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USING THE CAMEL FRAMEWORK IN ASSESSING BANK PERFORMANCE IN MALAYSIA

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ABSTRACT

The banking sector in Malaysia suffered a bitter experience during the Asian financial crisis. Because of the crisis, many researchers across the globe attempted to better measure bank performance. This study highlights the evaluation of bank performance, including both domestic and foreign banks in Malaysia, using the Capital adequacy, Asset quality, Management competency, Earning quality, and Liquidity (CAMEL) framework for the period 2008 to 2012. Using regression analysis, the results of the study showed that capital adequacy, asset quality, earning quality and liquidity have a significant impact on performance of Malaysian banks. The outcome of this study is important to policymakers in assessing bank performance that could determine the direction of the future banking system in Malaysia.

JEL Classification: M40

Keywords: CAMEL Framework, Financial Ratios, Bank Performance, Financial Management

1. INTRODUCTION

The banking sector in Malaysia underwent major changes in the last thirty years. Since an economy's health is tightly associated with the soundness of its banking system, severe recession in the early 1980s exposed the weaknesses of banks' financial positions and their inability to adjust to new conditions. The Malaysian banking sector was not spared from this phenomenon and suffered from yet another financial crisis in 1997-98. In mid-2007, the sub-prime mortgage crisis hit the United States' real estate industry. The crisis then spread to the global financial market, including Asian countries and emerging markets. Conditions in the global financial system

deteriorated sharply following unprecedented strains on funding and asset liquidity. The larger-than-expected impairment losses associated with sub-prime-related portfolios weakened the balance sheets of many global financial institutions, including those in Malaysia. The crisis gave a much-needed push for banking industry consolidation, prompting merger programs among banks. The overall banks' performances, especially financial performance, therefore, is not encouraging.

The greatest impact on banking institutions in Malaysia was felt when some banks were categorized as ill and needed government intervention. For example, Bank Bumiputra Malaysia Berhad (BBMB) reported losses of RM1.41 billion in 1998 and needed as much as RM750 million in fresh capital to reestablish its business. As a result, in October 1999, the government ordered BBMB to merge with Bank of Commerce and change the name to Bumiputra Commerce Bhd. Shortly thereafter, in 2000, the Central Bank of Malaysia intervened on behalf of the government by placing financial sector mergers at the forefront of its banking policy. This was done as part of an agenda for improving the financial system soundness through strengthening pre-emptive and prudential regulations (Idris, 2010).

Following the crisis, researchers became interested in investigating bank performance. As a result, performance and its measurement is well-advanced within the finance, accounting, and management fields. Studies on assessing the banking sector performance in different countries were captured by the existing literature on accounting, Islamic banking and finance. The evaluation of bank performance, either foreign or local, is important for all parties including depositors, investors, bank managers, and regulators. In a competitive financial market, bank performance provides a signal to depositors and investors whether to invest or withdraw funds from the bank (Moin, 2008). Similarly, it gives direction to bank managers whether to focus on improving productivity, profitability, and management efficiency for their company. In addition, this study provides a clear signal to policymakers to understand the real situation about bank performance in Malaysia. The outcome of this study is important to policymakers in assessing the bank performance that could determine the future direction of the banking system in Malaysia.

Financial structure is the most important indicator in evaluating bank performance. A common financial indicator used by past researchers to measure bank performance is the Capital

adequacy, Asset quality, Management competency, Earning quality, and Liquidity (CAMEL) framework. According to Dzeawuni and Tanko (2008), the CAMEL framework was developed by US Federal regulators in the early 1970s to help structure the bank examination process. Since then, the use of CAMEL factors in evaluating a bank's financial health has become widespread among regulators, including those in Malaysia. Therefore, this study intends to evaluate bank performance using the CAMEL framework by using data from both domestic and foreign banks in Malaysia for the period 2008 to 2012. In addition, this study also investigates the relationship between the CAMEL framework and performance of Malaysian banks.

2. LITERATURE REVIEW

The study of bank performance was implemented worldwide due to pressure from the global economic crisis, creating a need for a detailed review and pre-emptive measures in order to maintain the banking sector performance. Among those measures, financial ratio analysis is the most favored method of evaluating bank performance. A world-wide group of researchers, such as Haron (2004), Kuppusamy (2010), Tarawneh (2006), Chantapong (2003), Botosan (1997) and Selvavinayagam (1995) analyzed performance levels of banks by using the ratio of profitability, risk and solvency, and liquidity. In addition, Akhter (2011) and Samad (2004) used nine financial ratios, including profitability, liquidity risk, and credit risk to measure bank efficiency and performance. Furthermore, Dzeawuni and Tanko (2008) stressed that certain criteria must be considered in measuring performance, namely asset quality, profitability, liquidity, risk management and management competency. However, based on Wu, Gaunt, and Gray (2010), researchers are still trying to determine the best group of variables besides the typical financial analysis.

CAMEL (Capital adequacy, Asset quality, Management competency, Earning quality, Liquidity) analysis is another approach for researchers to measure bank financial performance (Douglas, Lont, & Scott, 2014). The CAMEL framework also uses the financial ratios and analysis, but evaluates in categories such as capital adequacy, asset quality, management competency, earning quality and liquidity. It was developed by US Federal regulators to help structure the bank examination process in the early of 1970s. In 1979, the Uniform Financial Institutions Rating System was adopted

to provide federal bank regulatory agencies with a framework for rating financial condition and performance of individual banks. Since then, using CAMEL indicators in evaluating bank financial health has become widespread among regulators. According to Dang (2011), the CAMEL rating system is a useful tool for examining the safety and soundness of banks, and for helping to mitigate potential risk of bank failure.

Sangmi and Nazir (2010) highlighted that the banks in their study were in sound and satisfactory position so far as capital adequacy, asset quality, management capability and liquidity were concerned. The CAMEL framework was also used by Jaffar and Manarvi (2011) for measuring and comparing Islamic and conventional bank performance. According to them, the CAMEL rating system is a standard test for performance analysis of financial institutions and the latest technique used at present. Most researchers, such as Nimalathasan (2008), Sangmi and Nazir (2010), Jaffar and Manarvi (2011), Said et al. (2008), Teck (2000), and Ilhomovich (2009) agree that the CAMEL framework is the best technique for evaluating a bank's financial performance. Dang (2011) revealed that the CAMEL rating system is a useful supervisory tool in the US.

The CAMEL analysis approach is beneficial as it is an internationally standardized rating and provides flexibility between on-site and off-site examination; hence, it is the main model for assessing bank performance. Keovongvichith (2012) analyzed the banking sector financial performance by firstly examining the key financial development indicators and then using the CAMEL framework to evaluate financial performance. The results of the study are useful in assisting central bank evaluation of bank strengths and weaknesses in order to formulate strategies and polices for promoting an effective and sound banking system. Freahat (2009) found that Jordanian banks' performance (ROA and ROE) represented by the sample of thirteen banks in his study was influenced by CAMEL ratios. However, the result of every study is different based on the country under evaluation.

The five CAMEL factors represent major elements in a bank's financial statement. This shows that when any of these five factors prove inadequate, the possibility of bank failure increases. Said et al. (2008) argued that a bank's performance is affected by the management. As management is an important element in a bank's success, this issue received particular attention during safety-and-soundness examinations through the CAMEL rating system.

Researchers agreed that CAMEL rating attributes have an important influence on a bank's performance.

3. METHODOLOGY

The CAMEL ratios were used as the primary research instrument in this study. It enables sound evaluation of bank performance and results that provide solid direction for future upgrading in the banking sector.

3.1 HYPOTHESIS DEVELOPMENT

3.1.1 CAPITAL ADEQUACY

Capital adequacy indicates the measurement of a bank's financial strength. In this study, capital adequacy ratio was measured related to overall use of financial leverage in the bank given that banks with higher financial leverage are expected to face more volatility in earnings behavior than banks with lower financial leverage. As it indicates up to what level the institutions cover inherent risk in their operations, capital adequacy was defined as the overall use of financial leverage in the bank (Freahat, 2009). Nimalathasan (2008) viewed capital adequacy as the capital position of the banks, which at the same time protect depositors from the potential losses incurred by banks. Therefore, capital adequacy was used as a variable under the CAMEL model. In this case, capital adequacy was viewed as the enhancer of bank financial performance. The relevant hypothesis is stated thus:

H_1: There is a significant relationship between capital adequacy and bank performance.

3.1.2 ASSET QUALITY

Asset quality takes into account the performance of assets, especially loans made by the bank. Based on a study by Teck (2000), the main factors that affect asset quality are the degree of asset diversification, the size and duration of loans, the growth of loan portfolios, quality of collateral backing for each loan, the presence of directed or policy lending, and related party lending. In addition, it shows the risk level of assets and rate of financial strength within the bank (Dincer et al.,

2011). Thus, asset quality plays a role in influencing bank financial performance and it is hypothesized that:

H_2: There is a significant relationship between asset quality and bank performance.

3.1.3 MANAGEMENT COMPETENCY

Management competency plays an important role in determining bank performance. It is a pre-condition for the growth and success of any banking institution. Good management practice can result in stable profit. So, based on work by Teck (2000), management practice should display a high standard of integrity, professional competence, and quality of service. Thus, management is one of the factors in enhancing bank performance and the hypothesis should be:

H_3: There is a significant relationship between management competency and bank performance.

3.1.4 EARNINGS QUALITY

Earnings quality of an institution depends on the institutional effectiveness and efficiency of assets and liabilities management. The rise of earnings performance should inspire confidence among depositors, investors, creditors, and the public. The ability to support present and future bank operations depends on the profile of the earnings and profitability (Shar, Shah, & Jamali, 2010). Earnings quality is very important in describing financial performance of banks and thus the hypothesis is:

H_4: There is a significant relationship between earnings quality and bank performance.

3.1.5 LIQUIDITY

Liquidity refers to a bank's ability to meet depositors' withdrawals, maturing liabilities and loan requests without delay (Teck, 2000). Liquidity is important because banks need to meet short term financial obligations and satisfy customer loan demand. While the banks might be desperate to borrow short term funds and emergency loans at an excessive interest rate to cover the need for immediate cash, doing so leads to reduction in earnings. The soundness of

liquidity management will lead to good bank performance. Thus, it may be postulated that:

H_5: There is a significant relationship between liquidity and bank performance.

3.2 DATA COLLECTION

All data for this research are based on secondary data. Secondary data are indispensable for most organizational research. Such data can be internal and external to the organization and accessed through the internet or recorded published information (Sekaran, 2003). This study used financial ratios from Malaysian Banks and the data were collected from related banks' annual reports for each year and the Bankscope database of Bureau van Dijk.

TABLE 1
Number of Sample Data (2008-2012)

Year	No. of Bank
2008	28
2009	31
2010	32
2011	35
2012	35
Total	161

3.3 SAMPLE SELECTION

The present study seeks to evaluate the performance of foreign and domestic banks in Malaysia, comprising commercial banks, Islamic banks, International Islamic banks, and Investment banks. At present, a total of 65 banks, including domestic and foreign banks, are operating in Malaysia. However, the sample for this study only includes 35 banks with available financial data covering the period 2008-2012 (161 observations) because of unavailability of annual reports as some banks are newly operated in Malaysia. This study also excludes banks such as Islamic and investment banks from the same bank, such as Maybank Islamic Berhad and Maybank Investment Berhad but chose only one bank, Maybank Berhad, to represent the others.

3.4 REGRESSION MODEL

The study follows the functional model employed by Khrawish (2011) and Freahat (2009) whereby the model is tested on cross-sectional bank level data in the context of Malaysian banks over the period 2008-2012. To examine the effect of CAMEL variables on Malaysian banks' performance, this study used Pooled Ordinary Least Squares (OLS). For testing purposes, this study used the two following models:

Model 1: $ROA = \beta_0 + \beta_1 CA + \beta_2 AQ + \beta_3 MC + \beta_4 EQ + \beta_5 LQ + \varepsilon$

Model 2: $ROE = \beta_0 + \beta_1 CA + \beta_2 AQ + \beta_3 MC + \beta_4 EQ + \beta_5 LQ + \varepsilon$

Based on Table 2, each independent variable has ratios that represent the variable itself. Each ratio has a different meaning and effects on independent variables. For example, the lower the ratio, the higher the independent variables will be. Therefore, all the ratios will be evaluated to examine the best ratios that influence ROA and ROE, or the bank performance.

TABLE 2
Summary of the Operationalization of the CAMEL Variables

Variables	Acronym	Operationalization
Dependent Variables		
Return on Assets	ROA	The ratio of net income to total assets
Return on Equity	ROE	The ratio of net income to total equity
Independent Variables		
Capital Adequacy (CA)	CA1	The ratio of total capital to total assets
	CA2	The ratio of total equity to total assets
	CA3	The ratio of total equity to total loans
Asset Quality (AQ)	AQ1	The ratio of non-performing loans (NPLs) to total loans
	AQ2	The ratio of loan loss provision to total loans
	AQ3	The ratio of total loans to total assets

TABLE 2: (*continued*)

Variables	Acronym	Operationalization
Management Competency (MC)	MC1	The ratio of interest expenses to total loans
	MC2	The ratio of operating profit to net income
	MC3	The ratio of personnel expenses to total non-interest expenses
Earnings Quality (EQ)	EQ1	The net interest margin
	EQ2	The ratio of net interest income to total assets
	EQ3	The ratio of interest expenses to total assets
Liquidity (LQ)	LQ1	The ratio of liquid assets to total deposits
	LQ2	The ratio of liquid assets to total assets
	LQ3	The ratio of total loans to total deposits

4. DATA ANALYSIS AND FINDING

4.2 DESCRIPTION OF VARIABLES

Table 3 summarizes the statistics for dependent variables (ROA and ROE) for the entire sample. From the results of data analysis, the mean ratio of ROA and ROE of Malaysian banks is 0.0089 and 0.0942, respectively.

TABLE 3
Descriptive Statistics for Dependent Variables (2008-2012)

	Mean	Std. Deviation	Skewness	Kurtosis
ROA	0.0089	0.0091	0.0000	0.0000
ROE	0.0942	0.0801	0.5495	0.2413

A prior study by Khrawish (2011), reported the value of ROA and ROE for Jordanian Commercial banks at 0.00583 and 0.09281, respectively. The standard deviations for both ROA and ROE are 0.0091 and 0.0801. However, the ratios are lower than the value of ROA and ROE for Jordanian Commercial banks (at ROA: 0.1418, ROE: 0.16487).Table 4 summarizes the statistics for the

various independent variables for the entire sample of Malaysian banks.

TABLE 4
Descriptive Statistics for Independent Variables (2008-2012)

	N	Mean	Std. Deviation	Skewness	Kurtosis
CA1	161	0.141	0.105	0.0000	0.0000
CA2	161	0.146	0.105	0.0000	0.0000
CA3	161	42.61	294.6	0.0000	0.0000
AQ1	161	0.052	0.132	0.0000	0.0000
AQ2	161	0.014	0.088	0.0000	0.0000
AQ3	161	0.448	0.267	0.0021	0.0036
MC1	161	20.12	201.0	0.0000	0.0000
MC2	161	1.013	3.046	0.0000	0.0000
MC3	161	0.510	0.122	0.0039	0.0000
EQ1	161	2.970	1.380	0.0000	0.0000
EQ2	161	0.042	0.125	0.0000	0.0000
EQ3	161	0.034	0.199	0.0000	0.0000
LQ1	161	0.590	0.723	0.0000	0.0000
LQ2	161	0.391	0.233	0.0000	0.3729
LQ3	161	0.857	1.557	0.0000	0.0000

From these results, it can be seen in Table 4 that the range of mean is between 0.014 and 42.61. The mean value of CA3 is among the highest scores that exhibited the ratio of total equity to total loans, which is important in measuring the capital adequacy of the banking institution. The second highest is MC1 20.12, which is the ratio of interest expenses to total loans or cost per loan made. The high value of MC1 maybe a cause for concern because it shows that the banks have trouble in servicing debt. The mean value of EQ1 is 2.970, which represents the net interest margin of the banks, which refers to the performance metric that examines how successful a firm's investment decisions are compared to its debt situations. A positive net interest margin means that the investment strategy pays more interest than the costs.

The mean ratio of MC2 is 1.013,indicating that the ratio of operating profit to net income gives important information about the bank’s profitability, particularly related to cost control. A high operating profit margin means that the bank has a low-cost operating model, which is good in cost control, and sales are increasing faster than costs. The mean value of LQ3 is 0.857, which indicates that the ratio of total loans to total deposits has a good value, exceeding 70%.

From the perspective of asset quality, AQ3 has the highest value of 0.448. The ratio of total loans to total assets represents the percentage of a bank's assets financed with loans.

Among the variables, the one with the highest standard deviation is CA3 (294.6). This indicates a large variance in total equity to total loans among banking institutions. Overall, the descriptive results show that the variables chosen in this study are acceptable and represent the banking ratio for identifying sound banking institutions. Testing on normality is represented by the test of Skewness and Kurtosis, in which the perfect normal value for Skewness is zero while Kurtosis is three (Pevalin & Robson, 2009). The result of Skewness test showed the data is perfect normal except for dependent variable of ROE, which have the value higher than zero. It means that the extreme values lie to the right. In term of Kurtosis, almost all the values are lower than three. However, the data distribution is normal but flatter than normal distribution with a wider peak.

4.3 REGRESSION ANALYSIS

The purpose of using regression analysis is to predict and estimate the effect of some explanatory variable on the dependent variable. Table 5 shows the results of regression analysis of the ROA and ROE model used to explain the CAMEL variables of the Malaysian banks.

The regression results of ROA show that *R*-square was 0.4015, which means that 40.15% of the total variation in the value of ROA was attributed to the effect of the independent variables. The adjusted *R*-square was 0.3396. This shows that, on an adjusted basis, the independent variables were collectively 33.96% related to the dependent variable ROA. Durbin-Watson statistics are used to detect the presence of autocorrelation. The value of 1.7139 shows that there is no autocorrelation between unstated variables (Rezaei, Ghorbani & Yaghoubi, 2012). CA1, CA2, AQ2 and LQ1 are significant at a confidence level of 95%.

In terms of ROE results, this indicates that the value of *R*-square was 0.4404, which means that 44.04% of the total variation in the value of ROE was due to the effect of the independent variables. The adjusted *R*-square was 0.3825. This shows that on an adjusted basis, the independent variables were collectively 38.25% related to the dependent variable ROE. The value of Durbin Watson is 1.6436, indicating no autocorrelation. AQ3 is significant at the 95%

confidence level, while AQ2 and EQ2 are significant at the 90% confidence level.

TABLE 5
Regression Results of Model ROA and ROE

	Model ROA		Model ROE	
	Coefficient	*t*-stats	Coefficient	*t*-stats
Constant	0.0140	3.1788**	0.1356	3.6374**
CA1	-0.0991	-3.3164**	-0.1359	-0.5357
CA2	0.0711	2.4212**	-0.2279	-0.9144
CA3	0.0000	-0.0325	0.0000	0.3263
AQ1	0.0082	0.7785	0.0219	0.2447
AQ2	-0.0477	-3.1373**	-0.2229	-1.7288*
AQ3	-0.0013	-0.3884	0.0556	1.9969**
MC1	0.0000	0.1122	-0.0002	-0.2508
MC2	0.0001	0.5901	0.0019	1.1168
MC3	-0.0013	-0.2565	-0.0219	-0.5092
EQ1	0.0006	1.3283	0.0023	0.5804
EQ2	-0.0073	-1.5192	-0.0722	-1.7635*
EQ3	-0.0072	-0.0910	0.1799	0.2685
LQ1	-0.0030	-2.1115**	0.0019	0.1581
LQ2	-0.0011	-0.3062	-0.0293	-0.9760
LQ3	0.0008	1.4150	0.0003	0.0610
R-squared	0.4015		0.4404	
Adjusted *R*-squared	0.3396		0.3825	
F-statistic	6.4860**		7.6081**	
Durbin Watson	1.7139		1.6436	
N	161		161	

** Significant at 0.05 level; *Significant at 0.10 level.

This study performs the diagnostic test to ensure that the model is the Best Linear Unbiased Estimates (BLUE). Table 6 presents the result of the diagnostic test for both model, ROA and ROE, which test the heteroskedasticity (occurs when the variance of the error terms differ across observation) and first order serial correlation (causes the standard errors of the coefficients to be smaller than they actually are).

TABLE 6
Result of Diagnostic test

Test	Hypothesis	Test Statistic	Probability
Model ROA			
Heteroskedasticity; Breusch-Pagan Cook-Weisberg	H_0 : Constant variance	χ^2=25.97	0.000*
Serial Correlation; Wooldridge's Serial Correlation	H_0: No first order serial correlation	$F_{1;31}$ = 1.924	0.175
Model ROE			
Heteroskedasticity; Breusch-Pagan Cook-Weisberg	H_0 : Constant variance	χ^2=0.040	0.835
Serial Correlation; Wooldridge's Serial Correlation	H_0: No first order serial correlation	$F_{1;31}$ = 21.91	0.000*

*Significant at 0.01 and reject null hypothesis

The results of the diagnostic test in Table 6 for model ROA indicate the presence of heteroskedasticity. There is no first order serial correlation for the model. In terms of the ROE model, the study finds first order serial correlation but no heteroskedasticity. Thus, in order to get the optimal result, the Panel-Corrected Standard Errors (PCSE) model is chosen. According to Beck and Katz (1995) and Tas et al. (2013), this model is the best option in rectifying the problem of heteroskedasticity, first order serial correlation and cross sectional correlation.

Table 7 presents the results of the PCSE model for both ROA and ROE. It is found that the results are robust to heteroscedasticity and first order serial correlation and are classified as the Best Linear Unbiased Estimates (BLUE). The next section discusses the summary of findings for this study.

TABLE 7
Result of Panel-Corrected Standard Errors (PCSE) model

Model ROA			Model ROE		
Variables	OLS	OLS_PCSE	Variables	OLS	OLS_PCSE
CA1	-0.095	-0.095	AQ2	-0.203	-0.216
	-3.95**	-5.33**		-3.14**	-3.30**
CA2	0.064	0.064	AQ3	0.113	0.124
	2.66**	3.02**		5.29**	7.14**
AQ2	-0.037	-0.037	EQ2	-0.033	-0.039
	-5.65**	-10.02**		-0.73	-2.62**
LQ1	-0.002	-0.002			
	-1.84*	-3.18**			
Constant	0.014	0.014	Constant	0.048	0.046
	14.63**	19.44**		4.21**	8.63**

**, * *t*-stats values which are significant at 0.05 and 0.10 levels, respectively.

4.4 SUMMARY OF FINDINGS

Based on Table 8, the ratios from capital adequacy, asset quality, earnings quality and liquidity showed a high significance level, revealing a strong relationship between the independent variables toward dependent variables, which is bank performance (ROA, ROE). The significance of the ratio of total capital to total assets (CA1) shows that the banking sector in Malaysia has sufficient or enough capital to support its assets. With such a result, the investor may also use it to decide whether to put money in the bank or elsewhere. The negative relationship means that as CA1 increases, the failure of banks decreases. CA2 is used to determine the overall financial health and long-term profitability of the bank, showing that the bank has good financial conditions, which in turn convinces investors that the bank's shares are a safe investment. According to Daud (2013), high capital is able to provide high loan and not be overly dependent on deposits to run the operation. All banks need to ensure that the loans granted are not too high compared to capital owned. Thus, hypothesis testing on capital adequacy shows an association between capital adequacy and bank performance.

Moreover, asset quality is important in determining bank performance. The findings on asset quality present both AQ2 and AQ3, which are significant. The negative relationship of AQ2 means that as loan loss provisions decrease, the performance of the bank

increases while the positive relationship of AQ3 indicates that the increase of assets to be financed with loans would increase the bank's performance. The study by Dzeawuni and Tanko (2008) also reported that the ratio of loan loss provisions to total loans is significant to bank performance. They indicated that the ratio is the best suited to evaluate asset quality toward bank performance. Thus, hypothesis testing should accept that there is an association between asset quality and bank performance.

TABLE 8
Summary of Significant Variables for All Banks

Variables	Operationalization	Relationship
ROA - CA1	The ratio of total capital to total assets	Negative
ROA - CA2	The ratio of total equity to total assets	Positive
ROA - AQ2	The ratio of loan loss provision to total loans	Negative
ROA - LQ1	The ratio of liquid assets to total deposits	Negative
ROE - AQ2	The ratio of loan loss provision to total loans	Negative
ROE - AQ3	The ratio of total loans to total assets	Positive
ROE - EQ2	The ratio of net interest income to total assets	Negative

In terms of earnings quality, EQ2 is significant under the dependent variable of ROE. The ratio of net interest income to total assets has negative relationship toward bank performance and thus agreed with the hypothesis. Lastly, LQ1 shows a negative relationship with bank performance, which means that decreased converted cash by depositors may increase bank performance. Prasad and Ravinder (2012) mentioned that a bank should take care regarding liquidity risk. Thus, since the liquidity ratio is significant, the hypothesis should accept that there is an association between liquidity and bank performance.

5. CONCLUSIONS

This study evaluated the performance of selected banks operating in Malaysia. The study uses the CAMEL framework to examine the relationship between CAMEL variables and bank performance in

Malaysia. This framework is known to be the best technique for evaluating bank performance.

Results from this study suggested three contributing factors for better performance of banking institutions in Malaysia, namely capital adequacy, asset quality, earnings quality and liquidity. It was suggested that Malaysian banks must improve interest expenses to enhance their management competency. They need to continuously monitor the health and profitability of bank borrowers to decrease the risk of non-performing loan. In addition, banks must take steps to improve employee productivity by controlling personnel expenses and operating profit.

Although management competency was not significant and rejected the hypothesis, there is the possibility that the ratio used is not suitable for the banking situation in Malaysia for the period of study. Further study should use another ratio under the factor of management competency to test the best ratio in order to evaluate bank performance. Additionally, another factor should be considered for the next study, such as including corporate governance in the evaluation to get the various results for bank performance in Malaysia.

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APPENDIX (List of Selected Banks in Malaysia)

No	Local Banks	No	Foreign Banks
1	Affin Bank	1	Al Rajhi Banking
2	Alliance Bank	2	Asian Finance
3	AmBank	3	Bangkok Bank
4	Bank Islam Malaysia	4	Bank of America
5	Bank Muamalat	5	Bank of China (Malaysia) Bhd
6	CIMB Bank	6	Bank of Nova Scotia
7	ECM Libra Investment	7	Bank of Tokyo
8	Hong Leong Bank	8	BNP Paribas Malaysia Berhad
9	HwangDBS Investment Bank	9	Citibank Berhad
10	KAF Investment Bank Berhad	10	Deutsche Bank
11	Kenanga Investment Bank	11	HSBC Bank
12	Malayan Banking	12	ICBC Bank
13	MIDF Amanah Investment Bank	13	JP Morgan
14	Public Bank	14	Kuwait Finance
15	RHB Bank	15	Mizuho Corporate Bank
		16	OCBC Bank
		17	Royal Bank of Scotland
		18	Standard Chartered Bank
		19	Sumitomo Mitsui Banking
		20	UOB Bank