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Banking Regulatory Framework and Islamic Bank Performance: A Comparison between Indonesia and Malaysia

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ABSTRACT

The first Indonesian Islamic bank is *Bank Muamalat*, established 1991, moreover, The Government of Indonesia was fully supporting at that time, and the bank started operations on 1 May 1992 (*Bank Muamalat* website, 2012). Malaysia started 9 years before, 1983. One must recognize Indonesian Islamic banking asset growth is higher than Malaysia for the last five years (2007-2011). Although Indonesia is considered to be late-comers, compare to Malaysia, therefore, their respective Islamic banking regulations are interesting to study. Malaysian's central bank, *Bank Negara Malaysia* had the same regulation on 1999. Both of the countries are now having dual banking system regulations. Regulatory and Supervisory Framework from IFSB, AAOIFI and Fiqh Academy must be seen as the benchmark regulations of Islamic banking. This study is intended to examine the regulatory framework especially, such as; capital adequacy, non-performing loans and entre deregulations, implementing in Indonesia and Malaysia. The aims of the study are to explain relationships between Capital Adequacy, Non Performing Loans and Banking Efficiency. Hsia et.al (2010) recommend to study about the reform-efficiency relationship in banking sector. Berger et.al (1993) investigates bank efficiency that derived from the profit function. Berger et.al (1993) explores literature review of banking efficiency. After 19 years, Berger and Bowman (2012) investigate bank performance related to financial crisis. Hassan and Samad (1999) compare Malaysian *Bank Islam Malaysia Berhad* and eight conventional banks using Financial Ratio Analysis and conclude there are no significant differences. Hassan and Issik (2003) investigate productivity and efficiency Turkish commercial banking during deregulation. Banking Operation is similar with factory or manufacturing operation, Sufian (2008) uses Data Envelopment Analysis (DEA) methodology to analyse the efficiency of Islamic banking industry in Malaysia. This study of Islamic banking efficiency is also going to use DEA. Our hypotheses are there is a relationship between banking supervisory and regulatory framework with; capital adequacy, non-performing loans and banking efficiency.

Keywords: Indonesia; Islamic Banks; Malaysia; Regulatory

INTRODUCTION

Since the experiment of Islamic bank in rural Egypt, *Mit al-Ghamar* and the establishment of *Tabung Haji* in Malaysia in the early 1960s until the launch of *Suku*k in the early 2000s, Islamic banking has been a phenomenal thing in the world of finance. *Mit al Ghamr* in Egypt had been performing well in the years of operating but due to political situation, it was acquired by the Government of Egypt. Unlike Egypt, Malaysia has been supporting the Islamic bank system. Government of Malaysia had launched sukuk in 2002 with amount US$ 600 Million and considered as a success in the eyes of market players, investors, and also regulators around the world.

Chronologically, Islamic bank from a concept to an operational system, it is worth to explore the history of it. The beginning of Islamic bank project is in the middle of twentieth century according to (Siddiqi, 2001, para. 9)

The history of establishment of Islamic Development Bank is worth to cite, according to its website (IDB, 2013, para. 1) firstly, there was the Declaration of Intent by the Conference of Finance Minister of Muslim Countries in Jeddah in *Dhulk Q'adah 1393 Hijri*, or December 1973. It is continued by the Inaugural Meeting of the Board of Governors in *Rajab 1395 Hijri* or July 1975, after the meeting, the Bank formally opened on *15 Shawwal 1395* H or 20 October 1975. To date, there are 56 countries that hold membership of IDB according to Islamic Development Bank Annual Report

(IDB, 2011). Therefore, it is suffice to say that 56 countries have already had Islamic banks or at least, have only business with Islamic banks, *vis a vis*, Islamic Development Bank.

Institute of Islamic Banking and Insurance, a not for profit organisation which is based in London, explains about the essentials of Islamic Banking in its website, that; (1) trusteeship, (2) care for others, (3) productive effort as a means of serving God, (4) application of the Shariah Ruling to Business, (5) mutual consultation, (6) treating wealth as a means and not an end, (7) protection of consumers, (8) no unjust, oppressive or cheating business, such as monopolies and cartels, (9) Zakat or Zakah, (10) Qard Hasan (IIBI, 2013, para. 7).

This proposal is divided by five sections, section one discusses about introduction, research background, research questions and also motivation. Section Two explores literature and reviewing some studies. Islamic banking performance will be discussed in Section three. Section four discusses about the methodology, data and sample. Section five is the final part, summarizes and concludes the paper.

Research Background and Research Questions

What are the common practices of Islamic Banking in Malaysian and Indonesia? Banking sector is a regulated sector, unlike other sectors. It is shown at banking products, branch opening, financial report disclosures, governance. There are regulatory bodies and agencies established long time ago in this banking sectors. In some countries, banking sectors are under supervision of central bank, and in other countries the financial service authority doing the same task.

Research Questions

Is there anyh spesific Islamic bank performance measurement? How are the Islamic bank performance being measured in practice?

Motivation of the study

The motives are to research and analyse the implementation of Islamic Banking system in Malaysian and Indonesian context. What are the common practices of Islamic Banking in Malaysian and Indonesia? Are there any specific success approach in the success of Malaysian Islamic banking to study? What are the benefits of studying the Malaysian and Indonesian Islamic Banking for Regulators?

The Banker released ranking of Islamic assets or *Shariah* compliant in November 2011 (The Banker, 2012). More details are described in Table 1.

Ernst and Young reported in its website top 20 Islamic Banks in assets across the globe.

LITERATURE REVIEW

Islamic Banking

Hitham A. Al-Zoubi, Akhtham Maghyereh, Bashir Al-Zu'bi and M. Ishaq Bhatti (2008) wrote an attempt to model actual effects of *Zakah* as a fiscal policy with least possible intervention. The model described the transfer of funds between the rich and poor class with *Zakah*, and generally assumed that the level of *Zakah* determined endogenously depending on the rich income and poor needs.

M. Mansoor Khan and M. Ishaq Bhatti (2008) report the development of Islamic banking and finance that emerged in 1970s. It was described over the regions; Middle East, which the Islamic Financial Institutions core objective is to get strong hold over the indigenous wealth and discourage its outgoing to financial institutions in the European and Western world. The South Asia region countries have different situation but the very interesting point is Reserve Bank of India (RBI) has undertaken a feasibility study on establishing a fully dedicated Islamic bank in India, but the authors also stated that 'RBI should provide the wholehearted support for the development and growth of Islamic banking practice in India' (Khan & Bhatti, 2008, p. 716). For the development in Southeast Asian countries, it is interesting to note that the use of Islamic banking and finance to attract business and investments from the Middle East and Muslim world. Sudan, the only country in representing Africa region, is being discussed in this manuscript. Sudan started in 1977, with Faisal Islamic Bank Sudan. It was also stated that 'the economy and political system of Sudan may become stable with the passage of time so as to provide environments conducive for the development and growth of Islamic banking and finance activities in the region'. Australia, United Kingdom and United States of America and Canada are chosen to represent the European and Western Countries. The authors concluded that the developments are very encouraging and this would lead to become the truly competitive and integrated part of international financial markets.

Islamic banks are prohibited to pay and receive any interest in their lending and investing transactions. An article was written by Anjum Siddiqui (2008) with title 'Financial contract, risk and performance in Islamic banking' had purposed to focus on various modes of Islamic finance and to examine their risk and other characteristics. He examined the consolidated data from State Bank of Pakistan, the country central bank. He also analysed annual report of Pakistan full-fledged Islamic Bank, Al Baraka Bank and Meezan Bank for two consecutive years, 2003 and 2004. He concluded that: "Islamic banking in Pakistan is slowly progressing to incorporate Profit and Loss Sharing (PLS) based contracts and is behind the much faster paced developments in Middle East and Malaysia" (Siddiqui,2008, p. 692).

Pakistan is the Islamic country which had aspired to have an interest-free economy in 1977, when Pakistani President, General Mohammed Ziaul Haq directed the Council of Islamic Ideology (CII) to formulate the policy within three years (Khan, 2008). A Study spanned from 1980 until 2006, that journal article of Mansoor Khan explains the development of judicial process in the level of one nation to ban the interest in the economy. He concluded that many part of the country were reluctance to accept and have an interest-free economy, due to the economic interests of the few social elites.

Algeria, Egyptt and Gulf Cooperation Countries are also having Islamic Bank and Finance. Some scholars have studied about the developments of these countries; such as Abdelhafid Benamraoui (2008) described that Islamic banks in Algeria was stil focusing on Short-term financing and credit risk remain as obstacle.

Ismail (2011) describe there are three model of Islamic Banking, firstly, he cited points from Qureshi (1946), that only mentioned about prohibition of interest not discussed about profit sharing, then he compiled works from Ahmad (1952), Uzair (1955), Al-Arabi (1966) and Irshad (1964), which all are emphasised on *Mudarabah* or partrnership agreement. Secondly, Siddiqi Model based on *mudarabah* and *shirkah* (partnership or *musharakah*). This model was based on two-tier *mudarabah* financier-entrepreneur relationship. There are three categories operations of an Islamic bank; one is service-based on fees, commissions or other fixed charges, then financing on the basis of *mudarabah* and partnership; and services provided free of charge. Ismail (2011) also wrote that Siddiqi had proposed one model that is unimaginable.

Ismail (2011) elaborate the Chapra Model; that there is more than only the abolition of *Riba*, because Chapra also stressed the essential idea of Islamic banks handle public funds, serve the public interests. The size of Islamic bank according to Chapra is preferred to be medium sized banks which neither as large as to wield excessive power nor so small as to be uneconomical (Ismail, 2011).

Asyraf Wajdi Dusuki, a professor and also a research director in one agency initiated by Central Bank of Malaysia, ISRA (International *Shari'ah* Research Academy of Islamic Finance) whose office in Kuala Lumpur, Malaysia, wrote in his paper titled "Corporate Governance and Stakeholders Management of Islamic Financial Institutions" which presented in National Seminar in Islamic Banking and Finance 2006 in *Kolej Universiti Islam Malaysia* at Nilai, Negeri Sembilan, Malaysia, proposed one framework; the Pyramid of *Masalahah*. This figure of pyramid consisting, bottom level is for the essentials or *darūriyyāt*, the middle level is the complementary or *hājiyyāt* and the top level of the pyramid is the embellishments or *ahsinīyyat*. He discussed about these three values in everyday life of a corporate, such as giving training to employees so that from low skilled (*darūriyyāt*) employees improve to be high skilled (*hājiyyāt*) therefore can contribute more significant to the business process. He then concluded with the framework, diverse stakeholders can manage conflict and make better decision making.

Islamic Banking Regulatory Framework

Islamic Development Bank in Jeddah has been developed the Islamic Banking Regulatory Framework since the inception. It has cooperation with OIC *Fiqh Academy* to establish *Shariah Fatwas* (need reference here). Hawary, Grais and Iqbal (2007) assess the diversity of Islamic Financial Institutions and suggest two strategy for regulators; to manage current Islamic banking practices with some considerations of Islamic banking contracts and to shape the transition towards stable and efficient intermediation.

Indonesian Islamic Banking Regulatory Framework

The beginning phase (1992-1997)

For Indonesia, Islamic Banking has been operating since 1992. Malaysia had started earlier, 9 years before, 1983. One must recognise Indonesian Islamic banking asset growth is higher than Malaysia for the last five years (2007-2011). Although Indonesia is considered to be late comers, compare to Malaysia, Islamic banking regulations are not so much different. *Bank Indonesia* as a regulator has been promoting the dual banking system since 2008. In Indonesia, dual banking system was declared when *Undang-Undang Perbankan Syariah 2008* was enacted. Malaysian's central bank, *Bank Negara Malaysia* had the same regulation on 1999.

The first Indonesian Islamic bank is Bank Muamalat, established 1991 (Bank Muamalat website, 2012). Moreover, The Government of Indonesia was fully supporting at that time, for example; facilitating *Majelis Ulama Indonesia* or MUI (Indonesia Islamic Scholars Council) to do a feasibility study, then to have a seminar and lastly, to launch the bank nationwide. Bank Muamalat Indonesia started operations on 1 May 1992 (Bank Muamalat website, 2012).

Asian Financial Crises (1998-1999)

Bank Muamalat survived the Asian Financial crises. In the two years period, 1998-1999, Bank Muamala Profitability was the lowest of their history, There was one addition of Islamic banks in Indonesia, Bank Syariah Mandiri in 1999.

Ten Years Development (2000-2009)

Bank Indonesia set up Bureau of Shariah Banking Affairs under Directorate of Bank Supervision in 2000. There were only 2 full fledge Islamic banking at the time, Bank Muamalat and Bank Syariah Mandiri.

MUI is the single authority body for issuing *Fatwa* in Indonesia. There is one commission that discusses *Fatwa* before launching to the public. The commission is called *Komisi Fatwa* or Fatwa Commission. This commission is consisting Islamic Scholars. It was headed by One Chairman, assisted by five Vice-chairman. There is one Secretary of the Commission with three Vice Secretaries. There are 42 members in *Komisi Fatwa* for the period of 2010-2015. The Fatwa Commision has specific task, to di . To answer the need in Islamic Banking Development, Bank Indonesia and Majelis Ulama Indonesia has agreed to establish Dewan Syariah Nasional MUI. This institution is under MUI supervision, see its official website (accessed on 25 April 2012, http://www.mui.or.id/index.php?option=com_content&view=article&id=164:bph-dsn-mui&catid=39:dewan-syariah-nasional&Itemid=58). There is one Daily Executive Body or *Badan Pengurus Harian* which is dealing with recommendations or questions about one particular Islamic finance products (accessed on 25 April 2012, http://www.mui.or.id/index.php?option=com_content&view=article&id=55:tentang-dewan-syariah-nasional&catid=39:dewan-syariah-nasional&Itemid=58).

After Global Financial Crises (2010-2012)

Indonesian central bank, Bank Indonesia (BI) has been approached by Malaysian central banks, *Bank Negara Malaysia* (BNM) intensively. For example, there were actions by BNM to join forces with BI held one conference which is called, Joint High Level Conference in Islamic Finance. The event was held for two days, 18-19 July 2011 in Jakarta (BNM, 2011). The choice of place is poignant according to one of prominent Islamic Finance journalist, Mushtak Parker who has been observing this affair for 30 years. He also stated that "Indonesia is the world's populous Muslim country. Although it is blessed with many natural resources, it is also a relatively very poor country with many of the structural economic deficiencies usually associated with developing countries... "(Parker 2011, para 17).

Malaysia Islamic Banking Regulatory Framework

The beginning phase (1983-1992)

As one of the member of Organisation of Islamic Cooperation (OIC, in the past it was known as Organisation of Islamic Conference), Malaysia is credible for being a benchmark in implementing Islamic banking. The country has been having Islamic Bank since 1983, Bank Islam Malaysia Berhad. It was established after the many events, according to Haron and Shanmugam (1997):

1. Bumiputera Economic Congress, in 1980, passed a resolution which required the government to allow the Pilgrimage Board to establish an Islamic bank.
2. Seminar in National University of Malaysia was held in 1981, the participants requested the government to promulgate special law for establishing Islamic bank.
3. Government of Malaysia appointed National Steering Committee on Islamic Banking on 30 July 1981.

In 1981, there was a conference held in Kuala Lumpur, *Dewan Perniagaan Melayu* (Malay Chamber of Commerce) which pushed the issue of the need of Islamic Banking system in the country. The then newly appointed Prime Minister, Dr. Mahathir Muhammad took the initiative by establishing a national level committee to study the Islamic banking opportunities within Malaysian financial system. In 1983, after careful studies, Malaysian Government established Bank Islam Malaysia Berhad which was based on Islamic Banking Act 1983.

Islamic Bank definition according to Islamic Banking Act 1983 (accessed on the official website Bank Negara Malaysia), the central bank of Malaysia;

> “Islamic bank” means any company which carries on Islamic banking business and holds a valid licence; and all the offices and branches in Malaysia of such a bank shall be deemed to be one bank;

To operate in Malaysia, the Law also stated that; to be transacted of Islamic banking business in Malaysia has to have a licence from the Minister authorizing to do so. The Minister would be received recommendation of the application to get licence from the Central Bank first. No application would be granted unless, both of the Minister and the Central Bank are satisfied of the aims and operations of the banking business and the provision of *Syari’ah* advisory body to ensure the bank business does not involve any element which is not approved by the Religion of Islam.

Interest Free Banking Scheme (1993-1997)

The other important things about the development of Islamic Finance in Malaysia in the period of 1983-2008. For instance; *Sistem Perbankan Tanpa Faedah* or Interest-free Bank Scheme on 1994 was launched by Bank Negara Malaysia to open the competition in banking sector. There was significant response among conventional bank at that time.

Asian Financial Crises (1998-1999)

Bank Negara Malaysia encouraged troubled bank, Bank Bumiputera to merge, and finally Bank Muamalat Malaysia established in 1999.

Ten Years Development (2000-2009)

Bank Negara Malaysia (Central Bank of Malaysia) seems to have much attention to Islamic banking development. At the year 2000, BNM publish Financial Sector Master Plan, which outline about the business landscape and directed development Islamic bank and finance in Malaysia. There were two full fledge Islamic banks, added by 47 conventional banking institutions; 17 domestic commercial banks, four foreign-owned banks, 14 finance companies, five merchant banks and seven discount houses (BNM, 2000). After one decade, Malaysian Islamic banking has already had a portion of 20 percent of national banking assets (BNM, 2012; Hasyim, Siti Aisyah et. Al, 2012)

El-Gamal (2005) clasify Malaysia as the only country which has developed regulations in Islamic finance advancely. Islamic Banking industry is regulated under Bank Negara Malaysia. According to its official website, Central Bank Act 2009 is the legislation for Bank Negara Malaysia.

There is only one Government body to regulate banking, unlike the United Kingdom which has the Financia Services Authority who supervise banking sector in England.

More generally, in one journal paper, “Islamic financial system: the Malaysian experience and the way forward’ was written by Mohammad Akram Laldin (2008). He is a Lecturer in Department of *Fiqh* and *Usul* of International Islamic University Malaysia, identified ten focal areas of the strategies:

1. Identifying the nature of Islamic banking system that is appropriate for the country
2. Ensuring that the Islamic banks are well-capitalized and resilient.
3. For countries that have a dual banking system, where conventional banks are allowed to offer Islamic banking products, there must be adequate firewalls to ensure absolute separation of banking operations to avoid co-mingling between the Islamic and conventional funds.
4. Stakeholders of Islamic institutions playing their role effectively and efficiently to generate improvements in the entity.
5. Ensuring adequate and comprehensive legal infrastructure
6. Development of comprehensive *Shariah* framework is a fundamental part of the process.
7. A robust and effective regulatory and supervisory framework, particularly in the areas such as capital adequacy and the liquidity framework taking into account the unique risk characteristics of the Islamic banking models that accord to the Shariah requirements
8. Research and developments to incorporate core Islamic values into banking products and business models.
9. Development of financial market infrastructure in order to ensure the sustainability of Islamic banking
10. Consumer education and awareness about Islamic banking is critical to its success and future development.

Laldin (2008: p236-237) also described the key challenges that facing Islamic banking in Malaysia:

1. Ensuring greater Shariah compliant and convergence
2. Ensuring compliance with internationally acceptable standards
3. Ensuring availability of human capital
4. Ensuring greater international co-operation and co-ordination
5. Introduction of universally acceptable products and services

It is understood that the Central Bank of Malaysia has been supportive to the developments of the Islamic banks in Malaysia, with the paper that written by Sudin Haron et al (2008), “Determinants of Islamic and conventional deposits in the Malaysian banking system”, noted that on the year 2004, Bank Negara Malaysia had introduced more than 44 banking products and services for the Islamic banking system in Malaysia.

Nakagawa (2009) report the development of Malaysia Islamic finance. Nakagawa divide the time of evolution in six periods. It is not included the Global Financial Crisis (GFC) since Nakagawa’s work was based 2006 data

After Global Financial Crises (2010-2012)

Prime Minister Malaysia, Najib Tun Razak declared that Islamic finance will be contritubing more in Economic Tranformation Programme (ETP) in Malaysia in the next decade according to Parker (2010, para 1).

On the time being, there are 17 full-fledged Islamic Bank. It is also noted that Bank Negara Malaysia had launched Master Plan which is called Financial Sector Master Plan, which was aimed to have 20 % market share for Islamic Bank and Takaful on 2010 (Bank Negara Malaysia, 2000; 79). According to Annual Report of Bank Negara Malaysia 2010, Islamic Banking asset has achieved 20 percent of Banking asset.(Bank Negara Malaysia, 2011).

Banking Performance

Banking Efficiency

A seminal work of Banking Efficiency studies were surveyed by Berger, Hunter and Timme (1993), and they conclude there are four must be considered for further research.;

1. The determinants of efficiency should be given more theoretical underpinning
2. More attention should be given to the potentioal for sample selection problem when comparing groups of firms.
3. Fare and Primont (1993) establish *maximum* theoretical efficiency gains owing to a single-unit organization's better ability to allocate resources over a multi-unit organisations
4. Further research is needed into the relationships among scale, scope and X-efficiencies. they concluded (1993, p244)

Some Conventional Banking Efficiency studies are listed below;

Islamic Banking Performance

Many scholars have been researching and studying about Islamic Banking Performance and Efficiency. Yudistira (2003) analyses 18 Islamic banks in the world in the period of 1997-2000 with DEA approach and based on intermediate approach. The results show that in all 18 Islamic banks, there is small inefficiencies at the level 10 percent, which is low compare to conventional banks. He also suggests small Islamic banks due to diseconomies of scale to merge and acquisition.

Study about Islamic banks in three countries, Pakistan, Iran and Sudan by Hassan (2003) with non-parametric and parametric techniques. The results show Islamic bank efficiency comes from scale efficiency, not technical efficiency. It also showed that large banks with high profitability have higher efficiency. A survey of Islamic banks in 35 countries with DEA by Brown and Skully (2003) conclude that Iranian Islamic banks with larger size is more efficient, meanwhile Sudanese Islamic Banks which has agricultural financing has lower cost efficiency. They also show that Middle East and North Africa Countries have higher cost efficiency.

Efficiency of Sudanese Islamic banks from 1992 to 2000 are examined by Hassan and Hussein (2003). They use parametric method (cost efficiency and revenue efficiency) and non-parametric DEA. Cost efficiency is 55 percent and revenue efficiency is 50 percent with parametric method, meanwhile with non-parametric, cost efficiency is 23 percent. They also find that Sudanese Islamic banks resulting; 37 percent allocation efficiency and 60 percent efficiency.

There is a study about cost, profit, revenue and X-efficiency in Islamic banks in the period of 1996-2003 at the global level by Hassan (2005). First, it calculates cost efficiency with stochastic cost frontier. Secondly, calculate profit efficiency in regards to cost and revenue. Thirdly, assess revenue efficiency to recognize whether Islamic banks have been innovative. There are already some Islamic Banking Efficiency studies reviewed in Hassan paper (2007). Some conference papers and journal articles are published not only about Islamic banking efficiency but also with regulatory approach and macroeconomic factors after 2007. Since then there are some studies such as;

Abdul Majid, Saal, and Battisi (2010) study about efficiency in Islamic and conventional banking in international fore.Wahidah Ahmad and Robin Luo (2010) compare banking efficiency of Islamic and conventional bank in in Europe.

Risk and Return in Malaysian Islamic bank for 1999-2005 period was analysed by Saiful Azhar Rosly and Mohammad Ashadi Mohd Zaini (2008), they used financial ratio approach to study the differences or variance in the yields of Islamic and conventional bank deposits and capital respectively. They found that the equity principle has yet to be operationalised and reflected in the large discrepancy between Return on *Mudharabah* Deposit (ROMD) and Return on Equity (ROE).

Banking Operation is like factory or manufacturing operation, Sufian (2008) analysed the efficiency of Islamic banking industry in Malaysia. He used Data Envelopment Analysis (DEA) methodology to be able to do decomposition of technical efficiency into its pure technical and scale efficiency components. He used data from annual report of all Malaysian conventional banks that offered Islamic banking window services, foreign banks that offering window Islamic banking services and domestic full-fledged Islamic banks during the period of 2001-2004. He found that larger Malaysian Islamic banks tend to disburse more loans but still more efficient compared to its smaller counterparts.

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Perhaps,one of the author who produce substantial amount of paper on this field is Fadzlan Suffian, his works including:

- Sufian (2006) analyse size and returns to scale of the Malaysian Islamic banking with foreign and domestic Islamic banks as sample.
- Sufian, Noor, Abdul-Madjid (2008) study about Islamic banking efficiency in MENA and Asian Countries.
- Sufian (2009) studies the relationship between bank efficiency and its determinants during the Asian financial crisis.
- Sufian and Habibullah (2009) investigate the determinants of bank profitability in relations with macroeconomic factors
- In 2010, with another author, they measure Islamic Bank Efficiency at the global level (Ahmad, Noor and Sufian)

Other Malaysian authors who have done research about Islamic banking efficiency;

Kamaruddin, Safa, and Mohd (2008), assesses production efficiency of Islamic banks and conventional banks Islamic windows in Malaysia. Hassan, Mohammed, Bader (2009) doing banking efficiency studies comparison between conventional and Islamic banks in Middle East.

Johnes, Izzeldin, Papas (2009) also doing comparison studies between Islamic banking and conventional banking in Gulf region. They cover 2004-2007 period, although it is short they argue sufficient enough since not only rapid growth economic but also, the unstable political situation. Data was accessed from Bankscope.

Cihak and Hasse (2010) analyze and study about Islamic banks and financial stability. They found three things; firstly, small Islamic banks tend to be financially stronger than small commercial banks. Secondly, large commercial banks tend to be financially stronger than large Islamic banks; and small Islamic banks tend to be financially stronger than large Islamic banks. They use the z-score as a measure of individual bank risk. Their perspectives and findings are worth to quote, in a sense they are from regulatory body although the IMF does not endorsed their perspectives.

DATA, METHODOLOGY AND VARIABLES

Methodology and Data

Our study is using DEA with intermediate approach, we follow Hassan *et.al* (2004) whereby the input include (1) labour [LABOR], (2) capital [CAPITAL], and (3) loan able funds [FUNDS]. The Outputs are (1) loans [LOANS]. Since Data are from two sources, *Bankscope* and collected manually from respective bank website. Annual Reports from Islamic banks such as Bank Islam Malaysia Berhad before 1993 must be hand-collected from the official website of respective bank.

Following Hassan, Sharkas and Samad (2004) to measure relative efficiency in Bahrain banking sector; They draw one figure to explain the Efficiency quoting Farrel (1957). We apply the figure from their work

$TE = Ob / Oc$
$OE = TE \ \ AE$

OE is Overall Efficiency, AE is Allocative or price efficiency,

$TE = fk/fc$

Hassan, Sharkas and Samad (2004) stated for observation c to be written

$PTE = fj/fc$

A measure of scale efficiency (SE) is

SE = TE/PTE = fk/fj

All data are from Bank Annual Report to calculate DEA. We obtain bank-level data from BANCSCOPE for the period 1995-2011. The data are Annual Report of Islamic Banks in Indonesia and Malaysia. We also hand-collected Annual Report from every Islamic banks in Indonesia and Malaysia through Internet.

There are only two banks from five banks that can be accessed by internet, Alkhair International Islamic Bank Berhad and Elaf Bank. Lists of the Islamic Bank in Malaysia are provided by Bank Negara Malaysia Website.

Definition of variables Input Variable and Output Variable

One of the problems in analysing efficiency is difficultness of defining and measuring input. Leong *et.al.*(2002) and Barr *et.al.*(2002) explained that there are three approaches that have been using for measuring bank efficiency, production approach, intermediate approach, asset approach. Production approach takes financial institution or the bank as producer of deposit and loan or financing. Intermediate approach describes financial institution or the bank as an intermediator, to process and to transfer financial assets and surplus units to become deficit units. Assets approach uses the primary function of financial institution or the bank as a loan or financing creator.

Intermediate approach has been used in many studies according to Kwan (2002) and Berger and Humprey (1997). They suggest that intermediate approach is the most appropriate to evaluate the efficiency of a bank karena interest expenses are also included into. Hassan, Al-Sharkas and Samad (2004) point some studies from the year of 1977 until 2003 that using intermediation approach for analysing Bahrain banking industry.

CONTRIBUTIONS OF THE RESEARCH

It is hoped that contributions are made for policy implications. Islamic banking performance can analysed so there will be policy which are shariah compliant but still market-based policy in the future time.

Limitations

The data are derived only from two countries, Indonesia and Malaysia, therefore it is not conclusive to adapt and adopt in other countries.

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TABLE 1: Ranking of Islamic Assets

Rank	**Country**	**Total Sharia-compliant assets (US $ Million)**	**Number of institutions offering Sharia Services**	**Muslim Population**	**Percentage of Population**
1.	Iran	465,574.92	52	65,433,321	99%
2.	Malaysia	221,201.52	56	10,380,704	52%
3.	Saudi Arabia	185,223.00	55	27,019,731	97.1%
4.	United Arab Emirates	89,930.38	41	1,735,542	96%
5.	Kuwait	78,587.25	59	1,735,542	89%
6.	Bahrain	62,171.53	74	645,361	81.2%
7.	Qatar	45,301.30	20	45,301.30	79%
8.	Turkey	29,292.86	4	65,254,592	98.4%
9.	United Kingdom	18,605.43	22	1,169,800	2%
10.	Indonesia	15,963.97	71	201,025,326	88%
11.	Bangladesh	12,527.97	25	115,517,477	88%
12.	Sudan	9,825.83	35	26,815,412	85%
13.	Egypt	8,296.32	14	65,364,445	94%
14.	Pakistan	7,238.34	28	140,278,140	97%
15.	Switzerland	6,551.37	4	225,781	3.1%
16.	Jordan	6,386.38	11	4,001,544	95%
17.	Brunei	4,693.00	4	230,248	67%
18.	Thailand	4,161.91	3	8,239,190	14%
19.	Yemen	2,392.49	7	13,348,346	99%
20.	Syria	1,888.67	6	14,047,783	90%

Source: *The Banker, November 2012, London (The Financial Times Limited)*
Indonesia ranks number 10 with only US$15,963.97 Million and 71 institutions.

TABLE 2: Top 20 Islamic Banks 2011 in Assets compare to Average ROE

Rank	**Bank's Home Market**	**Total Assets (US$ Billions)**	**Average ROE (2008-2011)**
1.	Saudi Arabia	60	23.1%
2.	Kuwait	48	8.9%
3.	United Arab Emirates	24	12.1%
4.	Malaysia	22	13.1%
5.	United Arab Emirates	20	10.6%
6.	Bahrain	17	11.5%
7.	Qatar	16	15.2%
8.	Qatar	15	16.2%
9.	Malaysia	14	3.2%
10.	Malaysia	11	0.7%
11.	Saudi Arabia	11	19.2%
12.	Saudi Arabia	10	13.7%
13.	Malaysia	10	10.5%
14.	Turkey	10	3.6%

15.	Kuwait	9	2.4%
16.	United Arab Emirates	8	7.7%
17.	Saudi Arabia	7	-11.7%
18.	Malaysia	7	14.5%
19.	Bahrain	7	23.1%
20.	Qatar	6	23.1%

Source: *Ernst & Young, World Islamic Banking Competitiveness Report 2012-2013, December 2012, London (Ernst & Young Limited)*

TABLE 3: Number of Banks Offering Islamic Banking Services

	1983-1992	As of 1993	As of 1998	As of 2002	of 2006
Banking Institution	**1**	**21**	**49**	**36**	**27**
Commercial Banks	0	11	25	8	14
Finance Companies	0	7	18	0	10
Merchant Banks	0	2	5	4	3
Islamic Banks	1	1	1	9	2
Discount Houses	0	0	0	6	7
Counter	n.a.	n.a.	2,382	2,065	927
Commercial Banks	n.a.	n.a.	1,553	1,335	909
Finance Companies	n.a.	n.a.	823	730	9
Discount Houses	n.a.	n.a.	6	0	9
Branch	n.a.	n.a.	90	138	1,171
Commercial Banks	n.a.	n.a.	7	8	10
Finance Companies	n.a.	n.a.	3	2	0
Islamic Banks	n.a.	n.a.	80	128	0

Source: Nakagawa, Rita. (2009) *The Evolution of Islamic Finance in Southeast Asia: The Case of Malaysia*.

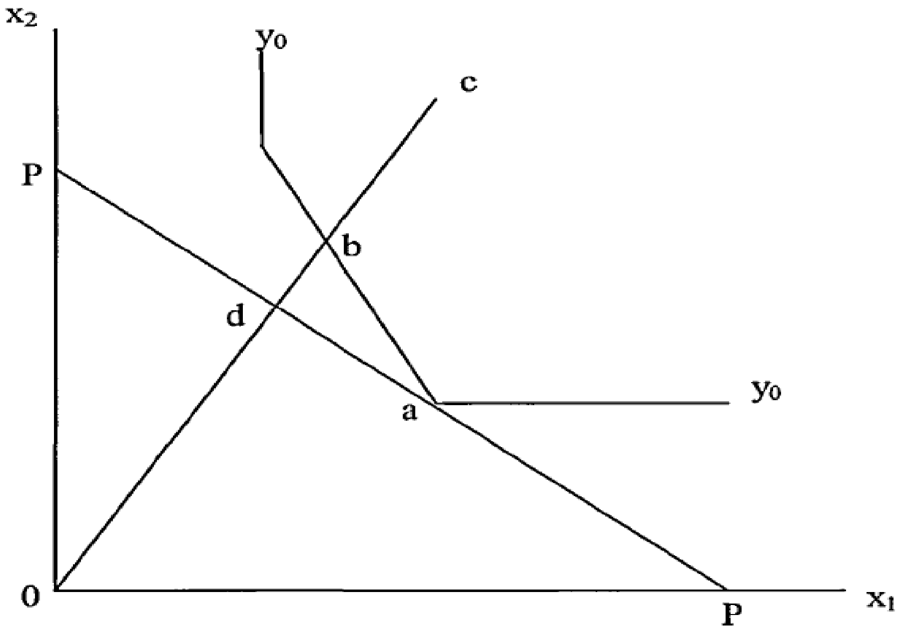
TABLE 4: Conventional Banking Efficiency studies

Author (s), year of publication	**Methodology**
Berger, Hunter and Timme, 1993	Survey of existing banking efficiency studies at that time (DFA, DEA, X-Efficiency)
Berger , Hancock and Humprey, 1993	Profit functions
Hassan and Isik (2002)	DEA
Hsia (2010)	DEA
Berger and Bowman (2012)	Logit Survival Regression
Cornett, Li and Tehranian (2013)	Financial Ratios

TABLE 5: Islamic Banking Efficiency studies

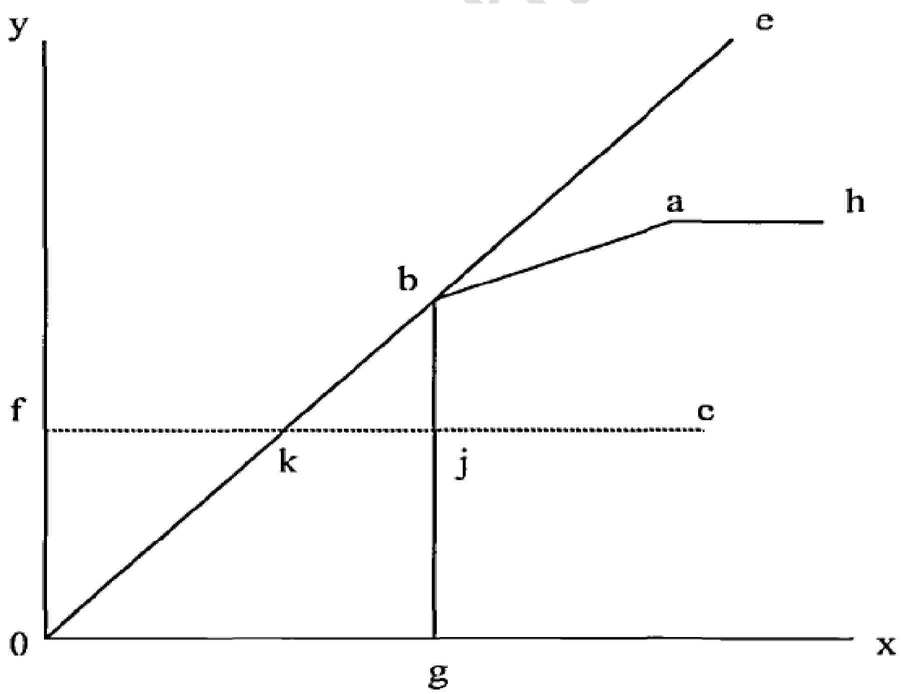
Author (s), year of publication	**Methodology**
Hassan and Samad, 1997	Financial Ratio Analysis
Yudistira, 2003	DEA
Hassan, 2003	DEA
Brown and Skully, 2003	DEA
Hassan and Hussein, 2003	DEA
Hassan, 2005	DEA
Sufian 2006	DEA
Sufian 2008	DEa
Rosly and Mohd Zaini 2008	Financial Ratio
Ahmad and Luo (2010)	DEAl
Abdul Majid, Saal, and Battisi (2010)	SFA
Arabi (2013)	Logistic Regression with CAEL and discriminant analysis to detect and establish an early warning system for bank's failure

Figure 1 - Overall, Technical, and Allocative Efficiency



Source: Hassan, Sharkas and Samad (2004) following Farrel (1957)

Figure 2 - Pure Technical and Scale Efficiency



Source: Hassan, Sharkas and Samad (2004) following Farrel (1957)

TABLE 5: Malaysian Islamic Commercial Banks (Bank Level Data):

No	**Name of Banks**	**Ownership**	**Year**
1.	Affin Islamic Bank	Domestic	Up to 2011
2.	Al-Rajhi Banking & Investment Corporation (Malaysia) Berhad	Foreign	Up to 2011
3.	Alliance Islamic Bank Berhad	Domestic	Up to 2011
4.	AmIslamic Bank Berhad	Domestic	Up to 2011
5.	Asian Finance Bank	Domestic	Up to 2011
6.	Bank Islam Malaysia Berhad	Domestic	Up to 2011
7.	Bank Muamalat Malaysia	Domestic	Up to 2011
8.	CIMB Islamic Bank Berhad	Domestic	Up to 2011
9.	HSBC Amanah Malaysia Berhad	Foreign	Up to 2011
10.	Hong Leong Islamic Bank Berhad	Domestic	Up to 2011
11.	Kuwait Finance House (Malaysia) Berhad	Foreign	Up to 2011
12.	Maybank Islamic Berhad	Domestic	Up to 2011
13.	OCBC Al-Amin Bank Berhad	Foreign	Up to 2011
14.	Public Islamic Bank Berhad	Domestic	Up to 2011
15.	RHB Islamic Banks	Domestic	Up to 2011
16.	Standard Chartered Saadiq Berhad	Foreign	Up to 2011

Source: Bank Negara Malaysia

TABLE 6: Malaysian International Islamic Banks (Bank Level Data):

No	**Name of Banks**	**Ownership**	**Year**
1.	Al Rajhi Banking & Investment Corporation	Foreign	Up to 2011
2.	Alkhair International Islamic Bank Berhad	Foreign	Up to 2011
3.	Deustche Bank Aktiengesellschat	Foreign	Up to 2011
4.	Elaf Bank B.S.C	Foreign	Up to 2011
5.	PT. Bank Syariah Muamalat Indonesia, Tbk	Foreign	Up to 2011

Source: Bank Negara Malaysia