UNIVERSITI PUTRA MALAYSIA

EFFECT OF MACROECONOMIC VARIABLES ON PERFORMANCE OF AGRICULTURE FIRMS

MD REAZ

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EFFECT OF MACROECONOMIC VARIABLES ON PERFORMANCE OF AGRICULTURE FIRMS

By

MD REAZ

Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfilment of the Requirements for the Degree of Master of Science

November 2017

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DEDICATION

This work is dedicated, to my be love Family

Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfillment of the requirement for the degree of Master of Science

EFFECT OF MACROECONOMIC VARIABLES ON PERFORMANCE OF AGRICULTURE FIRMS

By

MD REAZ

November 2017

Chairman : Associate Professor Fauziah Mahat, PhD
Faculty : Economics and Management

The impacts of macroeconomic variables over the years have gained the attention of not only scholars but also policy makers around the world. This is because the effect of macroeconomic variables increases the uncertainty over the time which makes it more difficult for international trade and investment decision, and financial performance as well. This study examines the effect of macroeconomic variables on agriculture firms in Malaysia by using system-GMM dynamic panel techniques and GARCH (1, 1) for the period of 2001 and 2015.

The findings from GARCH (1,1) confirmed the volatility of Malaysian Ringgit; where the volatility follows over similar trend. The analysis result of system-GMM of dynamic panel data shows Malaysian Ringgit has a positive impact on the financial performance of agriculture firms in Malaysia and the results are in line with our hypothesis. On the other hand, macroeconomic variables of the study i.e Money Supply (MS), Interest Rate (IR), Gross Domestic Products (GDP) and Consumer Price Index (CPI) show mixed results in relation with the financial performance of Agriculture companies in Malaysia. All the macroeconomic variables seem to have a positive and significant relationship with ROA except for Consumer Price Index (CPI) and Interest Rate (IR). While CPI is the only variable this shows a negative association with ROE. On the other hand, for the farm level variables, namely, ARME and AVA show a positive impact on financial performance.

This study contributes to the existing literature of the exchange rate volatility by looking at its effect precisely on agriculture businesses in Malaysia. Using system-GMM methods give novelty to the study. For the market players, Malaysian Agricultural farms can predict the possible movement of exchange rate; so that they

can develop business policy to enhance financial performances. Also, farm level variables can help them to reconsider their business strategy to boost up business. Further, for government and policy makers study results provide a comprehensive insight on the co-movement of exchange rate with specified macro variables. Understanding such dynamics enables the government to predict substantially the trend and impact so that they may come up with preventive measures rather than wait and see what will happen. It is important to control the volatility on the exchange rate that is expected to attract foreign capital inflows. Moreover, this encourages local investors to boost aggregate investment, thus increases income, consumption and overall economy of the country.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia
sebagai memenuhi keperluan untuk ijazah Master Sains

KESAN PEMBOLEHUBAH MAKROEKONOMI TERHADAP PRESTASI FIRMA-FIRMA PERTANIAN DI MALAYSIA

Oleh

MD REAZ

November 2017

Pengerusi : Profesor Madya Fauziah Mahat, PhD
Fakulti : Ekonomi dan Pengurusan

Impak pembolehubah makroekonomi pada tahun-tahun kebelakangan ini bukan sahaja menarik minat para pengkaji tetapi juga para penggubal dasar di seluruh dunia. Ia disebabkan oleh kesan pembolehubah makroekonomi yang meningkatkan ketidakpastian dalam tempoh masa tertentu dan mengakibatkan kesukaran dalam perdagangan antarabangsa dan pelaburan dan juga prestasi kewangan. Kajian ini mengkaji kesan pembolehubah makroekonomi terhadap firma-firma pertanian di Malaysia dengan menggunakan teknik-teknik panel dinamik sistem GMM, iaitu satu teknik koheren gelombang kecil yang baharu dibangunkan dan GARCH (1,1) untuk tempoh 2001 sehingga 2015.

Dapatan daripada GARCH (1,1) mengesahkan ketidakstabilan nilai Ringgit Malaysia, apabila ketidakseimbangan ini berikutan aliran pergerakan yang serupa. Keputusan analisis data panel dinamik sistem GMM menunjukkan bahawa nilai Ringgit Malaysia memberi impak yang positif ke atas prestasi kewangan firma pertanian di Malaysia dan keputusannya selari dengan hipotesis kami. Sebaliknya, bagi pembolehubah makroekonomi kajian ini, seperti Penawaran Wang (Money Supply), Kadar Faedah (Interest Rate), Keluaran Dalam Negara Kasar (Gross Domestic Products) dan Indeks Harga Pengguna (Consumer Price Index) menunjukkan keputusan yang tidak menentu berkaitan dengan prestasi kewangan syarikat-syarikat pertanian di Malaysia. Semua pembolehubah makroekonomi seakan mempunyai perhubungan yang positif dan ketara dengan pulangan aset (ROA) kecuali bagi Indeks Harga Pengguna (CPI) dan Kadar Faedah (IR). Oleh kerana CPI satu-satunya pembolehubah, ia menunjukkan perkaitan negatif dengan ROA. Sebaliknya, untuk pembolehubah aras ladang, seperti ARME dan AVA, ia menunjukkan impak yang positif terhadap prestasi kewangan.

Kajian ini menyumbang kepada kajian sedia ada tentang ketidaktentuan Kadar pertukaran dengan melihat kesan terutamanya kepada perniagaan berasaskan pertanian di Malaysia. Penggunaan kaedah sistem GMM membawa pembaharuan kepada kajian ini. Bagi penggerak pasaran, ladang-ladang Pertanian di Malaysia mampu meramal perubahan kadar pertukaran yang mungkin berlaku; supaya mereka dapat membangunkan dasar perniagaan untuk meningkatkan lagi prestasi kewangan. Pembolehubah aras ladang juga dapat membantu mereka mempertimbangkan semula strategi perniagaan mereka untuk merangsang pertumbuhan perniagaan mereka. Seterusnya, kajian ini dapat menyumbang terhadap pemahaman yang menyeluruh kepada pihak kerajaan dan juga penggubal dasar berkaitan pergerakan bersama kadar pertukaran dengan pembolehubah-pembolehubah makro yang tertentu. Memahami dinamik sebegini membolehkan kerajaan meramal aliran pergerakan dan kesannya agar mereka boleh melakukan tindakan-tindakan pencegahan daripada menunggu dan melihat sahaja keadaan yang bakal berlaku. Amat penting untuk mengawal ketidaktentuan ini terhadap kadar pertukaran yang dijangka mampu menarik kemasukan modal asing. Tambahan pula, ia menggalakkan pelabur-pelabur tempatan untuk menambahkan pelaburan agregat mereka, dan seterusnya meningkatkan pendapatan, penggunaan dan keseluruhan ekonomi negara.

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This thesis was submitted to the Senate of the Universiti Putra Malaysia and has been accepted as fulfillment of the requirement for the degree of Master of Science. The members of the Supervisory Committee were as follows:

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I hereby confirm that:

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Name of Chairman of Supervisory Committee: Associate Professor Dr. Fauziah Mahat

Signature: _____
Name of Member of Supervisory Committee: Dr. Ridzwana bt Mohd Said

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LIST OF ABBREVIATIONS

AFTA	ASEAN Free Trade Area
ARCH	Autoregressive conditional heteroscedastic
BNM	Bank Negara Malaysia
CPI	Consumer Price Index
DI	Domestic Income
FI	Foreign Income
GDP	Gross Domestic Product
GNP	Gross National Product
GARCH	Generalized Autoregressive Conditional Heteroscedastic
GARCH-M	Generalized Autoregressive Conditional Heteroscedastic in mean
GMM	Generalized Method of Moments
IMF	International Monetary Fund
MITI	Ministry of International Trade and Industry Malaysia
MATRADE	Malaysia External Trade Development Corporation
NEX	National Exchange Rate
NATREX	Natural Real Exchange Rate
PIM	Price Of Import
PEX	Price Of Export
PPP	Purchasing Power Parity
RER	Real Exchange Rate
RM	Malaysia Ringgit
ROA	Return on Assets
ROE	Return on Equity

ROIC	Return On Investment Capital
USD	United States Dollar
VOL	Volatility
WTO	World Trade Organization

CHAPTER 1

INTRODUCTION

1.1 Background of the study

The use of national currencies varies from country to country. This variation requires an exchange of currency in the international trade and investment. Each country has to maintain its currency circulation system for international trade. For instance, in a conventional gold standard, a country fixes the gold value at $ 20 per ounce after the issues currency which amounts to the same in circulation which is comparable to the worth of gold stored in stock. In such a process, parties are endorsed to exchange currency to gold on the claim which is believed to be money "backed" by gold (Steve, 2010).

1.2 Malaysia Exchange Rate Arrangement

Developing countries are still trying to improve the exchange rate arrangement as a necessary part of the adjustment and stabilization programs. Being a developing country, Malaysian government applied two distinctive exchange rate regimes. Ere the precise capital regulators in 1998, the Malaysian currency (MYR) was a free float currency, where the ringgit worth swayed about MYR 2.50 to 1 USD, then dropped to MYR 3.80 per USD by the end of the year 1997. The massive drop was instigated by the East Asian financial Crisis of the year. By the mid of 1998, currency value undulated compared to USD in between MYR 3.80 to MYR 4.40. Then in September of the same year Bank Negara pegged Malaysian Ringgit to USD fixing the value MYR 3.80 per USD for almost seven years, while currency value adjustment was remain floated about other exchanges (Wong & Lee, 2016).

Later on July 2005 Malaysian Central Bank terminated pegging with USD and endorsed MYR to function in a managed float system versus the principle currencies. Thus the MYR value was brought about to its perceived market rate. Subsequently, in July 2011 MYR was evaluated as 2.95 to the USD. Similarly, Malaysian Ringgit enjoyed an era of price appreciation against Great Britain Pound (GBP) as well. The price climbed up to MYR 4.98 to GBP in 2012 from MYR 6.49 to GBP in 1998. On the contrary, Malaysian Ringgit experienced depreciation during the same period again Japanese Yen (JPY). The MYR rate to JPY was dropped to 3.95 in September 2012 from 2.81 in September 1998 (Wong & Lee, 2016).

During the last two decades, MYR has experienced diverse level of volatility through its economic conditions. Earlier studies did not explain whether this volatility has an influence on the trade size in Malaysia and also whether this impact is positive or negative. This question was raised by the policymakers, academic

researchers and business peers at the Centre of the Recent Economic Policy dispute held in Malaysia. The major focus was given on the superfluous 'instability' of exchange rates and its negative effect on country's export (Yoshino, Kaji, & Asonuma, 2016).

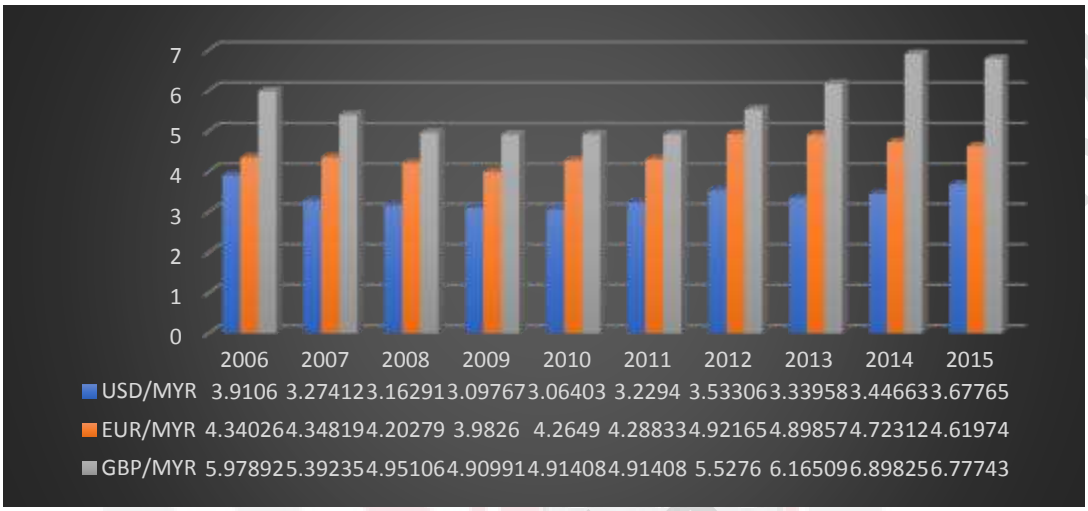


Figure 1.1 : The Malaysia Real Exchange Rate (RM against USD, EUR, and GBP (2006-2015)
Data Source : www.oanda.com/currency/historical-rates/,(2016)

The above figure demonstrates the movement of the USD, Euro, GBP, to the Malaysian Ringgit exchange rate from 2006 to 2015 and it is evident that the exposure level by international exchange rate variabilities is considerably powerful. The variation in exchange rates has a tendency to be impacted by two key factors specifically the relevant goods values and relative interest rates in two nations. The Purchasing Power Parity (PPP) theory rationalizes the association between relative goods prices and exchange rates. This proposition advocates that below a floating exchange regime, there is a comparative variation in the purchasing power parity for any pair of currency computed as a price ratio of merchandised goods and exchange between these two currencies (Shapiro and Rutenberg, 1976).

1.3 Exchange rate volatility Measurement

The exchange rate volatility is considered as a standard deviation or conditional variance over a dataset of exchange rate movements where the short- term deviations happen is a long- term trend (Lahmiri, 2017a). The volatility is the conditional or unconditional variance (standard deviation) of $e_\iota, \mathcal{E}_\iota$ and $\mathcal{E}_\iota - \mathcal{E}_{\iota-1}$or unexpected changes in the exchange rate. Sometimes, the exchange rate volatility reflects an exchange risk or similarly known as currency risk which is interrelated to the uncertainty or approaching a loss that might be sustained from a change in exchange

rate, where an investment's value will change because of the currency rates' volatility (Asteriou, Masatci, & Pılbeam, 2016).

Three major factors are involved in the exchange rate of volatility. The first one is the instability of market basics, for example, interest rates, money supply, income that disturbs exchange rate because the exchange rate level is a function of these components. For instance, a substantial fluctuation in money supply can impact the exchange rate level, and the subsequent change in the exchange rate is straightforwardly connected to the exchange rate volatility (Comunale, 2017).

The second factor is the change in the expectations and degree of confidence, where the assumptions about upcoming market essentials or economic plans also influence the exchange rate resulting in volatility. At the point when market players get new knowledge. They adjust the estimates of expected financial situation and strategies. Exchange rates given these conjectures will likewise change, thus resulting in volatility of exchange rate. For example, news about a change in commercial strategy may trigger market participants to adjust their outlooks of expected money supply development and interest rates, which might adjust the level and the exchange rate volatility accordingly. Not with standing being influenced by anticipations of future stipulations and policies, volatility is also affected by the level of certainty with which these expectations are held. Exchange rate volatility is inclined to rise with an upsurge in market unpredictability about future economic situations and tend to drop when new information aids to settle market vulnerability (Lahmiri, 2017).

The final point is speculative bandwagons or uncertain exchange rate movements. That is, volatility of exchange rate can be triggered by risky exchange rate variations which are separate from the present or anticipated market tenets; e.g., if enough speculators purchase dollars with the belief that dollar will be appreciated, the dollar could rise irrespective of fundaments. If stockholders at that time feel that the market fundamentals will not stand, active selling by the same speculators could instigate the dollar to devalue. Variability in the value of the dollar emerging from such speculative forces will add to the exchange rate instability (Chen & Chang, 2015).

The volatility of exchange rate could be influenced by the selection of the exchange rate regimes between fixed and flexible exchange rate regimes. Empirical evidence suggests that the exchange rates have engendered substantial volatility since the shift to a more flexible exchange rate in the 1970s has caused the collapse of the Bretton Woods system of fixed exchange rate. This transition leads to produce significant volatility and unpredictability of exchange rate movements as well as the vital effect of volatility on international trade. Based on foreign exchange exposure and Purchasing Power Parity (PPP) theories, the increase of uncertainty from the high volatility in the exchange rate can adversely disturb international trade and may decrease the returns of worldwide speculations. Therefore, the extent of exchange rate volatility is vital in controlling the effect of exchange rate volatility on

international trade. Thus, a summary of several statistical methods of exchange rate instability have been applied in the literature are represented in Table (1.1).

Table 1.1 : Summary of Exchange Rate Volatility Measurement

Measurement	Reference
ARCH Model	Abounoori, Elmi, & Nademi (2016) Asteriou, Masatci, & Pilbeam (2016) OSENI, (2016)
Standard Deviation	IMF (1984), Kenen and Rodrik (1986), Bailey et al. (1987), Cushman (1983 and 1986), Koray and Lastrapes (1989), Lastrapes and Koray (1990), Klein (1990), Bini- Smaghi (1991), Chowdhury (1993), Daly (1998), Wei (1998), Aristotelous (2001)
ARIMA model residuals.	Asseery and Peel (1991), Mclvor (1995)

1.4 The Effect of Exchange Rate Volatility on Foreign Trade

Since the collapse of the Bretton-Woods system, the volatility of real and nominal exchange rates has increased among countries who have adopted a new regime of floating exchange rates. Moreover, the extent of exchange rate volatility among countries has been amplified by the free movement of capital between cross-border. So far, some kinds of literature on the relationship between exchange rates and international trade is focused on the effect of increased volatility of exchange rates on international trade primarily (Bodea, 2015; Huang & Yang, 2014).

In the case of Malaysia, numerous studies have been conducted on the relationship between exports and exchange rate variability. For instance, Zakaria (2013) investigated the effect of exchange rate variability on Malaysia's disaggregated electrical exports. Using a conventional export demand function, they found that foreign income and prices are important determinants of export demand for electrical exports. The findings supported the view that exchange rate variability hurts Malaysia's electrical exports. In a more recent study, Wong & Lee (2016) examined the effects of exchange rate variability on export demand for semiconductors; which is the largest subsector in the electronics industry in Malaysia. Similarly, they found that the variability of the real exchange rate has some effect on semiconductor exports both in the long run and the short run. In both the studies, the exchange rate variability was measured based on the moving-average of the standard deviation of the real effective exchange rate.

Al-Shboul & Anwar (2014) attempted to reveal the impact of the exchange rate volatility on Malaysia's total real export to the major trading partner countries namely; the US, the UK, Japan, and Singapore by using the GARCH model. The study of the results showed that Malaysian exports to the US are significantly and negatively related to the exchange rates' volatility and Japan; it is significant, but

positively, related to exchange rates volatility. On the other hand, Malaysia's exports to the UK and Singapore were found not to be significantly related to the instability in the exchange rates. The findings from the study indicated an ambiguous relationship between export performance and exchange rates volatility.

Cacciatore, Ghironi & Lee (2016) used 17 Japanese industries from 1973 to 2006 to examine the impact of increased exchange rate volatility in the US-Japan bilateral trade. They found that in the short-run, some industries are influenced by exchange rates volatility, but in the long-run, trade shares of most industries are relatively unaffected by exchange rate uncertainty. Regner, Salvaña & Iversen Vasquez (2016) investigated the long-run and short-run impacts of exchange rate volatility on Indonesia's exports of priority commodities to the US over the monthly period between 1997 and 2005. The results showed both the positive and negative coefficients among the range of commodities. They showed that in the long-run, a higher exchange rate of volatility leads to higher cost and less foreign trade for the majority of the commodities.

One common argument is that exporters can easily insure against the short-run exchange rate fluctuations through financial markets, while it is much more complex and expensive to hedge against long-term risk. Some studies by Aghion, Bacchetta, Ranciè Re & Rogoff (2009); Arize Osang & Slottje (2008); Chi & Cheng (2016) demonstrated that longer-term changes in exchange rates have more significant impacts on trade volumes than do short-run exchange rate fluctuations that can be hedged at low cost. Several authors have found that the uncertainty of exchange rate may induce marginal producers and traders to shift from trade to on traded goods, thereby dampening trade volumes. Asteriou, Masatci & Pilbeam (2016); Asteriou, Masatci & Pılbeam (2016); Chaudhary et al. (2016) examined the real exports of five emerging East Asian economies among themselves, as well as 13 other industrialised countries and concluded that exchange rate volatility in East Asian economies has a significant negative impact on export flows to the world market.

Choudhry & Hassan (2015); Hall, Hondroyiannis, Swamy, Tavlas, & Ulan (2010) conducted surveys on the relationship between exchange rate volatility and trade that try to explain this apparent paradox. Theory, foreign exchange exposure assumes a risk-averse exporting or importing firm. Increased volatility in the exchange rate is assumed to result in increased uncertainty by such firms on future profitability. The greater such uncertainty is, the less is the supply of exports (or the demand for imports) and hence the negative relationship between volatility and the volume of international trade.

Asteriou, Masatci & Pılbeam (2016) examined the relationship between exchange rate volatility and trade volumes for a panel of 10 emerging market economies and 11 other developing countries using the quarterly data for the period 1980–2006. Their findings differ among emerging markets and developing countries. The exchange rate volatility negatively affects the exports of developing countries but

does not affect exports of emerging market economies. They argued that the more open capital markets of the emerging markets may have reduced the impact of exchange rate fluctuations on exports compared with those effects in the other developing countries.

Bahmani-Oskooee, M & Aftab (2017) examined 101 US exporting industries to Malaysia and 17 US importing industries from Malaysia. The data are annually for the period from 1971 to 2006. The exchange rate volatility is found to have a negative impact on international trade mostly in the short run and not in the long run. The majority of the affected industries are found to be small industries as measured by their international trade shares. The real exchange rate itself and income are found to be important in the determination of international trade.

Finally, Bahmani-Oskooee, Iqbal & Khan (2016) examined the asymmetric effects of the exchange rate volatility on the monthly bilateral exports from eight Asian countries (Japan, Korea, Malaysia, the Philippines, Singapore, Indonesia, Taiwan and Thailand) to the US using the dynamic conditional correlation bivariate GARCH (1,1)-M model. The monthly data are for the period from 1979 to 2003. For all the countries, foreign income affects exports positively and significantly with contemporaneous, one-month-lagged or two-month-lagged effect. The exchange rate depreciation exhibits the normal positive effects but proves significant in two countries. The exchange rate volatility produces a significance on exports for all countries, negative or positive. Indonesia, Japan, and Taiwan responded negatively to exchange rate risk during depreciations. Korea and the Philippines responded negatively to exchange rate risk during appreciations and positively in appreciations. Malaysia exhibited a positive exchange rate risk effects during depreciations. The findings strongly support the view that exchange rate risk affects exports asymmetrically. The asymmetries response may be due to factors such as the exporter asymmetric risk perception, the US dollar invoicing, original sin, fear of floating, fear of appreciation, love of depreciation and lack of foreign exchange market intervention. The US, policy makers can consider the stability of exchange rate and its depreciation as a method of controlling export growth.

1.5 Trade in Malaysia

Malaysia is an open economy where its exports of goods and services (% of GDP) was last reported at 97.30 in 2015, according to a World Bank report published in 2015. As a country with a relatively small domestic market, The Malaysian economic growth depends largely on international trade. As an export-led growth country, a major concern of Malaysia is that a highly open economy could make its export sector vulnerable to external shocks, especially in regards to exchange rates volatility. With the global economy, in such a state of flux, and the fluctuations in the currency of its major trading partners, questions arise as to whether trade can continue to be a reliable source of economic growth for Malaysia (Zakaria, 2013).

Malaysia's trade policy remains focused on ensuring that Malaysia becomes a self-reliant and industrialised nation by 2020. Emphasis is, inter alia, being placed on integrating Malaysian companies into global value chains and developing commercial ties with new markets. There have been no changes to the institutions responsible for trade policy formulation since 2010. Various new trade-related laws have entered into force: The Quarantine and Inspection Services Act, the Strategic Trade Act, the Competition Act and the Price Control and Anti-Profiteering Act (Dardak, 2015).

Malaysia continues to negotiate new Regional Trade Agreements (RTAs) both bilaterally and together with its ASEAN partners. Seven new RTAs are entered into force for Malaysia during the review period. Three are ASEAN RTAs with third countries (Australia and New Zealand, India, and Korea), and four are bilateral agreements (with Chile, India, New Zealand, and Australia). Malaysia has signed and ratified the Trade Preferential System of the Organisation of the Islamic Conference (TPS-OIC) and the Developing Eight Preferential Tariff Arrangement (D8-PTA); these are expected to enter into force imminently (Dardak, 2015).

Figure 1.2 : Total Trade in Malaysia from 2006-2015 (RM Million)
Source : Department of Statistics, Malaysia, (2015)

According to the recent report of Department of Statistics, Malaysia, the total trade was around 1250000 RM to 145000 RM million from the year of 2010 to 2015 (Fig. 1.3). Since the trade depends on the foreign exchange reserves, the foreign exchange rate undesirably increased from 3.48 to 4.31 against the USD from 2014 to 2015 due to the sharp fall in foreign exchange reserves in Malaysia.

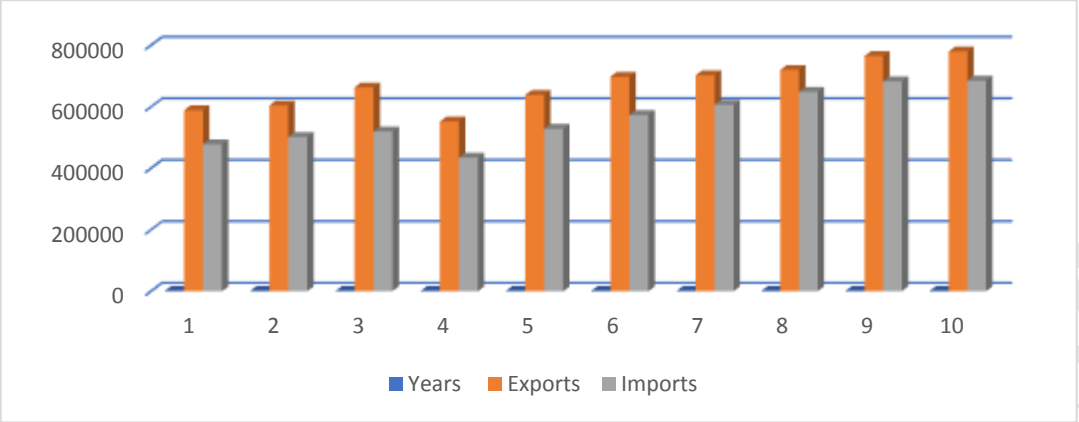


Figure 1.3 : Malaysia's Exports and Imports 2006-2015 (RM Million)
Source : Department of Statistics, Malaysia, (2015)

The above Figure 1.4 indicates the Malaysia's trade balance regarding RM (million). It is observed that the trends of exports have been gradually increasing through the year of 2011-2015. In 2011, it was approximately RM 70,0000 which grew near to RM 80,0000 in 2015. And regarding imports, the same situation has found like exports. Through the year 2011-2015 total import's position is the growing trend which finally reached at RM 700000 (approximately) now, look at the data on total trade, and it is found that the amount of total trade is also gradually increasing through the year of 2011-2015. Finally, if we critically analyse the above table regarding trade balance, a good consistency is found in the year of 2011 as its amount was little higher than other years.

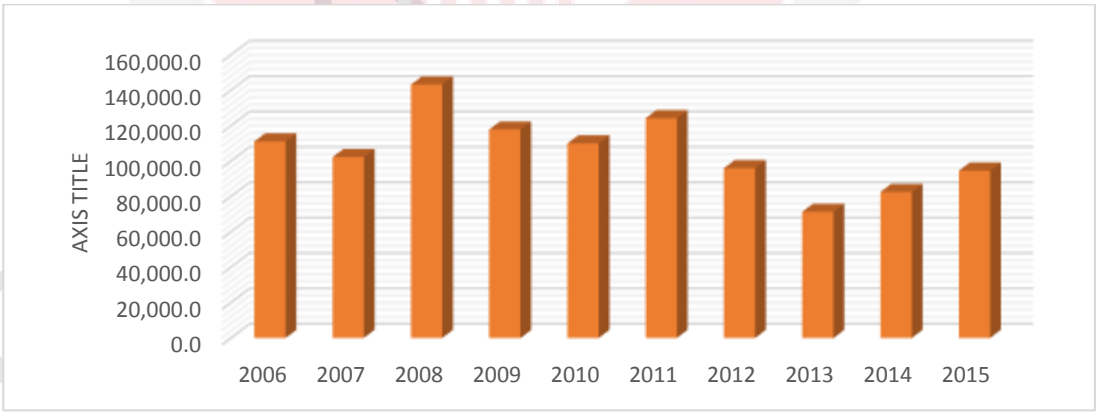


Figure 1.4 : Trade Balance 2006-2015 (RM' Million)
Source : Department of Statistics, Malaysia, (2015)

The bar chart presents the trade balance that has been fluctuated in every year from 2006 to 2015. The trade balance in 2006 was more than RM 100,000m, which was slightly reduced in 2007 but sharply increased in 2008 which reached a peak position in the decade with RM140, 000m. The trade balance again started going down in

both 2009 and 2010. In this respect, the balance grew again in 2011 to RM120,000m but continuously fell until 2013 when the trade balance was around RM80,000m only. A growing trend has been evidenced in 2014 and 2015 but could not reach the peak position of 2008.

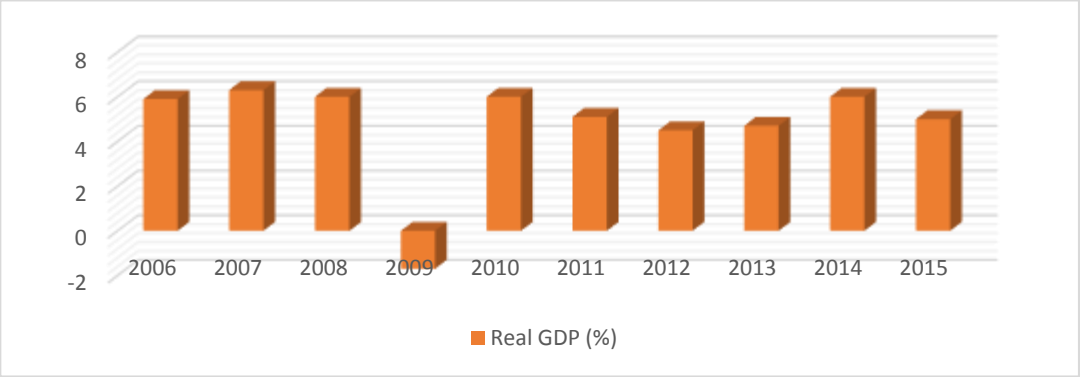


Figure 1.5 : Malaysia GDP Growth Rate % RM Million (2006-2015)
Source : Department of Statistics, Malaysia, (2015)

A closure look at the data reveals that the GDP growth rate in Malaysia has been very unexpected. The growth in 2006 was 5.9% which increased gradually until 2008 but dramatically fall in 2009 because of the financial crisis worldwide. In 2010, the GDP growth vividly increased from -1.7% in 2009 to 6%. In the coming years until 2013 the growth rate was decreased gradually, but in 2014 the growth was 6%. In the last year, the growth rate was also reduced from 2014 by 1%. The most significant feature in the graph that the international financial situation has directly impacted on the GDP growth rate of a country; for example in the case of Malaysia.

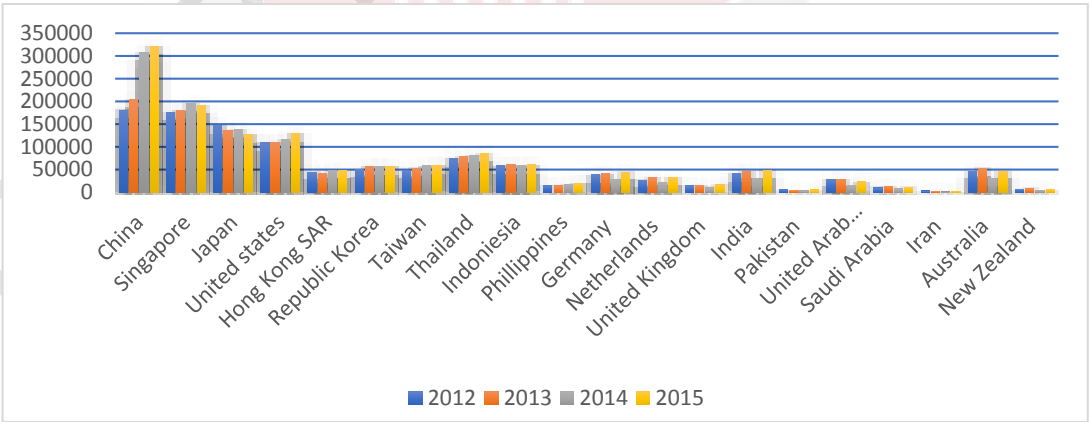


Figure 1.6 : Malaysia's Trade with Major Trading Partner (cont'd) 2012-2015 (RM million)
Source : Department of Statistics, Malaysia, (2015)

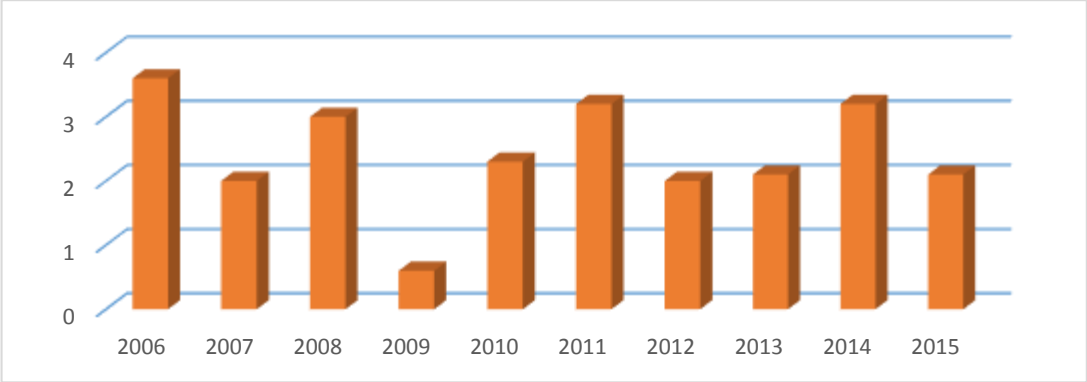


Figure 1.7 : Malaysia's Inflation Annual Growth Rate % RM Million (2006-2015)
Source : Malaysia Economic Planning unit, (2015)

The graph presents irregular ups and down of the inflation in the ten years between 2006 and 2010. The highest rate was in 2006 by 3.6% that was slightly decreased in the following years, but it experienced a dramatic reduction in 2009 with only 0.6%. From 2010 to 2015 there were no significant changes in the inflation rate fluctuation.

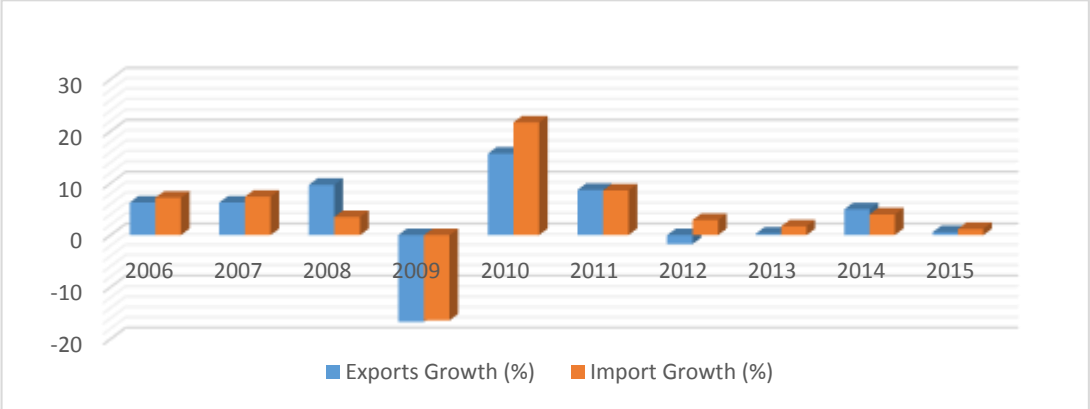
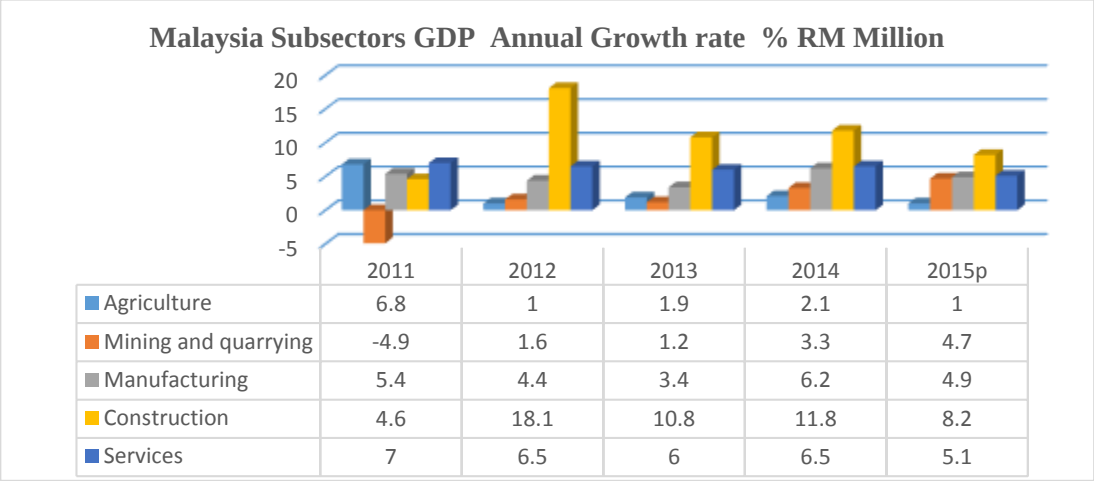


Figure 1.8 : Malaysia Export and Import Annual Growth Rate % RM Million (2011-2015)
Source : Malaysia Economic Planning unit, (2015)

The graph outlines both annual export and import growth rates of Malaysia between the year of 2006 and 2015. The export growth rate was similar in the first two years between 2006 and 2007 at 6.3%. It was increased in 2008, but most dramatically the growth rate has gone down -16.7% in 2009. It has also increased sharply by 15.7% in 2010 but slightly decreased in 2011. The growth rate also went down dramatically in 2012 but experienced little growth in 2013 by 0.3%. After increasing dramatically in 2014 by 5%, the annual export also reduced dramatically to 0.6% in 2015. Similar ups and down trend have been evidenced in the import growth rate as well. A most significant feature is that the rate was -16.4% in 2009 but the rate dramatically went

up in 2010 by 21.7%. In the next years until 2015, there was significant fluctuation in the import growth rate. Specifically the rate was 8.6% in 2011, 2.9% in 2012, 1.7% in 2013, 4% in 2014 and 1.2% in 2015.



	2011	2012	2013	2014	2015p
Agriculture	6.8	1	1.9	2.1	1
Mining and quarrying	-4.9	1.6	1.2	3.3	4.7
Manufacturing	5.4	4.4	3.4	6.2	4.9
Construction	4.6	18.1	10.8	11.8	8.2
Services	7	6.5	6	6.5	5.1

Figure 1.9 : Malaysia Subsectors GDP Annual Growth Rate % RM Million, (2011-2015)
Source: Department of Statistics, Malaysia (2015)

According to the graph, the Agriculture sector was the highest contributor to the GDP of Malaysia in 2011 with 6.8%, but it has never been the principal source for GDP in the next four years until 2015. In 2012, the construction sector contributed 18.1% to the GDP growth while agriculture was lowest with 1% among other sectors; services 6.5% manufacturing 4.4% and mining and quarrying 1.6%. The contribution of construction slightly decreased in every year and reached 4.9% in 2015. The most important figure is the growth of mining and quarrying in every year, but it was the negative percentage in 2011 with -4.9%. Without mining and quarrying, all other sectors have been experiencing negative growth in every year. Therefore, it has been the very concerned situation to improve the growth rate.

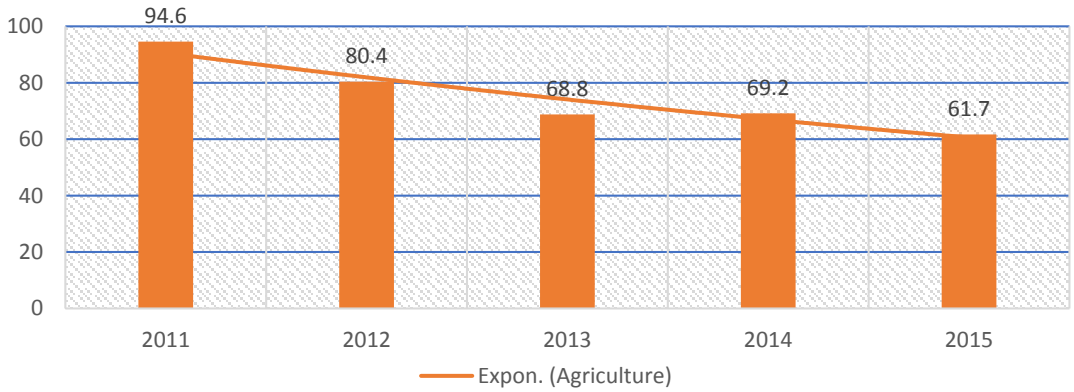


Figure 1.10 : Malaysia Agricultural Export Annual Growth Rate % RM Million (2011-2015)
Source: Economic Planning Unit and Department of Statistics (2015)

Percentage of the Annual Agriculture Export Growth Rate of Malaysia has seen a continuous decrease from 2011 to 2013. The percentage was more than 90% in 2011, but it declined sharply in 2012 and 2013 reaching at 68.8%, which increased very slightly in 2014 with less than 1%. A dramatic fall was again evidenced in 2015 when it decreased to 61.7%.

1.6 Problem Statement

Foreign investment in Malaysia continues to increase drastically, as a result of Multinational and transnational corporations making their way into the Malaysian market. Malaysia corporate units are also engaging in a much wider range of cross-border transactions with different countries and products. The firms have also been more active in raising financial resources abroad (EPU, 2016). All these developments combine to give a boost to cross border cash flows, involving different currencies and different countries. However, it is generally believed that the exchange rate fluctuations changed the domestic currency revenues and costs of a multinational company with foreign sales and operations, and therefore affect the value of the firm (Tun & Solako lu, 2016).

Exchange rates are a representation of one of the major sources of macroeconomic risk for any firm. The costs of foreign purchases alter the company's domestic and international competitive profile. Such changes are considered to largely impact on small and internationally oriented economies (David, Umeh & Ameh, 2010). Furthermore, exchange rates play an increasingly significant role in any economy as they directly affect domestic price levels, profitability of traded goods and services, allocation of resources and investment decision making (Asteriou, Masatci, & Pilbeam, 2016).

The study by Zakaria (2013) examined the effect of exchange rate volatility on Malaysia's total real export to the major trading partner countries (the US, the UK, Japan, and Singapore). The results show that Malaysian exports to the US are negatively and significantly related to exchange rates volatility and Malaysian exports to the Japan is positively and significantly related to exchange rates volatility. On the other hand, Malaysian exports to the Singapore and UK were found not to be significantly related to the volatility in the exchange rates. The findings of this study established an ambiguous relationship between exchange rates volatility and export performance.

Wong and Tang (2016) examined in their more recent study that the effects of exchange rate variability on export demand for semiconductors that is the largest sub-sector of the electronics industry in Malaysia and found that the variability of the real exchange rate has some effect on semiconductor exports in both the short run and the long run.

Aggarwal, Harper, & Sullivan, (2010) conducted a study on the effect of macro-economic factors on the financial performance of commercial banks in Kenya. The study used ROA which was regressed against the macroeconomic variables including GDP growth rate, exchange rate (US dollar) the money supply (M3), inflation (CPI), and lending rate of the selected commercial banks. The study found out that financial performance of commercial banks as measured by ROA was found to be positively correlated with money supply (M3), a lending interest rate of individual banks, GDP growth, and inflation but negatively associated with exchange rate volatility.

According to Ongore & Kusa (2013) exchange rate exposure and purchasing power parity (PPP) theories also added additional dimension into the study exchange rate volatility and agricultural firms performance. From the above theories, it is possible to conclude agricultural firm's performance by both macroeconomic and firms level factors. According to Athanasoglou et al., (2005) the macroeconomic factors include Money Supply, Interest Rate, Gross Domestic Product. Consumer Price Index. The same scholars contend that the major firm's level factors are ARME & AVA.

For these reasons, studies have been done on the impact of exchange rates on the economies. However, this study suggested that after Malaysia's exchange rates are appreciated; the country is expected to trade fewer products into the world markets due to the higher prices of the products, although Malaysia's agricultural exports volumes during (2006 to 2015) presented increasing export volumes. Moreover, the exchange rate has rapidly changed over a short period and has a high volatility, which negatively affects the ability of the firm to accurately price agriculture products (EPU, 2016).

Therefore, in this thesis, the aim is to examine this issue by studying the impact of macro-economic on agriculture firms in Malaysia, a small open and fast growing economy that depends heavily on international trade. Most of the studies on this issue were conducted in the case of developed countries. Only a few studies have been carried out to investigate the relationship during developing countries mainly due to the lack of sufficient time series data. This thesis intends to fill this gap by an effect of macro-economic variables of the agriculture sector of Malaysia on Malaysia's agricultural exports.

1.7 Research Questions

In particular, the empirical part of the study aims to investigate exchange rates on foreign trade in financial performance from other policies' successful recovery to capital controls in Malaysia. In searching for the answer, we proceed with the following sub-questions:

1. Does foreign exchange rate volatility, Domestic Product (GDP and Consumer Price Index (CPI) have an effect on agriculture listed company's performance in Malaysia?
2. Does Agricultural Raw Material Export (ARME) and Agricultural Value add (AVA) have an impact on agriculture listed company's performance in Malaysia?

1.8 Research Objectives

The goal of this study is to investigate how foreign exchange rate volatility affects the financial performance of agriculture sector in Malaysia. The specific objectives of this study are as follows:

1. To determine the effect of exchange rate volatility, GDP and CPI on agriculture listed company's performance in Malaysia.
2. To know the impact of ARME and AVA on agriculture listed company's performance in Malaysia.

1.9 Significance of the Study

This study contributes to the betterment of the following areas of specialisation, organisations and academicians.

1.9.1 Agriculture Firms

This study will help agriculture firms to investigate the impact of foreign exchange rate fluctuation and the unpredictability to determine how successful the agriculture firms are, especially in achieving stability and profitability, making efficient techniques to reduce the variability and also to determine areas in which improvement is needed.

1.9.2 Related Organisations

This study is useful not only to firms involved in the international trade but also to financial institutions interested in providing hedging products to these firms. Smaller firms may also benefit from this study as some depend on the volatility of the main currencies as they may outsource their production to foreign countries.

1.9.3 Academicians and Researchers

This study is useful for future academicians and researchers as a point of reference and information to develop on the topic of forex trading. Also, it will assist them to appreciate the effects of exchange rates volatility and financial performance on agriculture firms and economies at large.

1.10 Definition of Terms

1.10.1 Exchange Rate

Exchange rate can be defined as the value of a foreign nation's currency in terms of the home nation's currency (Calvo, 2006).

1.10.2 Risk Management

Redja (1998) defined risk management as a systematic process for the identification and evaluation of pure loss exposure faced by an organisation or an individual, and for the selection and implementation of the most appropriate techniques for treating such exposure.

1.10.3 Foreign Exchange Risk

Foreign exchange risk is the risk that an entity will be required to pay more (or less) than expected as a result of fluctuations in the exchange rate between its currency and the foreign currency in which payment must be made (Hommel, 2008).

1.10.4 GARCH

GARCH means Generalised Auto Regressive Conditional Heteroskedasticity which is a statistical model used by financial institutions to estimate the volatility of stock returns (Bollerslev, 1986).

1.10.5 Return on Equity (ROE)

ROE is a financial ratio that refers to how much benefit firms earned compared to the total amount of shareholder equity invested or found on the balance sheet. ROE is what the shareholders look in return for their investment. A business that has a high return on equity is more likely to be one that is capable of generating cash internally. Thus, the higher the ROE, the better the company is regarding profit generation. It is further explained by Khrawish (2011) that ROE is the ratio of Net Income after Taxes divided by Total Equity Capital. It represents the rate of return earned on the funds invested in the firms by its stockholders. ROE reflects how effectively a firm management is using shareholders' funds. Thus, it can be deduced from the above statement that the better the ROE is, the more effective is the management in utilizing the shareholders capital.

1.10.6 Return on Asset (ROA)

ROA is also another major ratio that indicates the profitability of firms. It is a ratio of the income of its total asset (Khrawish, 2011). It measures the ability of the firm's management to generate income by utilizing company assets at their disposal. In other words, it shows how efficiently the resources of the company are used to generate the income. It further indicates the efficiency of the management of a company in generating net income from all the resources of the institution (Khrawish, 2011).

1.11 Chapter Summary

This chapter begins with a historical background on forex trading highlighting the massive changes which affected the economy before the First World War (1914-1919). With the signing of the Bretton Woods agreement near the end of 1944, fixed exchange rates became the norm since the 1970s. In 1071, "The Smithsonian Agreement" has left countries exposed to the risk associated with the fluctuations in

their exchange rates. In a Malaysian context, the pegging of Malaysian Ringgit to the currencies of other international countries like the UK, the US, and Singapore had shown fluctuations which forced Bank Negara Malaysia to introduce a floating system which lasted until July 1997 due to the wake of the Asian crisis. However, Malaysia managed to implement the comprehensive capital control system in1998. The following section then illustrates how risk management techniques contributed to the reduction of the variability of cash flows for multinational companies from foreign operations due to the fluctuations in foreign exchange rates. After this, the foreign exchange rate fluctuations of financial performance showed how they affect import price, producer price and Consumer Price Index (CPI). The two graphs demonstrated the exchange rate quarterly average and their effects on Malaysian economic activities which are shown through the Malaysia Economic Indicator over the same period of 2006 to 2015 respectively. Finally, this chapter ends with the identification of the research problem which prompted the researcher to decide on the research objectives formulated into research questions, followed by the all-important significance of this study.

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