

Chapter 1: Introduction

1.1 Purpose and Significance of the Study

In one of the award winning¹ and world's best-selling books², Thomas Friedman, (2005), the author of "The World is Flat: A Brief History of the Twenty-First Century" explained how globalization and the usage of internet browsers gave users easier access to internet, and changed how people communicated and collaborated worldwide by reducing the barriers and distance between people in various parts of the world. This has changed the investment environment and led to investors, be they corporate investors or individual investors, having easy and convenient access to trading of foreign stocks at overseas equity markets. Overseas equity trading can be performed live and conveniently through internet with just few strokes on the keyboard and clicks on the mouse. As a result, cross border equity trading has become more common and significant due to advancement in technology, capital mobility and financial integration.

As currency exchange rate can significantly affect the return of cross border equity investment, exchange rate movement can lead to cross border equity portfolio adjustment in order to maximize investment return. This scenario has led to more and more attention being paid to the linkage between stock prices and exchange rates, particularly recent years. This can be easily observed from financial news articles with subjects directly relating the linkage of these two variables. For instances, financial news with titles

¹ Source: Financial Times and Goldman Sachs Business Book of the Year Award.
<http://us.macmillan.com/theworldisflat30>

² Source: http://en.wikipedia.org/wiki/The_World_Is_Flat

“stocks edge higher as dollar continues to weaken³”, “weak dollar, home sales data carry stocks higher⁴” or news article with content like “The dollar has played a key role in the market action of the past two days, with dollar-denominated assets exhibiting a strong inverse relationship with the currency. This was very evident in this afternoon's strong rebound, as a pullback from 6-month highs in the dollar index coincided with a sharp short-covering rally that erased triple-digit losses in stocks.⁵”

Unlike investment in home country, overseas investment involves foreign exchange exposure. It is imperative not only for investors participating in foreign equities to understand how the currency of the particular country affects the performance of its equity market, but also the local investors, particularly in the markets with significant foreign fund participation. Popov (1998) highlighted that “... we have been convinced yet again that the forces of the international cross flow of capital are many times stronger than the might of national governments and central banks. The daily volume of currency transactions exceeds \$1 trillion, which is 50 times more than the volume of all international trading, and constitutes 80 percent of all international currency reserves.” He continued “...the might of major currency speculators is arousing concern. Controlling tens of billions of dollars in funds, they are serious competition to the central banks and international financial institutions today.” This has made the relationship between currency exchange rates and performance of stock markets one of the central studies in finance, and increasing interest by academicians and practitioners in

³ Source: reported by Associated Press in online Yahoo! Finance dated 11 November 2009

⁴ Source: reported by Associated Press in online Yahoo! Finance dated 23 November 2009

⁵ Source: Yahoo Finance market update date 5 February 2010.

studying the topics related to these two variables can be seen, particularly countries with medium sized capital market such as Malaysia.

On the local front, we have seen how the local currency Ringgit Malaysia plunged, triggered by foreign fund liquidation and outflow including from equity market which can be witnessed from the sharp decline in Kuala Lumpur Composite Index during the Asian financial crisis a decade ago where the index had lost as much as about 75% in the crisis. The panic sell-down and fund withdrawal by investors including those from local, and those who exploited the occasion during financial turbulence to seek quick profit by joining the attack in dumping or even short-selling local stocks and local currency had created vicious cycle leading to further depreciation of Ringgit and plunge in Kuala Lumpur Stock Index.

Due to huge risk caused by highly volatile and uncertain movement of Ringgit during the turbulent time, some investment and business had been adversely affected. To tackle this issue caused by speculation on Ringgit Malaysia⁶ which had caused volatile movement in currency exchange rate and to provide low interest for more conducive business environment as highlighted by Kaplan & Rodrik (2001), the government had introduced capital control and pegged the Ringgit to RM 3.80/ US Dollar on 2 September 1998⁷.

It will be imperative to study the relationship between performance of Kuala Lumpur Composite Index(KLCI), a market capitalisation weighted index that consists of 100 components stocks listed at Kuala Lumpur Stock Exchange, which regarded as the most widely used and representative

⁶ Source: Currency Speculators by Martin Khor.
<http://www.globalpolicy.org/component/content/article/216/45896.html>

⁷ Source: Bank Negara Malaysia Press Statements: Exchange Rate of Ringgit, 2 September 1998
<http://www.bnm.gov.my/index.php?ch=8&pg=14&ac=483&print=1>

benchmark for local stock market, and currency exchange rate of Ringgit Malaysia to US Dollar (RM/USD) before pegging of Ringgit Malaysia on 2 September 1998, and subsequently after depegging of Ringgit Malaysia on 21 July 2005⁸ when the government replaced the Ringgit fixed exchange rate to the US Dollar with a managed float against a basket of currencies.

These two variables are picked for this study as among financial data such as gross domestic product, interest rate, inflation rate, foreign exchange reserves and unemployment data, etc., stock index and currency exchange rate are considered as among the most efficient variables and most representable financial data in reflecting economic situation. Unlike most of other financial data, they are dynamic, fluctuate in seconds and are the two most closely monitored financial figures. They are also among the most common financial variables used to review the past performance, monitoring the current state, and predicting the future of a country's economy.

Demand and supply which translates into flow of fund is the eventual factor that determines the performance of equity market. In equity market with significant foreign fund participation, the movement of local currency by and large influences the local equity market. Anticipated movement of local currency is a consideration before big players make any equity investment decision. We have seen how the depreciation of their local currencies moved in same direction with the plunging equity markets during financial crisis such as those in Asian during year 1998, financial crisis in Argentina in year 2001-2002 where the currency exchange rate depreciated about 75% and the stock market dropped more than 50% in year 2002, and the recent one in Vietnam

⁸ Source: Bank Negara Malaysia Press Statements: Malaysia Adopts a Managed Float for the Ringgit Exchange Rate, 21 July 2005. <http://www.bnm.gov.my/index.php?ch=8&pg=14&ac=1054>

in year 2008, seeing the stock plunged more than 70% while the Vietnam Dong dropped close to double digit in term of percentage from the beginning of year 2008 to first quarter of year 2009.

However, this subject matter is not so straight forward and is much complicated than it seems to be. Observing from the past experience, a country hit by financial crisis will see its currency plunging in tandem with plummeting equity market. However, from the recent global financial crisis erupted from the sub-prime loan in United States and directly hit the United States, we see that the US Dollar bucked the trend⁹ and generally strengthened against other major currencies while its equity market suffer less severe loss compared with other major equity markets including those countries with better Gross Domestic Product (GDP).

Low interest rate in industrialized countries was one of the major reasons behind the massive cross border capital movement and financial asset price movement. For instance, investors borrowed cheap yen in Tokyo at 0.5% and used the money to buy US Treasuries which has a much higher yield of 5% or invest the equity markets aiming for much higher yield return. This had caused huge cross border capital flow. However, when the yen appreciated beyond the expected range causing the investors into losing proposition, the investors panicked and ran to cover their positions in Yen. This can be seen from the sudden unwinding of Japanese Yen carry trade to cover their short position in borrowing of low interest rate Japanese Yen used to invest in global equity markets. This has caused massive sell down in global equity markets when the markets were shocked by Bank of Japan's

⁹ Source: The Star article "US Dollar strengthening" dated 7 October 2008.
<http://biz.thestar.com.my/news/story.asp?sec=business&file=/2008/10/7/business/2203439>

withdrawal of excess liquidity by 12.2 trillion yen in May 2006¹⁰. Similar currency and equity market causal phenomenon seems to present in local Malaysia equity market as well. In the article “USD carry trade threat to markets” published by The Edge Malaysia dated 16 November 2009, an analyst commented the US dollar carry trade had been playing a part in Malaysia stock market and the rally in the FTSE Bursa Malaysia KLCI lately had been closely correlated to the movement of dollar, and a sudden strengthening of the dollar would cause unwinding of carry trades, leading to huge outflow from emerging markets, including Malaysia.

There were quite a number of studies providing hypotheses/ suggestions on the causal relation between movement in currency exchange rates and stock prices. In Pan, Fok, & Liu (2007) goods market hypothesis explains that the movement in currency exchange rates affect the competitiveness of firms and hence their earnings and stock prices, whether they are firms with international or currency exposure affected by pricing competitiveness due to dynamic between currency exchange rate and foreign demand, and transaction exposure particular for firms which have substantial amount of payable/ receivable/ debt denominated in foreign currency, or domestics firms with limited international activities but are affected by input prices of imported items due to movement in currency exchange rates. On the other hand, portfolio balance approach explains that the movement in stock price can affect currency exchange rate movement and fluctuation of currency exchange rate is determined by market demand and supply mechanism.

¹⁰ Source: Forbes online article “A Meltdown From the Yen-Carry Trade?” dated 28 June 2007 at http://www.forbes.com/2007/06/27/croesus-chronicles-yen-oped-cz_rl_0627croesus_print.html

Bullish stock market attracts high overseas capital inflow causing greater demand for the country's currency which leads to appreciation of the currency.

Besides, particularly for export oriented countries such as Japan, movement of local currency could significantly affect the movement of its equity market. The earnings of major companies that top the Tokyo Stock Exchange in term of market capitalisation such as Toyota, Honda, Hitachi and Sony are significantly influenced by the movement of the Japanese Yen. Stronger Japanese Yen translate into lower profits for those export oriented companies and vice-versa. Besides, the fluctuation of currency exchange rate also effect business profitability in term of payment for imported raw materials, sales proceed in foreign currency. Local companies that have profits significantly affected by foreign currency includes car assembler/ manufacturer which import substantial components from overseas, rubber glove companies which have their sales proceeds mainly denominated in US Dollar, and oil palm planters where the trading of competing product, soy bean oil is mainly in US Dollar. Besides, the fluctuation in foreign currency exchange will affect companies with receivables, payables and debt denominated in foreign currencies and thus affect the performance of the stock prices, for example, electricity provide in Malaysia, Tenaga, like most of other infrastructure companies, has high borrowings in foreign currencies.

Experts have varying views on the relationship between Ringgit Malaysia and performance of stock market in Malaysia.¹¹ Among them, “a firm Ringgit is a boost to the stock market as it encourages fund inflows”, “a strong currency may not favour stock markets as theoretically, Malaysian stocks

¹¹ Source: The Star article “Stronger currency, stronger stock market?” dated 24 April 2010. <http://biz.thestar.com.my/news/story.asp?file=/2010/4/24/business/6065871&sec=business>

have become more expensive”, “a strong currency only offers short term benefit for the market. Over longer term, it is not good for an exporting economy and for the stock market”. In the same news article, it was reported that past studies conducted by ABN Amro Bank and the London Business School showed that strong currencies did not lead to generous profits from the stock market. Instead, countries with weak currencies saw greater stock returns than ones with strengthening currencies.

Malaysia lifted the peg on Ringgit on 21 July 2005 but the currency has yet to be allowed to trade freely in international markets as Ringgit has yet to be liberalised/ internationalised. In view of this and couple this with the varying relationship between the movement of local currencies and equity markets in various countries, it is proposed to carry out a research to study the relationship between performance of Kuala Lumpur Composite Index (KLCI) and currency exchange rate of Ringgit Malaysia to US Dollar (RM/USD) before pegging of Ringgit Malaysia in year 1998 and after depegging of Ringgit Malaysia in year 2005.

Ringgit Malaysia against US Dollar exchange rate is selected in this proposed research for the reason of the status of US Dollar as global anchor currency and also as the currency to which Ringgit was pegged between year 1998 to year 2005.

From the time series charts of KLCI movement and currency RM/ USD exchange rate movement for the periods about 4 years before pegging of Ringgit Malaysia and about 4 years after pegging of Ringgit Malaysia as shown below, the Ringgit Malaysia was stable and moved in tight range of about 5% until the start of Asian Financial Crisis after Thai government

devalued Thai Bath in July 1997. Ringgit Malaysia had volatile movement since then except during the period of Ringgit Malaysia pegged to US Dollar at an exchange rate of RM 3.80/ US Dollar which lasted for about 7 years. From the charts below, it seems that there is relationship between the two variables as we can see that weakening of Ringgit Malaysia moved in tandem with weaker Kuala Lumpur Stock Exchange performance and vice versa.

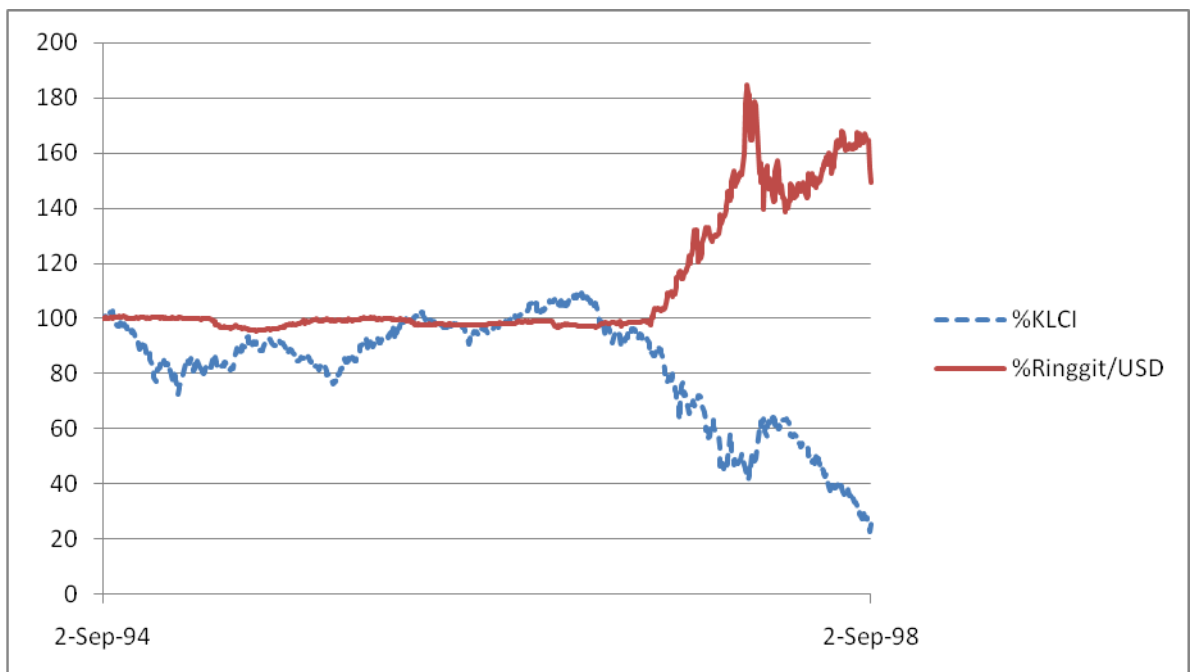


Figure 1.1.1: Relative movements (with 2 September 1994 set as base at 100%) of Kuala Lumpur Composite Index and Ringgit Malaysia/ US Dollar currency exchange for period of 4 years before pegging of Ringgit Malaysia

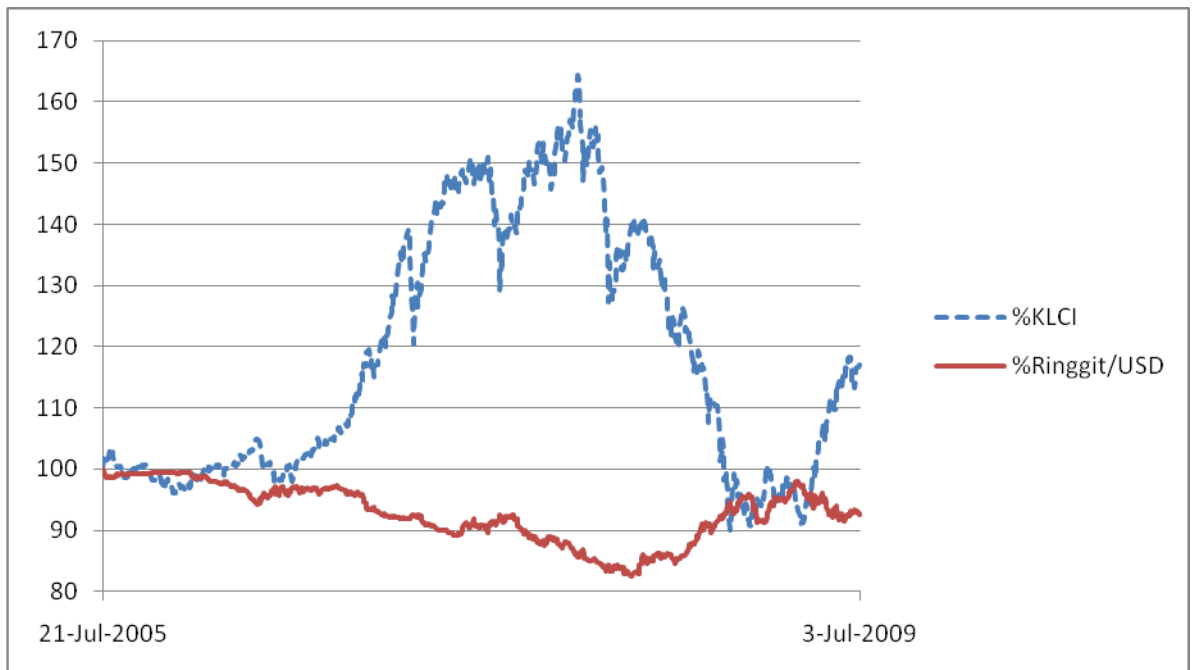


Figure 1.1.2: Relative movements (with 21 July 2005 set as base at 100%) of Kuala Lumpur Composite Index and Ringgit Malaysia/ US Dollar currency exchange after depegging of Ringgit Malaysia until KLCI being replaced by FBM KLCI on 6 July 2009

While there are numerous researches performed on the relationships between stock prices against movement in currency exchange in foreign markets, there were relatively limited literatures for the case of Malaysia, especially study that compares the behavior of the relationship for the period before pegging of Ringgit Malaysia and after depegging of Ringgit Malaysia. The attempt of this study is to bridge the gap in the relationship between these two variables in Malaysia's context. This is crucial to the following groups of organizations/ people in following manners:

- a) Malaysia Government and policy makers such as Finance Ministry and Bank Negara (Central Bank of Malaysia) who may conduct exchange rate policy and intervene the movement of Ringgit Malaysia or practice any other policies such as monetary policy, interest rate targeting policy or inflation rate targeting policy that could affect Ringgit Malaysia

and/ or the performance of Kuala Lumpur Composite Index (KLCI) for optimized economic condition would most likely want to understand the impacts of the monetary and fiscal policy implementations and currency exchange rate intervention on the variables by looking at the previous trends as reference.

- b) Equity fund manager, institutional and retail equity investors especially in the era where investing globally is instantaneous and so convenient, may be able to anticipate the impact from the movement of Ringgit Malaysia on local stock market and provide them guidance in strategizing their equity investment to maximize investment return.
- c) Conversely, currency traders and investors would want to know how the performance of Kuala Lumpur Stock Exchange affects the movement of Ringgit Malaysia/ US Dollar from previous trend and take this into consideration in their investment and trading decisions.
- d) Multinational companies which are required to understand the relationship between performance of stock market and currency exchange rate so that mitigation measures such as hedging could be taken for better management of currency exchange rate exposure.
- e) Local firms which may have varying extend of direct and indirect foreign currency exposure risks arising from economic and transaction exposures, are able to strategize to hedge against the movement in currency exchange rate that may be unfavourable the firms if the relationship between currency exchange rate and the performance of Kuala Lumpur Stock Exchange is known

- f) Central Banks, policy makers, firms, economist, investors and any party related to finance, understanding the relationship between stock price and currency exchange rate may help to foresee a financial crisis and preventative measures could be taken to mitigate the adverse impact of financial crisis on the country, firms and portfolio investment.

1.2 Research Questions/ Objectives of the Study

The proposed research is motivated to answer the following questions related to the relationship between KLCI and RM/ USD currency exchange rate for the two separate periods of 4 years before the pegging and approximately 4 years after depegging of Ringgit Malaysia to US Dollar:

- a) Were the stock price and currency exchange rate cointegrated?
- b) Was there any economics causality, either unidirectional or bilateral causality between the stock price and currency exchange rate?
- c) What was the degree of correlation between the currency exchange rate and the stock price?
- d) If the two variables were correlated, what were the beta coefficient and elasticity of currency exchange rate affecting the stock price?
- e) Was there any difference in the relationship structure between the stock price and the currency exchange rate in these two periods?

The main objective of the proposed research is to answer the above research questions related to the statistical relationship between stock price and currency exchange rate for the two separate periods

approximately 4 years before the pegging and after depegging of Ringgit Malaysia to US Dollar

- a) To determine whether the stock price and currency exchange rate movements were cointegrated.
- b) To determine whether there was any unidirectional or bilateral economic causality between the two variables.
- c) To find out the correlations between the two variables.
- d) To determine the beta coefficient and elasticity of currency exchange rate and stock price if the two variables were correlated.
- e) To compare the statistical relationship between the two variables for these two periods.