THE EFFECT OF MACROECONOMIC VARIABLES TOWARDS MALAYSIA STOCK MARKET PRICE

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Abstract

The purpose of the study is to find the macroeconomic variables factors that can affect the Malaysia stock market price. This study used the time series data for the variables including stock market price (KLCI), inflation rate, exchange rate, money supply (M2) and unemployment rate. By using the multiple regressions analysis model the finding shows all macroeconomic variables are significantly influenced Malaysia stock market price (KLCI) including unemployment rate. Besides the macroeconomics factor like money supply, exchange rate and inflation rate, unemployment rate as a new variable been tested to know the impact towards stock market price. However based on the results from the regression analysis shows only money supply (M2) has the positive influences towards Malaysia stock market price.

Keywords : money supply (M2); inflation rate; exchange rate; unemployment rate; FBM KLCI.

Abstrak

Kajian ini bertujuan untuk mengkaji faktor-faktor makroekonomi yang boleh memberi kesan kepada harga pasaran saham di Malaysia. Kajian ini menggunakan data siri masa untuk pembolehubah termasuk harga pasaran saham (KLCI), kadar inflasi, kadar pertukaran matawang, bekalan wang (M2) dan kadar pengangguran. Dengan menggunakan model regresi linear berganda menunjukkan semua pembolehubah makroekonomi mempengaruhi harga pasaran saham Malaysia (KLCI) termasuk kadar pengangguran. Selain faktor makroekonomi seperti bekalan wang, kadar pertukaran dan kadar inflasi, kadar pengangguran sebagai pembolehubah baru telah diuji untuk mengetahui kesan terhadap harga pasaran saham. Walau bagaimanapun berdasarkan keputusan daripada analisis regresi menunjukkan hanya bekalan wang (M2) mempunyai pengaruh positif terhadap harga pasaran saham Malaysia.

Katakunci : Bekalan wang (M2); kadar inflasi; kadar pertukaran matawang; kadar pengangguran; FBM KLCI

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List of Abbreviations

KLCI = Kuala Lumpur Composite Index

M2 = Money Supply

US = United States

INF = Inflation

EXR = Exchange rate

RM = Ringgit Malaysia

USD = United States Dollar

UNEMP = Unemployment rate

CHAPTER ONE
INTRODUCTION

1.1 Introduction

Chapter one for this research include the background of study, problem statement, research questions, research objectives and also the significance of study. All of sub chapter in this segment give the initial perspectives of this research. This study is conducted to examine the impact of exchange rate, inflation rate, money supply and unemployment rate towards the stock market price in Malaysia. Malaysian stock market price that being measured in this study from FTSE Bursa Malaysia KLCI (FBM KLCI).

1.2 Background Study

Stock markets plays important role to the economy especially in the businesses with access to capital and investors with the chance or opportunities for capital gains. According to the research by Levina and Zervos (1996) shows the stock market contributes significantly to the economic growth. Since the stock market prices are subject to increase and decrease, it becomes necessary to know the factors influencing the stock prices.

Khan and Yousuf (2013) mentioned many reasons to be an interest to know the factors that influence the stock price. First is the investor's perspective to help them to forecast stock price accurately in the case of making the decisions regarding their maximum gains in stock portfolio. Secondly is for businesses, which use the stock price as the indicator to show the financial image of companies to make them easier

to predict future stock prices. It will allow them to assess their ability to issue bonds or to obtain financing in future. Thirdly, it is important for the policymakers and also the economists since they find stock price is useful for them to predict the future stock prices of stocks reflect changes in economic activity in the long run (Cheung & Lai, 1999).

The reasons of fluctuation in the stock market price mostly related to the macroeconomic factors. According Rahman, Sidek and Tafri (2009), they argued the relationship between macroeconomic factors and the development of stock market price for the created nations have well been studied in recent years. According to Chen (2009) stated other than financial variables, the macroeconomic variables like interest rate, inflation rate and money supply are the good example to become the indicator for stock market prediction because these variables can affect the consumption and the investment in future. In Malaysia, one example of study about macroeconomic variables on stock market price is from Chia and Lim (2015) which use industrial production index, inflation rate, exchange rate, money supply and interest rate in their study. Among these 5 variables, only industrial production index is not significant towards Malaysia stock market.

In this study the FTSE Bursa Malaysia KLCI which known as the FBM KLCI measure and show the stock market price in Malaysia. FBM KLCI is the stock market index which included the 30 largest companies on the Bursa Malaysia by market capitalisation and all of the companies have achieved the requirements of the FTSE Bursa Malaysia Index Ground Rules. FTSE and Bursa Malaysia are jointly operated the index. FTSE Group has collaborated with Bursa Malaysia to make the

authoritative group for the Malaysian market that is FTSE Bursa Malaysia Index Series. The FTSE Bursa Malaysia Index Series is designed to describe the execution of companies, giving the investor a complete and integral arrangement of lists, which measure the execution of the real size and industry portions of the Malaysia and regional market. FBM KLCI Index was fluctuated in year to year and the increase or decrease of it returns.

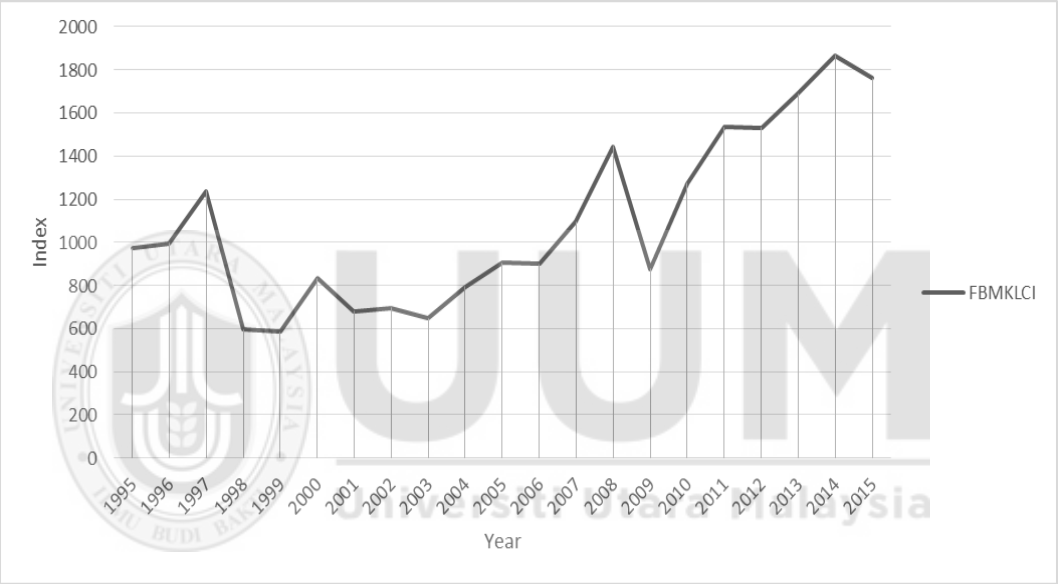

Figure 1.1 Malaysia Stock Market (FTSE KLCI) Index 21 years performance

Source: DataStream (March 2017)

Figure 1.1 above shows the trend of FBM KLCI for 21 years starting from 1995 until 2015. Based on the result, the performance of FBM KLCI is sharply drops between 1997 until 1999 and 2008 until 2009.

In 1997 until 1999, Malaysia had facing the Asian Crisis which mostly affected the whole financial system like devaluation of Ringgit Malaysia and decreased in

Malaysia's stock price. Based on the previous study that was conducted by Ibrahim & Aziz (2003) the 1997/1998 Asian crisis started on 2 July 1997 when the value of Thai baht decreased and gave impact towards countries in East Asian and Southeast Asian especially in exchange rate, stock prices and also in economic activities. For Malaysian economy, the currency and Kuala Lumpur Composite Index (KLCI) received the major impact because of the crisis. The KLCI Index was decrease from 1237.96 in 1997 to 594.44 in 1998. Because of this currency crisis, majority of the stock markets had been smashed including Malaysia. Many investors started to lost their confidence and confronted troubles in the district and many foreign countries started to sell their funds of the local stocks. This action was directly affected to the Malaysian currency. Malaysian currency started to drop its value from 2.4862 in 1997 to 4.545 in 1998. As results from the Asian Crisis, the unemployment rate was sharply increases in the first quarter in 1999 by 4.5%. According to the information from Datastream, the unemployment rate in 1998 was 3.4%, means that the rate was increase by 1% in the following years.

By referring to the figure 1.1, in 2008, FBM KLCI decreased in stock price. On that year, many countries around the world received the impacts because of a sub-prime crisis especially in the financial sectors. According to the Business Dictionary, sub-prime crisis 2008 is situation where the mortgage industry was effected because of the borrowers of the loans could not afford to pay back. As a result, many lending institutions and hedge funds starts to collapse and the global credit market start to increase their interest rates and reduce availability of credit.

The sub-prime crisis was also giving the impact to Malaysia stock market (FBM KLCI). The FBM KLCI Index was drop from 1445.03 in 2008 to 876.75 in 2009. According to Kassim, Majid and Hamid (2011), they stated that FBM KLCI recorded the small impact compared with the US and Japanese stock market in the duration of sub-prime crisis period. Between these two stocks Malaysia stock market price can be said as quite stable compare to US and Japanese stock price.

The fluctuation of the stock market price also had been influenced by other factors like macroeconomic variables. The examples of macroeconomic variables such as exchange rate, interest rate, money supply, gross domestic product, consumer price index, industrial production index and inflation. All of these variables are the common factors to know the impact towards the stock market price. Unemployment rate also play an important role to determine the stock performance. Although the unemployment rate is not synonym to test on stock market price, it also can give the impact. The reason why to include the unemployment rate in this research is a good way to see whether it can give the impact or not. The results and the evidence of this variable will be shown and discussed in the next topic and chapter.

1.3 Problem Statements

The relationships between stock market and macroeconomic factors turn into a dominant subject in monetary research. Stock market likewise includes in the valuation of the securities in view of the supply and demand components. Such valuation is helpful for different clients, for example, financial specialists, government and investors. From the previous study (see Ibrahim & Aziz, 2003; Rahman, Sidek & Tafri, 2009; Pinjaman & Aralas, 2015; Chia & Lim, 2015; Chao,

2016) most macroeconomic factors can impact the stock market. All of the studies are the example of prior research that has been conducted in Malaysia which examines the relationship of macroeconomic factors towards Malaysia stock market price. However, the unemployment rate is never been used as the variables to test in Malaysian stock market price. Generally, economists labeled the unemployment as a lagging indicator of the national economy, as the economy usually improves before the unemployment rate starts to rise again. However, unemployment causes a sort of ripple effect across the economy. By referring to Malaysia Economic Trading, starting form first quartile in 2015, the unemployment rate was increase until the fourth quartile of 2015.

With a person losing his job, that's mean there is one less person that will pay income taxes, one less person that will pay additional sales tax revenue as a laid off worker will instantly cut back on their non-necessary spending due to less disposable income and worry about future financial security. Actually this is the issue, as many countries are facing a problem like big debt crisis which requires higher tax revenues to prevent a default. If the government of the countries faces financial instability, the banks and the financial system in the country will experience a decrease in confidence translating to a downturn in the value of the stock market.

According to Rjoub, Türsoy and Günsel (2009) they expect that the unemployment rate has a relation with the stock market but the result shows that unemployment rate is statistically not significant in all portfolios in Istanbul stock market. However Boyd, Hu, and Jagannathan (2005) found that unemployment rate has a positive relationship on stock market price in United States. This evidence supported by

Taamouti and Gonzalo (2017) showed that unemployment rate has a positive relationship for the stock market return and this study also was conducted at United States. Boyd, Hu, and Jagannathan (2005) found that an announcement of increasing the unemployment is the good news for the stock price especially in economic growths and become the bad news in economic downturn. The result shows that an increases of the unemployment rate followed by monetary policy action of the Federal Reserve (Fed). When unemployment rate is increasing, the Fed will decrease the interest rates, which turn the stock prices to increase. According to economic theory (Fisher and Phillips curve equations) show that the Federal funds rate reacts negatively to unemployment rate. Therefore it is necessary to study the impact of the unemployment rate towards Malaysia stock market price whether can give the impact or not.

Other than unemployment rate as the main variables, money supply, exchange rate and inflation rate also be tested towards the stock market. Although money supply, exchange rate and inflation rate has been tested before in Malaysia stock market price, the results were different.

For money supply, according to Maskay and Chapman (2007), money supply is one of the main components in the government for making their arrangement in their monetary policy. Money supply demonstrates a positive impact on share costs in short-run and long-run.. However, Rahman, et al (2009) and Ibrahim & Aziz (2003) examines there is negative significant relationship between money supply and Malaysia stock market price.

For exchange rate, FBM KLCI has significantly negative relationship (see Ibrahim & Aziz, 2003; Chia & Lim, 2015; Rahman, Sidek & Tafri, 2009). Although Chao (2016) and Pinjaman and Aralas (2015) also were conducted in Malaysia, they got the different result. Based on their study, it shows that exchange rate has positive relationship towards stock market price. So among several studies that has been conducted in Malaysia has the contrary result.

Rjoub, Türsoy, & Günsel (2009) mentioned that the inflation has positive relationship towards on stock market. This study tested in Istanbul stock market. The same argument occurred with the study in Malaysia that conducted by Chia & Lim (2015) which shows that there is a positive relationship between inflation and stock price. This argument is contrary with the studies by Issahaku, Ustarz & Domanban (2013), Tsagkanos & Siriopoulos (2013) and Talla (2013). Based on these studies, they found that there are negative relationship between inflation and stock market price. For example Tsagkanos & Siriopoulos (2013) the study is about the stock price in Europe and United States. The result shows that, there is negative relationship between the inflation and stock market.

Based on the information from the previous study in Malaysia shows that many variables are being tested to Malaysia stock market price and the result between the variables are different.

General review is directed to see the relationship of stock market prices with the four macroeconomic factors such as money supply, inflation, exchange rate and unemployment rate. This study is important as it will tests the influenced of new

macroeconomic variables together with other variables whether it gives impact to the Malaysia stock market prices or not. With these variables specified, the information was collected from the historical data of the variables from the period 1998 until 2015.

1.4 Research Questions

There are so many macroeconomic factors that can effects the stock market prices in Malaysia. In this study four macroeconomic factors are being chosen like exchange rate, inflation rate, money supply and unemployment rate. Research questions had been discussed and been categorized into two types which is consists of main and also the specific research questions. These questions will be derived from the dependent variables and also the independent variables in the theoretical framework.

1.4.1 Main Research Question

1) What are the macroeconomic factors that affect the stock market prices in Malaysia?

1.4.2 Specific Research Questions

1) How unemployment rate affects the stock market price in Malaysia?
2) How money supply affects the stock market price in Malaysia?
3) How exchange rate affects the stock market price in Malaysia?
4) How inflation rate affects the stock market price in Malaysia?

1.5 Research Objectives

The research objectives have been imitative from the research questions that have been created from research question. The research questions and research objectives must be in parallel form and similar in order to achieve the final result of this research study. The research objectives are also been separated into two part which consist of the main and also the specific research objectives.

1.5.1 Main Research Objective

1) To identify the macroeconomic factors that affects the stock market price in Malaysia.

1.5.2 Specific Research Objectives

1) To determine the relationship between unemployment rate and stock market price in Malaysia.
2) To determine the relationship between money supply and stock market price in Malaysia.
3) To determine the relationship between exchange rate and stock market price in Malaysia.
4) To determine the relationship between inflation rate and stock market price in Malaysia.

1.6 Significance of Study

This study investigates how macroeconomic variables react towards Malaysian stock market prices. What makes this study different from other researches that are conducted in Malaysia is by adding the new independent variable which is unemployment rate. The unemployment rate is to test whether it will influence the stock market prices or not. Other than the unemployment rate, this study also tests other variables such as inflation rate, exchange rate and money supply.

This study is expected to contribute related gatherings especially for the financial analysts and investors. Business analysts assume an essential part in dealing with nation's economy. Along these lines, this review will turn out to be exceptionally huge to them as they will know whether the new factor can influence the Malaysia stock market prices and become the new focused in economic sectors.

For the equity market, the investors will play an important role because in stock markets, the macroeconomic factors will influence the stock prices up and down. That’s why by adding the new independent variables will be important data to be analysed. By completing this study, it can help them to know the main important macroeconomic factors that give the huge impact to FBM KLCI and can help the investor to invest or not, during the economic situation that the country is facing or will face.

1.7 Organization of Study

This study is separated into five chapters. The first chapter for this research study is introduction. It contains background of study, problem statements, research

questions and objectives, significance of study. For the next chapter is Chapter 2, that will explained about the previous research study and the literature review of exchange rate, inflation rate, money supply and unemployment rate that influence the stock market in Malaysia. For Chapter 3, it will explained research methodology used. It also consist all hypotheses that are involved in previous study and also the theoretical framework. Chapter 3 also will describe the method used in this study. The Chapter 4 is on empirical result consist of regression model and the other research analysis that are used in this study. This chapter also discovered the findings of the study and the interpretation of data. The final chapter is about the discussion and conclusion. This chapter explained about the findings, limitations of study and suggestions for further study.

1.8 Summary

In summary for the chapter 1, the basic purpose, objectives and background study should be recognized or confirmation about the research before going through to further more details in this study about the stock market price in Malaysia. The four independent variables that related with the Malaysia stock market price (FBM KLCI) have been chosen, for example inflation rate, money supply, exchange rate and unemployment rate to complete the research study. Problem statement of the study was recognized causing constructing of the research question and research objectives for guiding in solving the problem.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

In chapter 2 consists of broad and narrow review about the study. The purpose of this chapter is to understand about the relationship between macroeconomic factors towards Malaysia stock market (FBM KLCI). The journals and others reference that had been collected were read, evaluated, and analyzed to complete the literature review for this chapter. The points that are come out from the previous study are used as the guidance for the findings in data analysis and also for the hypothesis. The information from the previous study acts as evidence that support the independent variables towards dependent variables. It helps to determine the research from other perspectives based on the theoretical from other journals review.

2.2 Underlying Theory

Generally, the direct explanation about the relationship of financial market and macroeconomic factors cannot be discussed by a single or specific theory. This happened because the variables from the economic factors are always changed and not constant in their data. In other word, monetary variable having an inside cause and can be clarified based on different views.

2.2.1 Arbitrage Pricing Theory

Arbitrage pricing theory is the idea where the model can predict the asset return using the relationship between the asset and many risk factors. This model use to

predict the return of portfolio with many macroeconomic variables through the linear combination. The arbitrage pricing theory (APT) defined the price of a mispriced asset is expected to be. Chen, Roll and Ross (1986) were using this theory to examine the relationship between macroeconomic variables and stock price in the US stock market. APT uses the expected return of risky asset and also the risk premium of a number of macroeconomics factors. This theory is being use by the arbitrageurs to gain the profit by taking the advantages of the mispriced securities. The mispriced security can be defined as the price that differs from the price that is predicted using the model.

2.3 Independent variables

Independent variables can be defined as the variables that can give the impact or influence to the dependent variable. Based on the several studies before, showed that many researchers studied about the impact of macroeconomic factors toward the stock market prices. For this study, the independent variables that will be used are inflation rate, money supply, exchange rate and unemployment rate.

2.3.1 Unemployment Rate

There is no certain scholastic accord in the writing on the effect of unemployment declarations on the stock market price. According to Orphanides (1992) who gives experimental support for this view by demonstrating that stock value reactions to macroeconomic news may rely on upon the condition of the economy. Specifically, this study demonstrates that the stock value reaction to unemployment news relies on upon the normal unemployment rate based on the earlier year. Based on the previous

study from McQueen and Roley (1993) locate a strong relationship between stock market and macroeconomic news, for example, inflation rate, industrial production and the unemployment rate, in light of their own meaning of business conditions.

In this part, Taamouti and Gonzalo (2017) recognizes the way where the stock market returns respond to the unemployment rate. Based on the arguments from Bernanke and Blinder (1992) state that, any measure of financial approach or monetory policy "must to react to the Federal Reserve's view of the condition of the economy". This study states this can clarify the movement in the monetory policy measures (Federal funds rate) as far as developments in unemployment rate. This will evaluates the response of such measures to changes in the unemployment rate. That's mean, stock market return must respond to the monetory policy to measure Federal funds rate.

Monetory policy is used to measure Federal funds rate to recognize the effect of unemployment rate on stock market. This way can be explained as the unemployment rate influences the Federal funds rate, which thus influences the stock market price. Economic theory by Fisher and Phillips curve shows that the Federal funds rate responds adversely to the unemployment rate. Based on the previous paper by Craine and Martin (2003), Bernanke and Kuttner (2005) demonstrate a negative effect of Federal funds rate on stock price. Accordingly, the signs in this channel can be concluded as an increase (decrease) in unemployment rate is followed by an decrease (increase) in Federal funds rate, which leads to an increase (decrease) in stock market price.

Bernanke and Blinder (1992) additionally found a negative response of the Federal funds rate to an unemployment rate. Accordingly, a high unemployment rate could comprise of bringing down the Federal funds rate. The results, the Federal funds rate give the impact to the stock markets performance.

The first hypothesis that can be created based on the previous research.

Hypothesis 1

H1: There is a significant relationship of unemployment rate with Malaysia stock market price (FBM KLCI).

2.3.2 Money Supply (M2)

The result about the relationship among money supply and stock market prices can be either positive (increase) or negative (decrease) in prices. The relationship between these two variables cannot be explained in straight forward because fluctuations in money supply will give impact to the stock price and indirect impact on real activity variables (Mookerjee & Yu, 1987). However the money supply tends to have positive relationship towards stock market price that related to the inflation which make discount rate increase and give the lower stock price.

According to Maysami, Howe and Hamzah (2004) said that there are positive relationship between money supply and stock market. This study is consistent with the economic theory as when the demand of money increases, it will give the signal that the country is increasing its economic activity. When the economic activities increase, the cash flows will also increase, which can influence the stock prices to

increase. The rise in credit will help the firms to expand their business and productions which can increase the company sale and profit. When the company in a good reputation and conditions, the company is able to give better dividend payments and lead to an increase in the stock price.

However based on the study from Mukherjee and Naka (1995), they got the different result in the study, they examined that the rise in money supply may boost the companies' cash flow which will make the money supply increase. In this research study, a negative relationship is predicted between money supply and stock market price since the stock price and the interest rate are classified as the two subjects that have greater fluctuation especially in the developing countries. In this study also explained that increasing in bidding for bonds will make a rise in current interest rate. When the interest rate is increase, the discount rate will also increase and make the present value of future earning decrease, as result the stock prices of the country will fall. Some studies that conducted in Malaysia shows that the stock market returns are mostly affected by the fluctuations in domestic factors especially in money supply (Ibrahim & Wan, 2001). between M2 and stock market price in Malaysia is a negative relationship in long run only not in short run. This result is consistent with Ibrahim and Aziz (2003) that found negative relationship between M2 and FBM KLCI in the long run. They assume that this negative relationship is influence by the Asian crisis that make the stock price and the macroeconomic variable unstable interaction and difficult to predict.

However, according to Kraft and Kraft (1977) found that there is no causal relationship between money supply and US stock return. This result also consistent

with the study that conducted by Ibrahim and Wan (2001) and Hosseini, Ahmad, and Lai (2011).

By referring the previous study, the hypothesis between money supply (MS2) and Malaysia stock return developed.

Hypothesis 2

H1: There is a significant relationship between money supply (MS2) with Malaysia stock market prices (FBM KLCI).

2.3.3 Exchange Rate (EXR)

Devaluation of the value in exchange rate tends to decrease in stock market as a result of the inflation news. In addition, the importer companies will facing the major effects of higher expenses because of a weaker local currency and will decrease the profit, and lower share prices. Thus, the stock market price, which is a gathering of an assortment of companies are will to respond contrarily because of money devaluation. But, residential exporters get the advantage from currency devaluation since it makes domestic items to become less expensive to foreign customers. So on macroeconomic level, currency devaluation will support the domestic export industry. Generally, the impact of exchange rate on stock price can be either a positive or a negative relationship.

Vejzagic and Zarafat (2013) found that the changes in exchange rates would affect the firm's competitiveness as it influences the value of foreign money. It will give the

impact to the company's equity and profits, which consequently will affect the value in the stock market price.

As indicated by the portfolio modification approach, any inflow or outflow of foreign capital will be the result of the performance in stock market. When stock price increase, they will attract in foreign capital and when costs decrease, it will give the bad perception to the outsider or foreign investors. As a result, this situation may affect a decrease in corporate wealth and also decrease in a nation's wealth (Vejzagic & Zarafat, 2013).

According to Jamil and Ullah (2013) analyzed the effect of foreign exchange rates on stock prices for Pakistan stock market. By utilizing the information from 1998 to 2009, they found that relationship exists between exchange rates and stock market price, both in the short run and long run. For the short run was found to have a positive but significant relationship, while the long run relationship is not significant.

The same conclusion was achieved by Aurangzeb (2012) when the researcher inspected the components influencing performance of stock market in South Asian nations utilizing month to month information for the time of 1997 to 2010 of 3 South Asian nations to be specific like Pakistan, India and Sri Lanka. The outcome demonstrated that Exchange rates have significant positive effect on the performance of stock markets based on the three markets of South Asia.

However, several studies show the different results for the relationship between exchange rate and stock market prices. Nieha and Lee (2001) studies on developed

countries like G-7 countries (Canada, France, Germany, Italy, Japan, Great Britain and United States) shows that there are not significant in the long run relationship between stock prices and exchange rates while in the short run, they have the negative and significant relationship and only exist for one day in certain G-7 countries. This study also recommended when predicting for the US in the future, the stock price and dollar cannot be depended in short or long run.

Based on the study in Malaysia that conducted by Ibrahim and Aziz (2003), they found negative relationship between stock price (FBM KLCI) and exchange rates because the impact of Asian crisis. Yusof and Majid (2007) also got the same result where the exchange rates are negatively relationship with FBM KLCI. The results are consistent with Rahman, Sidek and Tafri (2009), exchange rate have inverse relationship with Malaysian stock market where the depreciation of Malaysian Ringgit leads to increase in Malaysian stock price. The Malaysian stock market is sensitive to the external shock like financial crisis and development to the extent that depreciation of the Malaysian Ringgit gives impact to increases the stock market price.

Based on the previous study, the hypothesis can be developed by using the exchange rate and Malaysia stock market price.

Hypothesis 3:

H_1: There is a significant relationship of exchange rate (EXR) with Malaysia stock market price (FBM KLCI).

2.3.4 Inflation Rate

Based on the previous study that had been done before, the inflation and stock market price became the top to test whether this variable can give the impact to the stock price. Theoretically, stocks are thought to be inflation neutral for unexpected inflation which implies dependably has a negative relationship with stock market price. Unexpected inflation may straightforwardly influence the stock market index contrarily or negatively through sudden advancements in the price level.

According to Fama (1981) and Chen, Roll and Ross (1986) they state, there is negative relationship between inflation and stock market price. From their study, they mentioned that nominal contracts prevent quickly adjustment of the firm's revenues and costs. This would affect the cash flows to grow at the same rate with inflation. The argument is supported by Sharpe (2002), which found that there are negative relationship between stock price and expected inflation based on two results. There are an increase in expected inflation corresponds with both lower expected real earnings growth and higher required real returns. The study conducted on 1965-2001 in monthly historical data for annual operating income in S&P500. The researcher use the simple regression to run the data and the results can be concluded that inflation has a strong negative relationship towards the stock price.

An increasing in inflation rates will make the living cost increase and it will also change the resources from investments to consumption. The demand for the market instruments will start to decrease because people start to spend their money rather than saving. Monetary policy will play the role by tightening their policies to control

the rise of inflation by increases the nominal risk free rate and increase the discount rate in the valuation model.

The result confirms by Bordo et al. (2008) who conduct a study in United States, found that inflation gives negative impact on stock market conditions. Besides that, Reddy (2012) found the same result that inflation have a negative relationship with stock market in India as well. However, the influence of inflation on stock market can be classified as a matter of considerable to be debate theoretically and empirically. The stock market can be hedged against inflation based on the fundamental idea of Irving Fisher (1930) or known as Fisher Effect theory. Based on this theory inflation and interest rate should move one to one with expected inflation.

While McConnell et al. (2012) defined that the inflation is an increase in the general price levels and due to that, purchasing power will be affected as higher inflation will reduce the purchasing power. In their study, Consumer Price Index (CPI) becomes the main variable to measure inflation. Similarly, Talla (2013) also used consumer price index in his study and he argued that the relationship between inflation and stock market can be either positive or negative. The relationship between inflation and stock market can be determined by unexpected or expected inflation based on the concept of demand and supply. In a situation where demand exceeds supply, firms prefer to increase their prices to gain more profit in order to cover their costs. This would lead the firms to raise their dividends paid because the demand of the firm's stock is high and automatically increase their stocks value. This explanation is in the case of expected inflation situation.

However, Hosseini, Ahmad and Lai (2011), Pal and Mittal (2011) and Hussin et al. (2012) mentioned that the inflation have a positive relationship towards stock market for long run period. The result is similar to the previous study that made by Adam and Tweneboah (2008) who conclude that inflation has correlates positively with stock market price when the stock market was partly or fully hedge against inflation.

Based on evidence above, the forth hypothesis can be made by using the inflation rate and Malaysia stock market prices.

Hypothesis 4

H1: There is a significant relationship of inflation (INF) with Malaysia stock market price (FBM KLCI).

2.4 Conclusion

In conclusion, this chapter shows that more empirical result from previous studies help to give guidance in order to proceed the next chapter. The previous results from the studies are being used as the references especially for the future findings in the data analysis. Most of the literature review had been done to identify and support the argument to find the influence of macroeconomic variables on Malaysia stock market price. The literature review also will support the conclusion and the recommendation on the result soon. The next chapter will discuss the research methodology used in this study.

CHAPTER THREE
METHODOLOGY

3.1 Introduction

This chapter is focusing on the methods that are used in this research. Methodology includes data collection, data sources, variables, research design, research framework, data analysis and treatment and also the hypothesis for testing the relationship among variables that will be used. The research method and theoretical framework will be constructed to present the relationship between Malaysia stock market price and the macroeconomic factors.

3.2 Data Collection

The data collection can be defined as the activities for obtaining, gathering and evaluating the data to be used for the testing and also to match all the findings. For this research all data based on secondary data. The data for the dependent (Malaysia stock market price) and independent variables (inflation rate, exchange rate, money supply and unemployment rate) collected from Datastream starting from 1998 until 2015 based on quarterly basis.

The quarterly basis is used as for the unemployment rate, there is no information based on monthly basis. However, the data of unemployment rate based on monthly basis are available starting on 2008. The data availability of unemployment rate in Malaysia only exists starting from 1998. In order to standardize all variables in this research, the basis used for this research is quarterly basis starting 1998 to 2015. The total number of observation in this study is 72.

3.3 Variables

For the research, variables are defined as the logical set of attributes. These variables are most important in the research study where it is primary related to the topic of the research. The variables divided into two types which are dependent and also the independent variables.

3.3.1 Dependent Variable

The researchers are more apprehension about the dependent variable because it is the primary study in the research. Dependent variable is the main issue to be discussed in this research and verify the effect of the relationship between the independent variables. The dependent variable that is used in this research is Malaysia stock market price (FBM KLCI). According to Ibrahim and Aziz (2003) to get the stock prices, they only take the data end-of-the-month values of the Kuala Lumpur Composite Index (KLCI). This is because their research is using the data of monthly basis. Based on their method, the data of stock market price can directly be obtained from Datastream and does not involve any formula or calculation. This research also used the same method like Ibrahim and Aziz (2003) but the data is in quarterly basis. Rahman, Sidek and Tafri (2009) also use the same method like Ibrahim & Aziz (2003) which use the data from Kuala Lumpur Composite Index (KLCI) for Malaysian stock market (see Ismail, Pervaz, Ahmed & Iqbal, 2016; Liang, Lin & Hsu, 2013).

3.3.2 Independent Variable

The independent variables are the variables that are used for testing the effect of the dependent variables. The relationships of the two variables are being determined with the positive or negative result. The independent variables that use such as unemployment rate, money supply, exchange rate and inflation rate. All these variables data are taken directly from Datastream and Malaysia Trading Economic.

For the unemployment rate, the data will base on percentage for every quarter starting 1998 until 2015. The data that was in percentage can be straightly used in order to streamline for all data (Chia & Lim, 2015). For the unemployment rate, the data was collected directly from Datastream and Macroeconomic trading. The formula to calculate the unemployment rate is shown below.

Unemployment Rate= (Unemployed person) / (Civilian Labor Force)

Where;

Unemployed Person : People who are jobless, actively seeking work, and available to take a job

Civilian Labor Force: Sum of civilian employment and civilian unemployment

The money supply is chosen by using M2's data. For this research study, M2 is being chosen to represent money supply. Based on the previous study by Hamburger and Kochin (1972), Kraft and Kraft (1977) and Sirucek (2011), they used M2 as a proxy of money supply and they also mentioned that money supply (M2) has a strong relationship with the stock market. According to the information from American Association of Individual Investors said that many economists use M2 to

predict the expected stock price included the time of economic recessions and economic recoveries. Some economists also believe that over the past 20 years, M2 is become the relevant as the measurement in growth or contraction for the US economy. So means that M2 is suitable to use as the indicator to measure the stock price compared M1 and M3. The formula to calculate the money supply (M2) is shown below.

M2 = M1 + Narrow Quasi-Money

Where;

M1 : cash, checkable (demand) deposits, and traveler's checks

Narrow Quasi-Money: physical money like coins and currency along with demand deposits and other liquid assets held by the central bank.

While for the exchange rate, the data is using Ringgit Malaysia (RM) to United States Dollar (USD). According to Chia and Lim (2015) explained that US dollar is the major denominator for Malaysia Ringgit in trading currency.

Exchange Rate = MYR / USD x Spot Rate

Where;

MYR : Ringgit Malaysia

USD : United States Dollar

Spot Rate : Value of Ringgit Malaysia at the moment of the quote

For the inflation rate, the data will base on percentage starting 1998 until 2015. The observation of data is 68 because the data is quarterly basis. Although the data

collected directly from Datastream and Macroeconomic trading, there is some formula to calculate the inflation rate.

Inflation Rate = [(B – A) / A] x 100

Where;

B: Today Consumer Price Index

A: Previous Consumer Price Index (last quarter)

3.4 Research Design

Research design is guidance for the research for know which ways the information is needed and be collected. It also can be used as the specifying methods and also as the procedures which the data can be analyzing. In this subtopic will contain the purpose of the study, types of investigation and time horizon.

3.4.1 Purpose of the study

The purpose of the study is to determine the macroeconomic factors that affect Malaysia stock market price. Malaysia as we know is the one of the developing countries, so the study of this research is to see the effect from the independent variables on Malaysia stock market price.

3.4.2 Types of Investigation

The type of investigation of the research is causal relationship. The research is to investigate the effect and cause of Malaysia stock market price (FBM KLCI) with

some factors that had been chosen (inflation rate, unemployment rate, exchange rate, money supply and unemployment rate).

3.4.3 Time Horizon

Longitudinal Studies

The data collection of dependent (Malaysia stock market price) and independent variables (inflation rate, exchange rates, money supply and unemployment rate) is obtained from the historical data especially for the rates that are used by the independent variables. The scope of the research is about the effects of several factors towards Malaysia stock market price (FBM KLCI). This study aims to find out and to know whether the relationship of the independent variables is positive or negative towards the dependent variable. The data that are being collected mostly from the secondary data sources.

3.5 Theoretical Framework

Diagram below shows the relationship between dependent variable and independent variables.

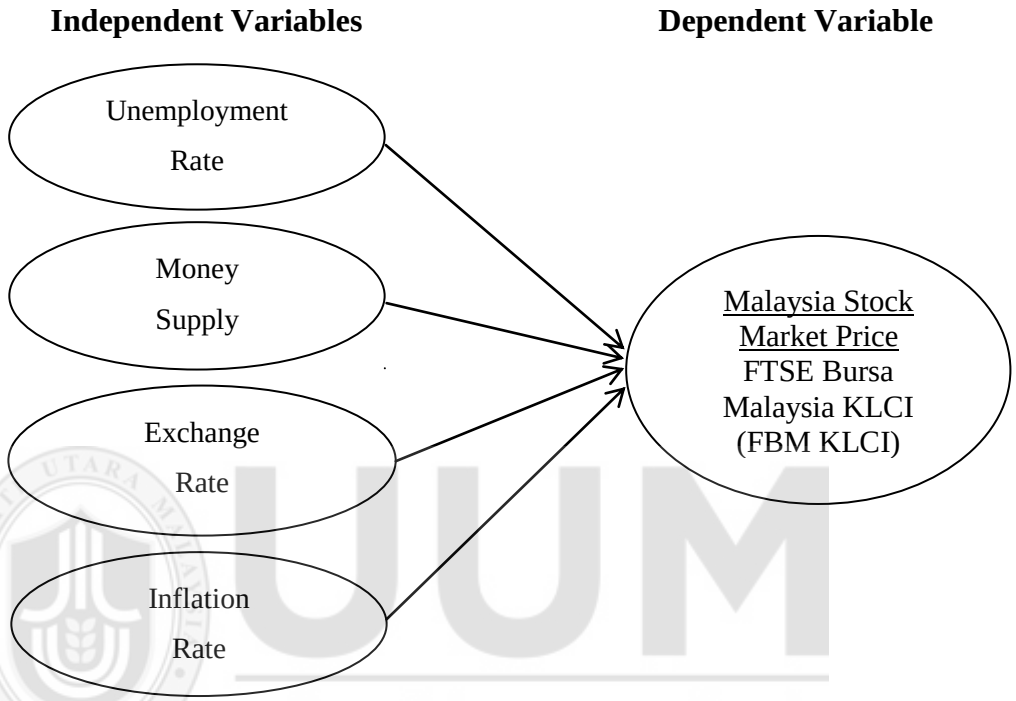

Figure 3.1Theoretical framework of Study

3.6 Hypothesis

Hypothesis is an important part to expected results or the outcomes for the study. Most of the research, the hypothesis will determine the relationship between dependent variable and also independent variables. There are two types of hypothesis for the variables which is null hypothesis and alternate hypothesis. Between these two types of hypothesis, one of it will be rejected, but this will be based on the result that we are gathering from this research.

Hypothesis 1: Unemployment rate and Malaysia stock market price.

H_0: There is no relationship between unemployment rate and Malaysia stock market price.

H_1: There is a relationship between unemployment rate and Malaysia stock market price.

Hypothesis 2: Money supply and Malaysia stock market price.

H_0: There is no relationship between money supply and Malaysia stock market price.

H_1: There is a relationship between money supply and Malaysia stock market price.

Hypothesis 3: Exchange rate and Malaysia stock market price.

H_0: There is no relationship between exchange rate and Malaysia stock market price.

H_1: There is a relationship between exchange rate and Malaysia stock market price.

Hypothesis 4: Inflation rate and Malaysia stock market price.

H_0: There is no relationship between inflation rate and Malaysia stock market price.

H_1: There is a relationship between inflation rate and Malaysia stock market price.

3.7 Data Treatment and Methodology

The data collected will use the Multiple Linear Regression Model to prove the result. Statistical Packages for Social Science (SPSS) give generating and analyzing of all the data for the findings and testing of the result. There are several types of treatment and methodology of the data that would be testing especially to know the relationship between dependent variable and the independent variables.

3.7.1 Correlation analysis

This analysis is mathematically measured between two relationships between dependent variable and independent variables, second is between independent variables and independent variables. The range of correlation is from -1.0 to +1.0.

r = +1.0 or positive value (perfect positive linear relationship)

r = - 1.0 or negative value (perfect negative linear relationship)

r = 0 (no correlation)

3.7.2 Multicollinearity test

These is the last test to check whether the model have serious multicollinerity or not. Gujarati and Porter (2009) stated multicollinearity refers to the situation where two or more independent variables are highly correlated with each other in a multiple regression model. If the model has the serious multicollinearity, the Centered variance inflation factors is above 10. So, the model is not desired and the result for regression not valid.

3.7.3 F-test

The first test should be proceed after the regression has been run. F-value can be obtained after running an ANOVA test or regression analysis. The F-test will compute overall fitness of the model. It also is used to test the hypothesis that variation in independent variable explained the important part of the variation especially in the dependent variables.

If calculated f-value is more than tabulated f-value, it can be defined that the relationship between independent variables and dependent variable is significant. Therefore, the overall model is not significant.

3.7.4 T-test

Significant relationship between the independent and dependent variables can be determined by using T-test. It is used to examine the null hypothesis, whether that is significant between the dependent variables and each of the independent variables.

If calculated t-value is greater than the t-distribution table, it indicates that the relationship between dependent variables and independent variables is significant. T-test symbols as p-value should surpass 1%, 5% and 10% critical value. Degree of freedom means that the number of observation (n) will minus the number of variable (k). Based on the t-value on t-table, the decision to accept or reject H_0 will be refer the following scale:

If Calculated t-value < Critical t-value; accept H_0

If Calculated t-value > Critical t-value; reject H_0

3.7.5 Test of Assumption

Multi Linear Regression Model technique is to identify and find out the result on the relationship between variables so that the model is best fit and good to for the regression. If the all assumption are being test pass then the result of the regression count as valid result. By using this method, it will come out with the predicted result of a dependent variable and independent variable. The variables like money supply (M2), exchange rate and stock market price (FBM KLCI) use natural logarithm in equation. Based on the study that made by Chia and Lim (2015) in order to streamline the data, the variables that are not in percentages will converted to natural logarithm in order to mitigates the correlations between the variables. By using the natural logarithm also help to standardize the scales of variables that are used to measure (see Talla, 2013; Khan & Yousuf, 2013; Tsagkanos & Siriopoulos, 2013)

The standard multiple regression equation is:

$$Y = \beta_0 + \beta_1 \ln X_1 + \beta_2 \ln X_2 + \beta_3 \ln X_3 + \beta_4 \ln X_4 + u_t$$

Where;

Y : dependent variable

X : independent variables

β : slope (coefficient)

u_t : error term

The multiple regressions that being used in this research is:

KLCI Multiple regression

$LKLCI = \beta_0 + \beta_1 UNEMP + \beta_2 LMONSP + \beta_3 LEXCGR + \beta_4 INFR + u_t$ ..... Model 1

Where;

LKLCI : Natural logarithm of FTSE Bursa Malaysia KLCI

UNEMP : Unemployment Rate

LMONSP : Natural logarithm of Money Supply

LEXCGR : Natural logarithm of Exchange Rate

INFR : Inflation Rate

β_0 : Intercept

$\beta_1, \beta_2, \beta_3, \beta_4$: Slope (coefficient) of parameters

u_t : Error term

The dependent variable that is being used is FBM KLCI and the independent variables are money supply, inflation rate, exchange rate and unemployment rate.

β_0 refer to the constant slope for the regressions and the beta one until four (β_1, β_2, β_3, β_4) means the coefficient for independent variable. Lastly, u_t refers to the error term that cannot be explained by the model known as disturbance term.

From previous discussion in Chapter 1, there is evidence of the impact of financial crisis to stock price such as financial crisis 1997/1998 and 2008/2009. In order to include the impact of financial crisis 1997/1998 and 2008/2009, the regression models are re-estimated by additional the dummy variable (alpha) in a model.

KLCI Multiple regression include Dummy Financial Crisis 1997/1998 and 2008/2009

$LKLCI = \beta_0 + \beta_1 UNEMP + \beta_2 LMONSP + \beta_3 LEXCGR + \beta_4 INFR + \alpha + u_{t}$ ....Model 2

Where;

α : Dummy Financial Crisis (alpha)

3.7.6 Coefficient (β)

Coefficient can be utilized to clarify the effect of independent variable on dependent variable. According to Koop (2008) β can be defined as a marginal effect of explanatory variable (X) on dependent variable (Y) but holding other variables remain the same.

3.7.7 Measure of Fit (R-Square, R^2)

R2 is in the regression model which measures the explanatory to assess the performance of the evaluated regression equation in regression analysis. The R2 is the main execution to measure a basic multiple regression models. R2 otherwise called determinant coefficient where it is regularly utilized as a part of measurements to evaluate model fitness.

3.7.8 Adjusted R^2

The aim for the adjusted R^2 is to assess the goodness to fit after the aggregate number of variables is adjusted. The estimation of R^2 is viewed as higher when it is close to one. For example, the adjusted R^2 is 0.9345 implies that macroeconomic

factors incorporated into the regression clarify 93.45% of the variety in the regression model display after adjusting for the quantity of explanatory factors in the model.

3.8 Summary

Last but not least, the data provided has been set up for the utilizing and analyzing to find out the result of the research topic. The research design that had been created is giving the clear picture about the topic to be managed. The hypothesis has already been constructed to be used to support the independent variables towards the dependent variables for the result which will be come out in the next chapter later. The methodology in this chapter needs clarification and understanding about the test that will be conducted in the next chapter. The data that are gathered will be analyzed by using the methodology and the estimate equation to ensure the result for all variables and interpret their relationship with each other. Thus, it will be pointed out which hypothesis can be applicable and which factors contribute the most in affecting the Malaysia stock market price (FBM KLCI).

CHAPTER FOUR
DATA ANALYSIS AND FINDINGS

4.1 Introduction

This chapter discusses the overall result of the data which has been obtained from the secondary data. According to the objectives that have been highlighted from the previous chapter, the results are used to answer all the objectives and also the hypothesis. This chapter represents the finding of the study outputs of Statistical Packages for Social Science (SPSS) and Microsoft Excel 2010.

The most important objective for this chapter is to examine whether all those variables have the significant relationship between the dependent variable (Malaysia stock market price) with the independent variables (unemployment rate, money supply, exchange rate and inflation rate). For this data analysis, the multiple regression and Spearman Correlation are used to test or see the relationship between the variables.

The result from the coefficient of determination (R^2) is used to identify the impact of factors that are affecting the Malaysia stock market price (KLCI). Overall result of this research will determine and show which factor that most influence and has the strong relationship towards the dependent variables. To fulfill this objective, the researcher choose coefficient of beta to see the highest value that indicate the most contributor to the results.

For further information, data of Malaysia stock market price (KLCI) will be based on stock price index obtained from Datastream. The data that had been taken based on quarterly for eighteen years starting from March 1998 until December 2015. For independent variables like exchange rate and money supply based on Ringgit Malaysia while for the inflation rate and unemployment rate are based on percentage.

4.2 Descriptive Analysis

	Unemployment Rate	Money Supply (M2)	Exchange Rate	Inflation Rate
Mean	3.3222	5.8278	3.5617	2.4514
Standard Deviation	0.3525	0.2494	0.3332	1.6465
Minimum	2.7000	5.4508	2.9555	-2.4000
Maximum	4.5000	6.1965	4.5450	8.5000

Table 4.1: Descriptive statistics

Table 4.1 shows the results from the descriptive analysis of the data which are collected for this research. The mean for unemployment rate is 3.3222 while the standard deviation is 0.3525. The minimum and maximum for unemployment rate is 2.7000 and 4.5000. Descriptive statistics for money supply shows the mean, standard deviation, minimum and maximum of 5.8278, 0.2494, 5.4508 and 6.1965 respectively. While the minimum and maximum for exchange rate is 2.9555 and 4.5450. The mean shows the value of 3.5617 and the standard deviation is 0.3332. Lastly for inflation rate, the statistics for mean, standard deviation, minimum and maximum is 2.4514, 1.6465, -2.4000 and 8.5000 respectively.

4.3 Multicollinearity Test

Multicollinearity tests also known as a collinearity that explained whether the variables in multiple regressions used in the research are highly correlated between two or more variables. It means, the variable can be explained by others variables or can be used to predicted others variables. Multicollinearity can decrease the reliability of the variables or increase the standard error of estimates of the β's. In other word, it can make the data confuse and lead to misleading results.

Hair, Tatham and Black (1995) stated that multicollinearity is the ways that can be used to check the abnormal relationships between the independent variables that are used in the research. In order to know and to detect the multicollinearity in the research, Variance Inflation Factor (VIF) becomes an accepted method (Naser, Alkhatib & Karbhari, 2002).

H_0: There is no multicollineraity problem.

H_1: There is a multicollinearity problem.

Variance of inflation factors (VIF) value will use to class whether to accept or reject H0 based on the following scale:

VIF < 10; accept H_0

VIF > 10; reject H_0

Model	Collinearity Statistics	
	Tolerance	Variance Inflation Factor (VIF)
1 (Constant)		
Unemployment Rate	.863	1.159
Money Supply	.456	2.194
Exchange Rate	.482	2.075
Inflation Rate	.989	1.011

Table 4.2: Multicollinearity Test

Based on Table 4.2, the VIF values for all the independent variables such as unemployment rate, money supply, exchange rate and inflation rate are below 10 thus H0 is accepted. The result for unemployment rate is 1.159, money supply is 2.194, exchange rate is 2.075 and lastly for the inflation rate is 1.011. This figure means that there is no multicollinearity problem.

4.4 Correlation Analysis

Correlation analysis use to determine the relationship among variables. This is the step in the statistical techniques to find the relationship between the all the independent variable towards the dependent variables that are used in this research. Correlation analysis is developed before carrying out the linear regression.

	Unemployment Rate	Money Supply (M2)	Exchange Rate	Inflation Rate	KLCI
Unemployment Rate	1				
Money Supply (M2)	-.357**	1			
Exchange Rate	.279*	-.719**	1		
Inflation Rate	-.085	-.023	.025	1	
KLCI	-.433**	.923**	-.722**	-.184	1
Notes : *** = 1% ** = 5% * = 10%					

Table 4.3: Correlation Matrix Summary

Table 4.3 describes the summary of the correlation relationships between KLCI, unemployment rate, money supply, exchange rate and inflation rate. From the table, result shows that unemployment rate (negative), money supply (positive) and exchange rate (negative) have significant relationship with Malaysia stock market price (FBM KLCI) at -.433, .923 and -.722. However, the inflation rate shows a negative relationship which is -.184 and not significant towards dependent variable. Besides that, the relationship between money supply and exchange rate show high correlation of -0.719. Although these two variables are highly correlated but according to Table 4.2, the multicollinearity test shows there is no multicollinearity problem. Therefore the money supply and exchange rate will be remained in the analysis.

4.5 Regressions Analysis

All the data are taken from the website Department of Statistics Malaysia, Malaysia's Economic Trading, Datastream and Bursa Malaysia. All of the data are

being computed by SPSS to get the results for the variables. The result for the regression analysis is explaining as below.

Variables	β	Standard Error	T-test (Significant)
(Constant)	0.222	0.337	0.513
Unemployment rate	-0.068***	0.021	0.002
Money supply	0.562***	0.041	0.000
Exchange rate	-0.059***	0.030	0.049
Inflation rate	-0.019***	0.004	0.000
$R^2 = 0.900$			
Adjusted $R^2 = 0.895$			
F- Test = 151.552***			
Notes : * = Significant level at 10% ** = Significant level at 5% *** = Significant level at 1%			

Table 4.4 Regression Analysis

4.5.1 Explanation of Coefficient of Determination (R^2)

Coefficient of Determination or also known as R-squared (R^2) is used to measure the amount of total variation in dependent variables which can explain by all of independent variables in the regression. Based on the result on this Coefficient of Determination, the higher of R^2, the more confident can be placed in the estimated equation. R^2 or R-square of this research can be explained more based on the Table 4.4.

Based on this research, the dependent variable is Malaysia stock market price (KLCI) and the independent variables are inflation rate, exchange rate, money supply and also unemployment rate. According to the result based in the Table 4.4, it can obtain a high coefficient of determination which is $R^2 = 0.900$. This value shows

that 90.0% of changes in Malaysia stock market price (KLCI) can be explained by the changes of the independent variables. Other than that, the balance from the R^2 (10.0%) of the variance can be explained by other variable which is not included in this research.

4.5.2 Explanation of F-Test

For this test, F-value is used to measure the significance for this measurement (fitness). F-value should be less than 0.05 which make the result to be considered as statistically significant.

Referring to the Table 4.4, based on this research the result of ANOVA that shows in the table for F-RATIO = 151.552. For the P-Value, the result calculated as 0.000. Since the significance of P-Value is lower than 0.01 (0.000 < 0.05), it can be concluded that the overall model is significant. Therefore all the independent variables such as inflation rate, exchange rate, money supply and unemployment rate significantly explain the variance in the dependent variable which is Malaysia stock return (KLCI).

4.5.3 Explanation of Hypothesis

4.5.3.1 Hypothesis 1 (Unemployment rate)

H_0: There is no significant relationship between Malaysia stock market price (KLCI) and unemployment rate.

H_1: There is significant relationship between Malaysia stock market price (KLCI) and unemployment rate.

Based on the Regression analysis (see Table 4.4), unemployment rate shows negative relationships with Malaysia stock market price (KLCI) where the unemployment rate is -0.068. This can be prove by increasing 1% of unemployment rate will affected the stock return to become deficit or decrease by 0.068%. Besides that, the P-Value is less than 0.05 (0.002) which means that there is a significant relationship between Malaysia stock market price (KLCI) and the unemployment rate. As a result, this variable rejects the NULL hypothesis (H_o).

The result is supported by the research from Tsagkanos & Siriopoulos (2013) in their research. They found that the stock price was negatively (statistically significant) towards the unemployment rate. By increase the unemployment rate shows that the demand for the labor especially in the enterprises sector will start to decrease their demand because the company cannot afford their production over the demand for the product's market (not because increasing labor costs). The company will be insufficient to fulfill the demand, because of the budget in their company and also lack in funding. So this problem will make the company difficult to compete in the market, hence the investment activity start to slow down which return to decrease in stock market return.

This argument was similar to the research that was made by Farsio & Fazel (2013). This research was conducted in USA, China and Japan. Based on their research, they found that, the decrease (increase) in unemployment rate would influence the economy to increase (decrease). This situation will make the demand for goods and services increase (decrease), therefore tends the stock price to higher (lower) returns.

Therefore, in Malaysia market, the unemployment rate gives impact on the market price. By decreasing the unemployment rate, the Malaysia stock market price will increase because these two variables are in adverse relationship. It shows that the company or firms in Malaysia is in a good condition based on their economic situations. So, there was no problem to hire the new staffs for the company to increase in their production. This phenomenon can increase the firms profit and can make the Malaysia stock market price to increase because of the stabilization in local firms.

4.5.3.2 Hypothesis 2 (Money supply)

H_o: There is no significant relationship between Malaysia stock market price (KLCI) and money supply.

H_1: There is significant relationship between Malaysia stock market price (KLCI) and money supply.

According to the Table 4.4, money supply shows positive relationship towards Malaysia stock market price (KLCI) with the value of 0.562. That's mean increasing in 1% of money supply (M2) will increase Malaysia stock return by 0.562%. By looking at the P-Value which is less than 0.05 (0.000), it can conclude that there is a significant relationship between the Malaysia stock market price (KLCI) and money supply. As a result, it rejects the NULL hypothesis (H_o).

This result is supported by Mukherjee and Naka (1995) argued that rising in the monetary supply, resulting increase in cash flows which affect the stock prices to increase. This argument was further supported by Forson & Janrattanagul (2014)

who conducted their research in Thailand. Based on their research, it shows that money supply has a positive relationship with the Thai stock market.

Issahaku, Ustarz & Domanban (2013) also explained that an increase in money supply will increase the liquidity in the economy. This situation will increase the purchasing power. When the purchasing power is increase that means people will have more money in their hand. Due to that, more money will be used in the consumption and also the same situation for the investment. Hence, a positive relationship is expected.

From the hypothesis, money supply has directly impact Malaysia stock market price. The increase of money supply in Malaysia influenced Malaysia stock market price to increase. The firms or companies will have more money in their hands and they will start to increase the sales by adding more raw materials in order to increase production. The action taken by the firm would increase their profits and starts to issue the debts and equity, which can boost the Malaysia stock market price.

4.5.3.3 Hypothesis 3 (Exchange rate)

H_o: There is no significant relationship between Malaysia stock return (KLCI) and exchange rate.

H_1: There is significant relationship between Malaysia stock return (KLCI) and exchange rate.

According to the information in Table 4.4 shows the exchange rate has the negative relationship with the Malaysia stock market price (KLCI). This independent variable

indicates that by increase in 1% of exchange rate, will affect the Malaysia stock market price to decrease or deficit by 0.059%. By looking at P-Value, the figure of this variable is less than 0.05 (0.049). It means that there is significant relationship among the Malaysia stock market price (KLCI) and the exchange rate. The result means NULL hypothesis (H_o) should be rejected.

Uwubanmwen & Eghosa (2015) stated that the relationship among the exchange rate and stock price may be positive or negative. However, their research mentioned that during the rising of the local currency, the exporting firms start to decrease their export based on the higher value of local currency. This situation will react negatively towards the share price of the firms while importing firms get the advantage from this situation and the value of the firm will increase.

Maysami and Koh (2000) also found that exchange rate react negatively towards the stock market price. They use Singapore Dollar exchange rate (against the U.S. Dollar) and the Singapore stock market as their variables. From the research, it states that an increasing of the Singaporean Dollar will make the imported inputs decrease and this situation will make the exporters in the country to compete aggressively in outside market.

In Malaysia context, exchange rate has adverse relationship towards Malaysia stock market price. That's mean the devaluation value of Ringgit Malaysia against US dollar tends to boost Malaysia stock market price to increase. When the Ringgit Malaysia becomes cheaper than other countries, our products will be at lower price. So, this situation will automatically attract the outsider countries to get goods or

doing the transaction in Malaysia. By looking to the Malaysia exporter firms, the firms will start to gain more profit because many firms especially from others countries will starts to link the business. It is because the outsider firms want to get the goods or services at low prices. This situation give more profit to the local firms so will tends the Malaysia stock market price to increase.

4.5.3.4 Hypothesis 4 (Inflation rate)

H_0: There is no significant relationship between Malaysia stock return (KLCI) and inflation rate.

H_1: There is significant relationship between Malaysia stock return (KLCI) and inflation rate.

Based on the Table 4.4, the results of the unstandardized coefficient B indicates that the inflation rate has a negative relationship with the dependent variable which is Malaysia stock market price. From the result, it means that increasing in 1% inflation rate will decrease Malaysia stock market price (KLCI) by 0.019%. Based on the result of P-Value the figure is less than 0.05 (0.000). Because the value is less than 0.05, this variable has significant relationship towards Malaysia stock market price (KLCI). The result means reject the NULL hypothesis (H_o).

This hypothesis is supported by Talla (2013). Based on his study on the impact of macroeconomic variables towards Stockholm stock exchange (OMXS30) market prices, it shows that the inflation will cause the stock market price to decrease, which mean it has a negative impact. The output shows the significant value (p-value 0.0396 is less than 5%) among the inflation and stock market price.

According to Khan (2014) the result shows the significant between inflation and KSE prices but the relationship among these variables is negative. It's mean the trend of inflation rate in the economy give the adversely impact to the stock prices. The cost of firms will increase because of the inflation occurs and will reduce the initial cash flows. This situation will reduce the stock exchange activities (see Tsagkanos & Siriopoulos. 2013; Issahaku, Ustarz & Domanban, 2013; Ouma & Muriu, 2014; Ouma & Muriu, 2014).

For the inflation rate in Malaysia, the rise of inflation rate will decrease the Malaysia stock market price. This is because by increasing the price of goods, the consumer will start to cut their expenditure. We can look into the industries perspective, the firms or company will starts to slow in producing their product because of high materials costs. By slowing growth of the firms in Malaysia, this will directly effect Malaysia stock market price.

4.6 Regression Analysis (Dummy Variables)

To capture the impact of financial crisis 1997/1998 and the financial crisis 2008/2009, a dummy variable is added into regression model to know whether the crisis can influences the results for other variables in the regression analysis model. The dummy for financial crisis' year labeled as "one", while "zero" labeled for the years that not in financial crisis period.

The result shows that the financial crisis 1997/1998 and financial crisis 2008/2009 are not significant toward Malaysia stock market price. This is because the significant level for both financial crisis are above than 0.005. The financial crisis

1997/1998 and financial crisis 2008/2009 show the negative relationship towards stock market price. For the coefficient of determination (R^2) is 0.905 and this amount was likely same with the R^2 that was not included the dummy variables. For the F-Test also show the remains amount like the Table 4.4. Therefore from this study can conclude that the financial crisis don't give any impact towards Malaysia stock market price. The crisis is more likely as a shock phase to the economy that is suddenly happen in short duration.

Variables	β	Standard Error	T-test (Significant)
(Constant)	0.197	0.355	0.580
Unemployment rate	-0.061	0.022	0.007
Money supply	0.564	0.044	0.000
Exchange rate	-0.061	0.029	0.041
Inflation rate	-0.017	0.005	0.001
Financial crisis 1997/1998	-0.014	0.028	0.609
Financial crisis 2008/2009	-0.038	0.023	0.100
$R^2 = 0.905$			
Adjusted $R^2 = 0.896$			
F- Test = 102.962***			
Notes : * = Significant level at 10% ** = Significant level at 5% ***= Significant level at 1%			

Table 4.5 Regression Analysis (Dummy Variable)

4.7 Summary

To summarize this chapter, based on the analysis and findings, all of the independent variables that had been chosen (unemployment rate, money supply, exchange rate, inflation rate) have significant relationship towards the Malaysia stock market price (KLCI). Chapter 5 as the last chapter will discusses about conclusion and recommendation for the research.

Independent Variables	Hypothesis	Relationship	Finding	Reject/ Accept Hypothesis
Unemployment rate	H1	There is relationship between unemployment rate and Malaysia stock market price (KLCI)	Negative	Reject H_0, Accept H_1
Money supply	H2	There is relationship between money supply and Malaysia stock market price (KLCI)	Positive	Reject H_0, Accept H_1
Exchange rate	H3	There is relationship between exchange rate and Malaysia stock market price (KLCI)	Negative	Reject H_0, Accept H_1
Inflation rate	H4	There is relationship between inflation rate and Malaysia stock market price (KLCI)	Negative	Reject H_0, Accept H_1

Table 4.6: Summary of Hypothesis Test Results

CHAPTER FIVE
CONCLUSION AND RECOMMENDATION

5.1 Introduction

Chapter 5 is the last chapter for this research mainly consist conclusion for all the independent variables of Malaysia stock market price (KLCI). Basically, the result of the independent variables will support by the journal, article or the website that are used as supporting information in the literature review. Besides that, this chapter also will include the recommendation or suggestion for the researcher to do the better research about the same topic in the future research.

5.2 Conclusion

Overall, the conclusion of this research is made up after the result from the output and findings are recognized from the previous chapter. This research conducted to study whether each independent variable which had been chosen has influence or vice versa to the dependent variable, which is Malaysia stock market price (KLCI). This research is focusing on four factors that have been chosen to test whether it can influence the result of dependent variable or not. The independent variables are inflation rate, exchange rate, money supply and also the unemployment rate. This conclusion is made based on the objectives, hypothesis, method and the result obtained.

In the efforts to determine the utmost significant factor that influences the Malaysia stock market price (KLCI), all the independent variables had been tested using SPSS Software version 23.0. By using the SPSS Software, the findings have answered the

question in the problem statement. After all the variables are being tested, all the factors have significant relationship with Malaysia stock market price (KLCI). Based on the result from T-Statistic all the independent variables are significant. The result of P-value for all the independent variables is less than 0.05 which is unemployment rate shows that 0.002, money supply shows that 0.000, exchange rate shows 0.049 and inflation rate shows 0.000. The results show that all independent variables influence the dependent variable. Besides that, the result of ANOVA shows that the value of F-RATIO = 151.552. Hence, all the independent variable that are used in this research such as inflation rate, exchange rate, money supply and unemployment rate are significantly explain the variance.

In the nutshell, as what are mentioned before in the previous chapter, the objectives of this research is to find or to test the relationship between the macroeconomic variables towards Malaysia stock market price (KLCI) especially for unemployment rate. This is because the unemployment rate is the new variable that was tested in this research with other independent variables such as inflation rate, exchange rate and money supply towards dependent variable. The hypothesis in T-Statistic clearly answered the second objectives where all independent variables have impact on the Malaysia stock returns (KLCI) which are inflation rate, exchange rate, money supply and the unemployment rate. The coefficient of determination (R^2) has also answered the objective where it amount shows that 90.0% of changes in Malaysia stock market price (KLCI) can be explained by the changes in independent variables.

5.3 Limitation

The limitation in this study is based on the independent variables itself. This is because the research only has limited independent variables which are only four variables to measure the impact on Malaysia stock market price (KLCI). The researchers can use others macroeconomic variables such as exchange rate, interest rate, money supply, gross domestic product, consumer price index and industrial production index to be tested in future research. Other than that, this research also focuses on the secondary data only so that other critics must be concerned following the way that the data had been collected. There is no any primary data to support the research. That's mean majority of the research must depend on the secondary research that had been done before.

Another limitation in this research is involving data unavailability. Like unemployment rate, the data only available starting on 1998 and this is different from the data in other independent variable that has the information every year. To get the monthly data might face some difficulties. Based on information in economic trading, the data of unemployment rate is difficult to find based on monthly basis. However starting 2008, the information for unemployment rate can be found based on monthly basis. The information of the data starting on 2008 until 2015 might be not efficient to use because the period of duration like to short. So, to standardize the data in all variables, this research uses the information from 1998 until 2015 based on quarterly basis.

5.4 Recommendations

Based on this research about the effects of macroeconomic variables towards the Malaysia stock market price (KLCI), there are few recommendations that we can use as our references and guidance to produce the better research in the future.

Firstly, the aspect that researcher is more concern is the variables that are being used. The selection of variables plays an important role in the research study to make the research more interesting and useful in term of the additional knowledge of education. To prove research and interest for the future, the researcher could add more variables to gain more understanding on variables that affect the Malaysia stock market price (KLCI). The researcher could add more on the independent variables that does not included in this research such as interest rate, election season, money supply for M1 and M3, gross domestic product, oil price and many else that can influence the performance of stock price.

Beside the variables, the quantity or bigger sample size of the data is vital for the test. This can make the data for each variable become more accurate and explained good regression for this research study. The researcher should be more concern about the quality of the data as this will determine the value of the research itself which provide quality or not. Although the data can be choose whether to use primary or secondary data, for this research the secondary data is more considered to be used. Normally, the data from secondary sources are provided monthly but certain variables are not measured based on the monthly basis and it's given in quarterly bases for a year. The researcher should be more concentrate and try to avoid careless

in taking the values because it will affect the result at the end of the research make it difficult to achieve the research objectives.

5.5 Summary

In summary, other than all the variables that are mentioned in this research, there are many other variables can affect the Malaysia stock return (KLCI). The variables that have been chosen for these studies show that these variables (unemployment rate, money supply, exchange rate and inflation rate) have significant relationship towards the stock market price. In future, the suggested recommendation should be taken properly to minimize all the error and to produce the better studies and research.

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Appendix A

Descriptive Analysis

Statistics

		UNEMP	MONEYSUP	EXCHA	INFLA	KLCI
N	Valid	72	72	72	72	72
	Missing	0	0	0	0	0
Mean		3.322222222	5.827835092	3.561747222	2.451388889	-.001258333
Median		3.300000000	5.855362782	3.650750000	2.100000000	-.000850000
Mode		3.0000000	5.4508155[a]	3.8000000	1.0000000[a]	.0019000[a]
Std. Deviation		.3525449616	.2493812877	.3331890404	1.646506593	.0751694513
Variance		.124	.062	.111	2.711	.006
Minimum		2.7000000	5.4508155	2.9555000	-2.4000000	-.3199000
Maximum		4.5000000	6.1964965	4.5450000	8.5000000	.3084000

a. Multiple modes exist. The smallest value is shown

Appendix B

Regression Analysis

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.949[a]	.900	.895	.0575902199

a. Predictors: (Constant), INFLA, MONEYSUP, UNEMP, EXCHA

b. Dependent Variable: KLCI

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.011	4	.503	151.552	.000[b]
	Residual	.222	67	.003		
	Total	2.233	71			

a. Dependent Variable: KLCI

b. Predictors: (Constant), INFLA, MONEYSUP, UNEMP, EXCHA

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.222	.337		.658	.513		
	UNEMP	-.068	.021	-.135	-3.249	.002	.863	1.159
	MONEYSUP	.562	.041	.790	13.845	.000	.456	2.194
	EXCHA	-.059	.030	-.112	-2.009	.049	.482	2.075
	INFLA	-.019	.004	-.175	-4.504	.000	.989	1.011

a. Dependent Variable: KLCI

Appendix C

Regression Analysis (Dummy Variable)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.951[a]	.905	.896	.0571852960

a. Predictors: (Constant), crisis2, crisis1, UNEMP, INFLA, EXCHA, MONEYSUP

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.020	6	.337	102.962	.000[b]
	Residual	.213	65	.003		
	Total	2.233	71			

a. Dependent Variable: KLCI

b. Predictors: (Constant), crisis2, crisis1, UNEMP, INFLA, EXCHA, MONEYSUP

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.197	.355		.556	.580		
	UNEMP	-.061	.022	-.121	-2.789	.007	.780	1.281
	MONEYSUP	.564	.044	.793	12.698	.000	.376	2.660
	EXCHA	-.061	.029	-.115	-2.082	.041	.479	2.088
	INFLA	-.017	.005	-.155	-3.659	.001	.815	1.227
	crisis1	-.014	.028	-.025	-.513	.609	.603	1.660
	crisis2	-.038	.023	-.068	-1.667	.100	.882	1.134

a. Dependent Variable: KLCI