

THE RELATIONSHIP OF RISK MANAGEMENT AND BANK PROFITABILITY PERFORMANCE BETWEEN DOMESTIC AND FOREIGN ISLAMIC BANKS IN MALAYSIA

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Abstract

Purpose: This study is to determine the effects of risk management towards the domestic and foreign Islamic bank's financial performance in Malaysia. The ten Islamic banks in Malaysia have been chosen as the sample bank in which domestic and foreign banks were equally divided. The credit risk, liquidity risk as well as solvency risk acted as the independent variables to determine the effects towards the bank's profitability as measured by return on equity.

Methodology: The panel data analysis has employed fixed effect and random effect regression models and the Hausman test in this study. Furthermore, the independent sample T-test was conducted to examine the significant difference between domestic and foreign Islamic banks.

Result: The finding of this study showed that liquidity risk and insolvency risk would have a greater impact towards the Islamic bank's profitability while the credit risk has no significant influence on Islamic bank's financial performance in Malaysia. The study concludes that domestic Islamic banks had better financial performance as compared to foreign Islamic banks in Malaysia.

Applications: This research can be used for universities, teachers, and students.

Novelty/Originality: In this research, the model of The Relationship of Risk Management and Bank Profitability Performance between Domestic and Foreign Islamic Banks in Malaysia is presented in a comprehensive and complete manner.

Keywords: Credit Risk, Liquidity Risk, Solvency Risk, Bank Performance, Islamic Bank.

INTRODUCTION

In the past few decades, the Islamic finance industry in Malaysia has experienced significant growth and become one of the prominent Islamic financial hubs in the regions. Islamic banking system in Malaysia has been ranked third place in the universal Islamic banking industry which closely matched to Iran and Saudi Arabia (Misman et al, 2015). The purpose of Islamic banking system is to please the Muslim perceptions on financial matters and assure the investment activities, as well as products and services, are not contrary to the Shariah principle. Currently, there are 16 Islamic banks in Malaysia included 11 domestic banks and 5 foreign Islamic banks.

The global financial crisis struck in late 2007, causing the macro-economy to lapse in 2008-2009. Although Islamic banks were likely experiencing a lower impact on financial stability because of the asset-backed framework in which all of their transactions were supported by the equivalent amount of assets. However, Islamic banks did not fully escape from the financial crisis. The big shock had impacted the Islamic banks' decline in their shareholder capital due to the drastic decrease in the bank's share price. Thus, it created a great opportunity for Islamic banks to further expanse in the post-crisis period (Zare, 2015).

It is posited in the previous studies that the bank's risk-taking behavior is a significant factor in determining bank risk and return. Hence, quality risk management is to ensure the efficiency in risk-taking as well as taking the bank's profitability into the decision-making process. The expanding of the bank lending activities not only caused the bank to incur a higher credit risk but also makes the bank greater exposure to solvency risk. As such, the relationship has now linked from efficiency of risk management to bank profitability and performance (Jahwari & Khan, 2016). The mismatch of banks' assets and liabilities are expected to expose credit and liquidity risk of the banks (Waemustafa & Sukri, 2015).

To highlight the possibility of interconnection between risk and bank's profitability performance, this research's objective is to examine how risk management can affect the profitability of the foreign and domestic Islamic banking institutions in the Malaysia context. The study will further investigate the possibility of any significant difference between domestic and foreign Islamic bank's performance. Many previous studies have investigated the Islamic bank performance around the world, however, the studies of risk exposure on the Malaysian Islamic banking is rather scant. Hence, it is expected that the findings of this study can expand the literature on Islamic banking in terms of risk management perspective. The ultimate implications of this study provide the guidelines on effective risk management of the Islamic banking system in Malaysia.

LITERATURE REVIEW

Bank Performance

Financial performance is the most important concern by the banks in order to ensure constant growth and sustainability in the highly competitive market place. Any bank with good performance will create a stable financial condition, strong enough to absorb any potential loss and overcome the financial crisis ([Muda et al, 2013](#)).

Return-on-asset (ROA), return-on-equity (ROE) and profit expense ratio (PER) are commonly used to evaluate the management efficiency towards the profitability of the bank. Previous studies found that domestic Islamic banks experienced superior profitability performance compared to foreign Islamic banks in Malaysia. This phenomenal indicates that domestic Islamic banks have better asset management and capitalization which makes them achieve outstanding revenue efficiency in the Islamic banking industry ([Muda et al, 2013](#); [Lobão & Pereira, 2016](#); [Sufian & Kamarudin, 2015](#)).

Risk Management

The development and innovation of Islamic banking activities involved numerous types of financial risk that effect on bank performance. The risks that could affect a bank's performance namely, credit risk, liquidity risk, and bank insolvency risk. Many previous studies have identified that risk management is an important element to ensure bank's sustainability and profitability in the highly competitive market ([Elbadry, 2018](#)).

The Islamic banks will have more credit risk possibility mainly due to high exposure on Murabahah financing, where customers failed to meet the obligation of any installment repayment which may cause the Islamic banks to bear loan losses ([Boumediene, 2011](#); [Swartz, 2013](#); [Gamarra et al, 2018](#)). During Asian financial crisis, Malaysia and Singapore were suffered from the limited growth due to the capital of banks being etched by the accumulative non-performance loans (NPL), which directly affected the quality management of banking institutions ([Taubaye et al, 2018](#)). The NPL is expected to increase, especially during high lending period as the default risk among borrowers rises at the same time. Soedarmono, Pramono, and Tarazi claim that the rise in NPL and loan-to-asset ratio will most likely give an impact on a higher loan loss provision (LLP). Based on the above statement, the hypotheses are developed as follow:

H1a: There is a significant relationship between non-performing loan and ROE

H1b: There is a significant relationship between loan-loss provision and ROE

H1c: There is a significant relationship between loan to deposit ratio and ROE

Islamic banks are relatively difficult to obtain liquidity due to its "backed-by-assets" financial framework. As the interest rate is prohibited in the Islamic context, Islamic banks have no choice but to use their capital to support debt contracts. However, this has enforced the Islamic banks to hold highly liquid assets to secure from illiquidity management. Thus, the Islamic banking industry is relatively stable and overcome liquidity issues than conventional banks during the global financial crisis in 2008. As such, the hypotheses are developed as follow:

H2a: There is a significant relationship between liquid asset over total assets and ROE

H2b: There is a significant relationship between equity to assets ratio and ROE

H2c: There is a significant relationship between cash deposit ratio and ROE

Insolvency risk happened when a bank's net asset value (NAV) is insufficient to cover all its liabilities at the maturity date. The risk may arise from human mismanagement rather than directly from the economic impact. The limited profit and highly indebted conditions will drive any Islamic banks to suffer in an unstable financial position. The risk management is to eliminate the high insolvency risk in the Islamic banking system. Many previous studies reveal that the lower tendency in the insolvency risk exists in larger banks. The uncertainty in the total capital may have an impact on the bank insolvency exposures. Hence, it is posited that:

H3a: There is a significant relationship between the solvency ratio and ROE

H3b: There is a significant relationship between capital ratio and ROE

H3c: There is a significant relationship between total debt to total asset ratio and ROE

METHODOLOGY

The aim of this study is to empirical examining the risk management that influences on the bank profitability between Islamic domestic and foreign banks in Malaysia. This research employed STATA to conduct the fixed effect and random effect models of multivariate regressions for panel data analysis as evidently; in order to confirm the appropriate model, the Hausman specification test is employed in this study.

Data and Sampling

This research had specifically focused on ten out of sixteenth Islamic banks in Malaysia to conduct the study, which included each respective five domestic and foreign Islamic banks. The selected ten Islamic banks as a sample in this study are the most active and large-scale banks in the Malaysian Islamic banking industry. The financial performances of the chosen banks were investigated over the periods from 2008 to 2015. The data were retrieved from the financial statements and annual reports of the selected banks.

Variables

The dependent variable of this research study is the return on equity. The return on equity has been widely employed as one of the determinants to measure the bank profitability of Islamic banks. Then, three independent variables (credit risk, liquidity risk, and insolvency risk) are applied to determine whether the risk management will impact on the Islamic banks' financial performances. The indicators of credit risk included in this study are non-performing loans, loan-loss provision, and loan deposit ratio. The indicators of liquidity risk consist of liquid assets over total assets, equity to assets ratio, and the cash deposit ratio. Last but not least, solvency ratio, capital ratio and total debt to total assets ratio are the indicators used to evaluate insolvency risk on the Islamic banks' financial performance. In order to determine the relationship between Islamic banks profitability and banks' risk (credit risk, liquidity risk, insolvency risk), the basic panel data equation model has been developed as follows:

$$Y = \alpha + \beta X_1 + \beta X_2 + \beta X_3$$

Where,

Y = Return on equity (Bank Performance)

X_1 = Credit risk; X_2 = Liquidity risk; X_3 = Insolvency risk

RESULTS AND FINDINGS

Fixed Effect and Random Effect Multivariate Regression Models

Table 1: Bank Performance for Domestic and Foreign Islamic Banks from 2008 to 2015

Variables	Fixed Effect				Random Effect			
	Domestic Banks	Islamic	Foreign Banks	Islamic	Domestic Banks	Islamic	Foreign Banks	Islamic
	Coeff	S.E	Coeff	S.E	Coeff	S.E	Coeff	S.E
(Constant)	15.2663	9.3760	3.0655	2.7564	16.7734	8.0237	3.3276	2.6627
NPL	-0.1410	1.1378	-0.7504	0.7357	-1.1836	0.9624	-0.0158	0.8390
LLP	0.5548	1.1311	0.4116	1.2697	1.1657	0.9155	0.6870	1.4656
LD	-0.2418	0.2699	-0.0839	0.0543	-0.1522	0.2423	-0.0612	0.0545
LATA	-0.8584*	0.4286	0.4583**	0.1524	-0.8171**	0.4033	0.2907**	0.1432
ETA	-18.5224*	9.2060	-0.7986**	0.7215	-19.4727	7.7176	-0.9797	0.7963
CD	2.4327	1.6900	-1.6768	0.8382	1.0232*	1.4263	-2.5585**	0.9955
SOL	0.6393	2.4113	0.9118	1.5571	-0.4894	2.1265	1.2416	1.6160
CAP	1.3937	1.3260	-1.7627	0.7726	2.0209**	1.2615	-2.4692***	0.8866
DEBT	-14.7002	9.4319	-3.0657**	2.7849	-16.2987	8.0488	-3.2211	2.6820
R ²	0.5491			0.7708	0.5113			0.6856

Notes: * indicates a significant level at 10%, **indicates significant level at 5%, ***indicates significant level at 1%

Where: return on equity (ROE), non-performing loan (NPL), loan loss provision (LLP) and loan to deposit ratio (LD); liquid assets over total assets (LATA), equity over total assets (ETA) and cash to deposit ratio (CD); solvency ratio (SOL), capital ratio (CAP) and total debt to total assets ratio (DEBT)

The fixed effect and random effect models have been employed in this study to estimate the panel data regression analysis. Table 1 presents the results of the credit risk, liquidity risk and insolvency risk impact on the return on equity of domestic and foreign Islamic banks in Malaysia. Concerning the fixed effect, the liquidity assets over total assets (LATA) and equity to assets (ETA) ratio showed negative and statistically significant impact on bank performance of both domestic Islamic banks in Malaysia over the study periods, which is consistent with several previous studies (Hakimi and Zaghdoudi, 2017). This implies that one unit decreases in LATA and ETA is contributed to the one unit increase in liquidity risk in domestic Islamic banks. This shows that the high profitability always comes together with risky strategies which may cause liquidity issues in the banking sector. Since the assets of Islamic banks usually are not as liquid as the conventional banks, hence the Islamic banks need to put more effort into hedging and control their liquidity risk (Salman, 2013). The total debt to total assets ratio is the indicator of insolvency risk that shows positively significant influence towards the performance of Malaysia foreign Islamic banks in fixed-effect model. This implies that higher levels of insolvency risk tend to have higher profitability. This is consistent with Tan, Floros and Anchor's study.

For foreign Islamic banks, the LATA ratio showed a significant positive relationship with bank performance in both fixed

and random effect models, which is contradicting with the domestic Islamic banks. The ETA ratio showed negatively related to bank performance, however, only statistically significant in the fixed-effect model. Cash to deposit (CD) showed negative and significant relationship with bank performance in foreign Islamic banks in random-effect model. This implies that the excess of cash tends to decrease bank profitability. Capital ratio (CAP) is the indicator of insolvency risk that has negative but significant effect on foreign Islamic bank's performance in random-effect model. This implies that maintaining higher capital buffer could decrease bank profitability in the long run. In addition, the result showed the three indicators of credit risk do not have significant impact on bank performance for both the domestic and foreign Islamic banks in Malaysia based on the fixed and random effect models. This is consistent with Badawi study.

Hausman Specification Test

The panel data analyses further performed the Durbin-Wu-Hausman test to estimate whether the fixed effects model or random-effects model will be more appropriately used in this study. Table 2 indicates that the p-value of chi-square is greater than 0.05 for domestic Islamic banks. This means that the random effect model will be appropriate. While the p-value of chi-square for the foreign Islamic banks is less than 0.05, indicating that the fixed effect estimator model will be preferable to use.

Table 2: Hausman Test

	Chi-square value	Probability	Justification
Domestic Islamic banks	7.6200	0.5773	Random Effect
Foreign Islamic banks	210.9300	0.0000	Fixed Effect

Independent Sample T-test

An independent sample t-test was conducted to compare bank performance between the domestic and foreign Islamic banks in Malaysia. Based on Table 3, the mean of ROE, ROA and bank size for domestic Islamic banks is greater than the foreign Islamic banks in Malaysia. The significant value of ROE was 0.0359, thus it implies that the variance of domestic and foreign banks is different at $\alpha = 0.05$. As such, the findings of equal variances not assumed are used for interpreting ROE. In the significant 2-tailed results from Table 4.2, ROE and ROA were found a significant difference in financial performance between domestic and foreign Islamic banks at a significant level of 0.05. And bank size was found a significant difference at level of 0.1. This is consistent with [Muda et.al \(2013\)](#), [Samad \(2004\)](#), and [Sufian and Kamarudin \(2014\)](#). Hence, it can be concluded that there is a significant difference in bank performance between domestic and foreign Islamic banks in Malaysia.

Table 3: Independent Sample T-test

		Domestic Islamic Bank		Foreign Islamic Bank		t-value
Variables	N	Mean	Std. Deviation	Mean	Std. Deviation	
ROE	40	0.1222	0.0479	0.0426	0.0852	5.1471**
ROA	40	0.0093	0.0037	0.0031	0.0096	3.8167**
Bank Size	40	10.35	1.6989	9.8958	0.18	1.6815*

a. ROE (return on equity), ROA (return on asset)

Note: * indicates a significant level at 10%, **indicates significant level at 5%

CONCLUSION

This empirical research was carried out to examine the bank performance of Islamic banks in Malaysia based on credit risk, liquidity risk, and insolvency risk management during the period from 2008 to 2015. The findings reveal that there is significant difference performance between domestic and foreign Islamic banks in Malaysia. This research has also indicated that risk management has significant impact on explaining the soundness financial performance of Islamic banking industry in Malaysia. Liquidity risk and insolvency risk showed a great impact to the Islamic bank's performance, while credit risk is not the determinant that influences the Islamic banks' performance. The study has concluded that the random effect model is more appropriate to be used in examining the domestic Islamic bank's performance, while fixed effect model is more applicable for foreign Islamic banks. In short, the findings expose a significant difference in profitability performance between domestic and foreign Islamic banks in Malaysia.

The future study may consider other indicators of credit risk and should extend their research in cross countries rather than only focus on Malaysia context. This can strengthen or discover some other factors that might affect the relationship between Islamic banks in different countries based on different practices. The implication of this study provides a guideline on risk management behavior as well as to discover the competitor's performance practice in managing the uncertainty in the banking industry. In a nutshell, the policymakers and regulators need to closely monitor the risk exposures of the Islamic banks from time to time. In conclusion, the bank risk management is interrelated with Islamic bank performance.

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