

# Factors Determine Islamic Banking Performance in Malaysia: A Multiple Regression Approach

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## Abstract

*Evidence has shown that Islamic banking is experiencing tremendous development since the last three decades, especially in Malaysia. This study is aimed at investigating factors that determine the Islamic banking performance in Malaysia, particularly in the period of 2006 to 2010. The predictors are loan loss provision to total assets, net loans to total assets, total overhead cost to total assets, shareholders equity ratio, and bank size which represent internal factors and GDP and inflation which represent external factors. Pooled OLS method shows that loan loss provision to total assets, total overhead cost to total assets, and inflation are the significant variables affecting the performance of Malaysia Islamic banking in the period analyzed.*

**Key Words:** *Islamic Banking, Regression, Performance, Results, Variables.*

Nowadays, Islamic banks have increased their popularity among customers. Bank Negara Malaysia (BNM) indicates that total financing from Islamic banks is increasing significantly every year. In 2006, total financing to the market from Islamic banks was amounted to RM 78.5 billion while total deposit in Islamic banks was RM 99 billion. Both figures soared more than 100% in 2010. In 2010, the total financing amount was RM 162 billion and total deposit amount was RM 217 billion. Islamic banks held 12% market share for deposit in 2006. The market share increased to 19% in 2010.

For the financing market share, Islamic banks held 13% of overall share in 2006 and then in 2010, the percentage has increased to 18.4%. There was no difference in terms of the number of the deposit and financing because of asset and liability

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management. Total banks' assets in 2004 were worth RM 761.2 billion. The figure increased to RM 1.48 trillion in 2010. Domestic banks held substantial number of market share which amounted to 75.7% (RM576.5 billion in 2004). The market share for domestic banks slightly increased in 2010 where they held 77.5% (RM 1.15 trillion) of the share.

Furthermore, Islamic banks had RM131 billion assets in total in 2006. The figure increased more than 150% in 2010 where the total assets were RM 334.9 billion. Market share for Islamic banks in total assets stood at 12.8% in 2006 and increased to 22.5% in 2010. From the figures, it shows that Islamic banks have increased their performance every year and become more popular among the customers than they were before. Departed from these facts, the objective of this study is to examine factors determine Islamic banking performance in Malaysia by comparing between foreign Islamic banks and local Islamic banks, for the period of 2006 to 2010.

## **Review of Related Literature**

When measuring Islamic banks' performance, researchers use the same methods as they use to measure conventional bank's performance. This is because the accounting treatment and operations of Islamic banks do not have major differences with conventional banks.

Rosly and Bakar (2003) study the performance of Islamic banks and conventional banks in Malaysia. The sample consists of 24 commercial banks and finance companies in Malaysia that offer Islamic banking products. The authors use financial ratios and t-test in determining the outcomes. As for the result, the authors criticize that Islamic banking in Malaysia is not efficient although they have recorded higher ROA.

Conventional banks are more efficient due to their high assets and larger market size. Furthermore, the author condemn that Islamic banking in Malaysia has yet to exemplify the moral and ethical requirement of trade and commerce (al-bay') of the Qur'an to achieve efficiency. Most of Islamic banks in Malaysia operate in similar way as do conventional banks. The author suggests that Islamic banks should work more in partnership/joint venture methods and sales by order where it can contribute more to the society and can increase their profitability despite of high risk that occurs.

Sufian (2010) in his studies on the impact of Malaysian Islamic banking sector performance on entry of foreign banks with 20 banks as sample during the period 2001-2007 suggests that overhead costs, capitalization, market share, and credit risk are negatively related to Malaysian Islamic banks' profitability. On the other hand, Islamic banks which are larger tend to be more profitable.

Ika and Abdullah (2011) are examining and comparing financial performance of Islamic banks against conventional banks in Indonesia. In their study, they are using 12 sample banks (including conventional and Islamic banks) and financial ratios i.e. profitability, liquidity, risk and solvency to measure the financial performance. For data analyzing, Mann-Whitney test was used to compare means from two or more samples drawn from two or more populations. Result from their study found no significant difference between Islamic and conventional banks except for their liquidity.

Samad (2004) examines the comparative performance of Bahrain's interest-free Islamic banks and the interest-based conventional commercial banks during the post Gulf War period where six Islamic banks and 15 conventional commercial banks are considered. Nine financial ratios are used in measuring these performances including 3 dependent ratios to determine the profitability (ROA, ROE and cost to income ratio). Dependent variables that have been taken into account are liquidity performance and credit risk performance. The author applies Student's t-test to financial ratios and finds that there is no major difference in performance between Islamic and conventional banks with respect to profitability and liquidity. However, the study finds that there exists a significant difference in credit performance.

Srairi (2009) examines factors that influencing profitability of conventional and Islamic commercial banks operating in the Gulf Cooperation Council (GCC) countries for the period 1999–2006. The data for this study comprise of 66 commercial banks (conventional and Islamic) in Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates.

The profitability variable is represented by the ROA. The author uses 3 characteristic of variables that are internal bank-specific (capital adequacy, liquidity, asset quality (credit risk), financial risk, operational efficiency and size), macroeconomics (inflation rate, growth rate in real GDP and growth rate of domestic liquidity), and development of the banking industry and the stock market (banking sector, financial market development and bank concentration).

By using the linear regression method with other methods as a compliment (generalized least squares, Lagrange multiplier, ordinary least square and Hausman specification test), the author finds that profitability of both conventional and Islamic banks are affected mainly by three variables: capital adequacy, credit risk (with different sign) and operational efficiency. Furthermore, the liquidity ratio and financial risk have only a positive impact on Islamic banks' profitability. It is also found that all macroeconomic determinants, with the exception of inflation rate, are positively significant in explaining profits. Finally, as for the effect of financial structure on ROA, the empirical estimation confirms the complementarities between bank and equity market in GCC countries.

In the case of conventional banks, concentration is favourable to banking sector performance. However, there is no evidence indicating a relationship between banking development and profitability.

Hassan and Bashir (2003) examine the profitability of Islamic banks in 21 countries for each year in the 1994-2001. The authors use ROA and ROE, and profit before tax in determining the profitability and various ratios for independent variables. They find that Islamic banks' profitability measures respond positively to the increases in capital and negatively to loan ratios.

The results revealed that larger equity to total asset ratio leads to more profit margins. Furthermore, the result shows that the importance of consumer and short-term funding, non-interest earning assets, and overhead in promoting banks' profits. In addition, the regulatory tax factors are important in the determination of bank performance and favorable macroeconomic environment seems to stimulate higher

profits. Finally, the size of the banking system has negative impact on the profitability except for net non-interest margin.

Samad and Hassan (1999) evaluate inter-temporal and interbank performance of Islamic bank BIMB for the period 1984-1997. The analysis of bank performance concentrates on four financial ratios (profitability, liquidity, risk and solvency, and commitment to domestic and Muslim community (long term loan ratio, Government Bond Investment and Mudaraba Musharakah ratio). T-test and F-test are used in determining their significance. The study found that BIMB is relatively more liquid and less risky compared to a group of 8 conventional banks. Reasons why the supply of loans under profit sharing and joint venture profit sharing is not popular in Malaysia is because based on the survey, 40% to 70% bankers indicated that lack of knowledgeable bankers in selecting, evaluating and managing profitable project is a significant cause.

## **Data**

There are fifteen Islamic banks selected and included in this study i.e. Affin Islamic Bank Berhad, Al Rajhi Banking & Investment Corporation (Malaysia) Berhad, Alliance Islamic Bank Berhad, AmIslamic Bank Berhad, Bank Islam Malaysia Berhad, Bank Muamalat Malaysia Berhad, CIMB Islamic Bank Berhad, Hong Leong Islamic Bank Berhad, HSBC Amanah Malaysia Berhad, Kuwait Finance House (Malaysia) Berhad, Maybank Islamic Berhad, OCBC Al-Amin Bank Berhad, Public Islamic Bank Berhad, RHB Islamic Bank Berhad, Standard Chartered Saadiq Berhad.

## **Dependent Variables**

For measuring banks' profitability, the following variables are the dependent variables and the most common and important variables in determining the bank's profitability:

- Return on Assets (ROA) = net income / total assets
- Return on Equity (ROE) = net income / total equity

An indicator of how profitable a company is relative to its total assets. ROA gives an idea as to how efficient management is at using its assets to generate earnings. Assets include current assets and fixed assets. While ROE is the amount of net income returned as a percentage of shareholders equity. Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested. Dietrich and Wanzenried (2009); Khrawish (2011); Sufian and Habibullah (2010); Rasidah and Tumin (2011); and Rosly and Bakar, (2003) used ROA and ROE as performance determination in their studies.

## **Independent Variables**

### *Loans loss provision to total assets*

It is a measurement to calculate the credit risk of banks. The ratio is used for identifying the quality of credit portfolio. Banks generate profit by giving out loans to the public and that is why banks face high credit risk. High credit risk is always associated with low profits. Claessens, Kunt and Huizinga (2000) found that the ratio for foreign banks in Malaysia is lower than domestic banks but does not differ statistically

significantly. Dietrich and Wanzenried (2009) used loan loss provision divided by total loans. Despite the different ratio, researcher assumes that the result will be the same as it falls under the same type of ratio. They found the variable as not having a statistically significant effect on bank profitability.

H1 – There is a negative significant relationship between loan loss provisions to total assets and the performance of banks.

#### Net Loans to Total Assets

This ratio is used to measure the capability of the banks in meeting financial obligations. The higher this ratio the less liquid the bank will be. The formula for this ratio is net loans divided by total assets. Srairi (2009) found net loans to assets ratio have a significant impact on ROA in all cases.

However the relationships are mixed where it shows negative sign to conventional banks and positive sign to Islamic banks. Samad (2004) discovered that there is a statistically significance between Islamic and conventional banks. He suggests that Islamic banks are much more liquid and thus exposed to less liquidity risk than conventional banks.

H2 – There is a positive significant relationship between net loans to total assets and the performance of banks.

#### **Total overhead to total assets**

It is an indicator for bank's operating cost. The variable comprises cost for salaries as well as branches' and HQ's operating cost. Sufian (2010) found that total overhead to total assets have a negative and significant impact on the profitability of Malaysian Islamic banks. Furthermore, the entrance of foreign banks led to higher overhead cost. Hassan and Bashir (2003) found that total overheads to total assets do not have any significant co-efficiency in ROA and ROE.

H3 – There is a negative significant relationship between total overhead to total assets and the performance of banks.

#### **Shareholder Equity Ratio**

This ratio is used to help determine how much shareholders would receive in the event of company liquidation. The ratio, expressed as a percentage, is calculated by dividing total shareholders' equity by total assets of the firm and it represents the amount of assets on which shareholders have a residual claim. Hassan and Bashir (2003) found that the variable does not have a strong impact on bank performances in countries with different levels of income. On the other hand, Samad and Hassan (1999) stated that the variable is highly significant and positively related to ROA both conventional and Islamic banks.

H4 - There is a positive significant relationship between Shareholders Equity Ratio and the performance of banks.

### **Bank Size**

This variable represents the total assets of the bank. It is measured by the total assets of the bank. It is used by Sufian (2010); Khrawish (2011); Kunt and Huizinga (1998). Large size bank is expected to have more on economies of scale and reduce the cost of gathering and processing information (Khrawish, 2011). Sufian (2010) said that larger banks have better control for cost differences and ability to diversify.

H5 – There is a positive significant relationship between bank sizes and the performance of banks.

### **Gross Domestic Product**

It is a monetary value of all of the finished goods and services produced within a country's borders in a specific time period. Computation of GDP consists of private and public consumption, government outlays, investments and exports less imports. Hassan and Bashir (2003) stated that the co-efficiency of non-interest earning variable interacted with GDP is positive and statistically significant in the ROA and ROE. The relationship of GDP with other variables is strong. Furthermore, when the Loan/TA is interacted with GDP per capita, they find significant positive impact in ROA and ROE. Kunt and Huizinga (1998) found that bank/gdp ratio has a significantly negative impact on margins and profits, probably reflecting more intense bank competition in well-developed financial systems.

H6 – There is a negative significant relationship between gross domestic products and the performance of banks.

### **Inflation**

It is a rate at which the general level of prices for goods and services is rising, and, subsequently, purchasing power is falling. Hassan and Bashir (2003) stated that INF and its interaction term with GDP is the only significant variable which is observed in ROA. Samir (2009) in his study found that inflation rate appears to have an insignificant impact on banks' profitability.

H7 – There is a negative significant relationship between inflation and the performance of banks

### **Multiple Regression Analysis**

The basic application of multiple regressions involves simultaneous use of a set of predictor variables to make the most accurate prediction possible of scores on the dependent variables. The equation is for predicting Y score from scores from X<sub>1</sub>, X<sub>2</sub>, X<sub>3</sub>, X<sub>4</sub>, X<sub>5</sub>, X<sub>6</sub> and X<sub>7</sub> from this sample. The first regression coefficient;  $\beta_0$  is called the constant or the intercept. It denotes the predicted value of Y for sample with scores of all X's equal to zero. The regression coefficient  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$ ,  $\beta_4$ ,  $\beta_5$ ,  $\beta_6$  and  $\beta_7$  are the multipliers for X<sub>1</sub>, X<sub>2</sub>, X<sub>3</sub>, X<sub>4</sub>, X<sub>5</sub>, X<sub>6</sub> and X<sub>7</sub> respectively, to be used in computing the predicted score. In this study, we want to investigate the performance of Islamic banks in Malaysia.

Therefore, below is the equation for the whole model.

$$Y = \beta_0 + \beta_1 LLPTA + \beta_2 NLTA + \beta_3 TOTA + \beta_4 SER + \beta_5 BS + \beta_6 GDP + \beta_7 INF$$

Where,

Dependent variables (Y)

ROA – Islamic banks and conventional banks.

ROE - Islamic banks and conventional banks.

Independent variables (X)

LLPTA = Loan loss provision to total assets

NLTA = Net loans to total assets

TOTA = Total overhead cost to total assets

SER = Shareholders equity ratio

BS = Bank size

GDP = Gross domestic product

INF = Inflation

## Results and Discussion

### *Descriptive Statistic*

Table 1 shows that within the period of 2006 to 2010, the average ROA for Islamic banks is 0.44% with maximum value of 2.97% and minimum value of -25.78%. Average ROE for Islamic banks is 15.37% with maximum of 508.13% and minimum of -33.40%. It should be highlighted that the maximum ROE for Islamic banks is not due to high profit. The number occurs because in 2006, BIMB faced huge losses and negative amount of reserve<sup>1</sup> Thus, the ROE recorded as a positive sign.

The average for loan loss provision to total assets is 0.52 and for NLTA is 53.01% which is slightly higher than conventional banks (52.13%). These figures show that both banks do not have much difference in focusing to their main business that is providing loan or financing. The average TOTA in Islamic banks is 1.67%. This perhaps because Islamic banks are new in the market compared to conventional banks. Therefore, the costs to set up Islamic banks contribute to the higher average and standard deviation for the TOTA. The average for SER is 10.37% and for the bank size is RM11.3 billion. The bank size value shows that Islamic banks had a lower market penetration as compared to conventional banks which has average bank size up to RM67 billion.

Table 1. Descriptive Statistic of Variables Used for Period of 2006 - 2010

	Ave-rage	Max.	Min.	Std. Dev.
ROA	0.44	2.97	-25.78	3.48
ROE	15.37	508.13	-33.40	58.50
LLPTA	0.52	2.04	-8.83	1.18
NLTA	53.01	88.28	0.83	17.71
TOTA	1.57	29.64	0.02	3.35
SER	10.37	77.18	-1.70	9.86
BS	11.38	44.15	2.91	9.03

<sup>1</sup> Bank Islam Malaysia Berhad Annual report 2006, 40.

### Correlation Analysis

Table 2 shows correlation analysis between dependent and independent variables. The result shows that LLPTA is significantly correlated with bank performance's measurements i.e. ROA and ROE, at 1% level of alpha. LLPTA is negatively correlated with Islamic banks' ROE. It is assumed that this is due to the new market entry for Islamic banks which cannot escape from facing high loan loss provision. The result is in line with hypothesis 1 where there is a negative significant relationship between LLPTA and dependent variables. With regard to NLTA, it is significant at 1% alpha and has a positive correlation with Islamic banking ROA and ROE. The result indicates that the loan amounts given to the customers can positively affecting Islamic banking performance significantly. Thus, the result supports hypothesis 2.

Unlike the NLTA, correlation between TOTA and ROA is much stronger than the correlation between TOTA and ROE. The relationship shown between TOTA and ROA is a negative relationship. This is perhaps due to the smaller Islamic banking size as compared to conventional banks, thus the overhead cost does affect the profitability performance of Islamic banking.

Table 2. Correlation Analysis between Dependent and Independent Variables

		LLPTA	NLTA	TOTA	SER	BS	GDP	INF
Return on Assets	Pearson Correlation	.326*	.312*	-.896*	-.645*	.178	.190	-.041
	Sig. (2-tailed)	.004	.006	.000	.000	.126	.103	.724
	N	75	75	75	75	75	75	75
Return on Equity	Pearson Correlation	-.921*	.066	-.058	-.238*	.121	-.162	-.020
	Sig. (2-tailed)	.000	.575	.624	.040	.301	.166	.863
	N	75	75	75	75	75	75	75

\* Correlation is significant at the 0.01 level (2-tailed).

### Regression Analysis

Table 3 summarizes ROA and ROE models for Islamic banks. R-square is the percentage of the variance from the dependent variable explained by the independent variables. In this case, the predictors explain the variances of ROA at 94.2% and ROE at 93.2%. From these findings it is clear that there are significant relationship between dependent and independent variables for Islamic banks. The adjusted R square at 91.9% (ROA) and 90.5% (ROE) attempt to correct R square to more closely reflect the goodness of suitability of the model in the population. The Durbin-Watson statistics are 2.039 for ROA and 2.036 for ROE; these mean that there is no autocorrelation problem in the residuals from the regression analysis.

Table 3. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.	Durbin-Watson
ROA	.971 <sup>a</sup>	.942	.919	.99052	40.902	.000	2.039
ROE	.965 <sup>a</sup>	.932	.905	18.07184	34.401	.000	2.036

From Table 4, it can be seen that variables LLPTA and TOTA are significant at 5% alpha for ROA while LLPTA and INF are significant at 5% alpha for ROE. Other variables are not significant in predicting both models. On the one hand, for ROA model, LLPTA positively influence bank performance and TOTA negatively influence bank performance. The former is against hypothesis 1 while the latter is supporting hypothesis 2. On the other hand, for the ROE model, both LLPTA and inflation relationship towards banking performance are supporting the hypothesis 1 and 7 respectively. This shows that high credit risk and inflation will lower the probability of Table 4: Regression Analysis

Model		Coefficient Beta	t	Sig.
ROA	(Constant)	0.316	0.215	0.830
	LLPTA	0.332	7.763	0.000
	NLTA	-0.035	-0.631	0.531
	TOTA	-0.719	-9.241	0.000
	SER	-0.109	-1.223	0.227
	BS	-0.050	-0.535	0.595
	GDP	0.038	0.858	0.395
	INF	-0.048	-1.238	0.221
ROE	(Constant)	42.253	1.580	0.120
	LLPTA	-0.957	-20.655	0.000
	NLTA	0.081	1.329	0.190
	TOTA	-0.060	-0.709	0.482
	SER	-0.036	-0.377	0.708
	BS	-0.126	-1.234	0.223
	GDP	0.001	0.023	0.081
	INF	-0.102	-2.441	0.018

## Conclusion

This study is intended to find the factors determining the performance of Islamic banking in Malaysia for the period of 2006 to 2010. There are fifteen Islamic banks included in the analysis; furthermore, correlation analysis and multiple regression analysis are used as the method of analysis. ROA and ROE are the dependent variables

while LLPTA, NLTA, TOTA, SER and BS used as internal independent variables and GDP and Inflation as the external independent variables.

For model 1, whereby the ROA is the dependent variable, LLPTA and TOTA came as the significant variables in predicting the ROA. However, the relationship shown between LLPTA and ROA is against the hypothesis drawn in this study. Meanwhile, for model 2 where ROE is the dependent variable, LLPTA and Inflation appear to be the most important variables in predicting the ROE level. The relationship shown between LLPTA and ROE as well as between Inflation and ROE are in favor of hypotheses drawn in this study.

## Recommendation

As recommendation, it is necessary for the bankers to manage the bank's credit risk as it is important for the government to maintain the inflation at a lower level so that will support the deepening of the Islamic financial system in the country.

There are at least two limitations as appear in this study. First, this study does not differentiate between local and foreign Islamic banks, and secondly, the method of analysis used does not incorporate the time aspect. Therefore, the recommendation put here for future studies in this topic are: (i) segregating the local and foreign banks in the analysis and (ii) to use more sophisticated method of analysis in order to get more robust results.

## References

- Dietrich, A. and Wanzenried, G. (2009). What determines the profitability of commercial banks? Evidence from Switzerland. Working paper. Retrieved June 5, 2012. [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1370245](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1370245)
- Hassan, K. and Bashir, A.B.M. (2003). Determinants of Islamic banking profitability. Proceedings of the ERF 10th Annual Conference, Marrakesh, Morocco, 16-18.
- Ika, S.R, and Abdullah, N. (2007). The interest prohibition and financial performance of Islamic banks: Indonesia evidence. Paper presented in 19th Asian-Pacific Conference on International Accounting Issues. November 11-14, Kuala Lumpur, Malaysia.
- Khrawish, H.A. (2011). Determinants of commercial banks performance: evidence from Jordan. *International Research Journal of Finance and Economics*, 81, 148-159.
- Kunt, D.A. and Huizinga, H. (1998). Determinants of commercial bank interest margins and profitability: some international evidence. *World Bank Economic Review*, 13, 379-408.
- Rasidah, M.S and Tumin, M.H. (2011). Performance and financial ratios of commercial banks in Malaysia and China. *International Review of Business Research Papers*, 7 (2), 157-169.
- Rosly, S.A, and Bakar, M.A.A. (2003). Performance of Islamic and mainstream banks in Malaysia. *International Journal of Social Economics*, 20, 1249-1265.

- Samad, A and Hassan, M.K. (1999). The performance of Malaysian Islamic bank during 1984-1997: An exploratory study. *International Journal of Islamic Financial Services*, 1 (3), 1-14.
- Samad, A. (2004). Performance of interest-free Islamic banks vis-a-vis interest-based conventional banks of Bahrain. *Journal of Economics and Management*, 12 (2), 12-25.
- Srairi S.A. (2009). Factors influencing the profitability of conventional and Islamic commercial banks in GCC countries. *Review of Islamic Economics*, 13 (1), 5-30.
- Sufian, F. (2010). Does foreign presence foster Islamic banks' performance? Empirical evidence from Malaysia. *Journal of Islamic Accounting and Business Research*, 1 (2), 128-147.
- Sufian, F. and Habibullah, M.S. (2010). Assessing the impact of financial crisis on bank performance empirical evidence from Indonesia. *ASEAN Economic Bulletin*, 27 (3), 245-62