Determinents of profitability – a comparative analysis of islamic banks and conventional banks in ASEAN countries

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November 2012

DETERMINANTS OF PROFITABILITY – A COMPARATIVE ANALYSIS OF ISLAMIC BANKS AND CONVENTIONAL BANKS IN ASEAN COUNTRIES

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ABSTRACT

The profit and loss sharing system allows bank to share risk with client in Islamic banks. Moreover Islamic banks are required to operate as per Islamic Rules and principles. Unlike Islamic banks, conventional banks operate based on interest. The income of conventional banks is the difference between interest paid to depositors and interest paid by borrowers. This is the common banking system around the world. This study will analyze determinants of profitability in Islamic banks will be compared to conventional banks in ASEAN countries. This study will aim to present an empirical investigation on ASEAN Islamic and conventional banks. The study of profitability will look at different banking characteristics such as Short term fund management, Source management, capitalization, liquidity, size and Macro- economic conditions.

KEY WORDS: Islamic Banks, ASEAN Countries, Profitability

1. INTRODUCTION

Islamic banks have been making a significant in road into banking industry. Globally, Islamic banking assets in 2010 was US$826 billion and is expected to grow to US$1.13 trillion, which shows a compounding average growth rate of 11% p.a. In Malaysia, the development of Islamic banking as a whole proceeded organically, in which domestic commercial banks initially operated Islamic-window in offering sharia-compliant banking services. Eventually these banks were allowed to incorporate full-fledged Islamic banks in the country. Islamic banking market has a huge potential which otherwise western international banks would have ignored. Nowadays most of these western banks have incorporated their own Islamic banks.
Malaysia's first venture into Islamic banking was through Bank Islam Malaysia Berhad which was set up in 1983. Following this, other domestic commercial banks were given the licenses to set up their Islamic-windows to offer sharia-compliant banking services. After 1998, there were several Islamic banks incorporated by these conventional banks. Today the country has 17 Islamic banks including four owned by western international banking firms. The Islamic banking assets in 2010 was US$69.14 billion and as of July 2012 the assets have grown to US$114.13 billion, which on average the compounding growth rate is 22.2%. In comparison, the total banking assets grow from US$414.8 billion to US$600 billion within the same period. This gives a compounding average growth rate of 15.9%. Apparently, the large and young Muslim population provides the growth potential of Islamic banking in Malaysia.

Brunei has one Islamic bank that is Bank Islam Brunei Berhad, and to date there is no western international banking firms have their Islamic banks in the country. Singapore banking regulator also allowed the setting up of Islamic banking operation notwithstanding its small domestic demand. However, the country aims to play a significant role in Islamic capital market in the international scene.

1.1. Overview

Fundamentally the banking business is about managing liquidity and risks. The profitability in conventional banks hinges basically on the net interest margin (NIM) given the assets and liabilities maturities (gap situation) and interest rates scenarios. Conceptually, the profitability focus in Islamic banks is also similar except that the capital rate of return is in the equation instead of interest rate. Unlike conventional banking, Islamic banking is not a lender in its asset-side and a borrower in its liability-side in the balance sheet. There is basically a partnership between the bank and its depositors/savers on one side, and between the bank and its financing/investment customers on the other side. The profitability depends on the earning after the revenue to depositors given the asset and liability gaps and the capital rate of return.

Broadly speaking, banks profitability depends the internal as well as external factors, in which the internal factors for examples are cost of fund, loan portfolios, core deposits, overheads, lending rates, provision for losses, credit risk and management policies, The external factors are, among others, monetary aggregates, government policies, inflation, economic growth, statutory and regulatory requirements, and expected interest rate scenario.

Several studies have been done on the determinants of profitability and performance of Islamic banks. This is discussed on Section 2 of the paper, and in Section 3 the data and methodology are presented. In Section 4, we discuss the data analysis and its findings. We attempt to make a comparative analysis between Islamic banks and conventional banks in the profitability and its determinants.

2. LITERATURE REVIEW

Haron (2004) examines the effects of the factors that contribute towards the profitability of Islamic banks. His study finds that internal factors such as liquidity,total expenditures, funds invested in Islamic securities, and the percentage of the profit-sharing ratio between the bank and the borrower of funds are highly correlated with the level of total income received by the Islamic banks. Similar effects are found for external factors such as interest rates, market share and size of the bank. Other determinants such as funds deposited into current accounts, total capital and reserves, the percentage of profit-sharing between bank and depositors, and money supply also play a major role in influencing the profitability of Islamic banks.

Guru and Shanmugam(2002) state that determinants of commercial bank profitability can be divided into two main categories, namely those that are management controllable and those that are beyond the control of management. The former would include funds management policies, capital, liquidity management and expenses management. The latter would include market structure, regulation, inflation, interest rate and market growth.

According to Bashir (1996), Islamic banks become more profitable as they grow in size. Banks normally convert short-term deposits into long-term credit in order to make profits. This would result in maturity mismatch. To prevent banks from having liquidity deficits, banks would acquire liquid assets that can be turned to cash easily. Having liquid assets will result in lower rates of return.

Hassan and Bashir (2003) analyzed that how bank characteristics and the overall financial environment affect the performance of Islamic banks. In general, analysisof determinants of Islamic bank profitability confirms previous findings. Controlling for macroeconomic environment, financial market structure, and taxation, the results indicate that high capital and loan-to-asset ratios lead to higher profitability. Everything remaining equal, the regression results show that implicit and explicit taxes affect the bank performance measuresnegatively while favorable macroeconomic conditions impact performance measures positively.Surprisingly, the results indicate a strong positive correlation between profitability and overhead.

Zeitun (2012) studies influential factors (foreign ownership, banks-specific variables and macroeconomic factors) on Islamic and conventional banks in Gulf Cooperation Council countries. Zeitun (2012) found out that bank's equity is important in explaining and increasing conventional banks profitability only. Foreign ownership does not improve Islamic and conventional banks performance. Banks's age and banking development have no effect on bank performance. GDP is positively correlated to profitability whereas inflation is negatively correlated.

3. THE MODEL

$$p_{it} = c + \sum_{k=1}^{K} \beta_k x_{kit} + \varepsilon_{it}$$

$$\varepsilon_{it} = \nu_i + \mu_{it} \qquad (1)$$

Where i=1, 2,…, N
t=1, 2,…, T

p_{it} is the profitability of bank i at time t

c is a constant term

x_{kit} 's are k explanatory variables in ith bank at t's time

ν_i ~IIN $(0, \sigma_v^2)$ and μ_{it} ~IIN $(0, \sigma_u^2)$ therefore ε_{it} ~IIN $(0, \sigma_v^2 + \sigma_u^2)$

The general specification of model (1) with k explanatory variables (x_{kit}) is not binding, so, they are grouped into bank-specific and microeconomic variables. Therefore, the modified general model indicates as follow:-

$$p_{it} = c + \sum_{j=1}^{J} \beta_j x_{jit} + \sum_{m=1}^{M} \beta_m x_{mit} + \varepsilon_{it}. \quad (2)$$

Where x_{jit} 's are the explanatory variables of j[th] bank- specific in i[th] bank at t's time.

x_{mit} 's the explanatory variables of m[th] microeconomic variable in i[th] bank at t's time.

ε_{it} ~IIN (0, $\sigma_v^2 + \sigma_u^2$) because $\varepsilon_{it} = \nu_i + \mu_{it}$ also ν_i and μ_{it} are independently distributed error terms.

Furthermore, few study consider profit persistence in bank i.e., bank profit show a tendency to persist over time, reflecting impediments to market competition, informational opacity and/or sensitivity to regional/macroeconomic shocks to the extent that these are serially correlated. Therefore, we adopt a dynamic specification of the model by including a lagged dependent variable among the regressors. So, equation (2) can be improved as follow:-

$$p_{it} = c + \delta p_{i,t-1} \sum_{j=1}^{J} \beta_j x_{jit} + \sum_{m=1}^{M} \beta_m x_{mit} + \varepsilon_{it} \quad (3)$$

Where δ is the coefficient of one is lagged of bank i at time t. It is the speed of adjustment to equilibrium which lay between [0, 1]. t=2,3,….,T

ε_{it} ~IIN (0,,,,,,)

When we expand equation (3) get the following result

$$p_{it} = c + \delta p_{i,t-1} + \beta_1 x_{1it} + \beta_2 x_{2it} + \beta_3 x_{3it} + ... + \beta_M x_{Mit} + \varepsilon_{it} \quad (4)$$

3.1 THE DATA

The data used in this study are a cross-country bank-level data, compiled from income statements and balance sheets of the banks mentioned in the following table and each year in the period of 2004-2009. The main data source is BankScope database compiled by BUREAU VAN DIJK. In so far as possible, the BankScope database converts the data to common international standards to facilitate comparisons. Other data sources include World Bank Database.

Table 1. No. of Banks in Each country

	Brunei	Malaysia	Singapore
Islamic Banks	1	14	1
Conventional Banks	1	23	9

4. ANALYSIS AND FINDINGS

This section analyzes and presents the regression results. The data from the sample of 16 Islamic banks and 33 conventional banks are pooled for all six years (2004-2009) and used to replicate and extend earlier research. The model seems to fit the panel data reasonably well, having fairly stable coefficients, while the Wald test indicates fine goodness of fit and the Sargan test shows no evidence of over-identifying restrictions in most of the cases. There is no auto correlation also.

To assess the relationship between performance and internal bank characteristics, our analysis utilizes several bank ratios. These supplemental measures are particularly useful for a comprehensive understanding of the factors ratios used comprises funds sources management (CSTFTA), funds uses management (OVRHD and NIEATA), leverage and liquidity ratios (EQTA and LOANTA. Previous studies of the determinants of bank profitability in the United States found a strong and statistically significant positive relationship between EQTA and profitability. In our study also, we found that EQTA and Return on Assets have significant and positive relationship in both Islamic and Conventional banks. This supports the view that profitable banks remain well capitalized; or the view that well capitalized banks enjoy access to cheaper (less risky) sources of funds with subsequent improvement in profit rates.

Bank loans are expected to be the main source of revenue, and are expected to impact profits positively. However, since most of the Islamic banks' loans are in the form of profit and loss sharing (loans with equity features), the loan-performance relationship depends significantly on the expected change of the economy. Since the bulk of the earnings of Islamic banks come from non-conventional activities, the ratio of non-interest earning assets to total assets, NIEATA, is expected to impact profitability positively. But in our study, NIEATA has negative relationship with profitability. So we may interpret that Islamic banks' assets are having similar components of conventional banks in this region. The ratio of consumer and short-term funding to total assets, CSTFTA, is a liquidity ratio that comes from the liability side. It consists of current deposits, saving deposits and investment deposits. Since liquidity holding represents an expense to the bank, the coefficient of this variable is expected to be negative.

Operating expenses appear to be an important determinant of profitability.However, their negative effect means that there is a lack of efficiency in expensesmanagement since banks pass part of increased cost to customers and the remainingpart to profits, possibly due to the fact that competition does not allow them to"overcharge". Clearly, efficient cost management is a prerequisite for improvedprofitability of banks in any country, which have not reached the maturity level required tolink quality effects from increased spending to higher bank profits.Conventional banks have high significant negative relationship with OVRHD than Islamic banks.

During periods of strong economic growth, loan demand tends to be higher, allowing an Islamic bank to provide more PLS loans. Strong economic conditions are also characterized by high demand for financial services, thereby increasing the bank's cash flows, profits and non-interest earnings. Accordingly, fewer PLS loans would be defaulted during strong economic conditions. Thus, we expect the growth variable, GDPGR, to have positive impact on performance. Previous studies have also revealed a positive relationship between inflation (INF) and bank profitability (Bourke, 1989). For conventional banks, high inflation rates generally lead to higher loan rates, and hence higher revenues. However, in the case of Islamic banks, inflation may impact performance positively if a larger portion of Islamic banks' profits accrues from direct investment, shareholding and/or other trading activities (*murabahah*). Yet, inflation may have a negative effect on bank profitability if wages and other costs (overhead) are growing faster than the rate of inflation. In our study, GDPGR and Inflation have positive effect on Islamic bank profitability. But Inflation has negative impact on Conventional banks' profitability.

One of the most important industry characteristics that can affect a commercialbank's profitability is regulation. If regulators reduce the constraints imposed onbanks, banks may undertake more risky operations. When banks taking on thehigher degree of risk are profitable, depositors and shareholders gain. On the otherhand, when banks fail, depositors lose. We used corporate rate (TAX), as a proxy for financial regulation taxes are expected to impact profits negatively. Negative impact of TAX is higher in Islamic banks than in Conventional Banks.

5. CONCLUSION

In this paper, we specified an empirical framework to investigate the effect ofbank-specificand macroeconomic determinants on the profitability of both Islamic and Conventional banks in ASEAN region. We find that capital is important in explaining bank profitability in both types of banks. While operating expensesare negatively and strongly linked to it, showing that cost decisions of bankmanagement are instrumental in influencing bank performance. The estimated effectof size does not provide evidence of economies of scale in banking.

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APPENDIX

Table 2. Definitions, Notation of the explanatory variables ofModels on bank profitability

		Variable	Measure	Notation
Dependent Variable		Profitability	Before Tax Profit: ratio of before tax profit to total assets Or Net profits before taxes / assets Or Net profits before taxes / equity	PBT_TA ROA ROE
Determinants	Bank-specific	Capital	Equity / assets	EQTA
		Loans	Ratio of (PLS)loans to total assets	LONTA
		Non-Interest Earning Assets	Ratio of non-interest earning assets to total assets	NIEATA
		Short term Funds	Ratio of consumer & short term funds to total assets	OVRHD
		Operating expenses management	Operating expenses / assets	CSTFTA
		TAX	Total taxes paid divided by before tax profits for each bank	TAX
		Size	Ln(Real Assets)	NLA
	Macro economic	Growth	GDP Growth rate(yearly)	GDP
		Inflation	Inflation change (yearly)	INF

Table 3. GMM estimation Dep. variable: Profit Before tax/Assets (Model 1)

	Islamic Banks		Conventional Banks	
	Coefficient	t-static	Coefficient	t-static
Constant	- .7652236	-1.02	0.098637	0.74
	0.3711008	1.44	-0.0588653	-0.34
L1.	0.0082193	1.79	0.0011163	3.66
EQTA	0.0007196	1.24	0.0227376	1.41
LONTA	-0.0428793	-0.78	-0.0186287	-1.97
NIEATA	0.3781191	0.87	-0.0366855	-2.57
CSTFTA	1.469465	0.52	-1.475452	-4.09
OVRHD	0.0007498	0.54	0.0004093	1.34
GDPGR	0.0019	1.31	-0.0005704	-1.42
INF	-0.0058306	-0.12	0.0038102	0.35
TAX	0.0134576	0.51	-0.0022817	-0.44
NLA				
Wald test	chi2(10) = 18.36		chi2(10) = 81.23	
Sargan test[1]	chi2(5) = 6.597609		chi2(9) = 16.82538	
AR(1)[2]	No auto correlation		No auto correlation	

1.The test for over-identifying restrictions in GMM dynamic model estimation.
2.Arellano-Bond test that average autocovariance in residuals of order 1 is 0 (HB0B: No autocorrelation).

Table 4. GMM estimation Dep. variable: Return on Assets (Model 2)

	Islamic Banks		Conventional Banks	
	Coefficient	t-static	Coefficient	t-static
Constant	-01.153	-1.27	8.364011	0.77
	0.3126942	1.02	-0.16509	-0.93
L1.	0.95481	1.87	0.079032	3.18
EQTA	0.0916733	1.46	2.888719	2.15
LONTA	-2.027972	-0.36	-1.20266	-1.54
NIEATA	53.97881	1.1	-2.80653	-2.36
CSTFTA	-80.23214	-0.29	-150.254	-5.16
OVRHD	0.0896954	0.58	0.042355	1.7
GDPGR	0.2386342	1.54	-0.0727	-2.21
INF	-2.286762	-0.43	-0.13032	-0.14
TAX	1.842865	0.67	-0.19634	-0.46
NLA				
Wald test	chi2(10) = 16.54		chi2(10) = 81.27	
Sargan test[1]	chi2(5) = 7.364724		chi2(9) = 23.73274	
AR(1)[2]	No auto correlation		No auto correlation	

1.The test for over-identifying restrictions in GMM dynamic model estimation.
2.Arellano-Bond test that average autocovariance in residuals of order 1 is 0 (HB0B: No autocorrelation).

Table 5. GMM estimation Dep. variable: Return on Equity (Model 3)

	Islamic Banks		Conventional Banks	
	Coefficient	t-static	Coefficient	t-static
Constant	-117.237	-0.58	34.26223	0.26
	0.080145	5.38	0.194941	0.89
L1.	0.351395	0.28	0.0168441	0.05
EQTA	0.129926	0.87	2.861398	0.17
LONTA	-14.4778	-1.18	-19.15676	-1.99
NIEATA	-41.8259	-0.33	-19.04191	-1.32
CSTFTA	-834.029	-2.58	-449.3335	-1.48
OVRHD	0.253474	0.66	0.6139507	2.06
GDPGR	0.098124	0.28	0.0789506	0.19
INF	-32.6056	-2.84	-19.85861	-1.84
TAX	7.605632	1.28	0.1384148	0.03
NLA				
Wald test	chi2(10) = 86.86		chi2(10) = 17.40	
Sargan test[1]	chi2(5) = 5.828084		chi2(9) = 18.93676	
AR(1)[2]	No auto correlation		No auto correlation	

1.The test for over-identifying restrictions in GMM dynamic model estimation.
2.Arellano-Bond test that average autocovariance in residuals of order 1 is 0 (HB0B: No autocorrelation).