

Off-Balance Sheet Income Activities For Islamic And Conventional Banks

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Abstract

The aim of this study is to investigate the determinants of off-balanced sheet income activities, considering the bank-specific and macroeconomic factors as independent variables in Islamic and conventional banks in Malaysia. This study utilizes 16 Islamic banks and 14 conventional banks panel data from 2008-2013 and 2002-2013 respectively. The result shows that the determinants of off-balance sheet activities in Islamic banks in Malaysia are bank's size (TA), bank's profitability (NP), and interest rate (INT). While, the determinants of off-balance sheet activities in conventional banks are bank's size (TA), bank's profitability (NP) and the Real Gross Domestic Product (RGDP).

Keywords: off-balance sheet; bank-specific; macroeconomic factors; Islamic banks; Malaysia

1. Introduction

Off-balance sheet (OBS) activities are one of the major developments in current financial markets which are engaged by banking institutions. It is observed that banks' engagement in traditional banking has been shrinking whereas the OBS activities have been growing. (Edwards & Mishkin, 1995). According to Huang and Chen (2006), banks need to maintain profitability by increasing bank's sources of income if they want to survive the competition. The "off" balance sheet description represents that the activities involve contingent commitments and income generating contracts to a bank but generally are not captured as assets or liabilities under conventional accounting procedures. They may be documented in a bank's accounts as notes to the balance sheet, below the line or in some cases not at all. Customers' demands for financial services are not limited to the traditional payment facilities such as deposits and

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loans offered by banks, but they also wish to accumulate wealth and obtain security against the risks of financial loss (Lewis, 2013).

Fee-related items for instance guarantees, letters of credit, securitization, commitments, and derivative sometimes become the main sources of bank revenues. In Malaysia, the banking sector has recorded a strong profitability performance even though there is an increasing of competition in the operating environment. In 2013, the banking system certified a pre-tax profit level of RM29.8 billion compared to RM12.4 billion in 2005 (Bank Negara Malaysia, 2014). It was recorded by Bank Negara Malaysia that besides income originating from investment and trading activities, it also comes from service related activities, for instance the sale of wealth management products and remittance services (Aziz, 2006).

Previous literatures such as Shahimi et al., (2006), Karim and Chan (2007), Kim (2010), Khasawneh et al., (2012), off-balance sheet (OBS) activities are considered as the income generator as well as the risk management tool for banking institutions. However, Kohler (2013) mentioned that banks with a higher share of non-interest income to be more risky, since non-interest income is more volatile than interest income. For instance, in the case of The US Federal Reserve whereby its intention to taper off the US\$85bil (RM278bil) a month bond-buying program in early 2014 has led to the recent spike in bond yields in emerging markets, including those in Malaysia. This example depicts that such activity will slow fee-based or non-interest income of banks. Non-interest income, which makes up between 20% and 35% of the banking system's total income, could come under pressure as a consequence from the surge in bond yields, which reduce capital-raising activities and impact banks' fee-based income (Daljit, 2013).

Based on the problem stated above, the question arises whether the off-balance sheet activities, which are fee-based activities, really help to generate more income and act as a risk management tool for the banking institutions in Malaysia. Although off-balance sheet activities have received remarkable attention since the past decade in Malaysia, very few studies (for example, Shahimi et al., 2006), have been carried in Malaysia. It is observed that only Shahimi et al. (2006) have done a study of the determinants of fee-income in Malaysian Islamic commercial banks for the period between 1994 and 2004.

Thus, the purpose of this study is to examine the determinants of off-balance sheet income activities, considering the bank-specific and the macroeconomic factors as the independent variables in 16 Islamic banks and 14 conventional banks in Malaysia over period of 2008-2012 and 2002- 2013 respectively.

2. Literature Review

This section builds upon the relevant literature that examines the relationship between off-balance sheet income activities with bank-specific characteristic and macroeconomic variables. The dependent variable of this study is the off-balance sheet income activities which are denoted by the fee income or the non-interest income. DeYoung and Roland (2001) indicated increase in fee-based activities would increase the volatility of bank revenues and earnings. While, Stiroh (2004) and DeYoung and Rice (2004) showed the risk level of bank did not reduce with increment reliance on non-interest incomes.

In a study by Shahimi et al. (2006), the fee income is proxy by the ratio of fee income from investment of shareholders' or Islamic banking fund plus fee income from investment of depositor's fund to total asset. The ratio measures the relative magnitude of non-traditional activities at an individual Islamic bank, serves as the dependent variable in the regression analysis. Hahm (2008) has identified factors that may influence the choice of non-interest income share at the bank level. It identified the

determinants and consequences of the changing income structure of commercial banks in the era of financial conglomeration. It utilized a dataset of 662 relatively large commercial banks in 29 OECD countries from 1992 to 2006. The OBS or the non-interest income was proxy by the total operating income to total asset in percentage.

The independent variables identified in the past studies Nachane and Ghosh (2002), Nachane and Ghosh (2007), DeYoung and Rice (2004), Shahimi et al. (2006), Hahm (2008), Kim (2010), Khasawneh and Hassan (2010), Elian (2012) and Khasawneh et al. (2012) consisted of bank-specific factors and macroeconomic factors. The bank-specific factors are bank's size, bank's profitability and capital adequacy. Meanwhile, the macroeconomic factors are real gross domestic product and interest rate. Bank size is stated as the most obvious factor related to the level of non-traditional activities.

Shahimi et al. (2006) hypothesized that large banks engage more in non-traditional activities than smaller banks. This is because involvement in certain activities commonly required some degree of specialization. Therefore, bank size has a positive relationship with the level of non-traditional activities. They found that bank's size have positive and significant relationship with the fee income (FEE) activities. The result also showed the same result for the studies conducted by DeYoung and Rice (2004), Hahm (2008), Kim (2010) and Elian (2012).

Further, the level of non-traditional activities chosen by management can be analyzed by looking at profits earned from traditional activities (Shahimi et al. 2006). In other words, profitability is considered as a measure of the bank's creditworthiness as viewed by customers. Profitability will increase the customer valuation of a bank which persuades the customer to work with more profitable as opposed to less profitable banks (Khasawneh & Hassan, 2010). The results of various studies on bank's profitability impact on the OBS activities showed diversifies results. Shahimi et al. (2006) indicated that there is no significant relationship between net income margin (NIM) and FEE (OBS income activities).

However, study by Nachane and Ghosh (2007) traces the determinants of off-balance sheet activities in the Indian banking sector using data for the period 1996 to 2004 found out that there is a significantly positive relationship between OBS activities and profitability. Moreover, Khasawneh and Hassan (2010) and Khasawneh et al. (2012) found that there is a significantly positive relationship exists between OBS activities usage and net income (profitability).

Capital adequacy ratio (CAR) measures the banks' capital to protect its depositors and insure stability. OBS businesses are expected to be larger for banks with higher CAR ratio since these banks are more creditworthy therefore clients would place more trust towards the performance of such banks. A high CAR with accompanying high credit rating would be an incentive for a bank to be an attractive provider/supplier of OBS products (Elian, 2012). In contrast, a high CAR ratio reduces a banks' marginal gain from increasing the risk in the asset portfolio. As bank capital increases, the ability to bear risk increases as well, but the need for OBS products to hedge the risk exposure may decrease. Therefore, a bank with high CAR could also be expected to take on less OBS risk and issue a lower volume of OBS item/products. The capital adequacy ratio is used as proxy for capital (Elian, 2012).

Jacques and Nigro (1997) considered the capital adequacy ratio (CAR) as proxy for the capital requirements regulations. CAR is a measure of bank's capital and is used to protect depositors and promote the stability and efficiency of financial systems. It is proposed that banks with high capital ratios (involving low regulatory pressure) can be expected to take less OBS risk and hence, supply a smaller

volume of OBS items. Khasawneh and Hassan (2010) in their study showed that there is a negative effect on the usage of the OBS activities in MENA banks and the bank's capital adequacy ratio. The result of bank's CAR based on Khasawneh et al. (2012) is that bank capital adequacy ratio (CAR) has no major impact on OBS activities for both group of banks (below and above the minimum risk – based capital standards. The difference in the result of the study may due to the difference regulatory pressure by the government of the country.

According to Khasawneh and Hassan (2010), Real Gross Domestic Product (RGDP) captures the impacts caused by fluctuations in the economic activity. There are two opinions can be made on the impact of the RGDP and the usage of OBS activities. Firstly, there is a positive relationship between the demand for OBS products and the business cycle because of transactions motive. Secondly, in economic boom periods, the business risk decreases and lead to decrease in demand for OBS activities to hedge risk. It also is argued that OBS activities follow economic growth and business cycle. When the economic activities boost, the demand for the OBS activities increases. This is because OBS activities are used as risk management tool and an income generator for banks. Thus, it is expected that there is a positive relationship of RGDP to the OBS business.

A high and positive interest spread give hints on a high degree of uncertainty about future interest rates and short-term interest rates are expected to rise in the future. It is suggested that a high demand for OBS products may cause by the high interest risk and increase in the future interest rate. On the other hand, the spread also measures the substitution between OBS activities and traditional banking activities, for instance, between short-term funding and long-term lending. For instance, banks may engage in less OBS activities when there is a high and positive interest rate spread. Thus, banks will favor more to the traditional on-balance sheet activities (Nachane & Ghosh, 2007).

The interest rate spread also encounters two arguments (Khasawneh and Hassan, 2010). First, large and positive interest rate spread signals high degree of uncertainty about future interest rates or increases in future short-term interest rates. Thus, high interest rate risk requires more risk management tools, and engages in more off-balance sheet activities (OBS). Secondly, large and positive interest rate spread gives banks' managers the incentives to engage in traditional on-balance sheet activities and take the advantage of low short-term interest rate funding and high long-term interest rate lending. Therefore, banks' managers will be less attracted to engage in OBS activities.

3. Research Design

In this section, the discussion concentrates on the methodology applied in this study. It comprises of data description, theoretical framework and operationalization of variables.

3.1 Data Description

There are 16 Islamic banks and 14 conventional banks have been selected for this study. For Islamic banks, the data were collected from the year 2008-2013. Meanwhile for conventional banks, the data were collected from the year 2002 – 2013. Due to the unavailability data for Islamic banks, the study considered different years between Islamic and conventional banks. In Malaysia, the Islamic banking systems are still at the development stage compared to conventional banking systems which are more advanced.

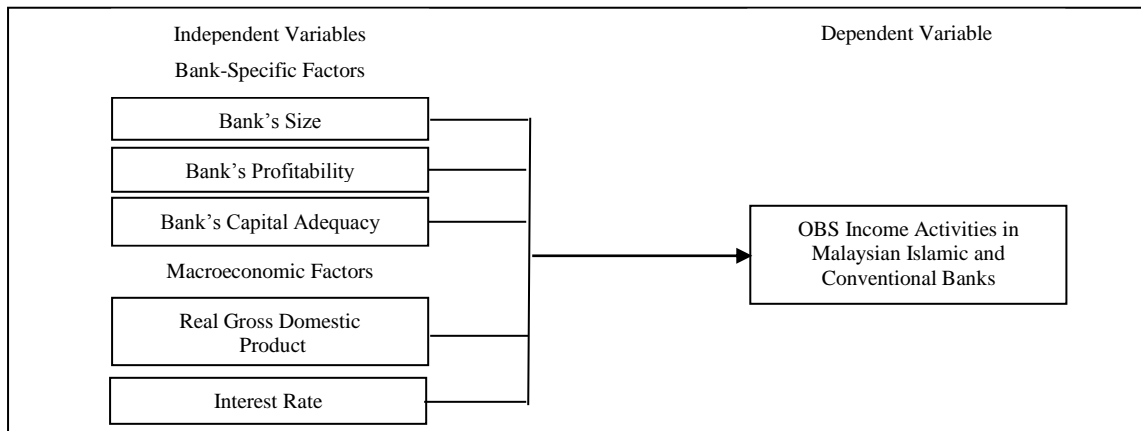


Figure. 1: Theoretical Framework

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3.3 Operationalization of variables

Table 1: Operationalization of Variables

Variable		Indicator	Measurement
<i>Dependent Variable</i>			
	Off-balance sheet income activities (OBS)	Logarithm	<i>Islamic banks:</i> Log (Income Derived from Investment of Shareholder's Fund + Income Derived from Investment of Depositors' Fund and Others) <i>Conventional banks:</i> Log (Non-interest Income)
<i>Independent Variables</i>			
Bank-specific factors	Bank's Size (SIZE)	Logarithm	Log (Total Assets)
	Bank's Profitability (NP)	Logarithm	Log (Net Profit)
	Bank's Capital Adequacy (CAR)	Percentage	Risk-weighted capital ratio
Macro-Economic factors	Real Gross Domestic Product (RGDP)	Logarithm	Log (RGDP)
	Interest Rate (INT)	Percentage	

4. Findings and Discussion

Table 2 and 3 present the results of the descriptive analysis for both Islamic and conventional banks as well as other statistical properties of data. The data have been explored using several techniques which

are the mean-median comparison, standard deviation, skewness, kurtosis and Jarque Bera. These procedures are to determine whether the sample data are normally distributed. However, the findings indicate that the sample data are not normally distributed. The initial findings have showed that the estimation of the determinants of the off-balance sheet income activities could not produce a better result using the Ordinary Least Square (OLS) estimation method. Thus, the Generalized Least Square (GLS) method was more appropriate to be used in the study.

Table 2: Descriptive Analysis of Islamic banks

Variables	Mean	Median	Std. Dev.	Skewness	Kurtosis	Jarque-Bera
OBS	5.713	5.685	0.444	-0.575	3.605	6.759 (0.034)
TA	7.078	7.043	0.386	0.146	2.579	1.052 (0.591)
NP	4.159	4.870	2.674	-2.851	9.636	306.186 (0.000)
RWCR	17.345	14.170	10.811	4.871	31.198	3560.265 (0.000)
RGDP	4.950	4.800	0.437	1.604	3.886	44.32771 (0.000)
INT	2.843	2.841	0.035	0.167	1.600	8.282 (0.016)

Note: Figure in parenthesis is the p-value.

Table 3: Descriptive Analysis of Conventional banks

Variables	Mean	Median	Std. Dev.	Skewness	Kurtosis	Jarque-Bera
OBS	5.671	5.698	0.451	-0.352	3.109	3.558 (0.169)
TA	7.670	7.662	0.433	-0.529	3.599	10.338 (0.006)
NP	5.327	5.727	2.047	-4.545	23.224	3441.382 (0.000)
RWCR	22.844	13.825	111.0523	12.827	165.690	189883.2 (0.000)
RGDP	2.783	2.792	0.072	-0.139	1.942	8.371739 (0.015)
INT	5.608	5.950	0.745	-0.172	1.310	20.834 (0.000)

Note: Figure in parenthesis is the p-value.

To assert the determinants of off-balance sheet activities, the panel data analysis has been carried out using Generalized Least Square (GLS) methods. In addition, panel data analysis allows for the both cross sectional and time series effect that simply cannot be observed in pure cross-section or pure time series (Baltagi, 2001; Ma'in & Ismail, 2011). Table 4 and 5 show the results of Likelihood Test and Hausman Test, which suggest that the random effect model is the most appropriate to be used in estimating the determinants of off-balance sheet income activities in Islamic and conventional banks. Based on Table 4, it was found that bank's size (TA), bank's profitability (NP) and interest rate (INT) are the determinants of off-balance sheet activities in Islamic banks in Malaysia. Table 5 shows that the determinants of OBS activities in Malaysian conventional banks are bank's size (TA), bank's profitability (NP) and the Real Gross Domestic Product (RGDP). This result is similar with several studies conducted taken from past literatures.

Studies by De Young and Rice (2004), Shahimi et al. (2006), Hahm (2008), Kim (2010), Elian (2012) have shown that bank's size has a positive relationship with off-balance sheet activities. Larger banks tend to engage more in non-traditional activities rather than smaller banks due to some degree of specialization requirement involves in certain activities. Thus, bank size has a positive relationship with the level of non-traditional activities (Shahimi et.al, 2006). Besides that, according to Nachane & Ghosh (2007) banks with relatively large asset sizes tend to reveal a higher non-interest income shares. This is due to the high creditworthiness and scale of business that made banks with large size to engage into off-balance sheet activities to meet the demand of their customers.

Table 4 and 5 depict that bank's profitability is positively significant with off-balance sheet activities in both Islamic and conventional banks. Studies by Nachane and Ghosh (2007), Khasawneh and Hassan

(2010) and Khasawneh et al. (2012) showed that there are a positive relationship between bank's profitability and off-balance sheet activities. According to Khasawneh et al. (2012), profitability is considered as a creditworthiness measurement perceived by customers. High profitability will increase the customer valuation for that bank which will give more confident to engage with profitable banks rather than a non – profitable (less – profitable) bank.

Table 4: Panel Data Analysis of Off-balance Sheet Activities in Islamic Banks

	Pooled	Fixed Effect	Random Effect
Intercept	0.524779 (0.7682)	0.776887 (0.3582)	0.521775 (0.7473)
TA	0.979672** (0.0000)	0.760284** (0.0000)	0.965333** (0.0000)
NP	0.020593** (0.0039)	0.011636 (0.0717)	0.022899** (0.0014)
RWCR	0.000825 (0.6349)	0.001636* (0.0439)	0.001291 (0.4680)
RGDP	-0.386302 (0.5093)	0.071089 (0.8781)	-0.354368 (0.5169)
INT	-0.151088** (0.0016)	-0.146348** (0.0000)	-0.151888** (0.0006)
Likelihood Test Stat	3.893832** (0.0000)		
Hausman Test Stat			0.000000 (1.0000)
Adj R ²	0.877729	0.979795	0.815821
Observations	96	96	96

Note: The Hausman specification test is used to the test fixed-effect model versus the random effect model. Figure in parenthesis is the p-value. **, * indicate of significance at the 0.01 , 0.05 level respectively.

Table 5: Panel Data Analysis of Off-balance Sheet Activities in Conventional Banks

	Pooled	Fixed Effect	Random Effect
Intercept	-1.935962 (0.1398)	-1.880803 (0.0027)	-1.723287 (0.0883)
TA	0.840131** (0.0000)	0.567076** (0.0000)	0.660656** (0.0000)
NP	0.027936** (0.0016)	0.021826* (0.0192)	0.027679** (0.0002)
RWCR	0.000103 (0.4892)	1.05E-05 (0.8584)	2.15E-05 (0.8560)
RGDP	0.369828 (0.3696)	1.075630** (0.0002)	0.780997* (0.0284)
INT	-0.003038 (0.9377)	0.016491 (0.3147)	0.001030 (0.9725)
Likelihood Test Stat	37.226932** (0.0000)		
Hausman Test Stat			0.000000 (1.0000)
Adj R ²	0.776820	0.926353	0.601356
Observations	168	168	168

Note: The Hausman specification test is used to the test fixed-effect model versus the random effect model. Figure in parenthesis is the p-value. **, * indicate of significance at the 0.01 , 0.05 level respectively.

Table 4 and 5 showed that bank's capital adequacy (RWCR) is insignificant and not a determinant of off-balance sheet activities in Islamic and conventional banks. This result is consistent with the Elian (2012) which highlighted that it may due to the difference regulatory pressure by the government of the

country. Banks with high capital ratio are less to engage in OBS businesses in order to avoid regulatory constraints. In Malaysia, banking institutions have adopted the Standardized Approach for Credit Risk and Market Risk and the Basic Indicator Approach for Operational Risk. With effect from 1 January 2013, the capital adequacy ratios are computed in accordance with BNM's guidelines on Capital Adequacy Framework (Capital Components) issued on 28 November 2012, which is based on the Basel III capital accord. The minimum regulatory capital adequacy requirement remains at 8.00% for total capital ratio.

The macroeconomic factor of the real growth domestic product (RGDP) showed that RGDP is insignificant and not a determinant of OBS activities in Islamic banks. This result is consistent with Elian (2012) by highlighted that the higher real GDP growth does not necessarily cause an increase in the OBS usage. An upturn in the economic activities would increase business risks and there is an incentive to supply more volume of OBS businesses. However, the increase of business risks may causes customers to lose creditworthiness to the banks as to protect their deposits' safety. Thus, this will decrease the bank's engagement into OBS activities. Besides that, when business risk decreases during economics boom periods which may lead to less demand for risk management techniques for OBS activities (Khasawneh et al., 2012). Conversely, RGDP is positively significant in the conventional banks and it is supported by Khasawneh & Hassan (2010). This implies that OBS activities follow economic growth and business cycle. As the economic activities intensify, the demand for the OBS activities swells. This is because OBS activities are both a risk management tool and an income generating engagement.

Finally, interest rate (INT) is a negatively significant with OBS in Islamic banks but positively insignificant in conventional banks. This result is in lined with Khasawneh and Hassan (2010). This is because large and positive interest rate spread gives banks' managers the motivations to take the advantage of low short-term interest rate funding and high long-term interest rate lending. Therefore, banks' managers will be less attracted to engage in OBS activities. However, large and positive interest rate spread also signals high degree of uncertainty about future interest rates or increases in future short-term interest rates. Thus, high interest rate risk requires more risk management tools, and engages in more off-balance sheet activities (OBS).

5. Conclusion and Recommendation

This paper aims to examine the determinants of off-balanced sheet income activities, considering the bank-specific factors consist of bank size, bank's profitability and bank's capital adequacy and macroeconomic factors includes the real gross domestic product and interest rate as independent variables in Islamic and conventional banks in Malaysia. This study utilizes 16 Islamic banks and 14 conventional banks panel data gathered from 2008-2013 and 2002-2013 respectively. The results of the study showed that the determinants of Islamic bank's off-balance sheet activities in Malaysia are bank's size (TA), bank's profitability (NP) and interest rate (INT). Meanwhile, the determinants of off-balance sheet activities in conventional banks are bank's size (TA), bank's profitability (NP), and the Real Gross Domestic Product (RGDP).

Bank's size and bank's profitability has a positively significant relationship with off-balance sheet activities for both Islamic and conventional banks. The empirical findings support that banks with higher level of assets tend to have higher level of non-interest income shares. The results also indicated that bank's with higher level of profitability will increase the customer valuation in which will give more confident to engage with profitable banks. For bank's capital adequacy, the results is insignificant and not a determinant of off-balance sheet activities in Islamic and conventional banks. This may due to the difference regulatory pressure by the government of the country. However, there is a difference results obtained in term of macroeconomic factor. The real growth domestic product (RGDP) is positively

significant with OBS only in conventional banks. This is because OBS activities rely on economic growth and business cycle. There is a larger demand of OBS activities as an increase in economic activities. This is because OBS becomes as a tool of risk management and income generating engagement. Meanwhile, interest rate (INT) is a negatively significant with OBS only in Islamic banks. It showed bank's managers will be less attracted to engage in OBS activities since there is a large and positive interest rate will encourage more bank's manager to greater expanded in low short-term interest rate funding and high long term interest rate lending which provide more advantages to them.

The findings however give important implication towards some parties include investors, bankers and policy makers in the decision making process. Hence, this study recommends policymaker to revise the policy concerning the significant of variables that related with off-balance sheet activities to assist banks and companies in Malaysia in diversifying and generating more of their income, especially with the Islamic banks. For future researcher, it is also recommended that the size sample of similar study conducted in future to be increased in order to gain more concise results. Besides, other variables such as market size, inflation rate, foreign direct investments, technology and other relevant ones should also be included to garner better insights into the off-balance sheet activities.

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