Determinants of Islamic Bank Profitability: Some Evidence

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ABSTRACT

Many studies have been undertaken to investigate the profitability determinants of conventional banks. These studies have established a number of profitability theories that have been well accepted in the banking literature. While this subject is still very much alive among conventional bank researchers, there have not been any studies made for Islamic banks. The objective of this study is to examine whether the profitability theories of conventional banks apply to Islamic banks. The results of this study are somewhat mixed. The differences imply that not all profitability theories are applicable to Islamic banks and support the hypothesis that there are doctrinal differences between Islamic banks and conventional banks.

ABSTRAK

Banyak kajian telah dijalankan bagi meneroka penentu-penentu keberuntungan bank-bank konvensional. Kajian-kajian ini telah menubuhkan beberapa teori keberuntungan yang telah diterima pakai dalam susastera perbankan. Sungguhpun tajuk ini masih diperbincangkan tiada kajian yang dijalankan ke atas bank-bank Islam. Objektif kajian ini ialah untuk tiada kajian yang meninjau sama ada teori-teori keberuntungan bank-bank konversional dapat digunakan pada bank-bank Islam. Hasil kajian ini agak bercampur. Perbezaan hasil memberi implikasi yang bukan semua teori keberuntungan dapat digunakan pada bank-bank Islam dan perbezaan ini juga secara langsung menyokong hipotesis bahawa terdapat perbezaan doktrinal di antara bank-bank Islam dengan bank-bank konvensional.

INTRODUCTION

The conventional banking literature divides the determinants of bank profitability into two categories: those that are controllable by a bank and those that are uncontrollable. Controllable determinants are considered internal to the bank and are confined to balance sheet and income statement management. In the case of uncontrollable determinants, the variables are external to the bank. Examples of these variables are competition, concentration, market share, regulation, economies of scale and bank size,

ownership, capital scarcity and inflation. In the process of examining the effects controllable and uncontrollable variables have on the profitability of conventional banks, a majority of researchers have focused their studies in one of four areas: structure-conduct-performance relationship theory, efficient-structure theory, expense-preference-behaviour theory and risk-aversion theory. All of these studies, however, have been for conventional banks and, to date, there have not been any similar studies for Islamic banks. Since Islamic banks have managed to position themselves–especially in the Muslim countries–as an additional financial institution offering similar banking facilities to those available at conventional banks, it is worthwhile to explore the existence of such profitability theories in the Islamic banking system as well.

LITERATURE REVIEW

Structure-conduct-performance (SCP) theory is based on the proposition that market concentration fosters collusion among firms in the industry. Concentration is defined as the number and size distribution of firms in the market. The assumption of this theory is that the degree of concentration in a market exerts a direct influence on the degree of competition among its firms. Highly concentrated markets 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 manufacturing firm data and gained popularity among researchers in banking studies during the 1960s. Weiss (1974) made a comprehensive review of the SCP literature for the manufacturing industry and found that almost all works using manufacturing firm data confirm that concentration had a positive relationship with profitability. In banking, the SCP was first used to measure performance and the concentration of deposits among banks in local market areas. The variables in measuring performance include bank profit rates, interest rate charges on loans, and the interest rates banks pay on deposits. Among the pioneer researchers who measured the effect of concentrations on interest rates were Schweiger and McGee (1961), Edwards (1964), Holland (1964) Edwards (1965), Flechsig (1965), Kaufman (1966), Meyer (1967), Philips (1967), Brucker (1970) and Aspinwell (1970). Researchers who focused on deposit services were Edwards (1965), Kaufman (1966), Weiss (1969) and Bell and Murphy (1966).

Schweiger and McGee (1961), Edwards (1964), Holland (1964), Edwards (1965), Flechsig (1965), Kaufman (1966), Meyer (1967), Philips (1967), and Brucker (1970) studied the effect of concentration on the gross interest rates charged on business loans and found that the greater the concentration ratio (the percentage of assets or deposits held by the largest two or three banks) in a market and/or the smaller the number of banks, the higher the average rate charged on loans. Although their findings support the structure-conduct-

performance theory, there are also some limitations. As was noted by Benston (1973), most of these studies have serious conceptual and statistical shortcomings that undermine the value of their results.

Edwards (1965) and Kaufman (1966), who studied the effect of concentration on interest rates paid on time and savings deposits, found that time and savings account interest rates were lower in areas with high concentration ratios. Bell and Murphy (1969) studied the effect of concentration on the fees charged for checking accounts and found that service charges were significantly higher in areas characterised by greater concentrations of deposit accounts of all size. Weiss (1969) did a survey on the adoption of no charge checking accounts and found that this type of account was not offered by the commercial banks in areas where concentration was low.

The effects of concentration on bank profitability were elaborated on by many researchers in the 1970s. Bank researchers, however, have not been able to find a consistently positive and significant relationship between concentration and profits. In his survey of 44 studies from 1961-1976, Heggested (1979) observed that concentration had either a significant or small effect on dependent variables such as profitability, loan rates, deposit rates, and the number of bank offices in only 26 studies. 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 did concentration significantly effect performance in the predicted direction. Acknowledging the inconsistency in the findings, many researchers started looking at profitability determinants from different perspectives.

Demsetz (1973) believed that market concentration is not a random event but rather the result of firms with superior efficiency obtaining larger market share and thereby earning Ricardian rents. Demsetz's hypothesis was developed further by Peltzman (1977) and Brozen (1982). Smirlock (1985) was the first researcher who tested this hypothesis in a banking context and labelled it as efficient-structure hypothesis in a banking context and labelled it as efficient-structure hypothesis. Smirlock (1985) believed that as a result of their efficiency, firms will obtain bigger market share and increase their profitability. In his study, using information from the balance sheets of 2,700 unit state banks operating in a seven-state area of the United States under the jurisdiction of the Federal Reserve Bank of Kansas City, Smirlock (1985) found that market share rather than concentration had a significant and positive impact on bank profit rates.

Edwards (1977) expanded on the expense-preference theory, which was first introduced by Becker (1957) and further developed by Williamson (1963). In contrast to the profit-maximising policy, this theory envisages a firm as a utility maximising unit in pursuit of non-profit maximising policies. In particular, this situation occurs when managers increase staff expenditures,

managerial emoluments and the discretionary profits for which they have a positive preference. In his study, Edwards (1977) found that wage and salary expenditures in banking increase with monopoly power and this indicates the existence of expense-preference behaviour. Edwards' finding was confirmed by Hannan (1979) and Hannan and Mavinga (1980), who found that the number of employees in the banks operating in markets that exhibit monopoly power was higher than the number of employees in banks existing in competitive markets. Smirlock and Marshall (1983), however, argued against these findings and claimed that the validity of this theory was subject to a series of breakdowns in other markets. They offered an alternative paradigm hypothesis called the agency-theoretics hypothesis. This hypothesis posits that any ostensible deviations from profit maximisation are because of the costs of an organisational structure that separates ownership from management and requires hierarcy. Profit maximisation is carried out subject to the constraints of available organisational structures and the associated contracting and monitoring costs.

Risk-aversion theory derived from a hypothesis which was first introduced by Galbraith (1967) and expanded by Cave (1970). The Galbraith-Cave hypothesis posits that uncertainty avoidance by large firms varies directly with the degree of market power that these firms possess. Edwards and Heggested (1973) tested this hypothesis in banking and believed that banks with monopoly power may choose to forego some of their potential profits by choosing safer portfolios than other banks in more competitive markets. The findings of Edwards and Heggested (1973) supported the hypothesis that the degree of uncertainty avoidance in banks increases with their monopoly power. As firms gain more monopoly power they may become more risk averse. Heggested (1977) introduced the impact of risk into his market-structure profitability model and found that risk was an important determinant of bank profits. The introduction of risk in the model had increased both the coefficient and the level of significance for concentration, demonstrating that banks with monopoly power were trading off some of their potential profits for less risk.

Short (1979) was among the earliest researchers who undertook an international study. He examined the relationship between the profit rates of 60 banks in Canada, Western Europe, and Japan as well as looking at the concentration in the nation-wide banking systems of these countries. Besides using the Herfindahl Concentration Index, Short (1979) introduced additional variables: government ownership, growth of assets, the discount rate and long-term government bond rates. While the growth of asset was not significant, the other three variables had significant relationships with profitability.

Revell (1980) made an analysis of bank costs and margins in various Organisation for Economic Co-operation and Development (OECD) countries

and claimed that inflation was the single all-pervasive cause of widened margins. Inflation, according to Revell (1980) affected banks through a number of different routes; i.e., interest rates and asset prices, exchanges rates, operating costs, the needs of customers and the general economic environment. Bourke (1989) examined the internal and external determinants of profitability using data from Europe, North America and Australia. The results of his study indicated that concentration was positively and moderately related to profitability. This study also supported the risk-aversion hypothesis but found little evidence to support the expense-preference theory. Molyneux and Thornton (1992) duplicated Bourke's (1989) study by using banks from 18 European countries. Their results confirmed all of Bourke's findings except those concerning the expense-preference theory. Unlike Bourke (1989), Molyneux and Thornton's (1992) findings support the expense-prederence theory.

INVESTIGATION TOOLS

The data for this study were based on the 10 year financial statements from the following banks: Bank Islam Malaysia Berhad, Malaysia; Islami Bank Bangladesh Limited, Bangladesh; Jordan Islamic Bank, Jordan; Dubai Islamic Bank, United Arab Emirates; Kuwait Finance House, Kuwait; Faisal Finance Institution, Turkey; Al Baraka Islamic Investment Bank Bahrain, Bahrain; Faysal Islamic Bank Bahrain, Bahrain; Bahrain Islamic Bank, Bahrain; Faysal Islamic Bank Sudan, Sudan; Tadamon Islamic Bank, Sudan; and the El Gharb Islamic Bank, Sudan.

The structure-conduct-performance theory was not tested in this study. This is because, firstly, the data for total deposits or total assets for the Islamic banking system (to compute the concentration ratio) is not available. Furthermore, six out of 14 banks in the study are banks in a monopolistic market, thereby negating the use of concentration. Finally, the results of earlier studies generally indicate that concentration tends to have an insignificant impact on profitability. Smirlock (1985) suggested that market share is the variable for examining the existence of the efficient-structure theory. The use of market share not only examines the existence of this theory in the Islamic banking system but also acknowledges that Islamic banks are relatively new to a country's financial system. Being new to the system, Islamic banks have to introduce various strategies and increase their efficiencies in order to capture market share. Therefore, bigger share is not necessarily followed by an increase in profit.

Bourke's (1989) methodology was used for examining the existence of expense-preference theory and risk-aversion theory in Islamic banks. Bourke (1989) introduced value added variables in his study, namely: (i) BTSETA (net profit before tax + staff expenses as a percentage of total assets), and (ii) BTSEPLTA (net profit before tax + staff expenses + provision for loan losses

as percentage of total assets). Bourke (1989) believes that the sign of the coefficient between concentration and the value added variable is an indicator for the existence of the expense-preference theory and the risk-aversion theory. A positive sign between concentration and BTSETA implies the existence of the expense-preference theory, while a positive sign between concentration and BTSEPLTA implies the non-existence of the risk-aversion theory. For this study, the existence of these two theories is measured using the market share variable.

Like Bourke (1989), the following dependent variables are used in this study:

1. BTCR: Net profit before tax as a percentage of capital and reserves,
2. ATCR: Net profit after tax as a percentage of capital and reserves,
3. BTTA: Net profit before tax as a percentage of total assets,
4. BTSETA: Net profit before tax + staff expenses as a percentage of total assets,
5. BTSEPTA: Net profit before tax + staff expenses + provision for loan losses as a percentage of total assets

The first four variables above not only serve as proxies for profitability but also act to test the existence of the efficient-structure theory. BTSETA and BTSEPTA will be used as an indicator for the existence of the expense-preference theory and the risk-aversion theory respectively. Since many banks in this study considered *zakat* (wealth or alms tax) as one of their expense items, no attempt is made to measure the effects of *zakat* on profitability. The independent variables for this study are as follows:

MKTSH: Market share (total deposits of an 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 for each country for each year,
CPI: Percentage increase in consumer price index for each country for each year,
CRTA: Capital and reserve as a percentage of total assets,
LIQ: Total financing as a percentage of total deposits,
TEXP: Total expenses as a percentage of total assets.

Data for INT, MON, and CPI were taken from the International Monetary Fund's monthly reports. While the coefficient of market share (MKTSH) serves as an indicator for the existence of all profitability theories in question for this study, other profitability determinant variables are also included in this study. As suggested by Short (1979), the discount rate (INT) is a genuine proxy for capital scarcity. A high discount rate means that a country is facing capital

scarcity and higher economy-wide profit rates. High discount rates could also lead to higher commercial bank profitability. When a central bank raises its discount rates, commercial banks tend to increase their lending rates and make more profit from their lending activities. In the case of Islamic banks, however, it is expected that the movement of discount rates will have no effect on their profitability since they operate on an interest-free basis.

Money supply (MON) and the consumer price index (CPI) are indicators for the growth of, and inflation in an economy. While increases in money supply will have a multiplier effect and increase profitability, Revell (1980) claimed that inflation will widen the cost profit margin. It is assumed that wages and other non-interest costs are growing faster than the rate of inflation and this is the case that is measured by the CPI. Capital ratio, liquidity ratio and staff expenses are all considered internal variables in determining a bank's profitability. The capital ratio (CRTA) is used to test Bourke's (1989) hypothesis that well capitalised banks enjoy access to cheaper sources of funds or that the prudence implied by high capital ratios is maintained in the loan portfolio with a consequent improvement in profit rates. In the case of liquidity (LIQ), a bank with high liquidity will prevent itself from long term investment opportunities, thus regarded as opportunity costs and expenses to them. Islamic banks are well known for having limited investment avenues. Total expenses should have an adverse effect on profitability.

The relationship between the independent and dependent variables are measured using a first order linear multiple regression. Since the respective variable time series from each country are short, the series are stacked across countries. In order to run OLS, diagnostic checks were performed to show that the cross-correlation across country series were not significantly different from zero that the residuals from each country regression had variances that were statistically not significantly different, and that the series were stationary. Moreover, the variables across countries were scaled so that they had about similar means. Thus, it was reasonable to assume homoscedasticity and the usual spherical assumptions on the stacked specification.

RESULTS

The findings of this study are reported in Table 1 and Table 2. All equations in those two tables are similar to the equations given by Bourke (1989) and Molyneaux and Thornton (1992). This study found both similarities and differences between the effect of independent variables on the profitability of Islamic banks.

As indicated in Table 1, both interest rate (INT) and money supply (MON) had a statistically significant positive relationship with return on capital and reserve ratios (BTCR) and (ATCR). These findings are similar to the results

given in Table 1 of Bourke (1989) and Molyneaux and Thornton (1992). The significant positive relationship between changes in interest rates and profitability for Islamic banks indicates that changes in interest rate levels will produce a similar impact on both conventional and Islamic banks. In the case of money supply, a positive relationship to profitability means that growth in an economy is shared by Islamic banks. Interestingly, this study found that benefits of market expansion was not shared by shareholders of Islamic banks. This goes against Smirlock's opinion that the bigger the market share, the more profits for the bank, and thus a larger dividend for shareholders. In the case of Islamic banks, being new to the market, there is a possibility that these banks are still not enjoying economies of scale, and incur a lot of marketing costs and other capital expenditures. All these expenses will reduce the profit before tax figure for the banks, thus reducing the potential income to shareholders. The usage of the profit-sharing method in deposit facilities could be another reason for this finding. This concept postulates that the more profits earned by the bank means more income for depositors.

TABLE 1. Estimates of the relation between the return on capital and
reserves, the return on assets and seven independent variables

	MKTSH	INT	MON	R^2	f
1. BTCR	-0.027	0.321[c]	0.011	0.460	8.09[a]
	(-0.246)	(1.894)	(0.082)		
2. BTCR	-0.412[b]	-	-	0.165	3.70
	(-1.923)				
3. BTCR	0.149	-	0.541[a]	0.571	31.59[a]
	(0.772)		(7.607)		
4. ATCR	-0.029	0.333[a]	-	0.460	12.26[a]
	(-0.276)	(4.488)			

t statistics in parentheses
a: Significant at a1 per cent level
b: Significant at a 5 per cent level
c: Significant at a 5 per cent level

Both Bourke (1989) and Molyneux and Thornton (1992) found that capital ratio was positively related to the profitability of conventional banks. Table 2 indicates that the capital ratio (CRTA) variable was also positively related to the return on assets. With regard to the liquidity ratio (LIQ), the results of this study indicate that liquidity has a marginal positive effect on profitability. This finding, although similar to the finding of Molyneux and Thornton (1992), contradicts the finding of Bourke (1989). As was suggested by the ordinary banking theory, high liquidity was found to reduce returns. There is no surprise in the occurrence of this phenomenon in Islamic banking.

TABLE 2. Estimates of the relation between the independent and value added variables

		CRTA	LIQ	MKTSH	INT	MON	CPI	TEXP	R^2	F
1.	BTTA	0.048[a] (2.897)	-0.003 (-1.037)	-0.007 (-0.896)	0.013[a]	-	-	-	0.481	6.70[a]
2.	BTTA	0.039[a] (3.417)	-0.005[c] (-1.681)	-0.010 (-1.299)	-	-	0.015[a] (6.322)	-	0.614	18.26[a]
3.	BTTA	0.039[a] (3.095)	-0.010[a] (-3.364)	-0.031[a] (-3.984)	-	-	-	-	0.416	9.03[a]
4.	BTTA	0.032[a] (2.667)	-0.003 (-1.071)	-	-	-	-	0.259[a] (5.276)	0.486	13.34[a]
5.	BTTA	0.027[b] (2.303)	-	-	-	-	-	-	0.197	5.30[a]
6.	BTSETA	0.068[a] (4.801)	-0.001 (-0.419)	-	-	-	-	-	0.421	14.07[a]
7.	BTSETA	0.067[a] (5.416)	-0.000 (0.297)	-0.010 (-1.198)	-	0.015[a] (5.107)	-	-	0.617	19.64[a]
8.	BTSETA	0.067[a] (5.377)	0.000 (0.181)	-0.009 (-1.030)	-	-0.000 (-0.167)	0.017[a] (3.134)	-	0.653	17.82[a]
9.	BTSETA	0.064[a] (4.724)	0.000 (0.040)	-0.007 (-1.777)	0.011[a] (3.045)	-	-	-	0.665	17.72[a]
10.	BTSEPTA	0.054[a] (3.699)	0.001 (0.366)	-	-	-	-	-	0.365	10.04[a]
11.	BTSEPTA	0.053[a] (4.021)	0.001 (0.307)	(-0.014) (-1.543)	-	0.013[a] (4.151)	-	-	0.554	14.23[a]
12.	BTSEPTA	0.060[a] (4.582)	0.003 (1.035)	-	-	0.000 (0.058)	0.016[a] (2.847)	-	0.605	17.55[a]
13.	BTSEPTA	0.062[a] (4.282)	0.003 (0.969)	-0.009 (-1.377)	0.003 (0.830)	-	-	-	0.651	16.37[a]

t statistics in parentheses; a: Significant at a 1 per cent level; b: Significant at a 5 per cent level; c: Significant at a 10 per cent level

First, all Islamic banks concentrate on mark-up facilities and since these facilities are short-term in nature, they generate smaller returns. Second, the Islamic banks in countries such as Malaysia, Kuwait and Sudan are channelling most of their funds into Islamic securities issued either by their respective governments or by corporate bodies. The findings of this study also indicated that inflation (INF) and total expenses (TEXP) had a significant positive relationship with profitability. These findings are very similar to the results of conventional banks studies. For market share, a weak negative relationship was found to profitability. This result goes against the efficient-structure theory which posited that bigger markets bring more profits to the bank. Reasons for this phenomenon have already been highlighted.

Bourke (1989) believes that the existence of the expense-preference theory is reflected by a positive relationship between the concentration ratio and the first value added measure (BTSETA), whereas an adverse relationship between concentration and BTSEPTA is an indicator for the existence of the risk-aversion theory. As indicated in Table 2, the market share variable (MKTSH) had an adverse relationship with the value added measures in all of the equations. The adverse significant relationship between MKTSH and BTSETA implied that no support for the expense-preference theory can be found in Islamic banks. As for the risk-aversion effect, evidence was found to support this theory. Since market share was used to measure the concentration effect, a negative relationship indicates the expansion of Islamic bank market share will lower financing costs (BTSEPTA). This finding is in line with the current practices of and Islamic bank that adopts a very conventional approach to their financing and investment activities. In the case of Islamic banks in Malaysia and in Kuwait, for example, a bulk of their assets are invested in government securities. These securities carry low risk and at the same time provide returns reasonably similar to the interest-based securities.

CONCLUSION

The main objective of this study was to examine whether some of the conventional bank profitability theories were applicable to Islamic banks. While most independent variables such as capital ratio, liquidity, interest rates, money supply, inflation, and total expenses have a similar impact on both Islamic banks and conventional banks, the market share variable produced a different result. The similar effects of determinants on profitability for both conventional and Islamic banks could be due to various reasons. Islamic banks in this study not only operate within the same environment as conventional banks but it is likely that they are also using the same techniques as conventional banks in managing assets and liabilities. For example, Islamic banks are known to have used market interest rates as a

benchmark in fixing their profit-sharing and mark-up ratios. Similarly their deposits' facilities resemble the facilities of conventional banks. These findings, therefore, refute the opinion of some scholars who believe that under no circumstances can a comparison be made between Islamic and conventional banks.

In the case of profitability theories, evidence was found to support the risk-aversion theory but the existence of the efficient-structure theory and the expense preference theory in Islamic banks was not supported. An existence of risk-aversion theory reflects the conservative attitude adopted by the management of Islamic banks and this attitude is considered inappropriate for the future development of Muslim communities. This finding confirms that Islamic banks are trying to avoid risky ventures by applying mark-up principles in their financing activities. This is because these principles are noted for their simplicity, pre-determined rate of return and low risk. Therefore, it is reasonable to believe that the opinions of Muslim scholars that *mudaraba* dan *musharaka* are principles that are truly Islamic for their substance in promoting Islamic values are being ignored by the management of Islamic banks.

The absence of efficient-structure theory should be regarded as a signal for Islamic banks to enhance their efficiency and productivity. Islamic banks in some countries not only have to compete with conventional banks but face stiff competition among themselves. In Malaysia, for example, almost all commercial banks and finance companies provide interest-free deposit facilities. The financing facilities based on Islamic principles are also available at selected commercial banks. Therefore, in order to survive in the existing competitive environment, Islamic banks not only need to keep abreast of modern technology in delivering their products and services, but must also introduce rigorous marketing strategies to stay side-by-side with conventional banks.

Finally, the non-existence of expense-preference theory indicates that an increase in staff expenses was not in proportion to the increase in total income. This could be due to either the presence of under-paid staff or fewer recruitment opportunities being made available by the Islamic banks. It is paramount for Islamic banks to remember that one of the objectives of their existence is to recruit and train more Muslim bankers. More bankers with a sufficient knowledge of the concepts and operations of Islamic banking are needed for future expansion of the system. The individuals who are currently working at the existing Islamic banks can be utilised as a nucleus of officers for new Islamic banks either in their own or in other countries.

of New South Wales, Australia for providing helpful comments and suggestions.

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