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**Research Article**

# The Significant Financial Ratios of the Islamic and Conventional Banks in Malaysia Region

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**Abstract:** This study figure out the most significant financial ratios to evaluate and investigate the performance efficiency and the differences between Islamic and conventional banks in Malaysia. The financial ratios are the main resource to study the institutions in financial area which are used to study the performance of two Islamic Malaysian banks, also comparing the Islamic and conventional banks in Malaysia. Financial ratios are widely used to study the banking system features specially the difference between two different banking systems. The study identified twelve the most significant financial ratios out of twenty three financial ratios. Four of the twelve financial ratios are similar to the significant financial ratios that obtained from previous studies.

**Keywords:** Discriminant analysis, fast-MCD estimator, financial ratio, Islamic and conventional banks, Wilks' Lambda

## INTRODUCTION

The financial sector plays an important role in the economic development of a country. It is also related to the stability of the financial environment. However of Malaysian financial sector one of the wealthiest sectors in the world to study banking system, because the Malaysian banking system is growing rapidly and is various polarities, even the banking system contain two different type of banks Islamic and conventional banks. On other hand the it is mixture of two types of banks where only a few banks are considered as pure Islamic banking system (bank Islam and bank Muamalat) and almost 50% from the conventional banks working as pure conventional banking system. Large number of scholars studied the banking system in Malaysia where most of these studies concentrate on the performance and the efficiency of both Islamic and conventional banks in Malaysia. Rosnia *et al*. (2011) studied the financial performance of Malaysian Islamic and conventional banks presenting two types of banks over five years (2004-2008). On other study Samad and Hassan (2000) evaluate the intertemporal and interbank performance of Malaysian Islamic banks during 1994-1997 by applying the financial ratios. Yusoff and Wilson (2005) determined the main factors influencing Islamic and conventional deposits in Malaysia. Kyeong *et al*. (2012) presented comparative study between Islamic and conventional banking system and their implications.

The financial characteristics of the banking system are widely used to evaluate the performance and efficiency of the banks. In different studied the financial ratios are used. Samad (2004) examines the comparative performance of Bahrain banks using the profitability, liquidity risk and credit risk. Nine financial ratios are used in measuring these performances. Sanaullah and Rehman (2011) compared the financial performance of Islamic and conventional banks in Pakistan where eighteen financial ratios were estimated to measure these performances. Hanif (2010) analyzed and compare the performance of Islamic and conventional banking system in Pakistan. Olson and Zoubi (2008) used accounting ratios to distinguish between Islamic and conventional banks in the GCC region.

The financial ratios are utilized to investigate the difference between banking systems and to analyze the performance efficiency of these systems. Almost of the studies on Malaysia banking system were used the financial ratios generally without focusing on which ratio is more significant and useful to study the difference between the two type of financial institutions, the researcher focusing on the set of ratios Profitability, Liquidity, Operations, Capital, Assets Quality and so on. Rosnia *et al*. (2011) studied the financial performance of Malaysian Islamic banks versus conventional banks by using only two Islamic banks (Bank Islam and Bank Muamalat). Said and Tumin (2011) presented investigate of performance and financial ratios of banks in Malaysia and China, where they investigate the impact of bank-specific factors which include the liquidity credit, capital operating. Mat-Nor *et al*. (2006) intended to analysis the financial

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performance of the banking institutions in Malaysia and if there significant difference in efficiency.

It is clearly the previous studies used the financial ratios without focusing on which ratio is significant and more efficiency in evaluate the performance and the difference of two groups of banks. This study attempt to figure out the most significant financial ratios in studying the difference between the banking systems of Islamic and conventional banks in Malaysia. Where twenty three financial ratios are used in this study and they classify to two groups under five sets Profitability ratios, Liquidity ratios, Operations ratios, Capital ratios/ Risk and Solvency ratios, Assets Quality ratios. In this study twelve ratios are found as significant ratios and more efficiency to investigate the performance and the differences between the two banking system in Malaysia.

## DATA AND FINANCIAL RATIOS

**Data:** The financial data for Islamic and conventional banks are collected from the Bank Scope database. The Bank Scope database converts the data to common international standards to facilities comparisons. These Bank Scope database contain summary about the bank include the income statement, balance sheet and financial ratios.

As shown in Table 1, the 272 observations are collected for banks operating years in the Malaysia for the calendar 2003-2011. The observations in period 2003-2005 were not available for all banks for Islamic banks.

There are 176 observations for conventional banks and 96 observations for Islamic banks, where the sample contains contain different number of banks based on the year where it has 8 banks (4 conventional and 4 Islamic) for 2011, 40 banks (22 conventional and 18 Islamic) for 2010, 41 banks (22 conventional and 19 Islamic) for 2009, 41 banks (22 conventional and 19 Islamic) for 2008, 34 banks (22 conventional and 12 Islamic) for 2007, 33 banks (22 conventional and 11 Islamic) for 2006, 29 banks (22 conventional and 7 Islamic) for 2005, 26 banks (22 conventional and 4 Islamic) for 2004, 20 banks (18 conventional and 2 Islamic) for 2003. Where 10 banks are working at both type of banks as it shown in Table 2, these banks offering Islamic and conventional banks, where working as conventional banks at the beginning but they promote the Islamic bank branch in few years ago and Some of them international banks and local banks.

The Table 3 show the banks that operating as Islamic banks and the conventional banks only, where both groups of banks working in separate from the other. In this study 19 Islamic banks and 21 conventional banks, 10 from both group of banks are operating on both types Islamic and conventional same as it shown in pervious Table 2, where almost of them started operating in the beginning of last decade. Table 3 shows the names of the banks that working in separately groups. First column from this table is the list of conventional banks in Malaysia that operating as conventional banks separate from the Islamic banks.

Table 1: Number of banks in the sample

| | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | T. observation |
|---|---|---|---|---|---|---|---|---|---|---|
| Conventional | 4 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 18 | 176 |
| Islamic | 4 | 18 | 19 | 19 | 12 | 11 | 7 | 4 | 2 | 96 |
| Total | 8 | 40 | 41 | 41 | 34 | 33 | 29 | 26 | 20 | 272 |

Table 2: The name of banks working at both type of banks

| Conventional banks | Islamic banks |
|---|---|
| Affin Bank Bhd | Affin Islamic Bank Bhd |
| Alliance Bank Malaysia Berhad | Alliance Islamic Bank Berhad |
| EON Bank Bhd | EON Islamic Bank Bhd |
| CIMB Investment Bank Bhd | CIMB Islamic Bank Berhad |
| Hong Leong Bank Bhd | Hong Leong Islamic Bank Bhd |
| HSBC Bank Malaysia Bhd | HSBC Amanah Malaysia Bhd |
| OCBC Bank (Malaysia) Bhd | OCBC Al-Amin Bank (Malaysia) Bhd |
| Public Bank Berhad | Public Islamic Bank Bhd |
| RHB Bank Bhd | RHB Islamic Bank Bhd |
| Standard Chartered Bank Malaysia Bhd | Standard Chartered Saadiq Bhd |

Table 3: The name of the banks working in separate groups

| N. | Conventional banks | Islamic banks |
|---|---|---|
| 1 | Bank of Tokyo-Mitsubishi Ufj (Malaysia) Bhd | Al Rajhi Banking (Malaysia) Bhd |
| 2 | Bank of China (Malaysia) Bhd | Asian Bank Malaysia |
| 3 | Bangkok Bank Bhd | Bank Islam Malaysia Bhd |
| 4 | Bank of America Malaysia Bhd | Bank Kerjasama Rakyat Malaysia Bhd |
| 5 | Citibank Bhd | Bank Muamalat Malaysia Bhd |
| 6 | Deutsche Bank Malaysia | Bank Simpanan Nasional |
| 7 | J.P. Morgan Chase Bank Bhd | Kuwait Finance House (Malaysia) Bhd |
| 8 | Malayan Banking Bhd | Maybank Islamic Bhd |
| 9 | The Bank of Nova Scotia Bhd | Pt Bank Muamalat Indonesia, Tbk |
| 10 | The Royal Bank of Scotland Bhd | |
| 11 | United Overseas Bank (Malaysia) Bhd | |

Table 4: The 23 financial ratios

| Assets quality ratios |
|---|
| • LRGL = loan loss reserve/gross loans = loan loss res/gross loans |
| • LLPNL = loan loss provision to net interest revenue = loan loss prov/net int rev |
| • LRIL = loan loss reserve impaired loans = loan loss res/impaired loans |
| • ILGL = impaired loans gross loans = impaired loans/gross loans |
| • ILE = impaired loans equity = impaired loans/equity |
| Capital ratios/risk and solvency ratios |
| • T1R = tier 1 ratio |
| • TCR = total capital ratio |
| • ETA = equity/total assets |
| • ENL = equity/net loans |
| • EDSF = equity/depositors and short-term funding = equity/dep and st funding |
| • EL = equity/liabilities |
| Operations ratios |
| • NIM = net interest margin |
| • OOIAA = other operation income/average assets = oth op inc/avg assets |
| • NIEAA = non-interest expense/average assets = non int exp/avg assets |
| • CI = cost to income ratio |
| Profitability |
| • NIRAA = net interest revenue/average assets = net int rev/avg assets |
| • NOTAA = non operation items and taxes/average assets |
| • ROAA = return on average assets = return on avg assets |
| • ROAE = return on average equity |
| • REP = recurring earning power = ((provisions + profit before taxes) /total assets ) *100 |
| Liquidity ratios |
| • NLTA = net loans/total assets |
| • NLDSF = net loans/deposits and short term funding |
| • LADSF = liquid assets/deposits and short term funding |

Eleven banks from 21 conventional banks work in Malaysia, the banks on this list mixed international and Malaysian banks. In the second column, nine of them working as Islamic banks, however, only two of them were working before 2000 maybank Islamic, Islamic banks. The other banks some of them international banks and some are Malaysian banks. These nine banks from 19 banks in Malaysia work as Islamic banks, the other ten banks working as Islamic banks under conventional banks management.

**Financial ratios:** Financial rules of conventional banks in Malaysia adopted by the International Accounting Standard Board IASB (reference). While Islamic bank in Malaysia adopted the accounting rules based on the Interest Free Banking Scheme IFBS (Islamic Banking Scheme IBS), where introduced by central bank of Malaysia. The Islamic banks financial rules are derived basis on Islamic law, where the Malaysian government on March 1993, introduce an interest-free banking scheme. Under this scheme all conventional banks were asked to participate and offer Islamic finance by opening Islamic counters that would be side by side with conventional counters Yusoff and Wilson (2005). The researchers used different financial ratios, Semra and Kapusuzoğlu (2008) presented study to reveal the effect of make evaluations on 30 ratios listed under the title of liquidity, financial, activity and profitability. Zulkarnain and Jalil (2009) used 64 financial ratios to develop the failure prediction model for Singaporean companies.

The 23 financial ratios used in this study, where the definitions of these ratios are shown in Table 4. The shortcut of these financial ratios are using. They are splitted to five categories as follow: Assets Quality Ratios, Capital Ratios, Operations Ratios, profitability, Liquidity Ratios. These are the general categories for financial ratios groups but the financial ratios itself selected same as presented in the BankScope database resource. The number of financial ratios in the documents of BankScope database more than 23 financial ratios. Only 23 financial ratios obtained from BankScope database, where the other does not have enough data for all time period.

At the data resources the calculations on the financial ratios are not explained. During the researches studies Turen (1995) explained the risk level of an Islamic banks are effected by three new statues governing the operations of this institution, where deposit holders are replaced by equity holder, interest payments to depositors are converted into profit or loss sharing and, loans to customer are transformed into capital participation. Interest income and expenses are replaced by commission income and expenses for Islamic banks and net income for Islamic banks are the net income before taxes plus Zakat. However the other variables in both categories of banks are almost same define.

## DISCRIMINANT ANALYSIS

The discriminant analysis model is widely used in a multi-group setting to distinguish between the groups and technique for describe the separation between the groups of observations. In addition it is used to classify

Table 5: Tests of equality of group means

| Variable | Variables code | Wilks' Lambda | F | df1 | df2 | Sig. |
|---|---|---|---|---|---|---|
| Assets quality ratios | | | | | | |
| v1 | LR GL | 0.995 | 1.260 | 1 | 270 | 0.263 |
| v2 | LLPNL | 0.939 | 17.388 | 1 | 270 | 0.000 |
| v3 | LRIL | 0.998 | 0.555 | 1 | 270 | 0.457 |
| v4 | ILGL | 0.996 | 1.145 | 1 | 270 | 0.286 |
| v5 | ILE | 0.980 | 5.390 | 1 | 270 | 0.021 |
| Capital ratios/risk and solvency ratios | | | | | | |
| v6 | T1R | 0.971 | 8.169 | 1 | 270 | 0.005 |
| v7 | TCR | 0.971 | 7.924 | 1 | 270 | 0.005 |
| v8 | ETA | 0.949 | 14.540 | 1 | 270 | 0.000 |
| v9 | ENL | 0.956 | 12.486 | 1 | 270 | 0.000 |
| v10 | EDSF | 0.939 | 17.679 | 1 | 270 | 0.000 |
| v11 | EL | 0.998 | 0.570 | 1 | 270 | 0.451 |
| Operations ratios | | | | | | |
| v12 | NIM | 0.978 | 6.047 | 1 | 270 | 0.015 |
| v14 | OOIAA | 0.957 | 12.237 | 1 | 270 | 0.001 |
| v15 | NIEAA | 0.894 | 32.008 | 1 | 270 | 0.000 |
| v19 | CI | 0.980 | 5.613 | 1 | 270 | 0.019 |
| Profitability ratios | | | | | | |
| v13 | NIRAA | 0.896 | 31.367 | 1 | 270 | 0.000 |
| v16 | NOTAA | 0.997 | 0.682 | 1 | 270 | 0.410 |
| v17 | ROAA | 0.934 | 19.152 | 1 | 270 | 0.000 |
| v18 | ROAE | 0.982 | 4.842 | 1 | 270 | 0.029 |
| v20 | REP | 0.995 | 1.346 | 1 | 270 | 0.247 |
| Liquidity ratios | | | | | | |
| v21 | NLTA | 0.955 | 12.649 | 1 | 270 | 0 |
| v22 | NLDSF | 0.978 | 6.199 | 1 | 270 | 0.013 |
| v23 | LADSF | 0.957 | 12.006 | 1 | 270 | 0.001 |

a new observation into one of the known groups. Which date of linear discriminant analysis back as far as Fisher. Although of the linear discriminant analysis had several more sophistication non-linear classification method, but it is still often used and performs well in many applications. Moreover linear discriminant analysis is a linear combination of the measured variables and easy to interpret.

There are different tests to determine the significant variables under discriminant analysis model but in this study the Wilks' Lambda are used. Wilks' Lambda is the proportion of the total variance in the discriminant analysis scores not explained by differences among the groups and it is statistic key refer whether there or not relationship between the independent and dependent variables. Wilks' Lambda is utilized to test the null hypothesis that the means of all of the independent variables are equal across groups of the dependent variable. If the means of the independent variables are equal for all groups, the means will not be a useful basis for predicting the group to which a case belongs and thus there is no relationship between the independent variables and dependent variable.

The Wilks' Lambda is applied overall 23 ratios as it shown in the Table 5, where 12 variables are significant (LPNL, T1R, TCR, ETA, ENL, EDSF, EL, NIRAA, OOIAA, NIEAA, ROAA NLTA), where the means of the independent variables are unequal across groups of the dependent variables.

## RESULTS AND DISCUSSION

This section discusses the results obtained through analyze financial ratios. Table 5 present the results of the wilks' lambda test for five characteristics Assets Quality Ratios, Capital Ratios/Risk and solvency Ratios, Operations Ratios, Profitability Ratios and Liquidity Ratios, in order to cover as much as possible from the financial ratios for both groups of banks. Table 5 shows the values of wilks' lambda for 23 financial ratios and the significant values of the ratios. It is including the degree of freedom for the two groups Islamic and conventional banks. The wilks' lambda is used to figure out the significant ratios, where 12 financial ratios are found as significant ratios from the 23 financial ratios.

**The significant ratios:**

**Assets quality:** The assets quality refers to an assets ability to generate cash flow over time. Asset quality must determine if workout procedures for problem assets and bank ability to absorb inherent losses are sufficient. Generally, bank risk comes from the weak assets. The poor assets of banks are a reason for capital erosion and increase capital risk and credit, the credit evaluation is impartment for assets quality. The high assets quality ratios generally mean the bank has stable cash flow patterns and low percentage of risk with steady positive growth. Assets quality is the first set of ratios in the Table 5. It is include five ratios, where entered to the analysis. The loan losses provision to net revenue ratio is taken as a significant ratio based on the wilks' lambda test. Where it can use in study the assets quality and the ability of bank in facing the risk based on the wilks' lambda test. So the Loan Loss Provision

to Net Interest Revenue ratio is useful in evaluates the bank assets quality in order to investigate the bank situation and performance.

**Capital ratios:** This group of ratios are designed to help in measures the degree of financial risk that the investment faces. Also the solvency ratios are of the several tools used to measures the ability of a bank to meet its long- and short-term financial obligations. In this set of ratios six ratios are entered the analysis where the Table 5 show the values of wilks lambda for these ratios. This set of ratios contains ratios more than other ratios and it has five significant ratios from the six ratios. This set includes half of the significant ratios in this analysis. Only the Equity to Liabilities consider insignificant ratio where all Tier 1 Ratio, Total Capital Ratio, Equity to Total Assets, Equity to Net Loans, Equity to Depositors and Short-Term Funding consider as a significant ratios.

**Tier 1 ratio:** Tier 1 ratio is measurement for bank equity. A comparison between the bank core equity with total risk weighted assets, Where Tier 1 Ratio evaluate the bank financial strength and stability.

**Total capital ratio:** The total capital ratio is financial criterion ratio measures a bank capital adequacy of financial bank stability. High value of the ratio indicates to good sound to the bank.

**Equity to total assets:** This ratio is one of the standard ratios used to ascertain the overall financial stability of banks. Its measures the level of leverage used by a banks. This ratio is proportion of the total assets that are financed by stockholders and not creditors. Low ratio will be good result for shareholders where the bank managerial performance well.

**Equity to net loans:** This ratio is measures a bank financial leverage by calculating the proportion of equity and debt the bank is using to finance its assets.

**Equity to depositors and short-term funding:** The equity to depositors and short-term funding measures the amount of permanent funding relative to short-term potentially volatile founding. Higher ratio is the better indicator for the capital adequacy of bank.

**Operation ratios:** These ratios evaluate the operating and how efficient the management utilized the bank assets. The operation ratios assess the effectiveness the successful of bank in generating the profit and the quality of performance of the managerial efficiency, also the efficiency of the banks in controlling its expenses. In general higher value of these ratios its consider as a good indicator for bank, which means bank is doing well.

Table 5 present the third set (Net Interest Margin, Cost to Income Ratio, Other Operation Income to Average Assets, Non-Interest Expense to Average Assets). This set includes four ratios (Other Operation Income to Average Assets, Non-Interest Expense to Average Assets). The wilks' lambda test values show in Table 5, where only two ratios (the ratios) are significant ratios.

**Other operation income to average assets:** This ratio is helpful for judging the banks earning quality. In general bank profits should come from ongoing operations not from onetime events or opportunities. The ratio utilize to show how the bank earning during the operations relatively to the average assets.

**Non-interest expense to average assets:** This ratio is comprised all operating expenses including salaries and benefits, maintenance contracts, etc., the non-interest expenses is important because banks must make efficient use of its resources in order to be successful. The higher value of this ratio indicates to not good situation, where the non-interest expenses higher comparing to the average assets.

Table 5 show the operation ratios also the wilks' lambda for all ratios. The values for the Net interest margin and cost to income ratio lowers than the values for the other ratios. Both ratios other operation income to average assets and non-interest expense to average assets are significant ratios in judging the banks earning and show the efficient of using the bank resources, both of these ratios are useful in studying the banks situation.

**Profitability ratios:** The profitability ratios con be used to examine the bank ability of generating and earning profits and how well the bank performing by analyzing how profits were earned relatively to assets and equity. Table 5 provide the profitability ratios set where this including five financial ratios (Net Interest Revenue to Average Assets, Non Operation Items and Taxes to Average Assets, Return On Average Assets, Return On Average Equity, Recurring Earning Power).

Two financial ratios Net Interest Revenue to Average Assets and Return on Average Assets are considering as significant ratios from the set of profitability ratios.

**Net Interest Revenue to Average Assets (NIRAA):** This ratio evaluates the bank investment decisions and how the banks investment decisions success, comparing to its debt situation. The negative value refer that bank did not make optimal decision, because interest expenses were greater than the amount of revenue that generated by the investment.

**Return on Average Assets (ROAA):** This ratio is important criterion of financial bank performance and

managerial efficiency. The higher return on the overage asset ratio indicates to high financial performance (profitability) and it does consider one of the most ratios used in financial institutions.

Both Net Interest Revenue to Average Assets (NIRAA) and Return on Average Assets (ROAA) ratios are significant ratios and they will be significant in study the banks groups differences and investigate them performance based on their financial characteristics.

**Liquidity ratios:** The liquidity ratio reflects the ability of bank to face its short-term immediate obligations using assets that are most readily convert into cash. The liquidity ratios provide a measure of banks ability to generate cash to meet its immediate obligations. The measures are the liquidity ratios as it's shown in the Table 5 at group fine in the liquidity ratios include Net Loans to Total Assets, Liquid Assets to Deposit and Short-Term Found ratio. From the wilks' lambda test values in the Table 5 only two financial ratios from the liquidity ratios consider as a significant ratios.

**Net Loans to Total Assets (NLTA):** A net loan to total assets is measure the percentages of assets are tied up in loan. The higher ratio indicates to less liquid banks, the value of this ratio is the smallest values through all liquidity ratios.

**Liquid Assets to Deposit and Short-Term Found ratio (LADSTF):** This ratio indicates to the percentage of deposit and short-time fund that are available to face sudden withdrawal. The higher value of ratio indicates to more liquid.

The wilks' lambda values for both ratios NLTA and LADSTF (0.955, 0.957) respectively less than the NLDSF third ratio in the liquidity ratios list. So from the set of ratios two ratios are significant in distinguish and evaluate the performance of the group of banks.

We conclude from the above that five categories of the financial ratios are studied and it is found that twelve financial ratios are significant in distinguish between the Islamic and conventional banks in Malaysia. The ratios are, The loan losses provision to net revenue ratio, Tier 1 Ratio, Total Capital Ratio, Equity to Total Assets, Equity to Net Loans, Equity to Depositors and Short-Term Funding, Other operation income to average assets, Non-Interest Expense to Average Assets, Net Interest Revenue to Average Assets, Return on Average Assets, Net Loans to Total Assets, Liquid Assets to Deposit and Short-Term Found ratio. And it is found that the capital ratios are more significant to study and finding the differences between the Islamic and conventional banks. The operation, profitability, liquidity ratios have same number of significant ratios. The assets quality has only one significant ratio to distinguish between the two categories of banks.

**The significant variables performance under fast-MCD:** In this section the significant variables that obtain by using linear discriminant analysis and wilk's lambda in this study are compared to the other twelve variables that generally used in previous studies of Malaysian banking industry and other regions. Those studies focused on these variables. For example, Rosnia *et al*. (2011) used ROAA, ROAE, NLDSF, LADSTF, NIM, OOIAA and ETA to study the performance of Malaysian Islamic banks versus conventional banks. Samad and Hassan (2000), investigated the Malaysian Islamic banks during the 1984-1997 based on the financial ratios including POAA, POAE. Srairi (2010) applied ROAA, NLTA, ETA and CI with more ratios to found the cost and profit efficiency of conventional and Islamic banks in GCC countries. Olson and Zoubi (2008) utilized the financial ratios to found whether it is possible to distinguish between the two types of banks. Hassan and Bashir (2003), analyses how banks characteristics and the overall financial environment effect the performance of Islamic banks by using ETA, EL, NLM, NIEAA, OOIAA, CI, NLTA.

Both categories of the significant variables that variables obtained based on the analysis this study and the variables that obtained based on the previous studies as they shows in the Table 6 are applied on linear discriminant analysis by using Fast-MCD to figure out the percentage of misclassification probability for both Islamic and conventional banks group.

The highly robust Fast-MCD is applied by using three methods to obtain the initial covariance estimator $\Sigma$ with reweight version. The first approach is straightforward by pooled the covariance of matrices. It has been applied by Chork and Rousseeuw (1992) and denoted by PCOV-W. The second approach is pooling the observations instead of the groups' covariance matrices and has been proposed by He and Fung (2000) and denoted by POBS-W. The third approach is minimum within-group covariance determinant of Hawkins and McLachlan (1997) and denoted by MWCD-W.

From the Table 7 we conclude that the significant variables that obtained by using the analysis in this study are more accurate to figure out the misclassification probability and they are highly efficiently to distinguish between the two groups of banks. As it is clearly the values in the first two approaches PCOV-W and POBS-W have 0.1513 and 0.1545 values respectively, for the significant variables from previous studies is behave better than the significant variables. Form this study where they have 0.1617 and 0.1691 values respectively. But the third approach MWCD-W the significant variables from the

Table 6: The two categories of significant variables that applied in linear discriminant analysis with fast-MCD estimator based on the resource of obtaining them

| Symbol | Name of variables obtained from the analysis in this study | Symbol | Name of variables obtained based on the previous study |
|---|---|---|---|
| LLPNL | Loan loss provision to net interest revenue | REP | Recurring earning power |
| T1R | Tier 1 ratio | NLTA | Net loans/total assets |
| TCR | Total capital ratio | NIM | Net interest margin |
| ETA | Equity/total assets | ETA | Equity/total assets |
| ENL | Equity/net loans | EL | Equity/liabilities |
| EDSF | Equity/depositors and S.T. funding | CI | Cost to income ratio |
| OOIAA | Other operation income/avg. assets | OOIAA | Other operation income/avg. assets |
| NIEAA | Non-interest expense/average assets | NIEAA | Non-interest expense/average assets |
| NIRAA | Net interest revenue/avg. assets | NLDSF | Net loans/deposits and S.T. funding |
| ROAA | Return on average assets = return on avg. assets | ROAA | Return on average assets = return on avg. assets |
| NLTA | Net loans/total assets | ROAE | Return on average equity |
| LADSF | Liquid assets/deposits and short term funding | LADSF | Liquid assets/deposits and short term funding |

Table 7: The misclassification probability values of Islamic and conventional banks for significant variables by using three methods

| Variables/methods | PCOV-W | POBS-W | MWCD-W |
|---|---|---|---|
| The significant variables based on the analysis from this study | 0.1618 | 0.1691 | 0.0111 |
| The significant variables based on previous study | 0.1513 | 0.1550 | 0.0712 |

analysis behave better and more accurate than the other approaches, which obtained 0.0111 and 0.0712 for the significant variables in this study and the variables based on previous studies respectively.

The MWCD-W approach is shows more accurate than the other approaches where Hubert and Van Driessen (2004) used these approaches under Fast-MCD and it shows the MWCD-W approach is much better than the PCOV-W and POBS-W approaches. Alrawashdeh *et al*. (2012) used these approaches and the MWCD-W shows more appropriate and accurate in investigation the misclassification probability also in discriminant between the banks groups. We conclude that the significant variables that figure out of this study better that the variables that chosen based on the previous studies in studying the performance and distinguish the Islamic and conventional banks.

## CONCLUSION

The empirical result of this study indicate that measures of bank characteristics such as assets quality, capital ratios, operation ratios, profitability ratios and liquidity ratios are doing well in discriminant bank system in Malaysia. Where these bank characteristics useful in study the bank ability in generate the cash flow and the bank assets strongest, also evaluate the degree of financial risk that bank faces and the bank solvency to face the short and long-term financial obligations. In order to evaluate the directors of the bank efficiency and the efficient of the directors of the bank in utilized the bank assets. Measure the profitability of the bank by estimate the bank ability in earning the profit. Study the ability of bank in facing the short-term immediate obligations with measuring the bank ability in generating the cash.

In first glimpse at the data that most accounting ratios are similar for both groups of banks (Islamic and conventional bank) where the difference in the accounting ratios based on the difference in the principle of the Islamic banks. Islamic banks follow the Islamic law (Al shariah), where the interest is prohibition and the sharing risk in transaction are required. On the contrary the conventional bank is not requiring any of these Islamic taboos in its commercial transactions.

The first result from this study that the operational characteristics of the two types of banks can be distinguished based on their financial characteristics. Twelve financial ratios are found as significant ratios that can be used in study the difference and evaluate the performance of two types of banks. Loan losses provision to net revenue ratio, tier 1 ratio, total capital ratio, equity to total assets, equity to net loans, equity to depositors and short-term funding, other operation income to average assets, non-interest expense to average assets, net interest revenue to average assets, return on average assets, net loans to total assets, liquid assets to deposit and short-term found ratio. These ratios are more useful to study the two types of banks. The capital ratios set has the most significant financial ratios. Assets quality ratios set has only one significant ratios. Operation ratios, Profitability ratios and Liquidity ratios set have same number of significant ratios where each set has two significant ratios.

Second the significant variables that obtained in this study showed high efficiency to distinguish and study the performance of banks. Also they are able to provide better result in estimate the misclassification probability for two groups of banks more than the other variables.

The limitation of this study including the following, number of the financial ratios that are taken in this study do not covering all the two types of banks financial characteristics. Only 23 financial ratios are used in this study. Another limitation, common to most accounting prediction studies, that the variables were not selected based on any economic theory. Although this study considered 9 years of data, the time period of

analysis is still relatively short and only involve year during on economic boom in Malaysia. Also the data variables of the first 3 years of the time period of analysis were not available for all Islamic banks.

Finally it would be interesting to use these significant financial ratios in study the properties of types of banks, performance and to distinguish the types of banks in Malaysia.

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