

## **EFFICIENCY DETERMINANTS OF MALAYSIAN CONVENTIONAL AND ISLAMIC BANKS – A 5-YEAR PERIOD STUDY**

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### **ABSTRACT**

**Purpose:** The growth of conventional and Islamic banking in Malaysia has been commendable and has brought positive impact into the overall economic growth for Malaysia. The efficiency of Malaysian banks has always been a point of debate. Based on certain studies by Awan (2009), Bader, *et al.* (2008), and Mokhtar (2006), draws the need to further deliberate on the area of banks efficiency, especially the efficiency of conventional and Islamic banks in Malaysia. This study visits three fundamental questions, which are; what is the efficiency for Islamic and conventional banks in Malaysia between the period 2009 to 2013?; does the efficiency of conventional banking supersedes that of Islamic banking in Malaysia during the same period?; and what are the factors influencing the efficiency of conventional and Islamic banks in Malaysia? Hence the purpose of this study is to address these three research questions between the 5-year period, which represents the period after the 2008 global financial crisis, revealing the required actions by regulators and industrial experts to further improve the banking landscape in Malaysia.

**Design/methodology:** A quantitative research stance was taken in this research, using the data envelopment analysis (DEA) method. Empirical studies were used in this research to support the research findings. All data used in this study were obtained from selected samples of full-fledge Islamic and conventional banks which had been established in Malaysia. The required data was collected from selected bank's balance sheets, income statements, and cash flow statements which can be found in the annual report during the year 2009 to 2013. SPSS was used to measure the efficiency of the banks in this research and the significance of independent variables towards dependent variables.

**Findings:** From this study the empirical evidence revealed that the factors, of labour, fixed assets, total funds, total loans, other earnings assets and off balance sheet items, do not influence the efficiency of Islamic banks, whereas, the factors which influences the efficiency of conventional banks were total funds, total loans and off balance sheet items. It was also revealed that, aftermath of the global financial crisis, full-fledged Islamic banking have recorded higher efficiency than conventional banking during the same period, and there was empirical evidence on the components of efficiency influencing both these banking systems.

**Research limitations:** This research only deals with 4 full fledge Islamic banks and conventional styles over a five-year period. However, a longer duration spread could be undertaken in the future. Secondly, methods and variables used are also limited as there are other approaches which can be used to determine the efficiency of banks, such as Free Disposal Hull (FDH), Stochastic Frontier Approach (SFA), Thick Frontier Approach (TFA), and Distribution Free Approach (DFA).

**Practical implications:** This research gives managers of conventional and Islamic banks the insight and understanding of determinants of which would affect the efficiency of the bank. From the findings, it is necessary for the management of the banks to plan and implement or to take

necessary actions and precautions to enhance their efficiency in order to compete with conventional banks.

**Originality:** This paper is an original document which can be used for the furtherance of research in this area.

**Keywords:** Conventional banking, Islamic banking, factors of efficiency

## INTRODUCTION

Malaysia is currently practicing a dual banking system, where both conventional banks and Islamic banks operating on parallel banking system, where it allows both banks to compete with each other. In Malaysia, the first full-fledged Islamic banking was Bank Islam Malaysia. Ten years after the establishment of the first full-fledged Islamic bank, Bank Negara Malaysia allowed other conventional banks to offer Islamic banking products through Islamic Windows. In 1998, Islamic Banking Scheme (IBS) has replaced Islamic Windows. Currently, Islamic banking in Malaysia continues to grow promptly, with the support of positive Malaysian economic condition (Dali, *et al.*, 2013).

Islamic banking refers to the banking system which follows the Islamic law. Mutual risk and profit sharing between both parties are the underlying principles that rule Islamic banking. Underlying business activity and asset are used to guarantee the fairness for all the transactions done. Although Islamic banking is offering products which are similar to conventional banks, they are different in a number of ways, as transactions based on interest rate and the necessity that bank's operations be carried out according to certain processes through the use of certain financial instruments are prohibited because Islamic banking operates according to *Shariah* principles. Islamic banking does not receive a pre-determined interest from lenders and pay a pre-determined interest to the depositors because the amount of profits is based on the profit sharing contracts with the depositors and lenders. Furthermore, there are fee-based banking service which is quite similar to conventional banks but with no interest element included in any transactions, as interest is

prohibited in Islamic banking system (Bader, *et al.*, 2008). On the other hand, Islamic banks are providing some similar products as conventional banks to their customers. According to Khan (2010), Islamic banking have been using Islam Holy Book, the Quran as a guide and based on four principles:

- a) Risk-sharing: equal risk/ return distribution among between depositors and shareholders for every financial transaction made;
- b) Materiality: “material finality” should be in all financial transactions;
- c) No exploitation: neither party to the transaction should be exploited, and;
- d) No financing in sinful activities: all transactions used to produce goods should be according to the *Syariah* principle.

The first full-fledge Islamic bank in Malaysia was Bank Islam Malaysia, established in 1983. Since then, the Malaysian government has given permission to the commercial banks to offer Islamic banking products and services under the Islamic Banking Scheme (IBS) 1993. Islamic banking continues to grow rapidly in Malaysia and supported by an advantageous environment which is distinguished for its constant product innovation, a diversity of financial institutions from across the world, a wide variety of innovative Islamic investment instruments, a widespread financial infrastructure, and the adoption of global regulatory and legal best practices. Malaysia is also strong on human capital development alongside the development of Islamic financial industry to tap into the accessibility of relevant talents. Furthermore, there are a number of full-fledged Islamic banks in Malaysia including numerous foreign owned entities; conventional institutions who have established Islamic subsidiaries and also entities who are conducting foreign currency business based on *Syariah* principles. Malaysia continues to harness and build on the industry, by engaging foreign financial institutions to encourage the establishment of international Islamic banking business in Malaysia (Mokhtar *et al.*, 2006).

On the other hand, conventional banking began in Italy during the revolution of High Middle Age (1000-1350). During the early modern period, it has spread across Europe and became complex maneuvering towards credit transactions. There were three types of banks by the late thirteenth and fourteenth centuries:

1. International merchant banks
2. Local deposit banks
3. Pawn broking establishments

The objective of conventional banks is to maximize the wealth of shareholders and collection of interest is their hallmark of revenue (Bergier, 1979).

## LITERATURE REVIEW

### **Recent Development in Conventional and Islamic Banks**

Due to the prohibition of derivatives activities and some risky assets in Islamic banking, incorporating such asset classes would face possible difficulties in meeting capital standard of Basel III. Deposits for Islamic banks are considered more volatile compared to conventional banks due to the prohibition of interest rates and their deposits originates mostly from profit sharing investment accounts (PSIAs). In order to offset the volatility under Basel III, Islamic banks are required to increase the amount of high-quality liquid assets (HQLAs) which are being held. However, *Shariah*-compliant HQLAs are in short supply because Islamic securities are much younger, shallower and less developed than conventional securities which cause Islamic banks to be clutched by two fronts. Apart from Malaysia and Bahrain, there are not many central banks which are actively issuing instruments which qualify as HQLAs. PSIA issue may also result in the increase of stress on central banks and governments around the Islamic world to address some venerable problems in Islamic banking. Malaysia-based International Islamic Liquidity Management Corporation has issued the short-term sukuk

which was established to encourage a cross-border market in Islamic instruments, but it remains small compared with the whole industry.

Malaysia possesses one of the world's most advanced Islamic financial markets where it has become the first country to have a full-fledge Islamic financial system operating alongside with the conventional banking system. Malaysia Islamic Financial Centre (MIFC) was selected as the "Best International Islamic Finance Centre" at the third Annual London Sukuk Summit Award of Excellence. Malaysia was awarded "Islamic Finance Hub of the Year" at the Triple "A" Islamic Finance Awards by The Asset Magazine in June 2009. This further reinforces MIFC's prominence among Asian issuers and global institutional investors in the region. Malaysia has the knowledge and firm fundamentals in Islamic banking developed more than 30 years. Besides, Malaysia differentiates itself through its well-defined and progressive Human Capital Development structure and ingenuities. In addition, Malaysia is also the only country in Asia Pacific that offers such broad human capital development in Islamic finance. Although there are some research shows that Islamic banks are more stable compared to conventional banks, but there are still many areas which need improvement in order to compete with conventional banking as certain products which are offered by conventional banks are not made available by Islamic banking. With the limited activities available, it is important for Islamic banking to utilize their resources more efficiently to increase their profit so that they are able to meet the minimum capital standard of Basel III (Mokhtar *et al.*, 2006).

### **Efficiency of Islamic Banks**

Mokhtar, *et al.*, (2006) asserted that, to investigate the efficiency of Islamic banking in Malaysia from 1997 to 2003 by using Stochastic Frontier Approach (SFA), in which a comparison between full-fledge Islamic banks and Islamic Windows to determine whether Islamic banks in Malaysia are prepared to face financial freedom was conducted. The outcome of the study found that the average technical and cost efficiencies of conventional banks (86.0%) were higher than Islamic banks (80.1%).

This is due to, Islamic banks are considered rather new within the banking framework, as compared to conventional banks which were operating for more than 100 years. In addition, it was also found that, full-fledge Islamic banks outperformed the Islamic Windows and foreign conventional banks seems more efficient than domestic conventional banks. Although the result shows the average efficiency for Islamic banks is increasing over the years but overall the level of efficiency for Islamic banks is still lesser than conventional banks. However, during the same period, this study reveals Islamic banks in Malaysia are increasing its assets, deposits and financing base. From this research, management and policy makers are expected to provide important insights in order to fully utilize the dimensions and allocation of limited resources in banks.

According to Hassan, (2006), a firm is more technically efficient than the others if it produces larger output from the similar set of inputs. The long-term sustainability of the banks depends on economic efficiency. From his study, it shows that the cost efficiency of Islamic banks is declining. If Islamic banks had fully utilized their productive inputs more efficiently, there will be a significant cost savings. The inefficiency in Islamic might be due to choosing the incorrect input mix rather than the wasting of resources. The findings also revealed that, Islamic banks are able to achieve productivity improvement by becoming more technologically advanced instead of being more technically efficient. Although there are several studies that shows DEA scores are larger than parametric efficiency scores, but it is not compulsory that DEA efficiency estimates would be larger than parametric methods. Overall, the study found that Islamic banking were less efficient compared to conventional banks. Productivity of Islamic banks are due to changes in technology instead of changes in technically efficiency. In order to compete with other banks, Islamic banks are encouraged to bring products and services in conformity with true spirit of prohibition of interest, fully utilizing modern technology and increased in scale operations, as per *Syariah* law regulations.

In addition, there are several studies which indicates that Islamic banking is less efficient compared to conventional banks. Yudistira, (2004) has applied DEA to measure Islamic banks efficiency from 1997 to 2000. This study revealed, a particular bank's efficiency level might affect some banks' specific qualities, where factors maybe neither inputs nor outputs in the production process. In identifying inputs, this study reflects the standard intermediation approach where capital and labor are used to intermediate deposits into loans and other earning assets. The capital input is denoted by fixed assets, while the labor input is denoted by personnel expenses. The principle of Islamic financial system is the participation in enterprise, employing the funds based on PLS. This by no means implies the importance of intermediary activities performed by Islamic banks. From the result of this study, there is a marginal inefficiency for Islamic banks in 1998 and 1999 where the global economy was hit by the financial crisis. Yudistira, (2004) also found that Islamic banks outside Middle East countries experienced more challenges in midst of global economic crisis, transpired in 1997 and 1998 but performing somewhat more efficiently when most economies have recovered. It is believed that the scale of efficiency is mainly prompted by factors such as, geographical positioning, and domestic regulatory standards. It is important to have an international standard for Islamic banking accounting principles in order to compete with the global environment.

Ftiti *et al.* (2013) suggested that, by determining the efficiency under the Variable Return on Scale (VRS) assumption, it is found that there are many efficient banks. Imperfect competition, government regulations and financial restrictions are adequate reasons which makes the bank non-functional in optimum level. Ftiti *et al.* (2013) mentions that, on average the Islamic bank's efficiency increases as the GDP of the country where it operates increases. It will notice that the countries accommodating the more Islamic banks are those having high levels of GDP. Furthermore, from the result, it shows that population concentration has a positive correlation with Islamic banks' efficiency, coupled with an effective management.

## **Efficiency of Conventional Banks**

A study by Isik and Hasan (2002) on Turkish banks, suggest that the most cost incentive outputs are long-term loans and off-balance sheet items. Due to the high inflation faced by Turkey in recent years, long-term loans have been irregular financial products. Off-balance sheet activities are relatively sophisticated financial products which are costly. Furthermore, it shows that banking sector in Turkey has a higher profit efficiency as they are relatively better in controlling their cost than generating profits. From the study, the cost and profit efficiencies of banks was stable at the beginning and eventually declined from year 1992 to 1996, due to the adverse banking business development in Turkey in the 1990s. In the second stage, banks possess a certain degree of size as it is an important factor that derives the variation of efficiency of the banks. Banks are separated into small, medium and large groups according to gross total assets to scrutinize the impact of bank size on performance of the bank. From here, the result shows when size of the bank increases, average cost and profit efficiencies fall systematically and monotonically. Therefore, smaller size banks possess some operational advantages which will lead to higher efficiencies level.

Sufian, (2009) found that, in and around East Asian crisis, there were no noticeable change in number of efficient banks under the intermediation and operating approaches although there is noticeable increase under the value-added approach. Under intermediation approach, existence of inefficiency appears to be an important determinant of bank's costs. Market power in loan markets influence operation efficiency. Relatively efficient banks are likely to have a lower production costs due to their ability to manage operations more efficiently which will then lead to a more reasonable loan terms and eventually gaining greater market shares over inefficient banks. Larger banks are considered as more efficient due to the economies of scale arguments. The result from this study also shows that more efficient banks, *ceteris paribus*, use lesser equity compared to their peers. Less efficient banks might involve in riskier operations and tend to hold larger equity in the process. When a bank is preferred by

clients, they will have a relatively higher profitability ratio where they are able to attract the biggest share of deposits as well as a better credit worthy borrower. Thus, creating a favorable situation for the profitable banks to be more efficient from the point of view of intermediation activities. According to Sufian, (2009), banks with controlling share of foreign ownership tend to be more efficient compared to the domestically owned banks. This is due to the ability of foreign banks to capitalize on their access to better in risk management and operational techniques.

According to Omar, *et al.* (2006), there are three main approaches which have been using widely in banking literature, which are production approach, intermediation approach and modern approach in DEA method. The research covered the years 2000 to 2004, where it was revealed the average efficiency performance of Malaysia's banking industry is relatively higher based on Variable Return on Scale (VRS) than Constant Return on Scale (CRS) where most of the banks are at highest efficiency in year 2004 while at the lowest efficiency in year 2003 for both VRS and CRS. Generally, all banks have increased their total factor productivity (TFP) on average by minimum of 13% per year during the period of 2000 to 2004. This study revealed that, several banks were found to be efficient, while there are some showed no changes in efficiency during the research period. Omar, *et al.* (2006), also highlighted that banks productivity and efficiency level are affected by the size of the banks, where, the larger the bank, the higher their efficiency and the increase in TFP in Malaysia's commercial banking industry is probably due to the innovation in efficiency elements rather than the improvement in technical characteristic. Hence, it is evident that the commercial banking industry in Malaysia has a good potential to increase its TFP by improving the technical elements.

Maudos *et al.*, (1999) stressed that, it does not only require goods and services to be produced at minimum cost in order to maximize profits but also maximizing the volume of revenues of banks. Therefore, computing profit efficiency constitutes a more important source of information for bank management than restricted revelation offered by the analysis of cost

efficiency. The scarce available evidence has shown the efficiency level for profit is greater than cost inefficiency. Where the result can be a sign of the important inefficiencies on the revenue side, either due to the choice of the wrong structure of output, or to the formation of an inaccurate pricing policy. There are two reasons in which the available evidence on the bank efficiency is narrow, owing to the estimation of profit efficiency and its comparison with cost efficiency, and international efficiency comparisons. The study undertaken analyzed the cost and profit efficiency for 11 countries for European Union for the period 1993 to 1996. Overall, there are 879 banking firms were taken in the study. The results revealed that, the bank with most cost efficient has the highest average costs, as the accounting ratios did not take into consideration the differences in the structure of output or price of inputs, secondly, there were high positive correlation between profit efficiency and Return on Assets (ROA), hence, those banks that attain highest level of profits efficiency are the most profitable and finally, there is a negative relation between average cost and ROA, meaning that, banks with a higher average costs will present a lower profit rates. Overall, the findings revealed that by using data panel frontier approaches, high level of cost efficiency and lower level in profits, verifying the importance of inefficiencies on the income side of banking activity. The absence of correlation between the rankings of cost and profit efficiency is indicative of the fractional view provided by the cost efficiency analysis.

A study by Berger and Humphrey (1992), where, DEA approach was one of the techniques used, views the measurement of inefficiencies from a different perspective and uses a set of ad hoc assumptions that are somewhat more intuitive and better justified by the data collected. By comparing the bank labor productivity, it was found that, costs are likely to increase relative to employment because the expenses of liquidating branches and of installing automated teller machines have often been paid to non-bank capital and labor sources, instead of employees of the banks. Moreover, employment grew slowly owing to branch closing and other compressions from deregulation.

## **METHODOLOGY**

This study has evaluated banks statements from four full-fledged Islamic banks and conventional banks in Malaysia. Data was taken from secondary sources, collected from bank's annual report over the period of 2009-2013. Although the traditional method of analyzing financial ratios can be used but there is a lack of agreement on the relative importance of various types of input and output under this method.

Furthermore, by using this method, management actions and investment decision which will affect future as opposed to current performance, cannot be consider. Since this is only a short run measure and might be inappropriate for describing the actual banks' efficiency in the long run. This study follows the Data Envelopment Analysis (DEA) approach.

## **ANALYSIS**

### **Efficiency Comparison**

With the aid of Statistical Package for the Social Sciences (SPSS), the overall efficiency for conventional banks and Islamic banks in Malaysia from year 2009 to 2013 shows that Islamic banks are more efficient compare to conventional banks where the efficiency were 4.31, 4.84, 4.81, 3.30, and 4.55. Whereas for conventional banks, were 3.25, 4.12, 3.86, 2.61, and 2.38. In year 2010, both banks have the highest efficiency level where Islamic banks were 4.84 while conventional banks are 4.12. However, both banks faced depreciation in their efficiency levels in year 2012, where the efficiency level for Islamic banks was 3.30 and 2.61 for conventional banks.

According to Awan (2009), Islamic banks are more efficient compared to conventional banks in terms of managing assets, and the balance sheet coupled with greater transparency as well as healthier earnings. In addition, volatility of profitability of conventional banks are much higher than the profitability of Islamic banks.

### **Descriptive Analysis**

The overall descriptive analysis shown that the mean efficiency for Islamic banks in Malaysia (3.32) is higher than conventional banks (2.95). The standard deviation for Islamic banks is also higher than conventional banks, where for Islamic banks was 2.79 while for conventional banks was 2.08. Furthermore, the variance for Islamic banks for the study period was 7.79, higher than that of conventional banks which was only 4.34.

### **Significance Level Comparison**

Based on the overall significance comparison for all the variables between conventional banks and Islamic banks in Malaysia, it was shown that there are six independent variables which are significant to the efficiency of conventional banks: total funds (0.11), total loans (0.09), off-balance sheet items (0.09), price of funds (0.07), price of other earning assets (0.41) and price of off-balance sheet items (0.45). Meanwhile, there was only two variables which was significant to the efficiency of Islamic banks in Malaysia during the period of this study: price of labor (0.381) and price of fixed assets (0.19).

## **RESULTS**

In this study there were twenty-four hypotheses tested in analysing the relationship between the efficiency of banks and its independent variables such as labour, fixed assets, total funds, total loans, other earning assets, off-balance sheet items, price of labour, price of fixed assets, price of funds, price of loans, price of other earning assets, and price of off-balance sheet items for conventional banks and Islamic banks as well.

Hence, it can be concluded that labor, total funds, total loans, other earning assets, price of labor, and price of fixed assets have a strong positive relationship with the dependent variable, while fixed assets, off-balance sheet items, price of funds, and price of loans have a strong negative relationship with the dependent variable. In addition, it can also be concluded that other earning asset, price of fixed assets, price of loans,

price of other earning assets, and price of off-balance sheet items have a strong positive relationship with efficiency of Islamic banks operating in Malaysia. However, labor, fixed assets, total funds, total loans, off-balance sheet items, and price of funds have a strong negative relationship with efficiency of Islamic banks in Malaysia during the period of study (refer to Table 1 below)

Table 1: Summary of findings

SUMMARY OF MAJOR FINDINGS OF FACTORS INFLUENCING EFFICIENCY OF CONVENTIONAL AND ISLAMIC BANKS					
		CONVENTIONAL BANKS		ISLAMIC BANKS	
		Significant Influence	Not Significant Influence	Significant Influence	Not Significant Influence
Unit of Efficiency					
1	Labour		X		X
2	Price of Labour	X		X	
3	Fixed Assets		X		X
4	Price of Fixed Assets		X	X	
5	Total Funds	X			X
6	Price of Total Funds	X			X
7	Total Loans	X			X
8	Price of Total Loans		X		X
9	Other Earning Assets		X		X
10	Price of Other Earning Assets	X			X
11	Off-Balance Sheet	X			X
12	Price of Off-Balance Sheet	X			X

### Labour Efficiency

Based on the statistical analysis, labour is not significant to the efficiency of both conventional banks and Islamic banks in Malaysia. This piece of finding concurs with the study by Berger and Humphrey (1992), which revealed that, efficiency of the bank is not influenced by the labor. This is

because by comparing the bank labor productivity, it is found that cost is likely to increase relative to employment because the expenses of liquidating branches and of installing automated teller machines have often been paid to non-bank capital and labor sources, instead of employees of the banks. Furthermore, to extent that employment grew more slowly or decreased as result of branch closing and other compression from deregulation, any drops have likely been mostly narrowed to low-cost employees serving branch offices, which would decrease measured employment more than balanced with true value-weighted labor to total operating costs. However, for price of labor, it is one of the variables which is significant to the efficiency of both conventional and Islamic banks in Malaysia. It includes the total expenditures paid on employees which include salaries and employee benefits. When banks started to replace their staff with automated system, the price of labor tend to be fully utilized as well.

### **Fixed Assets Efficiency**

The result shown that fixed assets does not significantly impact on efficiency of both conventional banks and Islamic banks in Malaysia. This might be due to the automation of most functions in the banking industry where services provided by the banks are available through the internet. For price of fixed assets, it is significant to the dependent variables for Islamic banks. This might due to the size of Islamic banks is considerably smaller than conventional banks, therefore the depreciation expenses will affect the banks efficiency.

For conventional banks, the price of fixed assets is not significant to efficiency of the bank. According to Oke and Poloamina (2012), the insignificant infinitesimal negative impact of total assets and price of fixed assets on cost efficiency point to the fact that efficiency does not hinge on the size but on some other factors such as operational structure, technology, management quality, and the quality of staffs. However, price of fixed assets will impact on efficiency of Islamic banks in Malaysia. Loghod (2013) suggest that although Islamic banks cannot rely on

borrowing money from central bank or any other sources, but conventional banks are more leveraged than Islamic banks. This could somewhat explained by the nature of Islamic banking, they cannot borrow money from central bank or other sources because of the interest. Fixed Assets to price of fixed is in favour of Islamic banks. This result is very normal because Islamic banks use financial instruments such as Murabaha, Ijara.

### **Total Funds Efficiency**

For conventional banks, total funds are correlated to efficiency of the banks. According to Barret *et al.* (1999), banks can distribute resources and control internal processes by efficiently handling their employees, facilities, expenditures, and sources and uses of funds while working to maximize earning assets and total income. There is a strong relationship between the most efficient and least efficient quartiles of banks in the percentage of assets that were fixed assets and the percentage of total loans that were loaned. However, for the total funds for Islamic banks, total funds is not significant to the efficiency of the banks. Yudistira (2003) suggest that the principle of Islamic financial system is the participation in enterprise, employing the funds based on PLS. This by no means suggests that the importance of intermediary activities that Islamic banks do. The principle of Islamic financial system is the contribution in initiative, employing the funds based on PLS. This by no means suggests the significance of intermediary activities that Islamic banks perform.

### **Total Loans Efficiency**

Total loans for banks is significant to the efficiency of conventional banks but not significant to Islamic banks. The level of non-performing loans to total loans is significant and negatively related to the efficiency source of the most ad least efficient quartiles (Barr, 1999). Loans are statistically significant to bank efficiency this is due to the objective of conventional banks is to maximize the wealth of shareholders and collecting interest is the method of collecting wealth of the banks. For Islamic banks, they focused on profit sharing investment and financing instead of involving

interest rates. It is also show that the subprime loans crisis did not affect efficiency of the banks. It is also found that loans are negative and not significant to Islamic banks efficiency (Ftitiet *al.*, 2013).

Price of loans is not significant for both conventional and Islamic banks. For Islamic banks, interest is prohibited by *Shariah* law, therefore any interest related transactions will not affect the efficiency of the banks. However, for conventional banks, all loans given by the banks will include interest charges. Hence, it will not influence the efficiency as well.

### **Other Earning Assets Efficiency**

Other earning assets are from some of investment securities, inter-bank funds sold and loans to special sectors. It is found that it is not significant to both conventional and Islamic banks in Malaysia. This might due to the sample conventional bank taken in this study are foreign and domestic banks while for Islamic banks, it is mostly foreign banks. Therefore, the result shows there is no significant between other earning assets and bank efficiency. Awdeh and Moussawi (2009), also stated that it is significantly correlated to the efficiency of majority domestic ownership banks and subsidiaries of foreign banks. Conversely, this variable has no effect on the efficiency of majority foreign ownership banks. For price of other earning assets, it is significant to efficiency of conventional banks but not significant to Islamic banks. This is obvious as for price of other earning assets, it contains other operating income gain from derivatives and gain on sale of other tangible and intangible assets. Where it is not allowed in Islamic banking.

### **Off-balance Sheet Items Efficiency**

Off-balance sheet activities encompass a variety of items such as certain loan commitments, certain letter of credits, and revolving underwriting facilities. Besides, derivatives instruments such as forward, swaps, futures and option contracts are also whose notional values are carries off-balance sheet, but whose fair values are recorded on the off-balance sheet. Off-

balance sheet activities are allowed in conventional banks, therefore it will **obviously influence** the efficiency of the banks. Whereas for Islamic banks, there are many off-balance sheet activities which are prohibited by Shariah law. Hence, for the efficiency of Islamic banks, it is not influenced by off-balance sheet items. Isik and Hasan (2002) showed that the elimination of off-balance sheet components from the production bank specifications led to a significant deterioration in efficiency scores and average productivity of the entire industry. Off-balance sheet items are similar to credits in terms of risk and income. But, subsequently the of off-balance sheet activities are commonly four or five times greater than the balance sheet items, their presence in efficiency models in notional values can cause a unfairness.

Due to off-balance sheet items are financial instrument which will used by conventional banks to manage risks, and they provide these services to their customers as well, any commission earned will affect their efficiency. However, due to there are many off-balance sheet activities which are prohibited by Islamic law, there are no commission earned for those off-balance sheet items like what conventional banks. So, price of off-balance sheet items is not significant to the efficiency of Islamic banks.

### **CONCLUSION, IMPLICATIONS**

This research gives managers of conventional and Islamic banks the insight and understanding of determinants of which would affect the efficiency of the bank. According to the findings of this research, the efficiency of conventional banks is influenced by more variables whereas for Islamic banks it is only influenced by two variables which are, price of labor and price of fixed assets. Therefore, it is necessary for the management of the banks to plan and implement or to take necessary actions and precautions to enhance their efficiency in order to compete with conventional banks. Hence, this research revealed that full-fledged Islamic banks have higher efficiency than that of conventional banks during the period of study, which right after the impact of global financial crisis in 2008.

It is imperative that the senior managers of banks, banker associations and stakeholders to understand the factors which impact on the efficiency of conventional and Islamic banks because efficiency will lead to profitability of the banks and it is also important to improve both stream of banks as managers, regulators, investors, borrowers, and depositors find the efficiency studies useful in assessing the performance of the. These results might help them to examine their policies on the financial system as the efficiency evaluation is useful to judge the previous performance and present position of the banks.

### **LIMITATIONS AND FUTURE SCOPE**

The limitations of this study are, the duration taken for banks was only five years. Perhaps more vigorous data could be seen should the duration be extended. Secondly, methods and variables used are also limited as there are other approaches which can be used to determine the efficiency of banks, such as Free Disposal Hull (FDH), Stochastic Frontier Approach (SFA), Thick Frontier Approach (TFA), and Distribution Free Approach (DFA). The future of this research could be further extended with the inclusion of higher number of variables with a variety of quantitative measurements.

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