

DETERMINANTS OF ISLAMIC BANK PROFITABILITY

BY

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Creating Dynamic Leaders

Determinants of Islamic Bank Profitability

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Abstract

Investigating the determinants of profitability has been one of the more popular topics among researchers in banking studies. For the past three decades, researchers have managed to examine and identify various factors that have a significant influence on bank's profitability. All previous profitability studies, however, have been of conventional banks and until now there has been no study to determine the profitability of Islamic banks. This study examines the effects of the factors that contribute towards the profitability of Islamic banks. This 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.

Introduction

Since the first institution was established in 1963, Islamic banks have gained a footing in almost every majority Muslim country and in a few non-Muslim countries. Not only do Islamic banks provide profit-sharing (instead of pre-determined interest payments) banking facilities, but they are also expected to undertake business and trade activities on the basis of fair and legitimate profits. In such banks, ensuring fair practices in dealings with customers and shareholders takes centre stage, more so than in conventional banking where much fair practice needs to be imposed by external regulation (further details on the concepts and operations of Islamic banking system are available elsewhere, e.g. Haron, 1995).

While there is abundance of literature on performance studies, these studies are confined to conventional banks. Up to this date, there has been little research on the profitability of Islamic banks. Nienhaus (1983) tried to link the profitability of Islamic banks with the market structure. Based on his simplistic equilibrium model, he postulated that the profit-sharing ratio (the percentage of profit paid by the entrepreneur) of Islamic banks was positively related to the lending rate of the conventional banks. Nienhaus (1983) not only suggested that Islamic banks use the interest rate as a basis for calculating profit-sharing ratio, but also recommended that the profit-sharing ratio be equivalent to the interest rate offered by the conventional banks. He also believed that in the long run, interest-based banking would be more successful than Islamic banking. Unfortunately, Nienhaus's hypotheses were not supported by any empirical evidence.

Khan (1983) expanded Nienhaus's model and postulated that the average return of an Islamic bank in the long run will be higher than the interest rate. Khan believed that Nienhaus's argument was valid in the case where profit-sharing products were provided by conventional banks. Interestingly, Khan acknowledged that the profit-sharing ratio would have a positive relationship with interest rate. Like Nienhaus, Khan's framework was not empirically verified. Using 'adaptive expectation model', Haron and Ahmad (2000) verified Nienhaus's (1983) and Khan's (1983) hypotheses and found that conventional interest rates had a strong positive relationship with deposits of Islamic banks.

The work by Samad (1999) is considered the pioneer study, which links efficiency and performance of Islamic banks. Comparing the efficiency of conventional and Islamic banks, Samad found that Islamic banks tend to become inefficient when operating within the dual banking environment. Applying financial ratios in their works, Samad and Hassan (1999) observed that in some aspects, Islamic banks outperformed conventional banks. Hassan and Bashir (2003) studied the effects of controlled and uncontrolled variables on Islamic banks profitability. While factors such as capital, overhead, gross domestic product and conventional interest rates were positively related to profitability; loan ratios, reserves taxes, and size were adversely related.

The objective of this study is to examine the impact of profitability determinants on performance of Islamic banks in a manner analogous to such studies conducted with conventional banks. The paper is divided into five sections. The literature review on determinants of bank performance is highlighted in Section 2. Section 3 examines the methodology used in analysing the relationship between the variables used in this study and the performance indicators of Islamic banks. Section 4 elaborates on

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the findings and Section 5 concludes the paper. The words in italic characters in this paper are the Arabic words that are widely used in the Islamic banking literature.

Literature Review

The literature divides the determinants of conventional bank profitability into two categories, namely internal and external. Internal determinants of profitability, which are within the control of bank management, can be broadly classified into two categories, i.e. financial statement variables and non-financial statement variables. While financial statement variables relate to the decisions which directly involve items in the balance sheet and income statement; non-financial statement variables involve factors that have no direct relation to the financial statements. The examples of non-financial variables within this category are number of branches, status of the branch (e.g. limited or full-service branch, unit branch or multiple branches), location and size of the bank. Number of branches, status of branches and location are considered controllable variables since decision on those matters are within the discretion of management. In the case of a decision to establish new branches or services available where the locality is restricted by regulations, these variables are considered external to the bank. Similarly, the size of the bank is considered an internal determinant on the assumption that management of the bank is responsible for expanding their organisation by acquiring additional assets and liabilities. Some researchers (Short, 1979 and Bourke, 1989) considered size as an external variable.

External variables are those factors that are considered to be beyond the control of the management of a bank. Among the widely discussed external variables are competition, regulation, concentration, market share, ownership, scarcity of capital, money supply, inflation and size.

The Effects of Internal Determinants

Among the researchers who have studied the effects of internal determinants on bank profitability are Hester and Zoellner (1966), Haslem (1968, 1969), Fraser and Rose (1971), Fraser et al. (1974), Heggested (1977), Mullineaux (1978), Kwast and Rose (1982), Smirlock (1985), Bourke (1989), Molyneux and Thornton (1992) and Stienherr and Huveneers (1994). Most of these studies were conducted using American data except studies conducted by Bourke (1989), Molyneux and Thornton (1992) and Stienherr and Huveneers (1994) in which international data were used.

Hester and Zoellner (1996) studied the relationship between balance sheet items and the earnings of 300 banks in Kansas City and Connecticut. They found that changes in balance sheet items had a significant impact on a bank's earnings. While all asset items obtained positive results, liability items such as demand, time and saving deposits adversely affected profits. Haslem (1968) used 64 operating ratios in order to measure the effects of management, size, location and time on profitability of commercial banks. Haslem's findings indicated that all variables tested were significantly related to profitability. Fraser and Rose (1971) found that loan rate, time deposit rate, loan-to-deposit ratio, service charges and portfolio selection had no effect on profitability. Fraser et al (1974) considered operating costs, deposit and loan compositions as factors within the control of management. They

found that the factor which had the biggest influence on bank performance is bank cost followed by bank's deposit and loan composition. Mullineaux (1978) used a profit-function approach in his study and found that balance sheet structure had a significant impact on profitability and, depending on the nature of the balance sheet items; the relationship can either be negative or positive.

With regards to deposit structure, Heggsted (1977) found that banks heavily committed to time and savings deposits earned considerably lower returns than banks which have higher dependence on demand deposits. Smirlock (1985) confirmed that demand deposits were a cheaper source of funds and had a positive impact on bank profits. Kwast and Rose's (1982) study, however, claimed that operating efficiency had nothing to do with profitability. They found that there was no compelling evidence that high-profit banks were characterised by a greater level of efficiency than low-profit banks.

Bourke (1989) was the first researcher to include internal variables in a profitability study involving cross-country data. The internal variables used were capital ratios, liquidity ratios and staff expenses; whilst the dependent variables were comprised of the net profit before taxes against total capital ratio and net profit before taxes against total assets ratio. Bourke reported that all internal variables were positively related to profitability. Molyneux and Thornton (1992) duplicated Bourke's study using all European banks as their sample and found similar results. Stienherr and Huveneers (1994) studied the performance of banks in the US, UK, Western Europe and Japan. From the findings of their study, they concluded that overhead expenditure was positively correlated significantly with profitability. Liquidity relationship was significant in only certain countries. Similarly, investment in equity was positively correlated in certain samples but had an adverse relationship with others.

Hester and Zoellner (1966) included number of branches as one of the independent variables in their profitability study. They found that number of branches had no effect on profitability. Emery (1971) studied the relationship between the status of the branch and profitability. He divided his sample into three categories, namely unit branch, limited branch and state-wide branch. Using analysis of variance, Emery found that there was a significant difference in terms of return among these three categories of branches. Vernon (1971) included location as one of the profitability determinants in his study and found that location had a significant relationship with profitability. Kwast and Rose (1982) also included location as one of the independent variables. The findings of Kwast and Rose revealed that location had a significant relationship with profitability, and their results confirmed the finding of Vernon (1971).

The Effects of External Determinants

Although competition is considered in the literature as one of the important determinants of profit for conventional banks, debate in this area has not been fully resolved. Philips (1964) believed that public regulation, private organisation and institutional market characteristics made industry performance insensitive to differences in market structure and made competition difficult to observe. In view of the difficulties of measuring the impact of competition, most banking researchers prefer to incorporate this aspect within the scope of market structure or regulations.

Emery (1971) was among the first researchers to measure the effect of competition on bank profit-

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ability. He used entry into the market as a proxy for competition. Emery's findings were that competition had no significant impact on profits. Rhoades (1980) examined the effect of new entry on competition. His result indicated that there was no relationship between entry and competition. Similarly, Lindley et al. (1992) found a weak adverse relationship between competition and the rate of entry. Steinherr and Huvneers (1994) examined the impact of foreign banks on the profitability of domestic banks. They found that the existence of foreign banks produced an unwavering impact on the profitability of various types of banks.

The banking industry is among one of the most heavily regulated industries in the world. The main reason for regulation is to provide a sound, stable and healthy financial system. Peltzman (1968) was among the first researchers to empirically test the effects of regulation on performance. Peltzman's findings indicated that a prohibition on interstate branching and a legal restriction to new entry had a significant impact on the market value of a bank's capital.

Fraser and Roase (1972) studied whether the opening of new institutions had any significant adverse effects on the growth and profitability of competing institutions. They found that despite some evidence of slowing growth rate of deposit, the profitability of existing institutions was not adversely affected by the opening of new branches by their competitors. The finding of Fraser and Rose, however, was not supported by McCall and Peterson (1977). Similarly, Mullineaux (1978) found that regulations on the setting-up of banks had a significant impact on profitability. The Findings of McCall and Peterson (1977) and Mullineaux (1978) confirmed the studies of Vernon (1971) and Emery (1971). A similar approach was used by Smirlock (1985) and his results also confirmed Vernon's and Emery's findings.

Concentration is defined as the number and size of firms in the market. The term has emerged from the structure-conduct-performance (SCP) theory which is based on the proposition that market concentration fosters collusion among firms. The assumption is that the degree of concentration in a market exerts a direct influence on the degree of competition among its firms. Highly concentrated market will lower the cost of collusion and foster tacit and/or explicit collusion on the part of firms. As a result of this collusion, all firms in the market earn monopoly rents. This theory was first used by researchers using data of manufacturing firms and gained popularity among researchers in banking studies in the 1960s.

The effects of concentration on the banking structure were further expanded in the 1970s and continued into the 1980s. Heggested (1979), in his survey of the literature from 1961-1976, found that concentration had either a significant or a small effect on dependent variables such as profitability, loan rates, deposit rates and the number of bank offices in only 26 of the 44 banks studied. Similarly, Gilbert (1984) summarised the response of bank performance measures to a change in market concentration and found that in only 27 of the 56 studies reviewed reported that concentration significantly effected performance in the predicted direction.

Many have studied the effect of concentration on profitability including Emery (1971), Fraser and Rose (1971), Vernon (1971), Heggested (1977), Short (1979), Kwast and Rose (1982), Smirlock (1985), Bourke (1989) and Molyneux and Thornton (1992). In their studies; Heggested, Kwast and

Rose, Short, Bourke and Molyneux and Thornton indicated that concentration had a significant positive relationship on profits. In contrast, Vernon found that this relationship was significant but in the opposite direction. The effect of concentration was insignificant in the studies by Emery, Fraser and Rose and Smirlock.

Market share is considered as a profitability determinant under the assumption that firms will obtain a bigger market share and increase their profitability due to their greater efficiency. A bigger market share also means more power to the bank in controlling the prices and services it offers to its customers. Heggstad and Mongo (1976) found that the greater the market share, the greater is a bank's control over its prices and the services it offers. Heggstad (1977) and Mullineaux (1978), however, found that market share had an adverse relationship with profitability.

Short (1979) believed that some banks might sacrifice current profits by growing at a faster rate or expanding their market share with the intention of earning more profits in the future. He used the growth of assets rate as a proxy for measuring the effect of market share on profitability and found that growth of assets did not have a significant effect on profit. Smirlock (1985) not only believed that market share influenced profitability but that growth in the market created more opportunities for a bank and thus generated more profits. His findings indicated that growth had a significant positive relationship with profits.

The effect of ownership on bank profitability is not fully resolved in the literature. In his study Vernon (1971) examined the performance of management-controlled banks and owner-controlled banks. He found that owner-controlled banks did not earn higher rates of return on invested capital when compared to management-controlled banks. Mullineaux (1978) divided his sample into two, namely only-bank holding company banks and multi-bank holding company banks. His study reported that only-bank holding company banks were more profitable than their counterparts.

Short (1979) believed that government ownership would have an impact on profitability on the grounds that government banks were non-profit oriented banks. He found that the government ownership variable was significantly adversely related to profits. His finding confirms the hypothesis that as the amount of bank's capital owned by government increases, the lower the profits generated by those banks. Both Bourke (1989) and Molyneux and Thornton (1992) included government ownership in their studies. While Bourke's result indicated a weak adverse relationship, a significant positive relationship was found by Molyneux and Thornton.

The usage of scarcity of capital as one of the profitability determinants was introduced by Short (1979). Short believed that scarcity of capital can be used to measure the economy-wide profitability of all industries in a particular country. In his study, Short used both central bank discount rates and the interest rates on long-term government securities. He found that these hypotheses had a significant positive relationship with profitability. Short's hypothesis was further tested by Bourke (1989) and Molyneux and Thornton (1992). The findings of these two studies also found that capital scarcity had a significant positive relationship with profitability.

Bourke (1989) also believed that market expansion could produce a capability for earning increased

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profits. In his study, Bourke used the annual growth in money supply as a proxy for growth in the market. He found that money supply had a significant positive relationship with profits. Molyneux and Thornton (1992), who replicated Bourke's study, found similar results.

The effect of inflation on bank profitability was first discussed by Revell (1980). Revell believed that inflation could be a factor in the causation of variations in bank's profitability. This hypothesis was empirically tested by Bourke (1989) and Molyneux and Thornton (1992). Using the consumer price index (CPI) as a proxy for inflation, both studies found that inflation had a significant relationship with profit. Although the first empirical testing on inflation was done by Bourke (1989), Heggsted (1977) tried to measure the effect of inflation on profitability in his study. Heggsted used per capital income as the independent variable instead of CPI. Heggsted's findings, however, did not indicate any relationship between per capital income and a bank's profitability.

Economies of scale are commonly defined as reductions in the cost per unit of a product being manufactured and sold. Economic theory suggests that if an industry is subject to economies of scale, larger institutions will be more efficient and can provide services at a lower cost, *ceteris paribus*. Since larger banks are assumed to enjoy economies of scale, they are able to produce their output or services more cheaply and efficiently than smaller banks. As a result, large banks will earn higher rates of profit if entry is impeded. The effect of economies of scale on profitability, however, has not been fully resolved by researchers in banking.

Emery (1971) and Vernon (1971) were among the earliest researchers to link bank size with profitability. Emery classified his sample according to total assets and found that the larger banks had greater returns. Similarly, Vernon used total assets as a proxy for size but found that there was no significant relationship between size and profitability. Vernon's finding was confirmed by Heggsted (1977), Kwast and Rose (1982) and Smirlock (1985).

Short (1979) found that the relationship between the profit rates of 60 banks and the growth of assets was significant but inverse. Molyneux et al. (1994), who examined the competitive conditions of European banking for a four year period from 1986 to 1989, also included bank assets as an independent variable. Their regression results, however, produced inconsistent results among countries as well as within countries from one year to another. Stienher and Huverneers (1994) also included the size of banks as one of the independent variables in their profitability study and found that it had mixed effect on the performance of various groups of banks.

Methodology

The data used are panel data and it is assumed that all behavioural differences between individual banks are captured by the intercept. Therefore, a dummy variable approach is applied as proposed by (Griffiths et al., 1993). An advantage of using panel data is that more observations on the explanatory variables are available. This has the effect of helping overcome the inherent multicollinearity which probably exists between the independent variables. A general equation of the model is represented by equation 1 below:

$$y_{it} = \beta_0 + \delta_2 D_2 + \delta_3 D_3 + \dots + \delta_j D_j + \beta_1 X_{u,1} + \beta_2 X_{u,2} + \dots + \beta_k X_{u,k} + \varepsilon_{it} \quad (1)$$

where:

y_{it}	=	independent variable
β_0	=	intercept term for Bank 1
$D_{2t}, D_{3t}, \dots, D_{jt}$	=	dummy variables
$X_{it,1}, X_{it,2}, \dots, X_{it,k}$	=	independent variables (1, 2, ..., k)
k	=	total number of independent variables
J	=	total number of banks
t	=	total number of observations for each bank

This model implies that marginal effects of β_k is the same across all banks which means that a unit change in variable X_k as the same effect on profit for all banks. Nonetheless, if the dummy variables are included, it means that a different intercept applies to each bank. Hence, the model for each bank is as follows:

$$\text{Bank 1: } y_{it} = \beta_0 + \beta_1 X_{u,1} + \beta_2 X_{u,2} + \dots + \beta_k X_{u,k} + \varepsilon_{it}$$

$$\text{Bank 2: } y_{it} = (\beta_0 + \delta_2) + \beta_1 X_{u,1} + \beta_2 X_{u,2} + \dots + \beta_k X_{u,k} + \varepsilon_{it}$$

⋮

$$\text{Bank J: } y_{it} = (\beta_0 + \delta_j) + \beta_1 X_{u,1} + \beta_2 X_{u,2} + \dots + \beta_k X_{u,k} + \varepsilon_{it}$$

The above models indicate that for a given value of each regressor X_1, X_2, \dots, X_k ; the average level of profit is different for each bank. The inclusion of dummies is verified using the F-test based on the following hypothesis:

$$H_0 = \text{average level of profit is the same for each bank } (\gamma_2 = \gamma_3 = \dots = \gamma_j = 0)$$

$$H_1 = \text{average level of profit is not the same for each bank } (\gamma_2 = \gamma_3 = \dots = \gamma_j \neq 0)$$

In the case where H_0 is being rejected, dummies should be included in the equation for it represents the most appropriate model. In this case, the following model (ordinary least square) is applied:

$$y_{it} = \beta_0 + \beta_1 X_{u,1} + \beta_2 X_{u,2} + \dots + \beta_k X_{u,k} + \varepsilon_{it} \quad (2)$$

On contrary, if H_1 is accepted, dummies should be included in the model.

The internal variables for this study are as follows:

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Internal Variable	
LIQ	Total financing as a percentage of total deposits
CRTA	Total capital and reserves as a percentage of total assets
DECA	Total deposits in current accounts as a percentage of total assets
DESA	Total deposits in savings accounts as a percentage of total assets
DEIA	Total deposits in investment accounts as a percentage of total assets
FIPS	Total funds in profit-sharing principles as a percentage of total assets
FIMK	Total funds in mark-up principles as a percentage of total assets
FIIV	Total funds in investment activities as a percentage of total assets
IFIN	Incomes from financing activities as a percentage of total financing
IBNK	Bank's share of income as a percentage of total savings and investment deposits
TEXP	Total expenditure as a percentage of total assets
SEXP	Staff expense as a percentage of total assets
PEXP	Provision for loan losses as a percentage of total assets
OEXP	Other expenses as a percentage of total assets

The external variables used in this study are listed below:

External Variable	
MKTPL	A dummy variable representing two different markets i.e. 1 when the bank operates in a monopolistic market and 0 otherwise
MKTSH	Market share (total deposits of the Islamic bank as a percentage of a country's total deposits)
INT	The discount rate for each country for each year
MON	Growth in money supply (M_2) for each country for each year
CPI	Percentage increase in the consumer price index for each country for each year
LogSIZE	Total assets in common currency (US dollar) - in logarithm

Even though concentration is considered as one of the factors that has a direct influence on the profitability of a bank in the literature, this factor is not included in this study for several reasons. Firstly, the data for total Islamic bank deposits or total assets that is needed to compute the concentration ratio is not available. Secondly, six out of the fourteen banks in the study operate in a monopolistic market, thereby negating the use of concentration. The ownership variable is also excluded from this study since most Islamic banks are privately owned.

In the banking literature, there are many profitability ratios that have been used by researchers in measuring the bank performance. In relation to the profitability ratios, only five ratios are identified as relevant. Other ratios are excluded either because they are beyond the scope of this study or because of insignificant in value. The ratios that have been selected and used as proxies for profitability are:

TITA : Total income as a percentage of total assets

BITA : Bank's portion of income as a percentage of total assets

BTTA : Net profit before tax as a percentage of total assets

BTCR : Net profit before tax as a percentage of capital and reserves

ATCR : Net profit after tax as a percentage of capital and reserves

The ratio TITA is used to capture the effects of internal and external determinants on a bank's profitability. In the case of BITA, this ratio also captures the effect of determinants on profitability. It is hypothesized that all determinants will have similar impacts on TITA and BITA. As for BTTA, the ratio measures the effect of total expenditure on a bank's profitability. The effects of profitability determinants on returns to shareholders are measured by two ratios, namely BTCR and ATCR.

While most of the variables employed in this study are those used in previous studies, several new variables are introduced. The application of these variables is in line with the modus operandi of Islamic banks which differs from that of conventional banks. For example, the usage of variables such as FIPS, FIMK and FIIV are deemed necessary given that Islamic banks operate in accordance with the Shariah principles. Whereas, variables IFIN and IBNK are introduced to investigate whether profit-sharing and mark-up ratios do influence the profits earned by Islamic banks. IFIN is a variable that captures the effect of profit-loss sharing and mark-up ratios imposed by the banks on the users of the funds. Hence, the higher the ratio to the bank's advantage means more profit to the bank and vice-versa. In the case of IBNK, this variable will capture the effect of the profit-sharing ratio between bank and depositors.

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Findings

As discussed earlier, this study examines the inclusion of dummy variables in the profitability model. The results of the F-test which measure the applicability of dummies in all profitability measure equations used in the study are reported in Table 2 below. Except for equation ATCR, other F-test results rejected the hypothesis that $\gamma_2 = \gamma_3 = \dots = \gamma_{12} = 0$. Thus, dummies are relevant to the equations TITA, BITA, BTTA and BTCR only. In the case of ATCR, a model which does not include dummy variables is sufficient in predicting the relationship between dependent and independent variables.

Table 2: Results for the Statistical Test Which Validate the Inclusion of Dummy Variables

Equation	F-value	Critical value at 5%	Results
TITA	4.49	1.88	Reject H_0
BITA	2.04	1.88	Reject H_0
BTTA	3.09	1.88	Reject H_0
BTCR	2.39	1.88	Reject H_0
ATCR	1.53	1.88	Accept H_0

The results of the regression model for both internal and external determinants of profitability are shown in Table 3. Except for equation ATCR, results for the other equations are based on a dummy variable model. As can be seen clearly in Table 3, the value of the adjusted coefficient of determination (adjusted R²) for TITA and BITA is high, i.e. 0.8791 and 0.8943. Higher R² indicates that the variability in profitability of Islamic banks is well explained by the linear relationship with all internal variable items. In the case of TITA, about 88% of the variability in total is explained by its linear association with variables included in the equation. As for BTTA, BTCR and ATCR, the corresponding values adjusted R² are 0.5817, 0.6189 and 0.3979 respectively. A relatively small value of adjusted R² does not necessarily mean that the model is inappropriate to measure the relationship between independent and dependent variables.

The value of adjusted R² is usually influenced by a number of predictor variables relative to the sample size and it becomes smaller as we have fewer observations per predictor variable (Hair et al., 1995). The adequacy of a model as a predicting is validated by the F-test. As indicated in Table 3, the values of all F-ratios are statistically significant for all profitability models. The results of these tests confirmed that the models applied are useful for measuring the relationship between internal variable items and the profitability ratios.

Table 3: Summary of Regression Result of a Complete Profitability Model

Equation	Significant at 0.01	Significant at 0.05	Significant at 0.10	Not Significant
TITA Adj R ² : 0.08791 F-value: 203.349 P-value: 0.000	FIIV (-0.041) IFIN (0.247) TEXP (0.898)	LIQ (0.032) MKTSH (- 0.207)		CRTA, DECA, DESA, DEIA, FIPS, FIMK, IBNK, MKTPL, MON, CPI
BITA Adj R ² : 0.8943 F-value: 153.580 P-value: 0.000	CRTA (0.053) DECA (0.034) TEXP (0.940) INT (-0.046)	LIQ (0.018)	IFIN (0.046) MKTSH (- 0.016) MON (0.011)	DESA, DEIA, FIPS, FIMK, FIIV, IBNK, MKTPL, CPI, logSIZE
BTTA Adj R ² : 0.5817 F-value: 19.433 P-value: 0.000	LIQ (0.030) CRTA (0.069) DECA (0.036) FIPS (-0.077)	IFIN (0.06)	INT (-0.032)	DESA, DEIA, FIMK, FIIV, IBNK, TEXP, MKTPL, MKTSH, MON, CPI, logSIZE
BTCR Adj R ² : 0.6189 F-value: 14.886 P-value: 0.000	IBNK (0.0265) MON (0.443)	INT (-0.806)	CRTA (-0.721) MKTPL (45.715)	LIQ, DECA, DESA, DEIA, FIPS, FIMK, FIIV, IFIN, TEXP, MKTSH, CPI, logSIZE
ATCR Adj R ² : 0.3979 F-value: 14.217 P-value: 0.000	INT (-0.290) MON (0.278)		CRTA (-0.365) FIIV (-0.173)	LIQ, DECA, DESA, DEIA, FIPS, FIMK, IFIN, IBNK, TEXP, MKTPL, MKTSH, CPI, logSIZE.

The Effects of Internal Variables

This study found that liquidity had a significant positive relationship with total incomes received by the bank (TITA), the bank's portion of income (BITA), and income before tax to total assets (BTTA). No significant relationship was found between liquidity and profitability measures which were deflated against total capital and reserves (BTCR and ATCR). Since this study used the total financing to total deposits ratio as a proxy for liquidity, the result is in line with conventional banking theory,

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which postulates that an increase in financing is followed by an increase in profits. The positive relationship between profitability ratio and liquidity is similar to the findings of Molyneux and Thornton (1992) and Stienherr and Huvener (1994), but contradict the findings of Bourke (1989). As indicated in Table 3, each 1% increase in total financing increased TITA by 0.031%, BITA by 0.018% and BTTA by 0.026%.

Corresponding to the findings reported by Bourke (1989), Molyneux and Thornton (1992) and Stienherr and Huvener (1994), this study found a positive relationship between capital structure and profitability measures ratios which were deflated against total assets. These relationships were at a significant level in BITA and BTTA. The capital structure, however, had no significant relationship with the total income (TITA) which implies that additional capital will not generate more income for the bank. While CRTA had a positive and significant relationship with BITA and BTTA, a significant inverse relationship was found between CRTA and profitability measures that were deflated by total capital and reserves (BTCR and ATCR). This inverse relationship simply means that any injection of capital into a bank's capital structure would reduce these profitability measures. In the case of BITA and BTTA, for every 1% increase in capital, the percentage of BITA would increase by 0.053% and 0.069% for BTTA. A negative relationship between CRTA and BTCR as well as ATCR suggests that an increasing amount of capital does not lead to an increase in income to shareholders. Instead of producing more income, the existing level of income is shared by both present and new shareholders. In other words, the injection of a 1% capital will reduce BTCR by 0.721% and ATCR by 0.365%.

Deposits structure was represented by three variables, i.e. current (DECA), savings (DESA) and investment (DEIA) accounts. In the literature, most studies found that savings and time deposits have an inverse relationship with profitability, while a positive relationship has been found for current account deposits. Almost all deposit structure variables had no significant relationship with the profitability ratios. DECA was the only variable which has a significant relationship with BITA and BTTA. Each 1% increase in the current account holdings will increase the bank's income by 0.034% and profit before tax by 0.036%. This result is in line with the findings reported by Smirlock (1985). Since a current account facility is considered a cost-free service, it is expected that the more funds deposited into this account, the more Islamic banks stand to profit. Interestingly, no significant relationship was found between DECA and TITA, which suggests that an increase in current accounts do not generate more income to the bank as a whole but only function as a cost saving measure. That is, no rewards are paid to these depositors.

In the case of savings accounts (DESA) and investment accounts (DEIA), although their relationships with all profitability ratios were at an insignificant level, the signs of their regression coefficients warrant further explanation. No contradiction with the findings of conventional banking literature with regard to savings accounts was apparent. A negative relationship was found between DESA and the profitability measures. This result suggests that any increase in savings accounts will reduce profits and it corresponds to the findings in the current banking literature (see for example Hester and Zoellner, 1966; and Heggsted, 1977).

The results on DEIA in this study are not similar to those findings reported in earlier researches. Hester and Zoellner (1966) and Heggsted (1977), for example, found that fixed deposit facilities

had an inverse relationship with profitability. Since some of the characteristics of investment deposits at Islamic banks are similar to the fixed deposit facilities of conventional banks, it is expected that more funds deposited into these accounts would result in less profit to the bank. In contrast, Smirlock (1985) believed that an increasing amount in fixed deposits would have a positive relationship with a bank's profitability. This study found that DEIA had a positive relationship with all profitability measures and thus, confirmed Smirlock's hypothesis.

The asset structure was represented by three variables: funds in profit-sharing financing activities (FIPS), funds in mark-up (FIMK) and funds in investment (FIIV). The findings or previous studies indicate that asset items have a positive relationship with profitability. Nonetheless, this study found that where relationship does exist, asset items are negatively related to the profitability measures. In the case of FIPS, a significant inverse relationship was found only with BTTA. For every 1% increase in FIPS, the percentage net income before tax decreases by 0.077%. No significant relationship was found between FIMK and the profitability measures. As for FIIV, the only significant relationship was with ATCR. The findings showed that each 1% increase in FIIV will decrease ATCR by 0.173%.

The inverse relationship between assets structure and profitability ratios warrants further discussion. Generally, Islamic banks tend to concentrate their financing activities in mark-up financing activities (FIMK). This method of financing is short-term in nature, thus generating less return relative to long-term investment. Therefore, it is obvious that an increasing amount of funds for these activities will not increase the percentage of profitability measures. Similarly for FIPS, business ventures undertaken by banks using this concept of financing do not generate immediate returns. Since the reward is based on profits made by the project in which the bank has a share, the bank does not receive its share immediately upon disbursement of funds. Hence, any increase in funds under this concept will be immediately followed by a decrease in profitability. In the case of funds placed in investment activities (FIIV), a possible reason for the inverse relationship found in this study could be due to the fact that the amount of funds channelled by Islamic banks into this activity is relatively small. In countries like Bangladesh, Turkey, Sudan and Tunisia; the non-existent of Islamic financial markets has actually prevented Islamic banks from making such investments.

Alike Bourke (1989) and Molyneux and Thornton (1992), this study also found evidence that expenditures and profitability measures have a positive relationship. The significant relationship was, however, found in only two profitability measures, i.e. TITA and BITA. From the findings, every 1% increase in expenditures, TITA and BITA will increase by 0.898% and 0.94% respectively. A positive significant relationship between the percentage of incomes from financing activities (IFIN) and all profitability measures deflated by total assets were also prevalent. As shown in Table 2, for each 1% increase in IFIN; TITA, BITA and BTTA will rise by 0.247%, 0.046% and 0.066% respectively. These results indicate the incremental increase of Islamic banks' income from financing which suggests that the profit-sharing ratio between Islamic banks and users of funds seems to favour the bank. In the case of a bank's share of financing income (IBNK), a significant positive relationship was recorded only for BTCR where each 1% rise in IBNK will result in BTCR to increase by 0.265%. This finding implies that the percentage of the profit-sharing ratio between bank and depositors is to the advantage of the shareholders.

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Thus, the above findings suggest that all three sources of funds for Islamic banks are positively related with profitability. These findings serve as an indicator that the more deposits are placed with Islamic banks, the more income is received by the bank. Based on the results discussed earlier, this study validates the current practices of Islamic banks which use mark-up principles in their financing activities since the application of profit-sharing principles has been empirically shown to have an inverse relationship with profitability. With regards to the impact of the profit-sharing ratio agreement between the banks and providers of funds and between the banks and users of funds, this study arrived at very interesting conclusions. The profit-sharing ratio between banks and the users of funds seems to favour the bank, whereas the profit-sharing ratio between the banks and the providers of the funds indicates a mutual advantage. Furthermore, the similarity of results between asset-liability management and profitability for both conventional and Islamic banks is a strong indicator that many of the tools and techniques developed in the conventional banking literature are potentially suitable for an Islamic banking environment.

The Effects of External Variables

The effects of regulation and competition were not consistent across the profitability measures. A significant relationship at a 10% level was found only with BTCR. This indicates that for any given scenario related to profit before tax deflated by total capital and reserves, Islamic banks operating in a monopolistic market are better off by 45.715% than those operating in a competitive market. This finding confirms to the common belief that under monopoly conditions, welfare of the firms or shareholder is maximised.

With regard to the other equations, although there were no significant relationships, further elaboration is necessary. Equation TITA, for example, suggests that Islamic banks in a monopolistic market earn more than banks in a competitive market. For any given scenario, Islamic banks in monopolistic market are better off by 0.0823% than their counterparts in competitive markets. Interestingly, when it comes to equation on BITA, the income of a monopolistic bank is less than the income of those banks which operate in a competitive market. Hence, these results imply that depositors in a competitive market are being rewarded less than depositors at banks in a monopolistic market. For given conditions, income of banks operating in competitive market is higher by 1.474% than that of monopolistic banks.

With reference to BTTA, i.e. the equation which measures the effect of expenditures on profitability, it seems that Islamic banks in a monopolistic environment earn more than their counterparts in a competitive market. Using total expenditures as an indicator for productivity and efficiency, this finding provides evidence to reject the common belief that any business organisation in a competitive environment is better managed than those which have a monopolistic status. As such in any given conditions, the net income of monopolistic banks is higher by 0.597% than banks in a competitive environment.

Earlier studies have provided evidence to suggest that expansion of market share is not necessarily followed by an increase in a bank's profit. While Short (1979) and Smirlock (1985) reported that market share does have a significant positive relationship with profits, both Heggstedt (1977) and

Mullineaux (1978) found otherwise. This study found that market share of Islamic banks had a significant inverse relationship with two profitability measures, i.e. TITA and BITA, whereas no significant relationship was found with other equations. These results indicate that an increase in market share will give rise to a decrease in the percentage of TITA and BITA whereby each 1% increase in market share will reduce the percentage of TITA by 0.207% and 0.106% for BITA. Among the possible explanations for this interesting finding is the presence of excess liquidity owing to over-concentration in short-term financing. Given the lack of Islamic financial instruments and the non-existent of an Islamic financial markets in most countries in which Islamic banks can dispose their surplus liquid funds, the finding of this study reflect the current problem faced by Islamic banks in their daily operations. Furthermore, it suggests the possibility that funds deposited by customers are lying idle as liquid assets, thus generating little or no income to the banks.

In their studies, Bourke (1989) and Molyneux and Thornton (1992) found evidence to suggest that money supply has a positive relationship with net profit before tax at a significant level. Similarly, this study also found the same evidence for Islamic banks. Nonetheless, while the relationship was insignificant with TITA and BTTA, a significant relationship at the 10% level was recorded with BITA and at the 1% level with the profitability measures deflated by total capital and reserves. This finding confirmed that growth in the economy as proxy by money supply is shared by Islamic banks.

In relation to the effect of interest rates on profit before taxes, this study found mixed results. The study found that interest rate has a positive relationship with total income received by Islamic banks (TITA) whereby each 1% rise in the interest rate level tends to increase the percentage of total income by 0.076%. As for BITA, BTTA, BTCR and ATCR; a 1% increase in interest rate reduces the percentage of these profitability ratios by 0.046%, 0.032%, 0.806% and 0.29% respectively. This findings point to the fact that Islamic banks uses interest rate as a benchmark in fixing their charges to users of funds as well as the rewards given to depositors. Such an allegation is in fact nothing new and was firstly put forth by Homoud (1994). In one of the earliest conceptual research on the profitability of Islamic banks, Nienhaus (1983) suggested that Islamic banks used market interest rate as a basis for calculating their profit-sharing ratio and he further recommended that the profit-sharing ratio be equivalent to the interest rate offered by conventional banks. This study confirms the proposition that Islamic banks will increase their charges to customers (i.e. the mark-up and profit-sharing ratio to the banks' advantage) and thus, increase their total income. At the same time, Islamic banks will have to increase the rewards given to depositors which will have the effect of reducing their portion of income.

Although this study found that CPI was positively related to all profitability measures, their relationship was not statistically significant. This is in contrast to the findings reported by Bourke (1989) and Molyneux and Thornton (1992) whose works indicated that CPI had a positive significant relationship with profits. With regard to the size variable, no consistency in the findings was reported from previous studies. Likewise, this study also presented mixed results. Size had a significant positive relationship with TITA but was not significant with other profitability measure variables. As such, this finding suggests that the larger the size of the bank, the higher will be the total income accrued to the bank.

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Conclusions

This study is a modest attempt to establish the first empirical evidence on the determinants of profitability for Islamic banks. The finding of this study suggests that all three sources of funds for Islamic banks are positively related with profitability. These findings serve as an indicator that the more deposits placed by depositors with the bank, the more income is received by the bank. This study also validates the current practices of Islamic banks which use mark-up principles in their financing activities. This is because an application of profit-sharing principles will have an inverse relationship with profitability.

This study also provides information on the impact of the profit-sharing ratio agreement between the bank and the providers of funds; and between the bank and the users of funds. The profit-sharing ratio between banks and the users of funds seems to be very favourable to the bank, whereas the profit-sharing ratio between the banks and the providers of funds indicates a mutual advantage. In terms of expenses management, this study offers no peculiar findings. The positive relationship between profitability and total expenses is the normal characteristics of a firm. The similarity of results between asset-liability management and profitability for both conventional and Islamic banks is a strong indicator that many of the tools and techniques developed in conventional banking literature are potentially suitable for an Islamic banking environment. Therefore, further studies which involve asset-liability management of an Islamic bank are considered one of the more interesting and more promising areas for future research.

While interest rates, inflation and size have significant positive impact on the profits of conventional banks, similar results were found for Islamic banking in this study. In the case of market share and money supply, these variables were found to have an adverse effect on profits and these results are in contrast to the findings of earlier studies. This study found that there was no significant variation in earnings between Islamic banks in competitive and monopolistic markets. However, there was strong evidence that indicates firm's and shareholder's welfare were maximised in the monopolistic market. To the contrary, a depositor's welfare was paramount to Islamic banks in the competitive market. The results of this study indicated that banks in a competitive market were better managed than their counterparts. Therefore, it is obvious that protectionism policy adopted by Muslim governments is inappropriate and could distort future development of Islamic banking. Establishment of more Islamic banks will give more benefits to the depositors.

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