FACTORS AFFECTING THE FINANCIAL PERFORMANCE OF MALAYSIAN BANKS

By

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FACTORS AFFECTING THE FINANCIAL PERFORMANCE OF MALAYSIAN BANKS

ABSTRACT

This paper aim to study the different factors affecting the financial performance of Malaysian banks by examining the relationship of credit risk, liquidity, operating efficiency and size, to the financial performance. A five-year period study was conducted that is from 2011 to 2015. Data were extracted from the annual reports of banks and included information from the income statement, balance sheet and notes to the accounts published in websites of the banks. The study covered 33 commercial banks including local and foreign owned conventional and Islamic banks. Statistical Package for the Social Sciences were used to analyse the data, and normality tests included the Shapiro-Wilk's test and Kolmogorov-Smirnov test as well as skewness and kurtosis tests. Multiple regression has been used to determine relationship between the variables. The findings of the study shows a significant positive relationship between liquidity, size and operational efficiency and financial performance, whereas credit risk and financial performance shows a positive relationship. The results of this study are useful for depositors, bank managers, shareholders, investors, regulators and academician because its show the current economic situation and the recent financial condition of the banks. In addition, for a tax authority point of view, this study provides a basis for determining cases and issues upon which to focus in the auditing banking industry.

Keywords: financial performance, credit risk, liquidity, operating efficiency and size.

FAKTOR-FAKTOR YANG MENPENGARUHI PRESTASI KEDUDUKAN KEWANGAN BANK DI MALAYSIA

ABSTRAK

Kertas kerja ini bertujuan untuk mengkaji faktor-faktor yang memberi kesan kepada prestasi kewangan bank-bank Malaysia dengan memeriksa hubungan risiko kredit, kecairan, kecekapan operasi dan saiz dengan prestasi kewangan. Kajian ini meliputi dari tahun 2011 sehingga 2015. Maklumat ini diambil daripada laporan tahunan bank dan termasuk maklumat daripada penyata pendapatan, kunci kira-kira dan nota kepada akaun yang dipaparkan di laman web bank. Kajian ini meliputi 33 bank perdagangan termasuk bank konvensional dan Islam milik tempatan dan asing. Pakej Statistik untuk Sains Sosial telah digunakan untuk menganalisis data, dan ujian normal termasuk ujian Shapiro-Wilk dan ujian Kolmogorov-Smirnov serta ujian kepencongan dan kurtosis. Regresi berganda telah digunakan untuk menentukan hubungan antara pembolehubah Dapatan kajian menunjukkan hubungan positif yang signifikan di antara kecairan, saiz dan kecekapan operasi dan prestasi kewangan, manakala risiko kredit dan prestasi kewangan menunjukkan hubungan yang positif. Keputusan kajian ini adalah berguna untuk pendeposit, pengurus bank, pemegang saham, pelabur, pengawal selia dan ahli akademik kerana ia menunjukkan keadaan ekonomi semasa dan keadaan kewangan terkini bank. Di samping itu, dari segi percukaian, kajian ini menyediakan asas untuk menentukan kes-kes dan isu-isu untuk diberikan tumpuan dalam pengauditan industri perbankan.

Kata kunci: prestasi kewangan, risiko kredit, kecairan, kecekapan operasi dan saiz

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LIST OF ABBREVIATION

Blueprint	Financial Sector Blueprint
BNM	Bank Negara Malaysia
CA	Current Assets
CL	Current Liability
CR	Current Ratio
CREDITRISK	Credit Risk
FSA	Financial Services Act
GDP	Gross Domestic Product
IFSA	Islamic Financial Services Act
IRBM	Inland Revenue Board of Malaysia
LIQUIDITY	Liquidity
OPERATING	Operational Efficiency
ROA	Return on Assets
SIZE	Bank Size

CHAPTER ONE: INTRODUCTION

1.0 Background of the Study

This chapters comprises seven parts that begins with the background of the study and problem statements. Then it continues by research questions and objectives. It follows by significance, the scope and limitations of study. Finally the assumptions and the organization of the study.

Banking institutions are a principal economic sector contributing to the development of a country, playing a significant and important role in the management and allocation the nation economic resources. Banks take deposits form public who wish to save their money and in return, banks pay interest to savers. Fund deposited are then channelled to investors and borrowers, and banks earn their revenue from interest received. As a result, the public and depositors, investors and borrowers, government and regulators are all parties who are concerned with the financial performance of the banks. The public and depositors are concerned with the amount of returns they will get from their saving, investors and borrowers care about how much interest they must pay for loans, and government and regulators focus on the soundness, efficiency and integrity of banking system as banks must comply with all regulations, requirements, guidelines and restrictions as their operation will affect the country's economic and social environment.

Managing the flow of funds in the system makes banking unique industry. How banks manage funds is reported in their annual financial reporting, and bank performance is

shown by means of financial-year results. For the last few years, Malaysian banks have shown good performance after having recovered from the 2008 global financial crisis. However, their performance dipped slightly lower in 2015, as is shown in Figure 1.1 below. Using data drawn from Bank Negara Malaysia's (BNM) Financial Stability and Payment Systems Report, (2015), the trend line shows that both the gross margin and net margin of Malaysian Banks exhibited an overall decrease from 2011 to 2015.

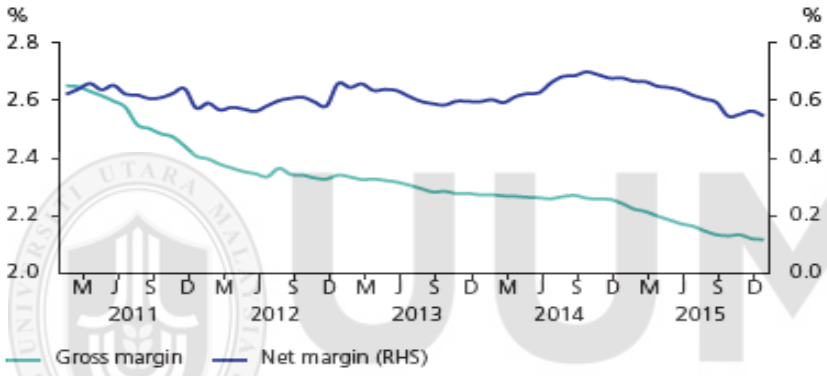

Figure 1.1

Banking System: Gross and Net Interest Margins

Source: Bank Negara Malaysia, 2015.

Table 1.1 shows gross and net interest margins in terms of amounts. The pre-tax profit of the banking system, in 2015 was slightly lower at RM29 billion than in 2014 at RM31.9 billion, return on assets declined from 1.5% in 2014 to 1.3% in 2015, and return on equity declined from 15.2% in 2014 to 12.4% in 2015.

Table 1.1
Banking System: Gross and Net Interest Margins

	Banking System (Islamic and conventional)				
	2011	**2012**	**2013**	**2014**	**2015**
Pre-tax profit	RM26.1 billion	RM29.2 billion	RM29.7 billion	RM31.9 billion	RM29.0 billion
Return on assets	1.6%	1.6%	1.5%	1.5%	1.3%
Return on equity	17.4%	17.4%	15.9%	15.2%	12.4%

Source: Bank Negara Malaysia (2015).

Based on the above results, the need exists to assess the health of Malaysian banks. It is important for the banks to stay healthy and exhibit good performance. The financial positions of banks and the banking industry performance are frequently used as an indicator of a country's economic stability.

Several studies have examined the relationship of the banking industry to the overall health of an economy of a country. According to Paul, Bhowmik, Islam, Kaium, and Al Masud (2013) strengthening the financial sector is a fundamental concern for any economy. Arif and Anees (2012) noted that banks are the main participants in any economy because they develop the flow of funds by lending cash to short-term users on the assets side and offer liquidity on the liability side. Said and Tumin (2011) found that banking industry poor performance has slowed the economy in the United States as well as in Asia countries. Thus, to understand the financial performance of banks in Malaysia, a study must be done and metrics need to be analysed.

Malaysian financial institutions include commercial banks, inclusive of conventional, Islamic and investment banks as well as other financial institutions. Conventional and Islamic banks provide quite a broad range services compared to investment banks and other financial institutions. Unlike conventional and Islamic, investment banks and other financial institutions do not provide retail banking services. They act as an intermediaries and perform a variety of services such as underwriting, agents, mergers and acquisitions. Malaysian banks are governed by the Financial Services Act 2013 (FSA) and Islamic Financial Services Act 2013 (IFSA). Bank Negara Malaysia (BNM) acts as a monitoring and governing body for the bank and financial industry in Malaysia and enforces both the FSA and IFSA.

The commercial banking industry had gone through some degree of rationalization and reformation. After 1997 financial crisis, BNM introduced two consecutive ten-year master plans to ensure Malaysian financial sector sustainable growth. Financial Sector Master plan was developed for the period 2001-2010, creating the groundwork in ensuring orderly development of this important economic sector. The financial sector expanded at an annual growth rate of 7.3% after the creation of the first master plan. It further aided the diversification of the Malaysian financial system as well as increasing its competitiveness (BNM, 2012)

In 2011, the master plan was further enhanced by the introduction of the Financial Sector Blueprint (Blueprint). This second master plan was to be implemented from 2011 to 2020. The intention of the Blueprint was to stimulate a financial ecosystem

which support an increasingly growing financial needs of Malaysian economy. Bank Negara Malaysia forecasts a three time growth of the gross domestic product (GDP) by 2020 and the financial sector is expected to contribute between 10% and 12 % of the growth. The Malaysia economy grew by 6.0% in 2014, by 5% in 2015 (2014:6.0%) and is expected to grow by 4.0%-4.5% in 2016. (BNM 2015).

1.1 Problem Statement

The expectation was that the financial performance of banking institution would become stable and grow positively for the period 2011 to 2020. It is expected to be continuous achievement and contribute to Malaysian GDP, national growth and overall economic sector. In the process of encouraging financial ecosystem, strategies has been identified to promote better performance of this industry. These includes development of financial new products and markets, increasing transparency, monitoring level of liquidity, enhancing efficiency in operations, risk management and others. It is projected that banking sector to grow in a range of 10% to 12% of economic growth. However, the actual facts show that the performance has decreased as shows in Figure 1.1 and Table 1.1. It creates a gap in financial performance of banking between expectations as set up by BNM and actual achievement. In order to understand why the gap between expectations and performance occurred, this study will examine factors may affect bank performance.

In ensuring confidence of the public towards the banking sector, the overall economy and financial stability, banking and financial institutions must function smoothly.

Financial instability would directly impact the economy and might lead to a financial crisis, and a strongly performing banking sector depend on its performance. Therefore, this study will focus on internal factors contributing to a bank performance and covers four main aspects, which are 1) credit risk, 2) liquidity, 3) operating efficiency and 4) bank size.

Bank financial performance is important as it being an indicator to individual banks health. Previous studies done more on comparison between Islamic and conventional banking and not focus as an overall financial institutions (Wasiuzzaman and Gunasegaran, 2013). Hence, further study need to be carry on financial performance of the financial institutions.

Credit risk is one factor that might influence the financial performance of a bank. This risk arises when a bank provides borrowers with loan facilities because every loan carries with it a certain degree of risk that the borrower will default in repaying debts under certain circumstances. This resulting in a bank losing its principal loan amount and its interest income subsequently affecting its profitability. Credit risk is viewed to be the extent of value variations that occur in debt instruments as well as in derivatives because of the variations in the credit quality of debtors and counterparties. However, net worth is not only determined by the default risk of assets but also by off-balance sheet items, re-pricing characteristics, liabilities, and overall credit quality (Drehmann, Sorensen, & Stringa, 2008). Hence, to determine the relationship concerning credit risk and bank performance, an analysis needs to be done.

Another factor that may affect banks performance is liquidity. Liquidity can be defined as the banks' ability in meeting its short-term requirements. This is done by ensuring their asset can be convert to cash as and when it is needed. A bank's capability to perform its obligations can be affected by its liquidity level. A bank needs to maintain its liability level at the proper level in order to ensure public confidence and soundness. If a bank's liquidity is low, that bank will be unable to fulfil unforeseen withdrawals; conversely, if a bank has too high liquidity that bank is not maximising its income opportunities in making more profits. Therefore, this study the relationship of liquidity to the financial performance of banks.

Operating efficiency could result in cost savings and contribute the financial performance of a bank. During the banking sector consolidations due to the 1997 financial crisis, most Malaysian banks underwent restructuring to improve efficiency and increase profitability, some by way of a merger and some by reorganization. Such restructuring is a strategy to ensure survival in a very competitive global market. Hence, the operating efficiency and financial performance relationship will be examined in this study.

Bank size is related to its capital adequacy, and the relative size in terms of assets of a bank may influence its performance. Generally, a bank with large resources are able to meet the needs of its investors and is capable of providing more loans to borrowers to achieve a high return. Thus, this study will examine whether the size of a bank may influence its performance. Based on the above discussion, this research aims to fulfil

the knowledge gap related to credit risk, liquidity, operating efficiency, and bank size by investigating whether these factors have a relationship with the performance of Malaysian banks and have contributed to the decreasing trend in gross and net profit margins.

1.2 Research Questions

The main research questions in this study include:

1. Does credit risk have a relationship with the financial performance of banks in Malaysia?
2. Does liquidity have a relationship with the financial performance of banks in Malaysia?
3. Does operating efficiency have a relationship with the financial performance of banks in Malaysia?
4. Does size have a relationship with the financial performance of banks in Malaysia?

1.3 Research Objectives

The main objectives of this study are:

1. To determine the relationship between credit risk and the financial performance of banks in Malaysia.
2. To determine the relationship between liquidity and the financial performance of banks in Malaysia.

3. To determine the relationship between operating efficiency and the financial performance of banks in Malaysia.
4. To determine the relationship between size and the financial performance of banks in Malaysia.

1.4 Significance of the Study

This study may benefit and contribute to both theoretically and practically in the following areas.

1.4.1 Theoretical Contributions

Most existing literature has emphasized either conventional bank or Islamic banks separately as done by Saeed (2015), Sukrri (2014), Idris (2014), Lin (2012), Lum (2009), Bahari (2009), and Ghazali (2008). Thus, this study provides a different perspective by studying both types simultaneously using current data to provide a picture of the performance of Islamic and conventional banks.

Therefore, this paper will provide current evidence with respect to credit risk, liquidity, operating efficiency and size and their relationships, if any, may influence the Malaysian banks financial performance. This research, hopefully will benefit to banking literature by providing additional information to researchers, academicians and university students. Furthermore, this study will fill in a theoretical gap by determining whether theories of financial performance for both conventional and Islamic banks are accepted in the Malaysian context.

1.4.2 Practical Contributions

This study will help users of the financial performance reports of banks by determining their value with respect to their relationship with assessing the performance of banks in Malaysia.

1.4.2.1. Financial Institutions

It is also important for banking institutions to have a view on how the factors that will be studied may influence their performance. They can compare, calculate and evaluate their business performance and actions can be taken to overcome any problems arising from these relationships.

1.4.2.2. Investors

The results of this study will provide information to investors and depositors in understanding the stability level of Malaysia banks. By having this knowledge, investors will be helped in making good investment decisions.

1.4.2.3. Policymakers

The study is important to the policymakers because the results will provide insights and awareness of the current difficulties faced by the banks, which create widespread economic issues in Malaysia. The regulators may then review existing guidelines and provide further guidance to the banking sector to avoid such potentially damaging problems.

1.4.2.4. Tax Administrators

The findings could provide useful information to the Inland Revenue Board of Malaysia (IRBM), which is the Malaysian tax administrator, in addressing issues of banks performance. Currently, the Banking and Financial Unit of IRBM conducts and monitors audits for the banking industries. No specific method is used in selecting cases and audit focused, and research in examining the banking sectors from the tax point of view is rather limited. This research can practically contribute of by determining the value of using ratio analysis in determining the selection of cases and issues upon which to focus in auditing. The findings of this study will sent to the management of IRBM and be suggested as one of the tracking mechanisms in evaluating tax liability and tax collection. A good performing bank with good profits will increase tax collections and indirectly benefit the government and the country. Better performance of bank will result in better collections of tax revenue.

1.5 Scope and Limitations of the Study

Initially, this study covered 43 licensed banks in Malaysia that are listed Table 1.2. However, 10 were later dropped from the study because of incomplete data. These include 27 major conventional banks of which eight were locally owned and 16 were foreign owned banks. There are 16 Islamic Banks of which 11 were locally owned and five were foreign owned. The period studied is from 2011 to 2015, which was chosen in the study of the performance of the banks over time.

Table 1.2
List of licensed Banks in Malaysia

Banks in Malaysia	Total	Locally Owned	Foreign Owned
Conventional Bank	27	8	19
Islamic Bank	16	11	5
Total	43	19	24

Source: Bank Negara Malaysia, 2015.

1.6 Assumption of the study

This assumptions used in the study are:

1. There is still a need for continued study that will provide results from different tax points of view.
2. This study will focus on internal factors, and the result may differ from previous research due to differences in the factors focused on.

1.7 Organization of the study

This study has been structured as follow: Chapter One starts with introduction to this study. It's give an overview of this study background and followed by problem statement. Next are the research questions and objective this study. Significance, scope and limitation of the study follows and chapter one ended by the assumptions used in the study. Chapter Two is a literature review of the financial performance of banks and presents the theoretical background and hypothesis development. Chapter Three explains the research methodology used in this study, conceptual framework, research design, research population and sampling and data collection technique. Chapter Four

provides the analysis and findings and Chapter Five includes the discussion, conclusion and future recommendations.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

This chapter provides an information on Malaysia banks. The overview will be followed by examining the theories that examine the factors that affect bank performance. Then, the findings of prior research will be detailed and hypotheses developed for this current study. Finally, the researcher summarises the chapter.

2.1 Overview of Banks in Malaysia

As this study will focus on Malaysian banks, the understanding the Malaysian banking system is necessary. The Bank Negara Malaysia is the Malaysian Central Bank. It is the regulatory body of the whole banking and financial system. This banking system in Malaysia comprises investment banks, and conventional and Islamic commercial banks. Both types of commercial banks offer similar types of products but operates based on different principles. The income of conventional banks are from fees charged for services rendered and interest from loan it provided. Islamic banks on the other hand, follow Islamic principles. Their income are recognised from the sharing of its operational profit or loss. Its income similarity to conventional bank are in the form of fees earned through their services. Investment banks and other financial institutions provide support to commercial banks.

2.1.1 Conventional Banks

The main service rendered by bank are for both the retail as well as corporate market. This include acceptance of deposit, providing loans to both individual and corporate body in the form of pure loans or advances. It also provide financial guarantees such as bonds or letter of credits for trade finances and other kind of guarantees to facilitate business finances and payment. In addition treasury services are offered as well as cross border payment. Physical valuable and monetary instruments custody services are also offered in the form of safe deposits and share custody.

Previous researchers have studied the factors influencing banks performance for example, Saeed (2015) studied 27 conventional commercial banks in Malaysia during period from 2005 to 2013. Chen, Wong, Lee, and Tan (2013) studies five Malaysian local commercial banks for 10 years period from 2001 to 2010. Lum (2009) compared and analysed financial ratios in comparing the local banks performance for the pre-merger period (1999-2000) with those of the post-merger period (2006-2007).

Along with locally owned banks, the involvement of foreign banks has led to competition in Malaysia banking financial market. These foreign banks have mostly focused on high-value corporate clients as they possess the talent and expertise in doing business internationally.

2.1.2 Islamic Banks

Islamic banking first began its operation in 1983 when Islamic Banking Act was introduced. Bank Islam Malaysia Berhad was the first of its kind in Malaysia. Islamic banks in Malaysia have grown from just being financial intermediaries in Malaysia a worldwide Islamic banking player. The regulatory framework has changed in tandem to the development of the industry. The Islamic Financial Services Act 2013 was developed and introduced to cater to the growing of Islamic banking and to strengthen its legal foundation.

Other than conventional commercial banks, 16 Islamic banks exist, and these include those under local and foreign ownership. Islamic banks, although exist side-by-side to the conventional banking are regulated and operates under a different legislation. Islamic banks activities of are based on Islamic Principles under the Shariah law. The two basic principles guiding the Islamic banking operations are the profit and loss sharing and prohibition of interest collection.

2.2 Theoretical background

The study of banks financial performance has attracted interest from many parties including economists, accountants, sociologists and others. Theoretical studies has been determined as a basis of this studies. Agency theory has been chosen as underpinning theory and Conventional Economic Efficiency Theory as a supporting theory. For a better understanding, underpinning and supporting theories are presented

below under the following headings: Agency Theory and Conventional Economic Efficiency Theory.

2.2.1 Agency Theory

Agency theory is one of most popular and successful theories that has been used in economics, finance, and management research since the 1970s. The most cited reference to the theory is that of Jensen and Meckling (1976), who introduced the theory. The basic idea of the theory revolves around the on relationship between the principals and agents, and Agency Theory is concerned with resolving conflict that arise between the parties. Principal refers to shareholders who delegate authority, managers' act as agents while performing the duties delegated to them. Problems are caused by the misalignment of goals between principals and agents. As an agent, a manager might seek to maximize his own interests and, for example, engage in high-risk financial activities that promise a high return. A problems occurs when the principal cannot verify that the agent has behaved properly.

Currently, the theory has been brought forth in economics and institutional studies to study all contexts of information asymmetry, uncertainty and risk, and many researchers have discussed the theory related to measuring banking performance. Janda (2006) stated that agency theory fundamental applications with regards to lender borrower relationship in the form of contract of lending. In banking, the relationships of principal and agents exist between the owners in the form of shareholding and the management of the banking enterprises (Lin, 2012). Many studies have found that

shareholders and management is not the only agency problem but extends all the way to other stakeholders. Shareholders and debt holder's conflicts of interest is the most critical. This happens in banking industries because banks hold their customers' funds, which becomes a debt that a bank must repay, and, thus, a customer becomes a debt holder. Each debt holder has a little incentive to monitor business performance, which puts pressure on shareholders and management with respect to their decision making and control of resources.

Agency theory argues that credit risk decisions may be influence firm performance (Donnellan, 2016). Naturally, a problem arises when the principal's goals in maximizing profit and agent decisions exhibit different risk preferences. Managers might plan high risky strategies to increase the bank's performance and, in return, garner better rewards for them. However, in doing this, the company's exposure to higher credit risks might increase and ultimately lead to non-performing loans. Thus, in exposing their institutions to possible non-performing loans in a search for higher profits, managers may take actions jeopardizing the financial performance of the bank and thus negatively impact the benefits of principals.

Agency Theory emphasizes that an increase in high-risk loans may impact the fundamental health of its loan portfolio and the overall performance of the bank (Cocheo, 2008). Several scholars have studied the impact of credit risk and bank performance in developing markets. Nawaz and Munir (2012) studied Nigerian banks and found that bank profitability are effected by credit risk and management are

recommended to be cautious in setting up credit policy structure so that its performance are not negatively affected. Kurawa and Garba (2014), who also studied banks in Nigeria, agreed that sound credit risk management affected financial performance by minimizing the impact of non-performing loans.

Agency Theory has been studied with respect to how the principal and agent relationship determined a bank's liquidity position and impacted bank performance. While shareholders and equity holders prefer to avoid unnecessary risk, liquidity allows the management to be involved with riskier loans. This can occur when especially when a bank is flush with high liquidity, and this position may encourage managers to decide on taking on risk taking incentives that offer potentially higher performance. In contrast, a lower liquidity level will affect the capability of banks to provide loans to potential borrowers. Ultimately, the inability of a bank to obtain a correct liquidity level will create big problems in the market and with regulators as well (Donnellan, 2016). Several studies have also examined liquidity and performance. Friedland (2009) found that a lack of liquidity in banks adversely affected their performance in the United States during the sub-prime meltdown crisis that begin in 2007. Resulting from the world-wide 2007 financial crisis, Blundell-Wignall and Atkinson (2010) stated that banks should focus on asset liquidity to ensure banks always have a 30-day liquidity cover for emergency situations. That was because the crisis demonstrated that liquidity could disappear quickly and last for a long period of time, adversely impacting firm performance lack of liquidity. Thus,

banks must have ensure enough liquid assets in order to transact business in order to maintain the health of the financial system and bank performance (Blaha, 2009).

Agency Theory also helps explain the relation of firm size to bank performance. The size of an organization may be measured in many ways. Including number of employees, branches, and scope of operations. The Agency Theory principal-agent models provides a lens through which to examine the conflicts that arise when managers make decisions. In large organizations with a complex level of management, decisions made by the managers are not directly observable by the principal. However, a principal expects that all decisions or investments will contribute to a high rate of return and good performance. Based on large asset and resource base, managers often feel that they are capable to deal with high risk investments. Nonetheless, as the worldwide financial crisis of 2007-2009 has demonstrated, even though the possibility to achieve a high rate of return exists, decisions made by managers even in organizations with high asses might put the entire organization in at risk and effect financial performance. Scholars have studied the relationship between risk taking according to banks size and the performance. Ennis (2005) stated that large-sized operations may incur extra costs, riskier loans brings in higher returns to large banks. Akhigbe and McNulty (2005) examined small, medium, and large commercial banks in the United States for profit efficiency. They found that small banks and large banks had different ways of achieving attaining profit efficiency. Jonsson (2006) found that large banks being more profitable than smaller ones.

2.2.2 Conventional Economic Efficiency Theory

Conventional Economic Efficiency Theory, introduced by Koopmans (1951), formally defined technical efficiency. This definition said that any increase in output would require other output reduction and/or one input increase similarly requires other input increase or vice versa. The theory emphasis that cost reductions will lead to increment of efficiency. The technical efficient measurement method was supported by Debreu (1951) and Farrell (1957).

Conventional economic efficiency theory has been employed by many researcher in measuring banking system efficiency. Allen and Rai (1996) explain operational efficiency as product delivery ability in a cost effective manner which will increase profitability. Operational efficiency is optimised when people, process and technology are combined correctly in enhancing business operation productivity and value whilst at the same time reducing routine operation cost to a desired level. Said and Tumin, (2011) stated that efficiency is when business produces the optimal output of a combination its goods and services. Siraj and Pillai, (2011) demonstrated the importance of operating efficiency for banks in a study of commercial banks in India. A summary of the Agency Theory as an underpinning theory and the Conventional Economic Efficiency Theory as a supporting theory are stated in Table 2.1.

Table 2.1
Summary of Underpinning and Supporting Theories

Theory	Proposal	Applications	Evidence
Underpinning Theory: Agency Theory	It investigates the impact of credit risk on the financial performance of banks because large credit given to customers will expose a banks to high risk.	Credit Risk and financial performance	Kurawa & Garba, 2014 Nawaz & Munir, 2012 Cocheo, 2008
	It focuses on the level of liquidity that may influence financial performance because the lack of liquid assets will affect a bank's ability to transact business.	Liquidity and financial performance	Donnellan, 2016 Blundell-Wignall, 2010 Blaha, 2009
	It examines the relationship of the size of the banks to financial performance because larger banks have greater exposure to borrowing compared to smaller banks.	Bank size and financial performance	Jonsson, 2006 Ennis, 2005 Akhigbe & McNulty, 2005
Supporting Theory: Conventional Economic Efficiency Theory	It investigates the effects of operational efficiency on financial performance because combining resources will lower operating losses and increase banks performance.	Operating efficiency and financial performance	Said & Tumin, 2011 Siraj & Pillai, 2011

2.3 Prior Studies and Hypothesis Development

This study is to establish the relationship between the dependent variable which is financial performance and independent variables which are credit risk, liquidity, operational efficiency and size. Statistical tests have been conducted to obtain more reliable information on these relationships, and the results offer information about these relationships.

2.3.1 Credit Risk

Credit Risk is one risk that banks face because providing loans are a main source of income. It is possible that a bank can lose both the amount invested and interest accrued form it when a borrower defaults his debts. Credit risk is an important element influencing banking business financial performance and an increase in credit risk exposure can result in decreased profitability when high-risk loans are defaulted upon.

Previous researchers have found a positive relationship with credit risk on bank performance. Kolapo, Ayeni, and Oke (2012) studied five Nigerian commercial banks from 2000 to 2010 and found that a 100% increase in non-performing loan reduced profitability as measure by Return on Assets was about 6.2%. Poudel (2012) explored the increased credit risk of banks in Nepal affected the financial performance. According to Friedland, (2009) credit risk is a major issue in the banking industry and influenced the collapse of large international investment houses like of Lehman Brothers as well as Bear Stearns in 2008.

A higher loan limit capability of a bank can lead to increased credit risk and affect profitability (Heap, 2008). Credit risk has a positive relationship to a bank's performance as Bukhari and Abdul Qudous (2012) demonstrated. Sufian and Habibullah (2009) examined the performance of 37 Bangladeshi commercial banks between 1997 and 2004 and found that bank credit risk had a positive and significant impact on bank performance.

On the other hand, studies done by Kaaya and Pastory (2013) shows that credit risk indicators affecting the bank performance negatively. Similarly, research from Fauziah, Zarinah, Ahamed and Mohd (2009), as well as Said and Tumin (2011) shows evidence of statistically significant and negative credit risk impacting bank performance. The relationship indicates banks with relatively high exposure to high risk loan accumulated a higher unpaid loans leading to lower returns. Liu and Wilson (2010) supports the negative relations of credit risk to performance. Musyoki and Kadubo's (2012) studied credit risk management impact to banks financial performance and concluded that financial performance is inversely impacted by these parameters or in another word, banks with higher credit risk were less profitable.

Based on above discussion, an interesting situations exist on the credit risk influence towards banks financial performance. Loans provided to borrowers with a higher risk will bring higher income to the banks, but on the flip side these loans can also lead to a higher numbers of loan defaulters. Therefore, this study will look at the significant relationship of credit risk based on the following hypothesis.

H_1: There is a relationship between credit risk and financial performance of banks in Malaysia.

2.3.2 Liquidity

Liquidity is a bank's ability to acquire funds in order to meet their obligations any time they are needed without incurring any losses. As a consequence, banks may need to hold some of their assets or capital to maintain their liquidity at the correct level.

Moreover, banks need to measure their possible opportunity cost losses because an excess of assets and capital may provide a high return if these have been invested in other portfolios.

Several researchers have studied how liquidity can influence the reputation and performance of a bank. A bank should hold sufficient liquidity to enable itself to adjust with to changes in government monetary policy which shapes the overall financial market liquidity trends, the transactional requirements of the banks' towards repayment of short term borrowing (Akhtar, 2007). According to Najjar (2013), current assets and liabilities relationship generally indicate the liquidity ratios and these ratios indicate the ability of the bank management in meeting its current liabilities (Ansari, 2011). Solvency of a bank is also indicated by its ability to meet their short-term obligations when due.

Several scholars have studied this issue with mixed results. Arif and Anees (2012) investigated on how liquidity risk would affect or determined the profitability of Pakistani banks over the period from 2004 to 2009. They found that liquidity significantly affected bank profitability. However, according to Fauziah et al. (2009), liquidity and banks profitability have no relationship. In a study of banks in Malaysia and the People's Republic of China by Said and Tumin (2011), they found that liquidity risks bear no impact on performance. Victor, Samuel, and Eric (2013) looks at the same relationship on banks listed on the Ghana Stock Exchange. Their studies were on seven of the nine listed banks for the period 2005-2010 by computing the

relevant liquidity and profitability ratios. Their results shows a very weak relationship with liquidity having a negative effect on profitability. In Malaysia, Guru, Staunton, and Balashanmugam (2002) also found a negative relationship of liquidity towards profitability. The difference in results of the studies were due to the difference in accounting treatment as well as reliability of data obtained (Kirkham, 2012).

From the above literature review, the mixed finding from the previous studies suggests the need to further examine the liquidity and the financial performance relationship in Malaysian banks. This leads to the following hypothesis.

H_2: There is a relationship between liquidity and financial performance of banks in Malaysia.

2.3.3 Operating Efficiency

Operating expenses are the main costs in managing a business. As it stated in income statement, operating costs will offset the income received by the banks. It is important for the management in monitoring the efficiency to minimize operating expenses as it is indicator of cost effectiveness. Operational expenses are a cost of banks operations and have an inverse relationship with bank profit.

Generally, higher operating efficiency will increase the profitability of a firm. Operating efficiency shows that how the management has minimized operating costs and increased efficiency. However, it may not true, though the relationship between operating costs and profits appears straightforward and shows that higher operating

cost lead to lower profits. It may due to the cost incurred associated with other higher activity expenditure such as promotion or launching of new banking products. This will cause of higher return to the banks Mergers and acquisitions is the other reasons which might increase operating cost and yet increase bank performance. Kemal (2011) in his study, supported this conclusion finding that the merger did not achieve the objective of cost savings but instead increased the bank's non-interest expenses, reduced the level of efficiency and adversely affected its profitability. Bendeck and Waller (2007) found that the increase of costs during the merger of banks had no impact on banks profitability in the United States for 148 merger events.

Most of previous studies provide an evidence on the negative relationship between operating efficiency and banks performance. If banks are capable of running their operations in the most cost effective manner, this will increase their performance. It shows the effective way bank handling the assets to ensure the highest return. (Elsiefy, 2013).

Lum (2009), has found that banks mergers in Malaysia improved their profitability by means of effective cost saving by using their assets efficiently and cost minimizing. Greater efficiencies in managing a bank's operations will result in higher profit for a bank. This conclusion was supported by the research done by Almazari (2014), Wasiuzzaman and Tarmizi (2010), Widagdo and Ika (2008) and Pasiouras and Kosmidou (2007) who revealed a negative relationship between operating efficiency and performance. Therefore, a high operating efficiency will affect the financial

performance of banks in a positive manner. However, the study done by Amel, Barnes, Panetta, and Salleo (2004) found that it is not significant since no proof that operational efficiency affected by mergers activity.

Therefore, based on the above literature review, this study to examine whether performance and operating efficiency has a relationship which shows by the following hypothesis:

H_3: There is a relationship between operating efficiency and financial performance of banks in Malaysia.

2.3.4 Size

Size of banks reflects total assets of individual banks. It includes the sum of all current and non-current assets and reported in balance sheets of the firms. The amount equal to sum of total liabilities and shareholder's equity. Bank size or total assets of banks is one of the characteristic reviewed by the investors before making any decision to invest.

Researchers have measured size of the banks to investigate its influence on bank performance. Banks with more assets and branches may maximize their productivity. Supported by Mester (2010) has stated that increasing size allows banks to allocate their costs to all branches. As the size of the bank increases, banks able to maximizing utilisation of their resources and skill causing in better efficiency and performance.

Several studies have examined bank size and bank performance, and bank size represented by total assets has had a substantial effect on the performance. Ji Rui (2012) showed that bank size influenced the performance of commercial banks in China. Kasimodou, Pasiouras, Zopounidis and Doumpos (2006) who studied banks in in United Kingdom, and Murthy (2008) who used data from Gulf Cooperation Council banks for the years 2002 to 2008 found the same. Additionally, Saif (2014) examined the banks in the Kingdom of Saudi Arabia and found that bank performance and size had positive and significant relationship.

In general, a big-sized bank tends to become larger and riskier (Ennis & Malek, 2005) and larger banks have greater borrowing exposure that can affect bank performance (Kelly, McGinty, & Fitzpatrick, 2010). However, these banks have incentives be good monitors of their borrowers, and this can improve financial performance. Some studies have shown that the bank size is not reflected to the performance of banks. It is when up to the certain limit increase in bank size will cause to decreasing in liquidity and this affect the bank performance.

The impact of the small size of a bank has also been studied. According to Berger, Miller, Petersen, Rajan and Stein (2005), small banks normally has direct contact and closely monitor their customer. This allow bank to ensure they only provide a good loan to the capable business and avoid any non-performing loans which may affect their performance. Additionally, Stever (2007) agreed that small banks are very selective in providing loan to the low risk borrower. This in turn, contribute to increase

profit and good bank performance. Al-Jarrah, Khalifeh, Ziadat, and El-Remiawi (2010) supported this conclusion, find that size had a negative relationship on profitability of the banks in Jordan. Bennaceur and Goaied (2008), in their studies on Tunisian banks, stated that size and bank performance are negatively related. It indicated that Tunisian banks were operating above their optimum levels.

However, Goddard, Molineux, and Wilson (2004) found that evidence that a relationship for any bank size and profitability was relatively weak. These findings provided a good reason for fourth hypothesis of the study, which posited that:

H_4: There is a relationship between sizes of the banks on financial performance of banks

2.3.5 Financial Performance

Financial performance generally refers to measurement of overall financial health of an individual firms. The financial performance of a bank is indicated by its profitability whereby a higher profit shows that the banks are performing well (Abbas, Tahir, & Rahman, 2012). Bank financial performance is an indicator of the soundness of its operation and management and how well they are maximizing the used of capital and resources. (Desa, 2003).

Financial performance is a direct representation of the management effective and efficient ways utilising its assets in generating earnings. Several studies have examined factors related to financial of banks using various metrics. Athanasoglou, Brissimis,

and Delis (2008) studied the bank-specific and macroeconomics effects on the performance of banks in Greece. They concluded that the higher the profitability ratio the higher the performance of the banks and the studies of other researchers such as Wasiuzzaman and Gunasegavan (2013) also supported this conclusion and it has been further agreed by Siraj and Pillai (2012). The studies done by Wasiuzzaman and Gunasegavan (2013) found that regardless of the types of bank i.e. conventional or Islamic, bank performance has been affected by the same factors. Siraj and Pillai (2012) found that bank performance has been shown by their ROA as an indicator for both types of banks.

Rahmi (2015) studied the period after the global financial crisis in Indonesia, investigating factors influencing the bank performance by using ROA. Saeed (2015) examined 27 conventional commercial banks in Malaysia from 2005-2013. The bank performance were significantly related with credit risk whereas liquidity was insignificant. Other studies of banks performance in Malaysia by Sukrri (2014) covered for the period from 2005 to 2012, and Idris (2014) studied for the period from 2008 to 2012. Therefore, researcher will cover the period from 2011 to 2015 to provide continuous studies on these area.

Based on the above discussion, the previous study on hypothesis development can be summarized as shows in Table 2.2 below:

Table 2.2
Summary of Previous Study

Independent Variable	Relationship to Financial Performance	Previous Studies
Credit Risk	Positive	Kolapo, Ayeni, & Oke (2012) Poudel (2012), Bukhari & Abdul Qudous (2012), Sufian & Habibullah (2009) Friedland (2009) ,Heap (2008)
	Negative	Kaaya & Pastory (2013), Musyoki & Kadubo (2012), Said & Tumin, (2011) Liu & Wilson (2010), Fauziah, Zarinah, Ahamed, & Mohd (2009),
Liquidity	Positive	Najjar (2013) ,Ansari (2011) Akhtar (2007) ,Arif & Anees (2012)
	Negative	Samuel & Eric (2013), Said & Tumin, (2011), Fauziah, Zarinah, Ahamed, & Mohd (2009)
	Not significant	Kirkham (2012) Guru, Staunton, & Balashanmugam (2002)
Operating Efficiency	Positive	Kemal (2011), Bendeck & Waller (2007)
	Negative	Elsiefy (2013), Almazari (2014) Lum, (2009), Widagdo & Ika (2008). Pasiouras & Kosmidou (2007), Wasiuzzaman & Tarmizi (2010)
	Not significant	Amel, Barnes, Panetta, & Salleo (2004)
Size	Positive	Saif (2014), Ji Rui (2012), Mester (2010) Kelly, McGinty, & Fitzpatrick (2010). Berger, Miller, Petersen, Rajan, & Stein (2005), Kasimodou, Pasiouras, Zopounidis, & Doumpos (2006), Murthy (2008) Ennis & Malek (2005)
	Negative	Al-Jarrah, Khalifeh, Ziadat, & El-Remiawi (2010), Bennaceur & Goaied (2008) Stever (2007), Berger et. al. (2005)
	Not significant	Goddard, Molyneux, & Wilson (2004)

2.4 Conclusion

This chapter discussed theoretical studies to find the relationship of dependent as well as independent variables and the previous studies provide a basis for this paper in

investigating the effects of credit risk, liquidity, operating efficiency and size towards Malaysia banks financial performance.

CHAPTER THREE: RESEARCH METHODOLOGY

3.0 Introduction

This chapter cover the research methodology used in testing the study hypothesis. Quantitative research method is employed whereby collected secondary data were analysed using SPSS. Dependent variables are investigated to check its relationship with credit risk, liquidity, operating efficiency and bank size. The dependent variables will be the financial performance of banks. The primary objective is to identify the relationship of each variables towards the financial performance of the banks based on the research question.

3.1 Conceptual Framework

The theoretical framework is shown below.

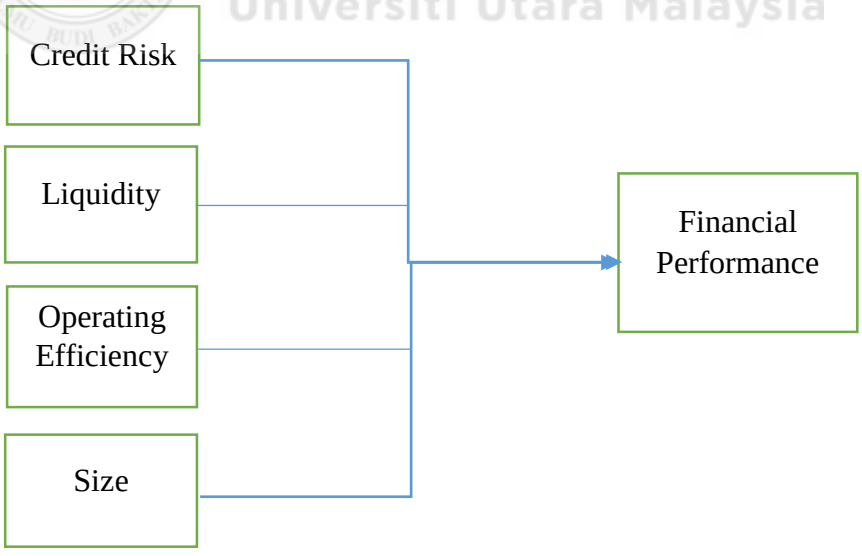

Figure 3-1
Theoretical Framework of the Study

3.2 Hypotheses of the Study

Based on the discussion on the previous chapter, the following hypotheses are posited:

H_1: There is a relationship between credit risk and the financial performance of banks.

$H_{2:}$ There is a relationship between liquidity and the financial performance of banks.

$H_{3:}$ There is a relationship between operating efficiency and the financial performance of banks.

$H_{4:}$ There is a relationship between size of the banks and their financial performance.

3.3 Research Design

The study employed a quantitative research design by using secondary data. The data collected from individual bank web page which covered the time series of 2011 to 2015.

3.4 Research population and sample

Banks data for the years from 2011 to 2015 were extracted from individual annual reports downloaded from their websites. Data of five years was selected to examine the current results of the banks performance covering the period after the global financial recession to date. Out of total 43 banks, only 33 were selected in this study. Some of the banks were excluded because of incomplete data or unavailability of data as some of these banks started their operations middle of the study years. A total of 165 observations were acquired in this study. The list of licensed Commercial Bank and Islamic Bank in Malaysia selected is shown in Table 3.1.

Table 3.1
List of Commercial Banks in Malaysia

	Commercial Banks in Malaysia
1	Affin Bank Berhad
2	Alliance Bank Malaysia Berhad
3	AmBank (M) Berhad
4	CIMB Bank Berhad
5	Hong Leong Bank Berhad
6	Malayan Banking Berhad
7	Public Bank Berhad
8	RHB Bank Berhad
9	Bangkok Bank Berhad
10	Bank of America Malaysia Berhad
11	Bank of China (Malaysia) Berhad
12	Bank of Tokyo-Mitsubishi UFJ (Malaysia) Berhad
13	Citibank Berhad
14	Deutsche Bank (Malaysia) Berhad
15	HSBC Bank Malaysia Berhad
16	Industrial and Commercial Bank of China (Malaysia) Berhad
17	J.P. Morgan Chase Bank Berhad
18	OCBC Bank (Malaysia) Berhad
19	The Bank of Nova Scotia Berhad
20	United Overseas Bank (Malaysia) Bhd.
	Islamic Banks in Malaysia
21	Affin Islamic Bank Berhad
22	Alliance Islamic Bank Berhad
23	AmBank Islamic Berhad
24	Bank Islam Malaysia Berhad
25	Bank Muamalat Malaysia Berhad
26	CIMB Islamic Bank Berhad
27	Hong Leong Islamic Bank Berhad
28	Maybank Islamic Berhad
29	Public Islamic Bank Berhad
30	RHB Islamic Bank Berhad
31	HSBC Amanah Malaysia Berhad
32	OCBC Al-Amin Bank Berhad
33	Standard Chartered Saadiq Berhad

Source: Bank Negara Malaysia (BNM) 2015.

3.5 Measurement

3.5.1 Financial Performance of banks

ROA has been used to measure performance of banks and is computed by dividing net income over total assets. In this study, ROA was selected as the key proxy for bank performance of banks, which is consistent with previous studies by Saeed (2015), Rahmi (2015), Wasiuzzaman and Gunasegavan (2013), Abbas et al. (2012), Siraj and Pillai (2012) and Athanasoglou, Brissimis, and Delis, (2008) which were discussed previously in the literature review.

ROA indicates how efficient a firm managers in using its assets to generate revenue. It can also be seen as an accounting-based measure of performance and is one of the tools to measure a company`s efficiency in utilizing all the assets under its control, irrespective of the source of finance that the company has used. ROA shows how much revenue of a bank is generated by their total assets. The higher the ROA, the better performance of banks because this metric indicates that the bank can generate more revenues with fewer assets. The ratio is calculated by dividing net income (net profit after tax) on total assets, as follows:

Return on assets (ROA) = (Net income/ Total Assets).

3.5.2 Credit Risk

In this study, credit risk is calculated based on the loan loss provision over the total loan portfolio provided to borrower. This variable measurement is used in the previous studies including Kaaya and Pastory (2013), Kolapo et al. (2012), Poudel (2012),

Bukhari and Abdul Qudous (2012), Friedland, (2009), and Sufian and Habibullah (2009). This metric shows the borrowers' overall repayment capability. Net income will directly be affected by loan loss provision. The credit risk is calculated as below:

Credit Risk = Loan Loss Provision / Total loans

3.5.3 Liquidity

Liquidity can be shown through bank's current ratio (CR). CR is ratio of its current assets over its current liability. The ratio was selected based on studies by Victor et al. (2013), Najjar (2013), Arif and Anees (2012), Kirkham (2012) and Ansari (2011). CR indicates the efficiency of a bank in managing its resources and it ability to convert its assets to cash when required. This ratio refers to the most liquid assets such as cash and cash equivalents. Too high of this ratio means the banks are not efficiently managing their short-term financing facilities to generate earnings. Meanwhile, a low ratio shows that the banks might run out of cash to cover their short term obligation. In this study, the following ratio is used to measure liquidity level in banks:

Current Ratio (CR) = Current Assets (CA) / Current Liabilities (CL)

3.5.4 Operating Efficiency

Operating efficiency is used to measures a bank operations cost compared to its income. It's equal to net sales over total assets. This metric by previous researchers including Almazari (2014), Elsiefy (2013) and Wasiuzzaman and Tarmizi (2010). The metric shows the bank performance can be improved by lowering its operating cost. It is a good indicator for banks to control their costs. Therefore, in order to evaluate

the efficiency, net sales after operation cost is compared to revenue earned. This ratio is calculated as follows:

Operating Efficiency Ratio (OE) = Net Sales / Total Assets

3.5.3 Bank Size

Bank size is represented by their total asset. In measuring this, natural log of total assets has been used in this study. This is the metric used by previous studies including Saif (2014), Ji Rui (2012), Mester (2010) and Kelly et al. (2010). This was then supported by Berger et al. (2005) and Murthy (2008) who also agreed on the method used. Kasimodou et al. (2006) and Ennis and Malek (2005) stated that it is the best metric to measure the size of the banks because the natural log makes the variable comparable to scale of firm size value.

Bank size = Natural Log of Total Assets

Table 3.2
Summary of the Measurements

Variable		**Measurement**	**Author(s) in previous studies**
Dependent Variable	Performance of Banks (Return on Assets)	$ROA = \frac{Net\ Income}{Total\ Assets}$	Saeed (2015) Rahmi (2015) Wasiuzzaman & Gunasegavan (2013) Abbas et al. (2012) Siraj & Pillai (2012) Athanasoglou, Brissimis, & Delis, (2008)

Table 3.3 (Continued)
Summary of the Measurements

Variable		**Measurement**	**Author(s) in previous studies**
Independent variables	Credit Risk	$Credit\ Risk = \frac{Loan\ Loss\ Provision}{Total\ Loans}$	Kaaya & Pastory (2013) Kolapo et al. (2012) Poudel (2012) Bukhari & Abdul Qudous (2012) Friedland, (2009) Sufian & Habibullah (2009)
	Liquidity	$Current\ Ratio = \frac{Current\ Assets}{Current\ Liabilities}$	Victor et al. (2013) Najjar (2013) Arif & Anees (2012) Kirkham (2012) Ansari (2011)
	Operating efficiency	$Operating\ efficiency = \frac{Net\ Sales}{Total\ Assets}$	Almazari (2014) Elsiefy (2013) Wasiuzzaman & Tarmizi (2010)
	Bank size	*Natural Log of Total Assets*	Saif, (2014) Ji Rui, (2012) Mester, (2010) Kelly et al. (2010) Murthy (2008) Kasimodou et al. (2006) Berger et al. (2005), Ennis & Malek (2005)

3.6 Data Collection, Technique and Analysis

3.6.1 Data Collection

Secondary data was chosen to carry out this research and was obtained from the annual reports and financial statements of banks. Secondary information sources were retrieved from individual official website. The financial ratios of 43 banks in Malaysia

was compiled using Microsoft Excel for five years 2011 to 2015. However, after eliminating cases with missing data, only 165 observations from 33 banks were left.

3.6.2 Regression Models

In order to test the proposed hypotheses, the researcher used the following model to analyse data.

Financial Performance (ROA) = X_0 + X_1 (CREDITRISK) + X_2 (LIQUDITY) + X_3 (OPERATING) + X_4 (SIZE) + e

Where:

Financial Performance = Return on asset (ROA);

Credit Risk (CREDITRISK) = Loan loss provision to total loans;

Liquidity (LIQUIDITY) = Current assets to current liabilities;

Operating Efficiency (OPERATING) = Net sales to total sales;

SIZE (SIZE) = Natural log of total assets.

e = error

3.6.3 Data Analysis

All the data has been exported to SPSS software to determine relationship amongst the variables. The analysis began by correlation analysis, followed by testing the normality of the data, descriptive statistics, multiple regression and correlation coefficient analysis.

3.6.3.1 Correlation Analysis

This analysis was used as a statistical technique in examining two variables correlation to each other. Pearson correlation is used to find if two variable correlate between them.

3.6.3.2 Normality Tests

Normality tests are used to ensure collected data has been distributed normally. Using SPSS, this test can be done by using Shapiro-Wilk's and Kolmogorov-Smirnov test. Skewness and kurtosis test are then conducted to ensure the data is normally distributed.

3.6.3.3 Descriptive statistics

Descriptive statistics have been used on the data to know the data descriptive perspective**.** Descriptive statistics provide and explain the collected data profiles such as its mean and standard deviation.

3.6.3.4 Multiple regression

This is a techniques used to examine factors determining the variables relationship. Multiple regressions are used in this study when it focuses that the value of a dependent variable (ROA) based on the value of two or more other independent variables (CREDITRISK, LIQUIDITY, OPERATING and SIZE).

3.7 Conclusion

In conclusion, this chapter explained the basic structure of the research methodology adopted in this study. It provides a brief discussion of the conceptual framework, the hypotheses of the study, and the research design in terms of research population and sample. This chapter also includes tan explanation of the measurement of variables. This chapter ends with data collection processes, statistical techniques and data analysis.

CHAPTER FOUR: RESULTS AND FINDING

4.0 Introduction

This chapter cover overall performance of data analysis. Data is analysed using SPSS software. The discussion includes an explanation of the correlation analysis, descriptive data statistics analysis and normality tests followed by an explanation of the results of multiple regression and then the conclusion of the chapter.

4.1 Overall Performance

Data collected in this study were analysed using descriptive analysis and regression analysis. A normality test was carried out to ensure the data complied with the assumptions of normality necessary to conduct multiple regression. SPSS software was used to perform the tests and generate the regression results.

4.2 Statistics Analysis

4.2.1 Correlation Analysis

The researcher used Pearson Correlation that accesses the linear relationship between two variables as shown in Table 4.1 Correlation Matrix. ROA shows negative relationship with LIQUIDITY. On the other hand, ROA has a positive relationship with CREDITRISK, OPERATING and SIZE.

Table 4.1
Correlation Matrix (N=165)

		ROA	CREDIT RISK	LIQUIDITY	OPERATING	SIZE
ROA	Pearson Correlation	1				
	Sig. (2-tailed)					
CREDITRISK	Pearson Correlation	.024	1			
	Sig. (2-tailed)	.764				
LIQUIDITY	Pearson Correlation	-.008	-.111	1		
	Sig. (2-tailed)	.917	.157			
OPERATING	Pearson Correlation	.270**	.197*	-.171*	1	
	Sig. (2-tailed)	.000	.011	.028		
SIZE	Pearson Correlation	.322**	-.045	-.409**	.228**	1
	Sig. (2-tailed)	.000	.564	.000	.003	

Notes: * Correlation is significant at the 0.05 level (2-tailed). **.Correlation is significant at the 0.01 level (2-tailed).

The analysis shows a positive correlation between ROA and SIZE. This relationship had the highest correlation at 0.322 compared to all the other associations among the variables. This result support the results of the studies of Saif (2014), Ji Rui (2012), Mester (2010), Kelly et al. (2010), Murthy (2008) and Ennis and Malek (2005), which suggest that good management of assets by banks will result in higher profitability. Thus, the relationship between the operating efficiency and performance is likely to be positive. SIZE had a positive relationship with OPERATING but negative a relationship with CREDITRISK and LIQUIDITY.

Next, the analysis shows that a positive relationship exists between ROA and OPERATING efficiency, which had a correlation of 0.270. The result with those of Kemal (2011) and Bendeck and Waller (2007) who found that bank size to total assets had a positive and significant relationship. OPERATING efficiency had positive and significant relationship with CREDITRISK and LIQUIDITY.

However, the table of correlation matrix shows that CREDITRISK was positively related to ROA, and the correlation between ROA and CREDITRISK was 0.024. This result is not surprising because Kolapo, Ayeni, and Oke (2012), Poudel (2012), Bukhari and Abdul Qudous (2012), Sufian and Habibullah (2009), Friedland, (2009) and (Heap, 2008) all showed that credit risk indicators positively affected bank performance. The correlation matrix showed in this current study showed that CREDITRISK had a positive and significant relationship with OPERATING and a negative relationship with SIZE and LIQUIDITY.

The correlation between LIQUIDITY was negative with respect to ROA. The correlation shows that ROA and LIQUIDITY were related at -0.008, which supported the studies of Fauziah et al. (2009), Said and Tumin, (2011) and Samuel and Eric (2013), which found that no relationship amongst the liquidity and performance. The correlation matrix shows that LIQUIDITY had a negative relationship to SIZE, CREDITRISK and OPERATING. From the table, only OPERATING and SIZE had a relationship that was statistically significant at the 0.01 level, which shows that both of them has very high relationship.

4.2.2 Scale Measurement - Normality Test

This is a test examining if the sample data distribution corresponds with a normal distribution. The normal distribution of the error terms reflect that the model specification is correct. In order to find to determine the assumptions that the data used are drawn from a normally distributed, the Kolmogorov-Smirnov and Shapiro-Wilk's tests were utilized. Table 4.2 shows that the data *p*-value was greater than 0.05 thus the null hypothesis that the data come from a normally distributed population is accepted.

Table 4.2
Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	**df**	**Sig.**	**Statistic**	**df**	**Sig.**
ROA	.051	165	.200*	.994	165	.715
CREDITRISK	.067	165	.066	.935	165	.000
LIQUIDITY	.222	165	.000*	.662	165	.000
OPERATING	.056	165	.200*	.949	165	.000
SIZE	.085	165	.005	.981	165	.022

Notes: *. This is a lower bound of the true significance. a. Lilliefors Significance Correction.

In order to select the appropriate statistical techniques, researcher used skewness and kurtosis analysis to meet the pre-requisite assumptions in terms of the linear relationship and multivariate normality. These tests find the normality of the distribution of data using histograms. It is an asymmetry measurement of distribution. A normal distribution has skewness values of zero. Skewness measures the relative figure of two tails, and kurtosis measures the combined size of the two tails. A normal

distribution is when kurtosis is lower than 3. According to Pallant (2011), the value of skewness and kurtosis for perfect normal distribution is zero. A positive skewness means higher skew toward the right and negative value shows in the left skew. The higher the value means the greater the skew. Similarly, the higher the value means the greater the kurtosis.

Table 4.3 shows the individual variables and indicates varies skewness and kurtosis figures.

Table 4.3
Descriptive Statistics on Skewness and Kurtosis (N=165)

	ROA	CREDITRISK	LIQUIDITY	OPERATING	SIZE
Skewness	.230	1.125	1.786	1.032	.148
Std. Error of Skewness	.189	.189	.189	.189	.189
Kurtosis	.390	2.148	18.684	3.494	-.766
Std. Error of Kurtosis	.376	.376	.376	.376	.376

ROA has a skewness and kurtosis of 0.230 and 0.390 respectively with a standard error of skewness and a standard error of kurtosis at 0.189 and 0.376 respectively. Whereas CREDITRISK has a skewness of 1.125 and kurtosis of 2.148, with a standard error of skewness at 0.189 and standard error of kurtosis at 0.376. LIQUIDITY has skewness of 1.786 and kurtosis of 18.684, with a standard error of skewness of 0.189 and a standard error of kurtosis of 0.376. OPERATING efficiency has a skewness of1.032 and kurtosis of 3.494, with a standard error of skewness of 0.189 and a standard error

of kurtosis of 0.376. Size of the banks has a skewness of 0.148 and kurtosis of -0.766, with a standard error of skewness of 0.189 and standard error of kurtosis of 0.376.

Figures 4.1 through 4.5 show the visuals of the histograms of all the data presented in Table 4.4.

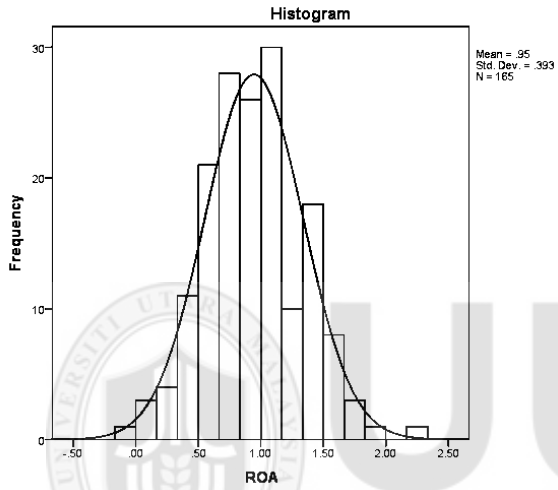

Figure 4-1
Histogram of Return of Assets

This ROA histogram shows the distribution of data in a slightly curve shaped. It indicates that the data meet the assumption of normality. The mean for ROA was 0.95 and the standard deviation was 0.393.

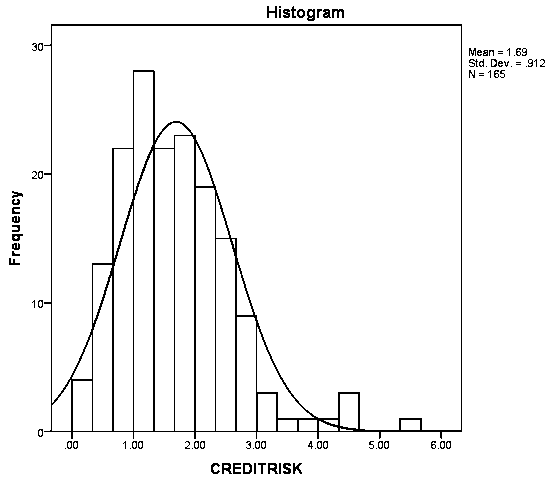

Figure 4-2
Histogram of Credit Risk

The histogram of CREDITRISK shows positively skewed distribution with the tail extending to the right. Kurtosis is positive with high peak. CREDITRISK had mean at 1.69 and a standard deviation of 0.912.

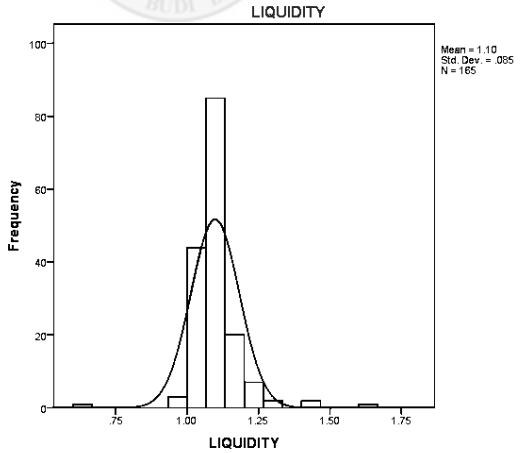

Figure 4-3
Histogram of Liquidity

This histogram of LIQUIDITY shows that the kurtosis is at a higher peak. Skewness involves in this distribution of data. Data shows mean of 1.10. Whereas the standard deviation of liquidity shows 0.085.

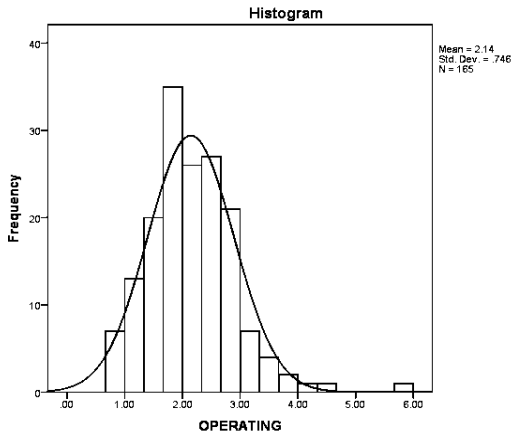

Figure 4-4
Histogram of Operating Efficiency

The histogram of OPERATING shows a slightly skewed distribution with the tail extending to the right and kurtosis shows positive with a high peak. Operating efficiency shows a mean of 2.14. It also indicates that a standard deviation of 0.746.

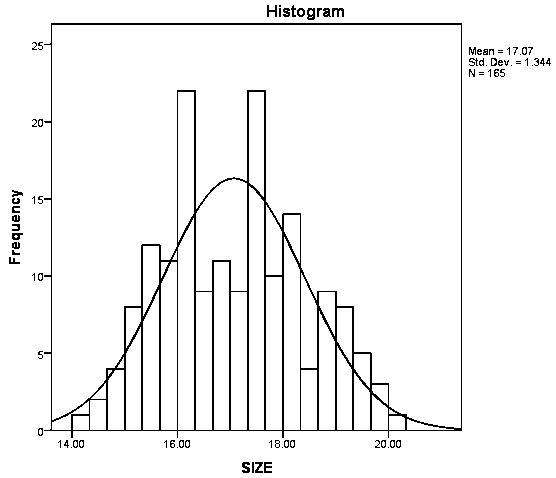

Figure 4.5
Histogram of Bank Size

The SIZE histogram shows a roughly normal shape with a means of 17.07 and a standard deviation of 1.344.

A Normal Test Plot were performed to investigate whether the data exhibit the standard normal distribution as shown in a bell curve. Figures 4.6 to Figure 4.10 show that the data is plotted slightly in straight line, which indicates that the normality distribution of data.

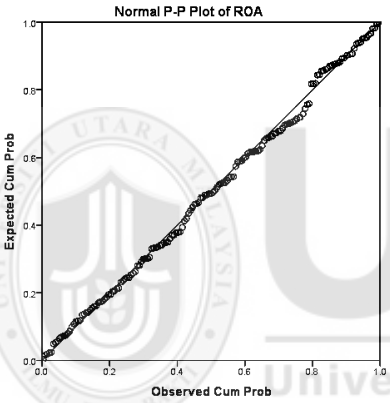

Figure 4-6
P-Pilot of Return of Assets

Figure 4.6 shows that the data are plotted closely to a linear pattern, which indicates a normal distribution for this set of data.

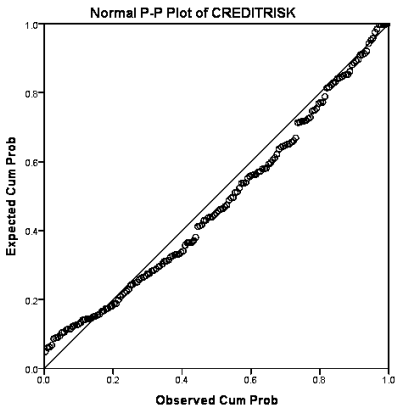

Figure 4-7
P-Plot of Credit Risk

For Credit Risk, data are plotted close a line as is shown in figure above, which indicates that data are distributed normally.

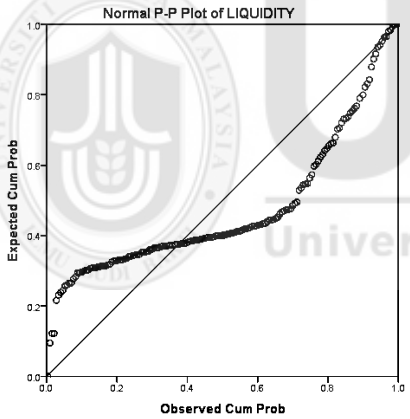

Figure 4-8
P-Plot of Liquidity

This figure shows that the data are slightly not distributed normally along the linear pattern. This is expected due to the nature of financial data itself. This are supported by Van Den End (2008), stated that banks normally has their own liquidity buffer which varies from one to another. The outcomes of test will not be equally same, since it will be based on their liquidity level, needs and structures of individual banks.

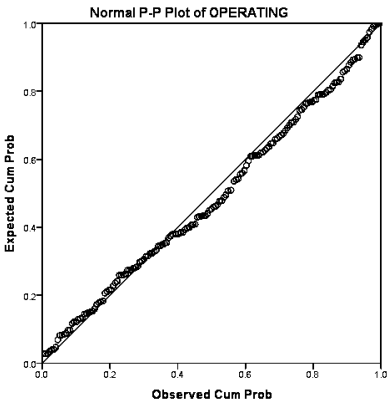

Figure 4-9
P-Plot of Operating Efficiency

Data shown in the above table indicates that the data are plotted close to a straight line. It shows normal distribution for operating efficiency data.

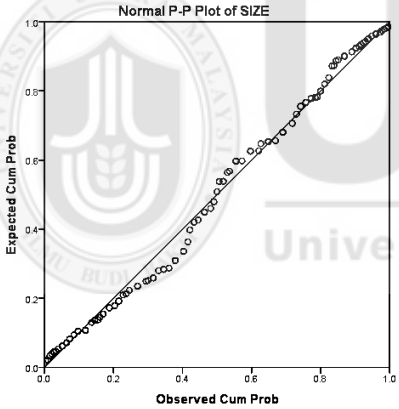

Figure 4-10
P-Plot of Bank Size

The figure shows at the size data are slightly distributed normally because they plotted close to a straight line pattern.

4.2.3 Descriptive Statistics Analysis

Data means and standard deviations are includes in this analysis. The mean shows average value of the variables used in the samples. The change between the minimum and maximum indicates the movements of bank performance (Almazari, 2014). The standard deviation indicates the variations in the data set. Table 4.4 indicates the descriptive statistics of 165 observations from 33 banks used as a samples in this studies. It covers the period from 2011 to 2015.

Table 4.4
Descriptive Statistics (N=165)

Variable	**Description**	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
ROA	Return on Assets	-.13	2.33	.9457	.39282
CREDITRISK	Loan Loss Provision/Total Loans	.18	5.60	1.6910	.91175
LIQUIDITY	Current Assets/Current Liabilities	.63	1.66	1.0981	.08487
OPERATING	Net Sales/Total Sales	.72	5.89	2.1446	.74599
SIZE	Total Assets	14.26	20.00	17.0704	1.34409

Bank performance (dependent variable) was proxies by ROA. The mean for ROA was 94.57 percent (0.9457) indicating a high conversion of banks assets into earnings. ROA that is less than 20% is considered as low (Hawkins & Mihaljek, 2001). The

standard deviation for ROA was approximately 39.28, which indicates that the variation of profitability was low.

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Four independent variables which has been analysed. Credit Risk shows the mean of 1.6910 and standard deviation of 0.91175. Liquidity, which is described as liquid assets and shows the ratio of current assets to current liabilities, had a mean 1.0981 and a standard deviation of 0.8487. In term of operating efficiency, which was net sales to total sales, had a mean of 2.1446 and standard deviation of 0.74599. Bank size shows the mean was 17.0704, and the standard deviation was 1.34409.

4.2.4 Regression Analysis

Tables 4.5 and 4.6 exhibit the regression model summary.

Table 4.5
Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.410[a]	.168	.148	.36265

Note: a. Predictors: (Constant), SIZE, CREDITRISK, OPERATING, LIQUIDITY.

From the above analysis, the ROA was described by variables chosen in this analysis. The coefficient R was 0.410. This shows the four independent variables has an impact to 41.0% of ROA and balance of 59.0% are unexplained. Perhaps, there are other factors that have not been considered in explaining relationship with ROA in this paper. The adjusted R square was 0.148. This shows 14.8 % of changes in ROA has been represented by selected independent variables.

Table 4.6
Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	-1.894	.685		-2.764	.006
	CREDITRISK	.007	.032	.015	.203	.840
	LIQUIDITY	.792	.370	.171	2.142	.034
	OPERATING	.115	.040	.218	2.875	.005
	SIZE	.100	.024	.343	4.237	.000

Note: a. Dependent Variable: ROA.

The standardization coefficient as shows in Table 4.6 is usually used in multiple regression analysis. This is to shows that impact of the independent variables against the dependent variable. It shows that LIQUIDITY, OPERATING and SIZE had significant coefficient level with a p-value of less than 0.05, showing that the relationship was significant. SIZE was the most with a significance level of 0.000.

4.3 Conclusion

The results of this study have been discussed at the beginning of this chapter. The analysis was done on the descriptive, normality tests, regression and correlation. The result of the analysis shows that SIZE and OPERATING are the independent variables with positive significant relationships with the ROA. CREDITRISK looked to have a positive relationship with ROA as well whereas LIQUIDITY has a negative relationship with ROA.

CHAPTER FIVE: DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

Firstly, discussion of results which shows the relationship of credit risk, liquidity, operational efficiency and size on bank financial performance. It's followed by theoretical and practical contributions and significance of the study. Finally, the limitations on the study are explained and recommendation for future research are suggested along with the conclusion.

5.1 Discussion

This study examines the factors that affect bank performance in Malaysia. The data for this study were retrieved from the annual reports of banks. The sample comprised 33 commercial conventional and Islamic banks. The period of study was from 2011-2015, and there were 165 observations.

In order to investigate the relationship of the independent variables to the banks performance, several variables were selected and an analysis was done. ROA was the proxy for financial performance while credit risk, liquidity, operational efficiency and bank size ratio were chosen as the independent variables. Tests were conducted on data acquired. Once the data normality was found, regression tests were used to analyse the relationships.

Table 4.5 showed a results of regression analysis which four independent variables (liquidity, operating efficiency, bank size, and credit risk) used in this study, accounted for 16.8% of the change in the dependent variable. Thus, about 83.2% of the relationship was accounted by the factors which are not tested in this study since this study only focus on internal factors. The other factors might due to the external factors such as economy, political situation and others.

The results of the coefficients listed in Table 4.6 reveal the following:

5.1.1 Credit Risk (CR)

Hypothesis one posited that a relationship would exist between credit risk and the financial performance of banks. In study, credit risk was measured by loan loss provision to total loans, which shows how much the exposure risk is to a bank. Kolapo et al. (2012), Bukhari and Abdul Qudous (2012) and Sufian and Habibullah (2009) agreed that credit risk was related in a positive fashion to the profitability of a bank.

In this study, as per Table 4.6, CREDITRISK was found to have a positive but not significant relationship with the performance of the Malaysia banks studied. This finding demonstrated that credit risk may not affected bank performance as Poudel (2012), Friedland (2009) and Heap (2008) also found in their studies. This result in the current study may be accounted for by effective risk strategies and risk management framework implemented by Malaysia Banks after the worldwide financial crisis of 2007-2009. Guidelines issued by the BNM in order to control non-performing loans

by the borrower may also have contributed to the banks controlling and monitoring of credit risk.

5.1.2 Liquidity

Hypothesis two posited that a relationship would exist between liquidity and financial performance of banks. The results of the study shows that liquidity had a positive relationship with ROA. Liquidity is a measure of the assets of the banks and short-term funding and seeks to ascertain whether a bank has the ability to pay off its short-term debts. This results of current study agrees with those of previous studies with respect to the impact of liquidity on bank performance. These include the studies of Guru et al. (2002), Arif and Anees (2012) Najjar, (2013) and Ansari, (2011) who demonstrated that liquidity was positively related to ROA.

Table 4.6 clearly shows a positive and significant relationship existed between LIQUIDITY and bank performance during the period of study. The coefficient of 0.792 indicates that one unit increase in LIQUIDITY would bring about a 0.792 unit increase in bank performance. This means that the higher the value of LIQUIDITY, the better the performance of a bank. This could because banks with large resources are capable either of funding more borrowers or are more involved in high-return investments.

5.1.3 Operating Efficiency

The third hypothesis posited that a relationship would exist between operating efficiency and financial performance of banks. Operational efficiency is measured by calculating net sales to total sales. Operational efficiency reflects how well banks manage their operational costs and resources in maximising their sales as well as their profits.

Table 4.6 shows that OPERATING had a positive significant relationship with a coefficient of 0.115. This reflects increasing of operating efficiency by 0.0115 will give an impact of 0.115 increase in performance of banks. OPERATING had a positive and significant relationship with performance. Thus, bank with efficiency expense management will exhibit good performance. This finding supports the results of Kemal (2011) and Bendeck and Waller (2007) who also found that operating efficiency had a positive impact on bank performance.

5.1.4 Size

Finally, the last hypothesis posited that a relationship would exist between size and the financial performance of banks. Bank size reflects the total assets of a bank. From the Table 4.6, the current study was to conclude that there are positive and significant relationship between SIZE and financial performance with a coefficient of 0.100. This indicates that a one unit increase in SIZE would bring about a 0.100 unit increase in bank performance.

Thus, the size of a bank was expected to be positively and significantly related to performance. This implied that big-sized banks are more profitable than small-sized banks. The result is in line with the findings of Saif (2014), Ji Rui (2012), Mester (2010), Kelly et al. (2010), Berger et al. (2005), Kasimodou et al. (2006), Murthy (2008) and Ennis and Malek (2005). One possible explanation is that a large bank (based on total assets) is able to utilise its resources and expertise resulting in greater efficiency and maximisation of its performance.

In conclusion, this study found that positive and significant relationships between LIQUIDITY, OPERATIONAL EFFICIENCY, SIZE and the financial performance of banks studied in Malaysia and a positive relationship, but not significant relationship, between CREDITRISK and financial performance.

5.2 Theoretical and Practical Contribution

5.2.1 Theoretical Contributions of the Study

This paper has been extended the literature on the factors that impact the financial performance of banks and extended the period under study. Such studies include those of Saeed (2015), Sukrri (2014), Idris (2014), Lin (2012), Lum (2009). Bahari (2009) and Ghazali (2008). It has not only extended the line of research, but has provided a more current picture of the overall performance of commercial banks including Islamic, conventional, local and foreign banks.

Thus, the study contributes to the extant literature pertaining to this topic by providing additional information to researchers, academicians and university students. Furthermore, this study fills a gap by providing evidence to validate the theories used in finding relationships among the variables.

5.2.2 Practical Contributions of the Study

This study might provide significant value to the users of bank financial performance reports and to the financial institution industry by providing the current status of banks pertaining to liquidity, operating efficiency and size.

This results of this study may help investors and depositors in making correct decisions for making good investments by considering liquidity level, operating efficiency and size of the banks. This is the most factors which bring higher return to them. For policymakers and regulators, the results of this study may help them to monitor any non-performing loans through the credit risk analysis of individual banks and creating awareness about current difficulties faced by banks. The regulators may then provide guidance to the banking sectors as well as review the existing guidelines.

The results of this study could provide a useful information to Inland Revenue Board of Malaysia, as a basis for determining the selection of cases for an audit purposes. Based on the financial report, issues can be focus on credit risk, liquidity, operating efficiency and size. These can be used as tracking mechanisms for evaluating tax liabilities and tax collections.

5.3 Limitation and Recommendation

Researchers have scrutinised the relationship of dependent variables of bank performance such as Return on Assets and independent variables such as credit risk, liquidity, operational efficiency and bank size. Therefore, future research is recommended to utilize other factors as independent variables, including other bank characteristics, interest rates, political influence, and economic factors, to explain the dependent variables of bank performance. Findings shows the positive relationship between credit risk level and banks total assets to their performance. Operational efficiency level also contributes to the banks performance

Future researchers are encouraged to increase the sample size by adding more banks and looking at longer period. This would improve the data representativeness and keeping the relevancy of the study to the current years. Expanding the sector to include other financial sectors such as corporate and investment bank may be useful for the collection of data and overall understanding of the Malaysian financial market.

5.4 Conclusion

Banks as the country's main economic generators and health indicators should strive to ensure a continuous respectable performance. Their failures can result in overall economic distress and financial crisis. This is evidenced by the strict monitoring of the industry by the regulators. Other parties such as investors and stakeholders are interested in monitoring the banks performance. From the testing of the hypotheses, the following conclusion has been formed. Liquidity, operational efficiency and bank

size had a positive and significant relationships to the performance of banks during the period of study. However, credit risk was also proven to have a positive but insignificant relationship to financial performance in this research. It is concluded that this research has achieve its objective in discovering factors affecting the performance of the selected Malaysian banks and may be useful to future researches interested on the same topics.

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