the capital while the other party put efforts and skills to manage the project. Both parties share generated profits according to a pre-agreed ratio. Losses however are borne only by the provider of the capital.

Recently, a large number of studies have examined the relationship between the financial sector and the country's economic status. Two views had accordingly been proposed. Some researchers showed a favorable effect of banking sectors and financial markets development on economic growth primarily due to their impacts on the growth rate of investment, savings, and capital accumulation (e.g. Schumpeter (1912); McKinnon (1973); Shaw (1973); Levine (1997); Levine (2005); Destefanis et al., (2014); Emecheta & Ibe, (2014), Belke et al., (2016); Cevik et al., (2016); Zhang et al., (2016); Abedifar et al., (2016), Boukhatem & Ben Moussa (2017); and Diallo (2018)), while some other studies contrarily support the opposed view. Robinson (1952) and Lucas (1988) believe that the role of financial intermediaries in economic growth is overemphasized and have almost no influence on the level of GDP per capita. Creel et al., (2015) found for example that financial instability has a negative effect on economic growth. Deidda & Fattouh (2008) support the claim that if researchers assumed a positive relationship between financial structures and economic growth, then why some Muslim majority countries with a large and successful financial system remained economically under-developed!

1.2.2 Islamic Finance and Economic Growth: An Overview

Interest-free (or so called zero interest rate) economics is primarily tries to establishing free markets and equitable access and distribution to capital (Askari et al., 2015). It aims also to promote initiative (production) and end exploitation and "usury". Following the "Great Recession", many countries such as the United States of America (USA), Japan and the United Kingdom (UK) decided to employ a zero interest rate policy (ZIRP) in order to promote economic recovery from global financial crises, as they believe this policy will help countries to avoid multiplier mode of money making, profit taking and capital-creation accordingly will stimulate growth (Egan and Soos, 2014).

Despite the countries progress, the zero interest rate policy proves its failure as it increases the saving rates causing what so called liquidity trap. This consequently negatively affect the initiation of productive products. Moreover, when interest rate is zero investors seek higher required rate of return that is generally associated with riskier assets. This eventually cause a financial turmoil in the markets particularly during periods of economic and financial stability (Svensson, 2003). Based on that, it is thus important to find a system similar to zero interest rate policy but with some valuable solutions which will not negatively affect the economy. The absence of interest is a crucial feature of the Islamic finance, thus may be considered an optimal solution for the above-mentioned dilemma!

The research papers that explicitly measured the relationship between Islam, as a religion, and economic growth came up with mixed results. For instance, Bryan (1978) argued that capitalist and conservative Islamic religion lead to lower savings and thus cause economic decline in Muslim states. Others such as Guiso et al., (2003) claimed that

Muslim investors are “anti-market”; therefore, their transactions will negatively associate with attitudes toward economic growth.

Apparently, the results above are arguable and inconclusive. As a matter of fact, Islam grants and support freedom of Islamically acceptable enterprises, approves a free play of market forces and encourages trade and business that can flourish the economy (Kamarulzaman & & Madun, 2013). Furthermore, to help the poor and to reduce income disparity among the people, Islam is the only religion that has its own way of system that automatically reduce the income gap between the rich and the poor. The system is called Zakat which is in the form of alms-giving treated in Islam as a religious obligation or tax, which, by Quranic ranking, is the next after prayer in importance. All affordable Muslims are obliged to pay Zakat as mentioned in the Quran:

“*The alms are only for the poor and the needy, and those who collect them, and those whose hearts are to be reconciled, and to free the captives and the debtors, and for the cause of Allah, and (for) the wayfarers; a duty imposed by Allah. Allah is knower, Wise*." (At-Taubah 9: 60)

In addition, Islam prohibited interest rate, as interest rate will suppress the borrower (Usmani, 1998). Thus, Islam is a religion that will bring prosperity to the people and have positive effects on the economy. Hence, majority of poor Islamic countries exist around the world are related to merely man-made mistakes and mismanagement of resources and not because of Islam as a religion.

All the researches above only explain the effects of Islam on economic growth. These papers did not empirically investigate the effect of Islam as represented by its