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A Comparative Analysis on Islamic Bank Performance and Efficiency Risk: Pre and Post IFSA 2013

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Abstract
Performance of the banking industry has an impact towards economic growth of a developed economies. The performance of the bank may impact the growth of the economy, as profits may shape the customers' decision on investments and savings. Regulation affecting the design of banking governance structure; hence, it plays a vital role in determination of banking industry performance. IFSA 2013 was established to promote financial stability and compliance to Shariah and further strengthen the regulation of Islamic financial institutions. This paper aims to examine whether IFSA 2013, bank's risk-taking behavior and efficiency will enhance performance of Islamic banks in Malaysia.

Keywords: Financial Institutions; Regulation; IFSA; Performance.

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1.0 Introduction

Modern economy requires a well-functioning financial system. Thus, it is critical for the banks to play its role to facilitate the flow of funds. This will ensure efficient allocation of financial resources in order to promote the growth and development of the economy (Rajan & Zingales, 1995). Being the main part of the financial system, banks assist to make the overall economy more efficient by facilitating the allocation funds from surplus to deficit group in an efficient manner. According to King and Levine (1993) and Levine (1997), as the driver of economic growth banks hold a leading position in all economic activities. They have displayed its ability to response to the needs of the planned economy by bringing significant development in its initiatives towards expansion of bank branches, mobilization of deposit, priority sector lending, and other economic and social responsibilities.

Banks as main component of the financial infrastructure' of a country, plays an important role in the money supply circulation within the economy. The mobilization of resources, investment and the operational efficiency of the various sectors within the economy will

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significantly affecting the economic growth of a country. The banking industry controls a major part of the country's medium of exchange in which monetary policy is conducted through the financial intermediation process. Banks have the ability to conduct financial intermediation which allow them to collect deposit from surplus group and subsequently lend it out to the deficit group. Through this intermediation process, certain assets are changed into different assets or liabilities. A strong banking sector thus is necessary to ensure the growth of the economy, creation of jobs, generation of wealth, eradication of poverty, entrepreneurial activity and enhancement of Gross Domestic Product (GDP) growth. Over the past few decades, the banking sector has experienced significant changes due to the strict regulatory and compliance policies, changes in a competitive environment, continuous financial innovations, cultural shifts, improved human capital (Adesina, 2021) and management skills, geographical complexity (Buch & Goldberg, 2022; Cardozo et al., 2022).

Liquidity in the market is also one of the major factors in determining the strength of an economy. It is the bank's primary function to manage the circulation of money supply in the country. Bank will inject capital into the economy by providing loans, in which will boost spending and enhance the economy. Banks can also increase or decrease the money supply in the economy by buying and selling money to the Central Bank through bonds and sukuk. The money from buying and selling of the money will then be distributed to the economy via loans, interest and incentives or keep in the reserve to manage the level of inflation from getting out of control. By doing these actions, banks play an important and stabilizing role in the economy.

A country's economic growth require sufficient and flexible amount of credit. Banking system will provide the credit which will allow individuals and business entities to acquire goods and services ahead of their ability to pay. The supply of credit will be done through the process of credit-creation, subject to the primary deposit limits, the liquidity requirements and the money market size. The process of credit creation will bridge the gap between actual savings and desired savings warranted for a rapid rate of economic development. The availability of desired savings would ensure there is no limitation in the economic productive activities which will result in the availability of savings for investment. Other than this, banks can also mobilize the actual savings of the community to bridge the gap. Nowadays, banks are offering various innovative products with the objectives to provide credit to customers for all activities that can generate consumption and distribution value.

The various initiatives done by banks would also indirectly assist the Government to solve many problems in development such as scarcity of savings, price increases, unemployment, uneven development, lack of entrepreneurship, etc. They also assist the Government to reduce the social cost of supplying currency to the public by promoting the banking habit and popularizing the use of credit instruments. Based on the various contributions to the economic growth, the performance, efficiency and fragility of the banks is very important as it is considered an important sector of a modern economy. Failure of the banks to perform these tasks efficiently, the economy could face a systemic failure. The impact could be wide-reaching that even the banking system would be exposed to large shocks. Thus, it is significant for the banks to be able to absorb losses and meet their current payment obligations.

2.0 Literature Review on Bank's Performance

According to Rengasamy (2012) bank performance may be defined as the reflection of the way in which the resources of a bank are used in a form which enables it to achieve its objectives. Thus, it is beyond only looking at its profits and must be measured by analyzing the bank's policies and operations with regards to both monetary and non-monetary outputs.

Furthermore, the term bank performance means the adoption of a set of indicators which are indicative of the bank's current status and the extent of its ability to achieve the desired objectives. There are many economic text defined performance as competition, concentration, efficiency, productivity, and profitability (Bikker & Bos, 2008). However, previous researches focussed mainly on the measurement of bank performance based on profitability and efficiency. According to Faizal (2016), there were also previous researches that defined bank performance by focusing on the importance of profits to shareholders. As in other corporations, bank's shareholders also focus on profit maximization which can be achieved by managing the revenue and cost. On top of that, depending on the market power, one bank may have the influence to increase the output prices and reduce the input prices to achieve the goal of profit maximization. According to Iqbal and Molyneux (2005), bank's performance can be characterized as follows:

a. Soundness of the bank which is depends on its ability to meet its obligations in a crisis situation. This is usually measured by the capital-assets ratio.
b. Bank need to be prudent in order to balance between two opposing objectives, which are liquidity and profitability. This is necessary because while the bank need to enhance its profitability, it also has the obligation to maintain some part of its deposits in a liquid form intended to help banks to prevent a liquidity crisis.

   Liquidity Ratio = Cash and Accounts with Banks/Total Deposits

c. Another aspect of performance evaluation is to see how best a bank is using its resources. "Deployment Ratio" is used to evaluate Islamic banks on this score.

   Deployment Ratio = Total Investment/Total Equity + Total Deposits

d. One of the most important criteria for bank's performance evaluation is cost efficiency. Bank's efficiency level is determined by calculating the standard cost to income.

e. The final element of banks' performance according to Iqbal and Molyneux (2005) is profitability which is measured by using Return on Assets (ROA) and Return on Equity (ROE). ROA is used to compare the efficiency and operational performance of banks, as it looks at the earnings generated from the assets financed by the banks while ROE is a measurement of how a bank generates earnings from shareholders' funds.

3.0 Literature Review on the Regulation and Profitability

The study on the impact of financial structure on the profitability of banks in most of developed and developing countries for the period from 1990 to 1997 was conducted by Demirguc-Kunt and Huizinga (2001). They used financial ratios and characterized bank performance into two bank profitability and bank interest margin. The result of the study showed that banks in developed countries faced tougher competition with greater efficiency and recorded lower profit margins as compared to the banks in the developing countries.

However, according to Barth et al. (2003) that studied the dual banking system in Egypt, Bahrain, Bangladesh, Indonesia, Kuwait, Malaysia, Pakistan, Qatar, Saudi Arabia, Turkey, and UAE during the period of 2006-2010 to determine their readiness towards the adoption of Basel III there was a conflicting result between the impact of regulation on conventional and Islamic bank. They concluded that conventional bank technical inefficiency has a positive relationship with regulation and supervision while Islamic bank reacted the other way.

Ongore and Kusa (2013) studied the effect of bank ownership structure on bank performance in Kenya. They utilized financial ratios such as ROE, ROA, and NIM as their dependent variables. For independent variables, they used capital adequacy, asset quality, management efficiency, and liquidity as bank-specific factors. For external factors, they employed GDP and inflation rate, while ownership status was the moderating variable. The findings showed that the internal factors significantly related to the performance of commercial banks in Kenya from 2001 to 2010 except for liquidity. Meanwhile, the external factors and ownership status seemed to be insignificant towards the profitability of the sampled banks.

Wapmuk (2016) analyzed the impact of banking regulation and supervision on the performance and stability of Nigerian deposit money banks over the period of 2000 – 2013. This study adopted the use of content analysis of interview responses to examine the initiatives employed by both Nigerian regulators and bank managements towards ensuring healthy banking practices. Multiple regression estimations were adopted to ascertain the effects of capital adequacy, asset quality, management quality, earning ability, liquidity, sensitivity to risk, bank size, and GDP on bank efficiency, bank performance, and financial stability. The results suggest that the regulation i.e. the reforms led to a general increase in the performance and efficiency of Nigerian banks.

Zgarni et al. (2018) studied the impact of prudential regulation on 10 Tunisian commercial bank performance over a period from 2001 to 2016. In this study, they adopted ROA as the dependent variable. Solvency Ratio and Liquidity Ratio were used as independent variables while bank asset and bank age were used as control variables. The study showed that the prudential rules applied in the context of the Tunisian banking sector has a positive relationship with the accounting performance of banks as measured by the return on assets (ROA).

4.0 Literature Review on Bank Efficiency

Bank as the driver of economic growth hold leading position in all economic activities. Being the main part of the financial system, banks assist to make the overall economy more efficient by facilitating the allocation funds from surplus to deficit group in an efficient manner. This will ensure efficient allocation of financial resources in order to promote the growth and development of economy (Rajan & Zingales, 1995). So, the efficiency of a bank is essential and needs to be paid more attention. Improving efficiency has long been a challenge for the financial services industry, but cost management is not only about reducing expenses but also about generating more revenue per unit of cost.

Studies on bank's efficiency will benefit all the industry stakeholders such as shareholders, regulators, policy makers, analyst and investors (Andries & Capraru, 2014). According to Iqbal and Molyneux (2005), there are three reasons on why the study on the efficiency of Islamic banks is important.

a. An improvement in cost efficiency means achieving higher profits and increasing the chance of survival in deregulated and competitive markets. This is particularly relevant for Islamic banks as they compete head-on with conventional commercial banks in many jurisdictions.
b. Customers are interested in knowing the prices and the quality of bank services as well as new services that banks could offer and these are strongly influenced by a banks overall efficiency of operations.
c. An awareness of efficiency features is important to help policy makers formulate policies that affect the banking industry as a whole.

Several approaches have been developed in the banking literature for measuring bank (firm) level efficiency, ranging from simple financial ratios to complex econometric models. According to Iqbal and Molyneux (2005) is of the opinion that frontier approach is better in measuring efficiency. Their opinion was based on the following arguments:

a. Frontier approach uses statistical techniques which remove "noise" i.e. the effects of differences in input prices and other exogenous market factors affecting the standard performance of firms. This will result in more accurate estimation.
b. Frontier efficiency model will allow the researcher to focus on quantified measures of costs, inputs, outputs, revenues, profits, etc. to impute efficiency relative to the best practice institutions in the population.

c. The use of frontier efficiency techniques will yield useful comparative and benchmarking information that can provide impetus for significant improvements and can alert institutions to new business practices.

According to Berger and Humphrey (1997), efficiency estimation method can be generally divided into two categories i.e. parametric and non-parametric methods. For non-parametric, Data Envelopment Analysis (DEA) and the Free Disposable. Estimation of bank efficiency by using parametric and non-parametric approaches has its own advantages and disadvantages. While the parametric approach has the virtue of allowing for noise in the measurement of inefficiency, this method requires assumptions about the particular form of the cost or profit function being estimated and the distribution of efficiency. The non-parametric linear programming approach requires no such specification of the functional form. However, the non-parametric approach suffers from the drawback that all deviations from the frontier are attributed to inefficiency with no allowance made for noise in the standard models.

SFA refers to a body of statistical analysis techniques used to estimate production or cost functions in economics, while explicitly accounting for the existence of firm inefficiency. SFA has been described by Berger and Humphrey (1997) as "a functional form for cost, profit, or production relationship among inputs, outputs, and environmental factors and allows random errors". It is an economic methodology that can be used to measure bank efficiency through benchmarking various economic input-output systems. It will enable the researcher to explain the gap between the current performance and best performance of the banks. The SFA model can be added with random shocks element that may affect the production process (Kumbhakar & Lovell, 2003).

DEA refers to a non-parametric method in operations research and economics that can be applied to estimate production frontiers. It is used to empirically measure productive efficiency of decision-making units (DMUs). In the case of bank efficiency studies, bank is considered as the DMU (Ray, 2004). DEA is a technique that has no fixed structure imposed on the data in determining the efficient units that lead to minimal specification error. It also uses a method that can handle multiple variables and relations (Cooper et al., 2007). Hasan (2005) commented that the frontier approach could be applied in any field of inquiry where variables yield to management.

One of the main features of DEA is related to the bank efficiency that can be assessed based on other observed performance. However, according to Avkiran (1999), it has a weakness which the technique assumes data to be free from measurement error. The results of the finding may not be interpreted with confidence if there is a violation of data as DEA is very sensitive to inaccurate data. Another disadvantage is DEA result has no standard errors thus difficult to conduct hypothesis testing (Ray, 2004). Moreover, DEA does not provide for random shocks and any variation from the frontier will be considered inefficient.

The application of the SFA and DEA techniques is divided into two stages. The first stage involves the estimation of efficiency and inefficiency scores based on the objectives of the research. The scores compute the efficiency level and rank to indicate the banks relative performance. The next stage involves exploring the causal relationship between the inefficiency estimates against other relevant variables such as firm and location of the firm.

5.0 Problem Statement and Research Questions

It is recognized that performance of the banking industry has a pivotal impact towards the growth of the economy of a country. It plays an important role in the economic growth of a developed economies (Rajan & Zingales, 1995). Changes in the performance of the bank may impact the growth of the economy, as profits may shape the customers' decision on investment and savings. IFSA 2013 is the result of efforts to modernize the laws that govern the conduct and supervision of financial institutions in Malaysia to ensure that these laws continue to be relevant and effective to maintain financial stability in Malaysia by BNM (2013). Thus, IFSA 2013 may play a very important role as one of the drivers for the growth of Malaysian economy.

There are many previous researchers who had conducted studies on the banks' performance, efficiency and risk. There is evidence suggest that the implementation of regulation give effect to organizations performance. Researchers like Barth et al. (2004), Demirguc-Kunt et al. (2004), Pasiouras (2009) and Barth et al. (2008) have found conclusive evidence that regulation has a significant relationship with the performance of a bank. Similarly, based on many earlier studies, regulation on capital adequacy have also been recorded of having either positive or negative sign toward the performance of bank for both conventional and Islamic banks. A large number of studies by various researchers such as Ben Naceur (2003), Sufian (2011), Ramadan et al. (2011), Rahman et al. (2012), Sufian and Habibullah (2012), Ameur and Mhiri (2013) and Ongore and Kusa (2013) concluded that capital adequacy has a direct relationship with the performance of a bank.

According to Barth et al. (2004), strong, and official supervision will improve bank development, performance and stability by preventing the banks from engaging in excessive risk-taking behavior. Chortareas et al. (2012) and Barth et al. (2013) found that capital regulations have positive impact on the efficiency of the banks. According to the study by Haque and Brown (2017), government ownership, capital stringency and market power have a positive effect on cost efficiency. Naceur and Omran (2010) found that the reform of banking supervision is related positively to the performance and stability of the bank. However, Shleifer and Vishny (1998), Djankov, et al. (2002), and Quintyn and Taylor (2002) found that dominant supervisors may wield a negative influence by using their powers to benefit favored constituents, attract campaign donations, and extract bribes. The study by Booth et al. (2002) showed that regulation as an external governance mechanism can constrain the managers' decision making.

However, the author did not manage to find any specific study on the effectiveness of IFSA 2013 towards the performance, efficiency and risk-taking behavior of Islamic banks. Due to lack of research, there is no conclusive evidence that IFSA 2013 has achieved its principal objective of creating a stable and sound Islamic banking industry which will result in a growth of the economy in Malaysia. Thus, the need for this research to study the effectiveness of IFSA 2013 towards Islamic bank performance and to investigate whether the capital and liquidity frameworks issued by BNM have an impact on the Malaysian Islamic bank performance. This is also one of the reasons that motivate the author to conduct this study. The result of this study can assist all the industry players especially the regulator, bank management and investors in formulating policies and making wise investment decisions.

Besides that, the objective of this study is also to ascertain the determinants that will affect the Islamic bank's performance. This study used quarterly data for the period from 2007 to 2019 from all sixteen Islamic banks that are operating in Malaysia. In achieving the research aims and objectives, the following research questions were developed. The research questions of this study and their relevance to the overall aims and objectives of this study are provided as follows:

a. How did the Malaysian Islamic banks perform before and after the enactment of IFSA 2013? Among the key indicators that will be measured are profitability, liquidity and credit, commitment to community economics and risk and solvency. This aims to determine the impact and effectiveness of IFSA 2013 to the Malaysian Islamic banking industry whilst identifying other potential factors that contribute to the performance, efficiency and risk.
b. How does IFSA 2013 correlate with their financial performance, efficiency and risk? The analysis in relation to this research question aims to investigate the impact of IFSA 2013 on respective banks' financial performance.

As for the scope of this research, the research focuses on the conditions of Malaysian Islamic banking and the implications of enactment of IFSA 2013. The researcher will analyze the performance of Islamic banking as a whole before and after the enactment of IFSA 2013. Bank Negara Malaysia's reports and each bank's annual reports will be reviewed for an overview of the situation. The research will analyze the trend of Islamic banks' performance. The researcher will analyze 16 Islamic banks in terms of profitability, liquidity and credit, commitment to community economics and risk and solvency. The process of gathering all information refers to the annual and other financial reports for every Islamic bank.

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