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Measuring the Effect of Foreign Currency Exchange Rate on Bank's Financial Performance with Early IFRS 9 Compliance

Sura Naufel Bahjat
Madenat Alelem University College
Sura.Naufal@mauc.edu.iq
Ali Mahmood Hussain
Madenat Alelem University College
Alimahmood@mauc.edu.iq
Salih Yahya Saleh
Madenat Alelem University College
Salih.yahya@mauc.edu.iq

Abstract: The importance of examining the exchange rate effect has on banks profitability cannot be over emphasized, particularly, given this era of Global Financial Integration. Most banks are said to suffer from erosion of their profit arising from exposure to fluctuations in international currencies, especially, when proper hedging strategies are not adopted. The international financial reporting standards are set to lighten the effect of this exposure, also to guide firms regarding the risks faced in international markets. Many developing countries hadn't complied with these standards nor adopted and reported them in their full form. This study used secondary data methodology and information obtained regarding international banks to examine the relative effect of exchange rate on banks profitability on a period of 5 years (from 2013- to 2018), also this research investigated the firm's compliance rate with the International Financial Reporting Standard 9. In order to get the independent effect of exchange rate on banks profitability the study used Return on Equity to identify banks profitability. Also, the study introduced two control variables (bank size, inflation) into the study in order to conduct a regression analysis of the effect.

Keywords: IFRS9, Liquidity, Exchange Rate Risk, Inflation, Size Of Bank.

INTRODUCTION

Introduction

Globalization is said to have enhanced the trading relationship between and amongst countries, particularly, with the introduction of the electronic payment system (Kyrylov, Y., etal, 2020; Balsalobre, Daniel, et al. 2020). The foreign exchange market portends to be the largest financial market in the world; more so, large banks are the greatest players in this market (Thakor, 2020; Prasad, 2020; Hynes, et al 2020). The greatest volume of currency is traded in the interbank market. This is where banks of all sizes trade currency with each other and through electronic networks (Behr, & Wang, 2020; Holden, Lu, Lugovskyy, & Puzzello, 2020). Large banks account for a larger percentage of total currency traded in the international

financial markets. Banks facilitate foreign exchange transactions for clients and conduct speculative trades from their own trading desks (Bjønnes, & Rime, 2005; King, Osler, & Rime, 2011; Amenawo, Riman, & Akpan, 2016). When banks act as dealers for clients, the bid-ask spread represents the bank's profit. The current global trend of large banks establishing corporate branches outside their country of domain has further heightened their degree of exposure to exchange rate risk management (Mehta, & Fung, 2008; Buiter, 2008; Amenawo, et al., 2016). The profitability of such large banks might be significantly affected by fluctuations in exchange rate (Amenawo, et al., 2016).

Background of the Study

Foreign currency translation is the process of reporting financial information from one currency to another. Foreign currency translation is carried out to prepare joint financial reports that provide reports to readers of information about the company's operations globally, taking into account the foreign currency financial statements of the subsidiary against the foreign currency of the parent company (Otieno, 2015; Lambe, 2015). Foreign currency translation is the process of restating financial information from one currency to another (Pinto, 2002; Pinto, 2005; Holt, 2011). Conversion, is the exchange of a currency into another urrency. Current rate, is the exchange rate in effect at the date of the relevant financial statement. The position of net assets at risk is the excess of assets measured in or denominated in foreign currency and translated using the current exchange rate of the liabilities measured or denominated in foreign currency and translated using the current exchange rate. While reporting currency, is the currency used by the company in preparing financial statements (Aghion, Bacchetta, & Banerjee, 2004; Rao & Lakew, 2012; Coeurdacier, & Rey, 2013).

Foreign exchange rate risk management is based on the integral set in each banks call regarding foreign currency exposure (Allayannis, 2001; Allayannis, 2008). Currency risk hedging procedures entail eliminating or reducing this risk and need understanding of all the ways in which the exchange rate risk may have an effect on the operations of economic agents and techniques to alter the resultant risk implications (Walker, 2012; Abdel-Khalik, 2014). Choosing the suitable hedging strategy is commonly a frightening task attributable to the complexities concerned in measuring accurately current risk exposure and selecting the suitable degree of risk exposure that have to be covered (Kiptisya, 2017). The requirement for currency risk management began to arise with the breakdown of the Bretton Woods System and also the decline of the U.S. dollar peg to gold in 1973 rush (Papaioannou, 2011). The issue of currency risk management for non-financial and monetary companies is managed separately from their core business and is sometimes dealt by their company treasuries. Most transnational companies have additional risk committees to manage the treasury’s strategy in managing the rate, and interest rate risk (Mertz, Kim, Johnstone, & Lam, 2013). This shows the importance that companies have placed on risk management concerns and techniques.

Conversely, international investors sometimes, but not all the time, manage their exchange rate risk on its own from the underlying assets and liabilities. Since their currency exposure is associated to translation risks on assets and liabilities denominated in foreign currencies, they have an inclination to contemplate currencies as a separate asset category requiring a currency overlay mandate (Giddy & Allen, 2013; Wagana, 2014; Tiwary,2019; Cayirli, 2020). Foreign Exchange risk comes as an inequality between the assets control by a bank and therefore the loans that fund its record, associate surprising depreciation of the native currency against the USD will dramatically increase the value of mating debt relative to revenues. It may also negatively impact on the trustiness of the bank (hence the flexibility to boost new funds) and even generate some negative earnings, with serious consequences for the semi-permanent monetary stability of the bank (Moles, 2012; 2002). Banks area significantly prone to forex

rate risk, since they operate in developing countries where the danger of currency depreciation is high (Kiptisya, 2017).

Although there's a growing literature linking interchange risk management to company performance there's, equally, a growing diversity of results (Abdel-Khalik, 2014). The range of results may be partially explained by variations within the theoretical views applied, selected analysis methodologies, measuring of performance and conflicting views on general worker involvement in deciding and, in part, to the discourse nature of the individual firm (Carter, Pantzalis, & Simkins, 2003). Even studies supported the integrative models of worker involvement; incorporating totally different theoretical views and varied worker attributes, give inconclusive results, suggesting that currency risk management has, at least, an indirect result on company performance (Adler & Dumas, 2010).

Statement of the Problem

Banks' performance contributes immensely to the economic growth of a country by making funds available for investors to borrow and financial deepening. This is as a result of the market not only being a vehicle of settling international transactions but functions also as a medium of interaction between sellers and buyers of foreign exchange in a bid to negotiate a mutually acceptable price for the promotion and furtherance of international transactions (Ongore & Kusa, 2013; Osundina, Ademola, Olamide, & Moses, 2016). Exchange rate volatility creates a risky business setting where there are uncertainties concerning future profits and payments. These are particularly exacerbated in countries where monetary instruments for hedging against exchange risk don't seem to be developed, which is the case in several developing countries (Butler,2016; Sufian, & Kamarudin, 2016).

Ngerebo (2012) discourses that foreign exchange markets represent a global means of communication among large banks that serve as financial intermediaries for such exchange, since they use international lending as their primary form of international investing. The market operations in turn influence the banks by facilitating exchange, payments, international transactions, and playing important role in the foreign exchange market. Ongore et al (2013) and Kiganda (2014) explain that the internal factors are peculiar to each bank, an example of such internal factors is size of the firm. External factors on the other hand are macro-economic variable such as exchange rate, gross domestic product (GDP), inflation rate, interest rate etc. Because of the central role of banks in the financial intermediation, banks are thus prone to change based on the current exchange rates at that particular time (Todani & Munyama, 2005; Ani, Ugwunta and Okanya, 2013; Otieno, 2015; Degryse, Frank., & Kervel, 2015; Osundina, Osundina, Jayeoba, & Olayinka, 2016).

In order to lighten the effect of these transactions many International Financial Reporting Standards had been set and amended over the years. Yet many developing countries hadn't fully complied with those standards in their early adoption years. In the case of Malaysia IFRS 9 compliance started in the year 2014, and big firms started to comply towards the end of year 2018 (Lam, 2018; Marzuki, Rahman, etal.2021). Hence, it is vital to study and evaluate the effect of exchange rate fluctuation (volatility) on international banks performance and demonstrate the effect occurring on the financial statements when early IFRS hedging strategies are adopted.

Research Objective

1. The aim of this study is to investigate the effect of foreign currency exchange on international banks performance in Malaysia as a developing country for a five year period.
2. Examine the compliance rate with not mandatory IFRS 9 hedging.
3. Investigate the significance of exchange rate and on banks performance with early IFRS 9 adoption.

4. Investigate the significance of macro-economic determinants on banks performance.

Significance of the study

As such in today's global economy, any company trading in international markets is affected by foreign exchange rate fluctuations which are as a result of uncertainty in international transactions both in goods and financial assets. Most of the research reviewed focused on exchange rate volatility and other macro-economic variables such as GDP and Inflation, yet there are few studies on the effect of exchange rate fluctuation on international banks performance specifically in Malaysia.

This study contributes to the existing body of knowledge by providing empirical evidence on the effect of exchange rate on not only the profitability of international banks but also on its liquidity, especially with early IFRS 9 adoption.

Literature Review

2.1 Foreign Exchange Rates

Exchange rate is termed as the particular value of a certain currency when compared with another. It is obtained when one currency is exchanged or converted to another, thus its value may either increase or reduce (O'Sullivan & Sheffrin, 2003). This often results in foreign exchange risk whereby the company's performance is highly to be affected by changes in the foreign exchange market (Ahmed, 2015). The foreign exchange rate constitutes an integral part in any international business transactions both in the developed and developing countries (Ongore et al, 2013; Otieno, 2015). The exchange rates in Malaysia have been under constant fluctuations since the past ten years based on the World Bank Statistics Survey.

The lack of stability in the exchange rates could also be due to the fluctuated demand and supply of foreign currency in the foreign exchange market. Since most multinational and financial companies rely mostly in the foreign exchange market, it raises concern on the influence that the fluctuations have on the performance (Farah, 2014). There is a wealth of research examining the impact of foreign exchange rates on bank efficiency. Banks expand internationally to gain from economies of scale, reduce risks, and garner higher profitability. However, in order to survive in foreign markets, foreign banks should possess some specific advantages which they can exploit cross-border (Casson, 1990). When these advantages can be transferred at little cost, or utilized at lower marginal cost, foreign banks may enjoy some competitive advantages relative to their domestic and other foreign bank counterparts (Lewis and Davis, 1987; Sufian, & Kamarudin, 2016).

Foreign currency exchange rates in Malaysia

The exchange rates in Malaysia have been under constant fluctuations since the past ten years based on the World Bank Statistics Survey. Malaysia exchange rate system was developed from the earliest-Bretton Woods system, and then switched to floating until the latest-managed floating system. Some may hold that the pegging was not necessary in solving the volatilities (Sufian, & Kamarudin, 2016). Moreover, there are few studies that found no evidence of connection between exchange rate and macroeconomic fundamentals (Flood & Rose 1995; Baxter & Stockman 1989). Adekunle (2010) pointed out that high exchange rate will cause rises on the cost of living in Malaysia due to the parallel relationship of exchange rate and consumer price index.

The continuous depreciation of Ringgit has put Malaysia economy in a risky condition. Entering 2016, ringgit remains vulnerable to external pressures. Figure 2.1 shows that ringgit has slowly appreciated during 2013 to July 2017 and recorded the lowest rate which is RM3.28/USD in 2013. In 2014, the trend went up higher as the ringgit value was reordered at 3.50/USD. Entering 2015, the exchange rate had no longer maintained below RM3.50/USD

and even reached a peak at RM4.29 against USD, and 4.49/USD in 2016. Although it has slightly returned to lower rates in 2017, but still considered unhealthy for Malaysia economy, as the ringgit scored a 4.06/USD exchange rate (International Monetary Fund Website, 2018).

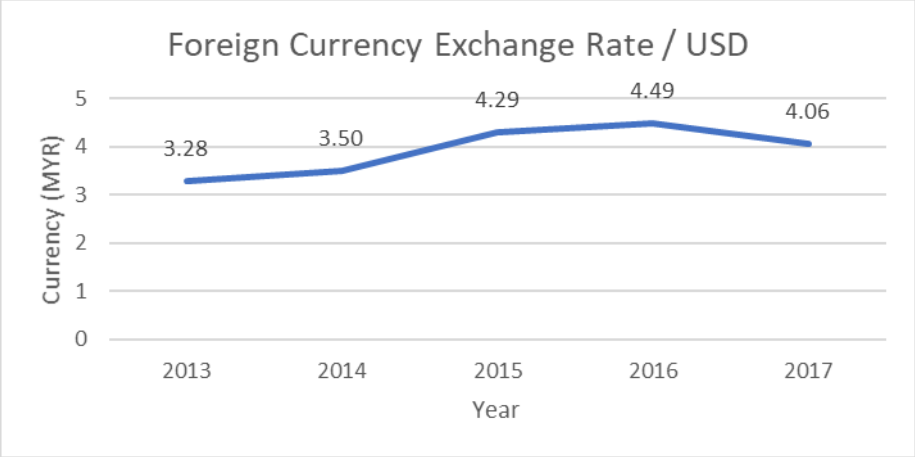

Figure 1.1 Foreign Currency Exchange Rates

Sources: International Monetary Fund Website (2018)

Underlying theory

The theoretical framework constitutes the philosophical basis upon which the research is conducted. This forms a link between the theoretical aspects and practical aspects of the variables under study. This study adopted two main theories in explaining the relationship that exists between foreign exchange fluctuations and the financial performance. This includes; Purchasing Power Parity Theory and the International Fisher Effect.

Purchasing Power Parity Theory

Purchasing Power Parity theory was proposed by Gustav Cassel in 1918. The theory suggests the use of price indexes in determining the exact price of a similar product between countries (Lin, Zhang, & Chang, 2011). The theory makes the assumption that there are no transactional costs or any barriers to the trade with the commodities traded being homogeneous in nature (Oskooee, Chang, Chen, & Tzeng, 2017).Moreover, it states that homogeneous goods in different countries cost the same in the very same countries when measured in terms of the same currency (Majok, 2015). However, the main limitation of this belief is in measuring Purchasing Power Parity constructed from price indexes given that different countries use different goods to determine their price level (Otieno, 2015).

The International Fisher Effect

This theory is relevant for this study as it explains the purchasing power of each currency which captures the inflation across countries to ensure that at equilibrium exchange rates, the basket of goods and services purchased by one unit of a country's currency equals to those purchased in the second country (Ortiz, & Monge, 2015). It holds that relative high interest rates in foreign currencies tend to depreciate in value due to the expected inflation brought about by the high nominal interest rates (Madura, 2012). The proposition is that the changes in exchange rates experienced in countries will also tend to rule out any differences that may be obtained as a result of having varying interest rates (Demirag & Goddard, 1994). Despite the theory having limitations in predicting the short run variations in exchange rates, it helps in understanding the exact interrelation between inflation, and both the real and nominal interest rates.

Banking Sector in Malaysia

The Malaysian banking system can broadly be divided into the banking sector and non-bank financial intermediaries. These two groups differ from each other with respect to their

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activities. Out sizing non-bank intermediaries significantly, the banking sector accounts for approximately 70% of the banking system's total assets. Commercial banks are the main players in the banking sector and are the largest and most significant providers of funds (Menon, 2009). As at end of 2008, it is clear that the commercial banking sector dominates the Malaysian financial system's assets and liabilities, with total assets and liabilities amounting to RM1600.5 billion ($462.6 billion). There were nine domestically incorporated and 13 locally incorporated foreign commercial banks in Malaysia as at end of 2008. Legally, Malaysian commercial banks enjoy the widest scope of permissible activities and are able to engage in a full range of banking services. Traditionally, Malaysian commercial banks main functions include retail-banking services, trade financing facilities, treasury services, cross-border payment services, and custody services (Sufian, & Kamarudin, 2016).

Apart from the more traditional activities, Malaysian commercial banks are also allowed to engage in foreign exchange activities i.e., to buy, sell, and lend foreign currencies and are the only financial institutions allowed to provide current account facilities. Despite controlling over 90% of the banking market in 1957, the foreign commercial banks' market share declined markedly after the country's Independence in 1957 to only 15.3% of the banking system's assets in 1997. The progressive decline of the foreign banks' market share was the result of government policy to encourage the development of the domestic banking sector. Foreign commercial banks have been prohibited to open new branches since 1971 and the last foreign bank allowed entry into the market was Bank of Nova Scotia in 1973. All foreign banks granted licenses after 1971 have had to remain one branch banks. Banking regulations in place since 1994 require all existing foreign branch banks to be incorporated locally (Matthews and Ismail 2006; Sufian, & Kamarudin, 2016).

The financing frameworks in the country have been highly regulated by the Central Bank of Malaysia Bank Negara Malaysia (BNM). Prominent among these organizations is the Malaysia Building Society Berhad (MBSB) (formerly Malaya and Borneo Building Society) (MBBS) established during the colonial period, with the singular role of providing loans on favorable terms than those from other sources of financing. The major changes in the Malaysian banking system were aftermath of the Asian Financial crisis. The banking sector was hit by the crisis; many small local banks experienced financial difficulties. To strengthen the positions of local banks in the domestic market, the Central Bank of Malaysia implements merger program in 1999 (Sufian, & Kamarudin, 2016; Moghavvemi, Lee, & Lee, 2018).

Through merger, capital size and business scale built-up, thereby lifting the local banks to international levels of efficiency. The trend towards building bank capital size will also be complemented through specialization. As banks are specializing into specific products and services, they develop the scales and skills, reduce costs and increase service quality. As of the year 2000, domestic banking institutions have been consolidated into ten banking groups. In 2015, there were only 8 local banks along with 19 foreign banks. Foreign banks are said to have wider connection, bigger capital and reserves as compared to local banks, while local banks are said to have a better understanding of local culture. Customers may differ in these two types of banks and even if they have the same customers, their expectations are different (Moghavvemi et al., 2018). According to the World Bank, in 2017 there are 9 international banks listed on Bursa Malaysia.

Banks Performance and Exchange Rate Volatility

Business transactions undertaken where different currencies are involved require the conversion of foreign currency to the local currency for reporting and running operations of the organizations. This is made possible by the exchange rates forex market (Corgel, et al, 2013). Over the last decade, scholars and policy makers in both developed and developing countries have recognized that foreign exchange rates are critical for the establishment and

survival of multinational companies (Biller, Kedia, & Lahiri, 2007). The exact role of foreign exchange rates on performance is what the scholars have tried to determine. Theoretically, the exchange rates have been established to have a significant relationship with the performance of organizations. Purchasing Power Parity theory and the Flow Oriented Model holds that the exchange rates changes affect real income and output in a country. But the theories do not put forward a definite framework to establish the exact relationship that exist (Kipchirchir 2011).

Empirically, studies have also confirmed the significant influence foreign exchange rates have on the financial performance (Addae, Baasi & Tetteh 2014; Majok 2015; Aldridge 2013). However, not all studies have been able to construct sophisticated measures of fluctuation in foreign exchange rates and definitively establish causal relationship (Irungu, 2014). As a result, it is difficult to determine the exact influence brought about by fluctuation in foreign exchange. Osundina et al. (2016) added that the effect of exchange rate is not only the profitability of international banks but also on its liquidity.

Financial performance refers to the ability to leverage operational and investment decisions and strategies to achieve a business' financial stability. It is the measure of a bank's achievement of its financial goals guided by its financial objectives and benchmarks and gain profit (Majok, 2015). To measure the profitability, there are variety of ratios used of which Return on Asset (ROA), Return on Equity (ROE), and Net Interest Margin (NIM) are the major ones (Murthy, & Sree, 2003). ROE is a financial ratio that refers to how much profit a company earned compared to the total amount of shareholder equity invested or found on the balance sheet. ROE, and ROA is what the shareholders look for (Majok, 2015). Hence, ROE and ROA is adopted in this study to examine the firm performance. Ahmed, (2015) investigated the impact that foreign exchange risk exposure has on commercial banks performance using both primary and secondary data. The study only focused on the interest rates and inflation without considering other macroeconomic variables. Additionally, the study was not able to clearly establish the relationship that existed between the variables (Otieno, 2015). Thus, this study studied both the Inflation rate and size of the firm, along with the effect of exchange rate on firm performance.

Inflation

Inflation is referred to a condition whereby the value of a particular currency reduces significantly (Biller, 2007). It could also be seen as the increase in prices of commodities in a country. When inflation occurs, it affects almost all the sectors in the economy ranging from international business to the common citizens. The high prices make its unfavorable to undertake in numerous transactions as before. Inflation is seen as an economic crisis and therefore each government ensures that the inflation levels are kept relatively low (Ross, 2008). However, inflation may also result in positive effects whereby an organization invests heavily before inflation has occurred and later benefit during the inflation period. Yet, inflations are not easily predicted and will therefore in most cases lead to negative effects. The banks thus ought to have mechanisms of predicting or managing inflation levels so as to be consistent in their performance (Simon, 1997; Ubindi, 2006). According to Otieno (2015), the inflation rate can be measured using Consumer Price Index, which can be obtained from the world bank survey analysis.

Besides, large numbers of study's findings were pointed to the negative effects or relationships imposed by exchange rate volatility. For instance, exchange rate volatility gives negative pressure on the inflationary rate (Danmola, 2013; Ramasamy & Abar, 2015). There are negative linkages among real GDP per capita, money supply, output, interest rate and FDI (Alagidede & Ibrahim, 2016). Adekunle (2010) pointed out that high exchange rate will cause rises on the cost of living in Malaysia due to the parallel relationship of exchange rate and consumer price index.

Ashok & Vikram (2016) analyzed the impact of macroeconomic factors and exchange rate volatility on Indian economy covering the period from 1996 to 2014. The result from linear regression analysis proved that inflation and GDP were statistically insignificant and negatively related to exchange rate. Evidence from Khin, Yee, Seng, Wan, & Xian (2017), showed that money supply and interest rate were negative factors in affecting exchange rate volatility. Granger causality test showed that interest rate granger caused exchange rate, whereas inflation and exchange rate granger caused each other. Hence, the study provided evidences that high money supply and rise in interest rate raises the inflation. Eventually, this will increase the exchange rate volatility, which indicate that the exchange rate and inflation are highly connected in long run and short run. Katusiime et al (2015) found that inflation generated negative and statistically significant effect on economic growth, the effect is reflected on the price instability in the country. The exchange rates fluctuations were also found to be negatively related to changes in inflation rates according to Majok (2015). However, Kipchirchir (2011) highlighted that that there is a strong positive relationship between financial performance for multinational corporations in Kenya and exchange rates volatility.

The size of the Bank

The size of the bank also plays a role on how the banks will not only perform but also in attaining dominance in the banking industry (Ahmed, Ahmed, & Ahmed 2010). Large banks may exploit economies of scale and this enables them to acquire more client and undertaking in more transactions which translate to more returns (Ongore, et al., 2013). Additionally, the large banks tend to be more trusted by the customers and this implies more clients will opt to invest in them as opposed to the smaller ones. Also, in case a risk occurs, the larger banks are in a position to mitigate it and be affected minimally whereas the smaller banks will be highly prone to dissolution and insolvency (Otieno, 2015; Abdullahi, & Aziz, 2017). This has seen most small banks to endeavor to expand their business and market values. Matthews and Ismail (2006), examine the technical efficiency and productivity of the Malaysian banking sector during the period 1994 to 2000. They find that the foreign banks have exhibited higher efficiency levels compared to their domestic bank counterparts. The results suggest that the efficient banks are characterized by size, but not profitability or loans quality. According to Otieno (2015), the size of the bank can be measured using the natural log of total assets.

The study of Ghosh (2010) highlights that firm size have positive and negative effects on exchange rate volatility. Similarly, the main rationale for the negative relationship with the exchange rate can be explained by the size of foreign currency denominated assets and liabilities in a bank balance sheet (Kasman, Vardar, Tunç, 2011). Moreover, Sufian (2010b), examines the efficiency of the Malaysian banking sector around the Asian financial crisis with the emphasis on the domestic versus foreign banks debate. The empirical findings indicate that the foreign banks have exhibited higher technical efficiency levels compared to their domestic bank peers. Despite that the results seem to suggest that the foreign banks were severely affected by the Asian financial crisis, implying that the foreign banks were not insulated from unexpected events like the Asian financial crisis of 1997. Introduction of the bank specific variables into the model can pose an effect on currency fluctuation. More specifically, bank characteristic variables, banks size and capital adequacy exerted positive significant effect on commercial banks profitability while non-performing loans and bank divestment exerted a negative effect on commercial banks profitability (Amenawo et al., 2016).

Research Methodology

Conceptual Framework

The relationship between the study variables is presented in conceptual framework presented in Figure 3.1. Exchange rate fluctuations will be the independent variable while dependent variable will be the commercial banks' performance. The control variables will be inflation rate, interest rate spread and the bank sizes.

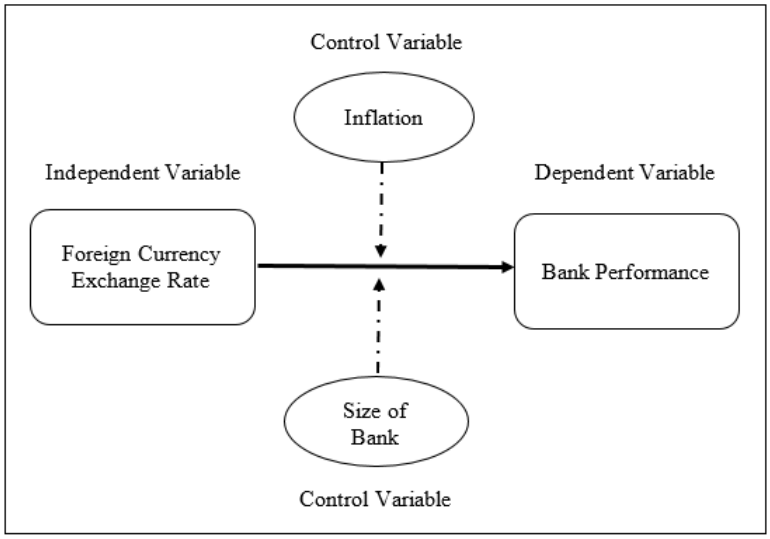

Figure 3. 1 Conceptual Framework

Population

The study's population involves the specific individuals or elements about which desired information, the study's target population constituted all the Malaysian commercial banks listed in Malaysian stock exchange. According to Bursa Malaysia and Malaysian stock exchange, there are international commercial banks. Due to the small population size, all 9 banks have been included in the analysis. A census study entails a complete enumeration of all items in a population.

Compliance rate

As a developing country, Malaysia had been developing its market and encouraging economy growth. Hence After the announcement of IFRS 9 Malaysia announced non-mandatory compliance with the standard to hedge the effects of currency exchange as shown in figure 3.2 below.

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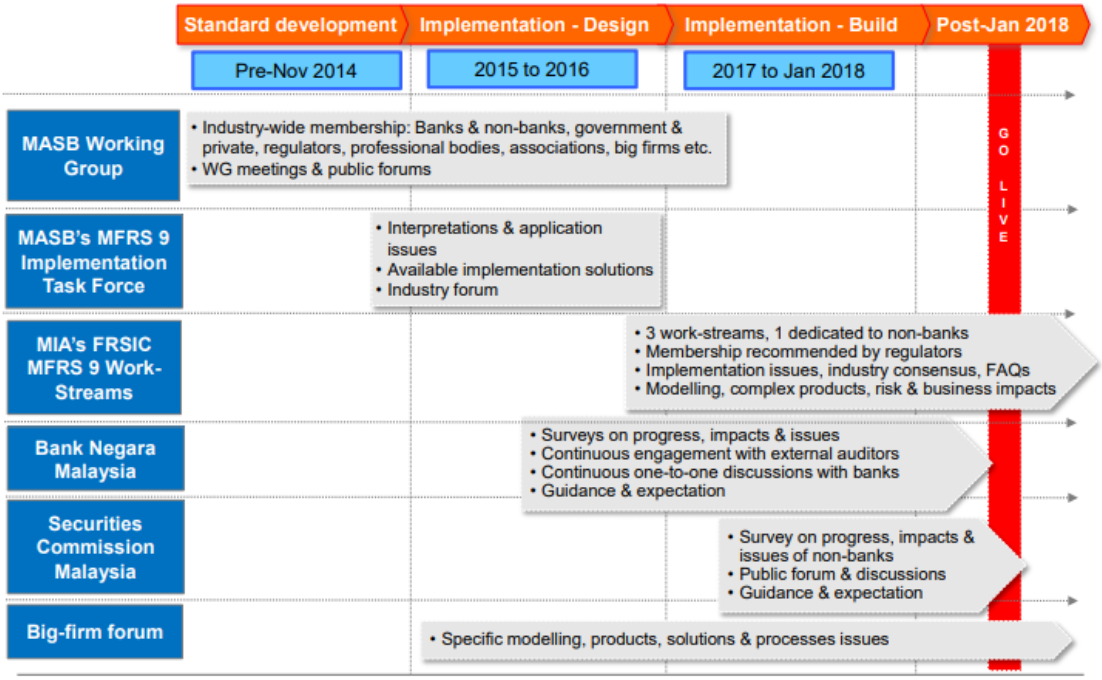

Figure 3.2 IFRS 9 implementation stages in Malaysia

Data Collection

The study is based on secondary data, which used annual reports and International Monetary Fund website to collect its data. The annual reports of these selected data cover the period of five (5) years from 2013 to 2017 for those nine (9) listed selected banks (45 annual reports), while the source of foreign exchange rate is international financial statistics from International Monetary Fund website.

Data Analysis

To measure the variables of this study, the researchers have obtained information on these variables by using quantitative analysis techniques. In order to present the results; the study used a frequency distribution, trend analysis and percentage as well. The study analyzed the Foreign Exchange Rate (FXR) as independent variable to examine the relationship with the Return on Equity (financial performance) as dependent variable whereas the bank size and inflation act as control variables. The study used SPSS software to analyze the quantitative data. Due to the SPSS's clarity, preciseness, ease of interpretation and understanding, this software has been used.

Analytical Model

The following multiple regression model has been employed in order to establish association that among the variables of study:

$Y = \beta 0 + \beta 1X1 + \beta 2\ C1 + \beta 3C2 + \varepsilon$

Where:

Y= Financial Performance of banks measured by Return on Equity

$\beta 0$ = Regression constant (y-intercept)

X1 = Foreign Exchange Rate

C1 = Bank Size

C2 = Inflation

ε = Error Term

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Result And Discussion

Diagnostic Test

This section explained on the diagnostic test performed in order to make sure all the assumption can be met and avoid misleading results.

Outliers

The sample of this study was 9 international banks listed on Bursa Malaysia from 2014 to 2016 with a total observation of 45. Cook's distance was used in this study in order to detect any outliers.

Table 4.1

Cook's Distance

Model	Test	Minimum	Maximum	Mean	Std. Deviation	N
ROA	Cook's Distance	0.000	0.154	0.021	0.031	45
ROE	Cook's Distance	0.000	0.091	0.023	0.028	45

According to the Table 4.1, the result showed that no case in the data set has a Cook's distance value larger than 1 (Pallant, 2007). Therefore, there was no outliers in the data set. After outliers, the observation remains at 45.

Normality

There were two tests for normality that was run in this study which were Kolmogorov-Smirnov test and Shapiro Wilk Test. Shapiro Wilk Test will be used if the dataset was smaller than 2000 elements, otherwise, the Kolmogorov-Smirnov will be used.

Table 4.2

Normality test

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
ROA	.091	45	.200*	.974	45	.413
ROE	.102	45	.200*	.984	45	.774

The test statistics was shown in Table 4.2. In this study, we have only 45 elements, thus Shapiro-Wilk test will be used. If ($p<0.05$) then reject the H0 because the test was significant. From Table 4.2, the p-value was 0.413 and 0.774 which was larger than 0.05, then accept the H0 because the test was not significant. The result was consistent with Gujarati (2004) who had argued that normality was particularly critical for small sample of less than 100 observations.

Multicollinearity Test

Multicollinearity test was a basic assumption on multiple regression analysis that showed that there should be no collinearity exists between two independent variables (Vatcheva, Lee, McCormick, & Rahbar, 2016). VIF was a crucial method in detecting the presence of multicollinearity because it can detect on how much the coefficient variance that were inflated (Adnan, Ahmad, & Adnan, 2006).

Table 4.3
Variance Inflation Factor

Variables	ROA Model		ROE Model	
	VIF	**1/VIF**	**VIF**	**1/VIF**
EXCRATE	1.989	0.503	1.989	0.503
INFLATION	1.991	0.502	1.991	0.502
SIZE	1.008	0.992	1.008	0.992

Where ROA was return on asset measured as net income divided by total asset of the company, ROE was return on equity measured as net income divided by total equity of the company, INFLATION was measured by consumer price index, SIZE was bank size measured as the natural log of total asset.

The variance inflation factor (VIF) for all variables was examined in Table 4.3. The result was consistent with Vatcheva et al. (2016) who had argued that all VIF must be below the value of 10 and tolerance statistics must be below 1. Thus, this study had no severe multicollinearity problems.

Descriptive Statistics

Descriptive statistics presents a summary on characteristics of variable that had been used in this study such as information that related to mean, maximum, minimum and standard deviation in order to help researchers to understanding the basic characteristics on data set. Table 4.4 provide descriptive statistics for all variable that are used in this study such as foreign currency exchange rate (EXCRATE), inflation (INFLATION), bank size (SIZE), return on asset (ROA) and return on equity (ROE).

Table 4.4
Descriptive Analysis

	N	Minimum	Maximum	Mean	Std. Deviation
ROA	45	0.55	1.73	1.172	0.288
ROE	45	4.55	21.15	12.044	3.760
EXCRATE	45	3.28	4.49	3.924	0.467
INFLATION	45	107.10	119.60	113.020	4.268
SIZE	45	24.50	27.36	25.850	0.899

Where ROA was return on asset measured as net income divided by total asset of the company, ROE was return on equity measured as net income divided by total equity of the company, INFLATION was measured by consumer price index, SIZE was bank size measured as the natural log of total asset.

A descriptive result was summarized in Table 4.4 present the mean of ROA were 1.172 percent with maximum of 1.73 percent and minimum of 0.55 percent with standard deviation of 0.288. On the average, ROE had mean of 12.044 percent with maximum of 21.15 per cent and minimum of 4.55 with standard deviation of 3.760. The statistical results related to foreign currency exchange rate ranges from MYR 3.28 to MYR 4.49 with a mean score of MYR 3.924.

With respect to the control variable, inflation rate recorded a mean of 113.020 with maximum inflation rate of 119.60 on 2017 and minimum inflation rate of 107.10 on 2013. The size of the bank as measured by the log of total asset recorded a mean of 25.850 with a minimum 24.50 and maximum of 27.36.

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Correlation Analysis

Correlation analysis is used in order to determine the strength and the direction of variable in linear relationship (Pallant, 2011). Pearson correlation analysis need to be conducted in order to determine the relationship between two variables are highly correlated or not. The Pearson correlation coeeficient, r, had range of values from +1 to -1. Cohen (1988) indicated that a small relationship is indicated by the correlation (R) of + 0.1 and + 0.29, while moderate relationship is between + 0.30 and + 0.49 and strong relationship is above + 0.50. Table 4.2 provides a summary of the correlation between the dependent variables (ROA and ROE) and the explanatory variables (EXCRATE, INFLATION, SIZE).

Table 4.5

Pearson Correlation Matrix

	ROA	ROE	EXCRATE	INFLATION	SIZE
ROA	1				
ROE	0.638**	1			
EXCRATE	-0.279	-0.381**	1		
INFLATION	-0.252	-0.398**	0.705**	1	
SIZE	-0.379*	0.044	0.078	0.084	1

*, **, *** indicate significant level at 10, 5, 1 percent respectively using two-tailed tests

Where ROA was return on asset measured as net income divided by total asset of the company, ROE was return on equity measured as net income divided by total equity of the company, INFLATION was measured by consumer price index, and SIZE was bank size measured as the natural log of total asset. Based on Table 4.5, the correlation between foreign exchange rate and ROA was negatively and was not significantly correlated with a weak value of (-0.279). Inflation had a negative (-0.252) and was not significantly correlated to ROA. However, bank size and ROA had a negative correlation (-0.379*) at a significant 0.05 level. Foreign exchange rate and ROE had a negative correlation (-0.381**) at a significant 0.01 level. Inflation and ROE also had a negative correlation (-0.398**) at a significant 0.01 level. Bank size was not significantly correlated with ROE but, it had a positive correlation with ROE (0.044).

Regression Analysis

Regression analysis present on model summary, analysis of variance and regression coefficients in Table 4.6, 4.7 and 4.8.

Model Summary

R-squared which known as determination coefficient were carried out in this study in order to determine the proportion of total variation in dependent variable that attribute to the changes in independent variable.

Table 4.6

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
ROA	0.498[a]	0.248	0.193	0.25885
ROE	0.430[a]	0.185	0.125	3.51699

a. Predictors: (Constant), EXCRATE, INFLATION, SIZE

R square of 0.248 indicated that 24.80 percent of total variation in changes in return on assets of international bank in Malaysia is attributed to the changes in independent variables (foreign currency exchange rate, inflation and bank size). On the other hand, R square of 0.185 indicated that 18.50 percent of total variation in changes in return on equity of international

bank is attributed to the changes in independent variable (foreign currency exchange rate, inflation and bank size).

Analysis of Variance

This study used ANOVA statistics in order to establish the significance on the relationship between foreign currency exchange rate and ROA and ROE of the international bank in Malaysia.

Table 4.7

Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
ROA	Regression	0.908	3	0.303	4.516	0.008
	Residual	2.747	41	0.067		
	Total	3.655	44			
ROE	Regression	115.030	3	38.343	3.100	0.037
	Residual	507.138	41	12.369		
	Total	622.167	44			

Where ROA was return on asset measured as net income divided by total asset of the company, ROE was return on equity measured as net income divided by total equity of the company, INFLATION was measured by consumer price index, and SIZE was bank size measured as the natural log of total asset. The regression model for ROA was significant since the given level of significance was 0.008 which were less than 0.05, therefore, the model was suitable for estimation. In addition, the regression model for ROE was significant since the given level of significance was 0.037 which were less than 0.05, therefore, the model was suitable for estimation.

Model Coefficients

Table 4.8 present the regression coefficient of independent variable (foreign currency exchange rate) that explain in the changes in ROA and ROE.

Table 4.8

Regression Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
ROA	(Constant)	-0.656	1.582		-0.414	0.341
	EXCRATE	-0.133	0.118	-0.216	-1.130	0.133
	INFLATION	-0.009	0.013	-0.134	-0.704	0.243
	SIZE	0.131	0.044	0.407	2.996	0.003**
ROE	(Constant)	35.727	21.493		1.662	0.052
	EXCRATE	-1.628	1.600	-0.202	-1.018	0.158
	INFLATION	-0.231	0.175	-0.262	-1.318	0.098*
	SIZE	0.341	0.592	0.081	0.575	0.284

*, **, *** indicate significant level at 10, 5, 1 percent respectively using one-tailed tests

Where ROA was return on asset measured as net income divided by total asset of the company, ROE was return on equity measured as net income divided by total equity of the company, INFLATION was measured by consumer price index, and SIZE was bank size measured as the natural log of total asset. Based on Table 4.8 showed that foreign currency exchange rates had a negative and insignificant relationship with ROA and ROE. This implies that, an increase in foreign currency exchange rate will lead to 0.216 unit and 0.202 decrease

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in ROA and ROE respectively. However, at 5 percent level of significance, foreign currency exchange rate was not statistically significant with ROA and ROE with p-value of 0.133 and 0.158 (p>0.10) respectively. The result indicated that the foreign currency exchange rate does not have an influence on firm performance. This was consistent with Kiganda, (2014) who had concluded that foreign currency exchange rate and macro-economic determinants has an insignificant effect with firm performance.

Inflation had a negative and insignificant relationship with ROA since it had a negative coefficient which implies that an increase in inflation will lead to 0.134 decrease in ROA. It also showed that inflation was not statistically significance with ROA with p-value of 0.243 (p>0.10). The result indicated that the increase in inflation rate does not influenced firm performance. The result was consistent with Zulfiqar and Ud Din (2015) who had found that inflation rate had a positive and insignificant relationship with firm performance. However, inflation had a negative and significant relationship with ROE with p-value of 0.098* (p<0.10) at the level of 0.10 percent. Hence, the increase in inflation rate will reduced the return on equity. The result was supported by Rostami (2016) who had found a significant relationship between inflation rate and firm performance in the banks listed in Tehran stock exchange.

Bank size had a positive relationship with ROA and ROE since it had a positive coefficient which implies that larger companies tend to have a high ROA and ROE. Table 4.8 showed that, bank size was statistically significance at the level of 0.05 percent with ROA with p-value of 0.003** (p-value<0.05). The variable of size was positive and significant indicated that larger banks achieve a higher profitability levels. The result was consistent with Sulub (2014) who had found a positive and significant relationship between bank size and profitability of the banks. However, bank size was not statistically significance with ROE since the p-value was 0.284 (p-value>0.05). The result indicated that the larger banks does not influence firm performance. The result was consistent with Velnampi & Nimalathasan (2010) who had found that there is no relationship between bank size and profitability in bank.

Table 4.8

Summary of the Hypothesis Result

Hypothesis	**Relationship Between**	**Finding**	**Result**
H1	Foreign currency exchange rates and ROA	Negative and insignificant	Not supported
	Foreign currency exchange rates and ROE	Negative and insignificant	Not supported

Summary, Conclusion and Recommendation

Conclusion

Studies on foreign currency exchange rates in Malaysia were limited. Some studies argued that the banks would be able to boost their performance through their large volume of foreign exchange. Others have advocated against this notion and concluded that exchange rate had an insignificant effect on banks' performance. Due to the limitation and inconsistent results in foreign currency exchange rates studies, this study focused on examine the relationship between foreign currency exchange rates and financial performance of international bank listed in Bursa Malaysia main market. This study utilized 45 firm-year observations over a five-year period between 2013 and 2017.

Regression analysis was applied to achieve this objective. This study hypothesized a negative relationship between foreign currency exchange rates and financial performance. The result showed that foreign currency exchange rates had a negative and insignificant relationship with

ROA and ROE. The result indicated that, an increasing in foreign currency exchange rates did not influence financial performance.

Briefly, it can be argued that control variable (inflation) had a relationship with financial performance. The result showed that inflation had a negative and insignificant relationship with ROA. However, inflation had a negative and significant relationship with ROE. Hence, the increase in inflation rate will reduced the return on equity. Besides that, prior studies had used bank size as a control variable since they had found a relationship between bank size and financial performance. This study found that (bank size) had a positive and significant relationship with financial performance (ROA). The variable of size was positive and significant indicated that larger banks achieve a higher profitability levels. However, bank size had a positive and insignificant relationship with financial performance (ROE). Hence, the larger banks did not influence on financial performance.

Implication of the Study

This study provided several contributions in theory and practical aspects of the existing literature on foreign currency exchange rates and financial performance in developing countries especially Malaysia. The study examined on the relationship between foreign currency exchange rate and financial performance of International Banks in Main market of Bursa Malaysia for five-year period from 2013 until 2018. This study had improved the understanding on foreign currency exchange rates that affects financial performance especially in international banks in Malaysia. This study was crucial since it provided an essential information regarding foreign currency exchange rate in Malaysia context data for stakeholder and investor. The result of this study might be beneficial for corporate management and shareholder in order to improve their financial performance.

Limitation and Suggestion for Future Researchers

This study had offers a crucial insight that had been interest towards scholars, researchers, government, policy makers and other relevant stakeholders. However, this study still had some limitations. Firstly, this study only focused on international banks in Malaysia between year 2013 and 2017. During this period of time, this study may not reflect all operations of the sample banks. Therefore, the findings may be not generalized to others industries due to differential of rules and regulation that related to the international banks such as BAFIA. Future research should consider examining the relationship between foreign currency exchange rate and financial performance in other industries such as plantation, electric and electronic, construction. Also, this study only used two measurements of financial performance namely ROA and ROE. Future researchers may take into consideration on other measurement such as return on sales, profit margin, return on investment, and earning per share.

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