

MACROECONOMIC VARIABLES OF STOCK PRICES (KLCI)

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ABSTRACT

This paper attempts to determine the relationship between Kuala Lumpur Composite Index (KLCI) and selected macroeconomic variables such as money supply (M2), Consumer Price Index (CPI), Industrial Production (IP) and interest rate (IR) from 2008 until 2011. These variables contain monthly data of 48 samples of observation. The aim of this paper is to determine which macroeconomic variables are the most significant in influencing the stock market. Multiple Regressions was used to examine the existence of relationship between stock return and macroeconomic variables. The data was analyzed using Statistical Package for Social Science (SPSS) and this paper had been tested for several statistics. The findings reveal that among four of the independent variables, only three variables which are money supply, industrial production and consumer price index are significant with dependent variable. Besides, only one independent variable, which is interest rate is insignificant with dependent variables (KLCI). In addition, money supply, interest rate and industrial production have positive relationship with stock price. However, negative relationship is shown between consumer price index and stock price. Based on beta, among the three macroeconomic variables, the most significant variable is money supply compared to consumer price index and industrial production. On the other hand, the variable that is least significant is interest rate. This study also pointed out several conclusions and recommendations for future researchs.

Keywords: *Kuala Lumpur Composite Index (KLCI), Money Supply (M2), Consumer Price Index (CPI), Industrial Production (IP), Interest Rate (IR).*

1.0 INTRODUCTION

1.1 Overview

This paper focuses the relationship between Kuala Lumpur Composite Index (KLCI) and selected macroeconomic variables such as Money Supply (M2), Consumer Price Index (CPI), Industrial Production (IP) and interest rate (IR).

1.2 Background of study

Stock market is one channel for the corporate sector which to raise capital for business and investment activities. Other than that, the stock market of Malaysia has undergone dramatic changes in the last two decades. Growing rapidly before 1997, followed by the steep drop during the 1997 when financial crisis struck. In addition, stock markets very closely with the economic growth and it also strong economic growth that bullish stock performance. Stock market return has become as a central issue in Malaysia's stock market in this new global economy. Other than that, it also becomes difficult to ignore the importance of the stock market return which will represent a country's economic activity.

Macroeconomic variables theoretically significant effect on stock price because the stability of the macroeconomic variables was helped to stabilize KLCI price as well. Furthermore, the changes in macroeconomics variables are fully reflected current stock price. It has attracted concern of economists, policy makers and the investment community for a long time stated by (Kutty, 2010). Thus, the purpose of this research is to investigate the movement of KLCI's stock price index which influenced by Interest Rate (IR), Money Supply (MS), Consumer Price Index (CPI) and Industrial Production (IP).

Policy-makers need to be careful when trying to influence the economy through changes in macroeconomic variables such as the money supply, interest rates or the exchange rate. They may inadvertently depress the stock market and curtail capital formation which itself would lead to further slowdown of the economy based on (Syaheera & Shaari, 2011).

The Malaysia stock market today known as Bursa Malaysia has gained the fast momentum of globalization although Malaysia is small but open economy. Malaysia stock market is one of the biggest stock markets in Southeast Asia. Bursa Malaysia is a holding company that controls a number of exchanges in Malaysia since 1964. It plays an important role in growing the Malaysian capital market's global reach by offering competitive services and infrastructure through adoption of internationally accepted standards which are globally relevant ('FTSE Bursa Malaysia KLCI', 2011). This research focuses on Money Supply, Consumer Price Index, Industrial production and Interest Rate as Macroeconomic indicators. The macroeconomic variables such as are interest rate, money

supply, industrial production and consumer price index theoretically have a significant effect on stock prices.

1.3 Problem Statement

During economic crisis give bad and big impact to Malaysia because Malaysian economy crippled or paralyzed in the following years. As an example, within the day's Thai baht devaluation, the Malaysian ringgit was attacked by the speculators. The overnight rate jumped from 8% to over 40%. The impact from the economic crisis, the rating downgrades and general sell off on the stock and currency market. The rating had fallen many notches from investment grade to junk, the KLCI had lost more than 50% from above 1200 to under 600, and the ringgit had lost 50% of its value, falling from above 2.50 to under 4.10 to the dollar. The prime minister on that time imposed strict capital controls and introduced a 3.80 peg against the US dollar. During that year, the ringgit plunged below 4.7 and the KLCI fell below 270 points effect of the economic crisis. During the economic crisis also, the economy also exhibited a downturn and Malaysia faced negative growth during that year. The whole economic activities would be affected due to the fluctuation of the stock prices. Generally speaking, falling stock market prices signal an economic recession. The relationship between macroeconomic variables with stock return increasingly important as Malaysian economy has further liberalization.

In addition, the important during the economic crisis macroeconomic variables not perform well and it leads to decreasing of stock price and also economic growth. So, it means the major Malaysia stock price is being determined by macroeconomic variables. So, these studies focus on the impact of macroeconomic factors on stock market performance. This paper extends to address the question whether macroeconomic variables affect stock prices. Thus, this research is aimed to investigate the monthly movement of KLCI's stock price index which influenced by macroeconomic variables.

1.4 Research Objectives

Based on the review of problem statement, the objectives of this research were set up. The objectives are:

- 1) To examine the nature relationship between macroeconomic indicators such as Money supply (M2), Consumer Price Index (CPI), Industrial production (IP) and Interest Rate (IR) and stock price.
- 2) To determine which macroeconomic variables is the most significant in influencing the stock return.

1.5 Research Question

Here are the research questions that have already been identified:

- 1) What are the relationships between macroeconomic factors like money supply (M2), Consumer price index (CPI), Industrial Production (IP) and Interest rate (IR) and stock return?
- 2) Are all the macroeconomic variables significant in influencing the stock market?

1.6 Theoretical Framework

In this study, the dependent variables are stock market that is Kuala Lumpur Composite Index (KLCI) while independent variables are Consumer Price Index (CPI), Money Supply (M2), Industrial production (IP) and Interest rate (IR). The relationship is designed below:-

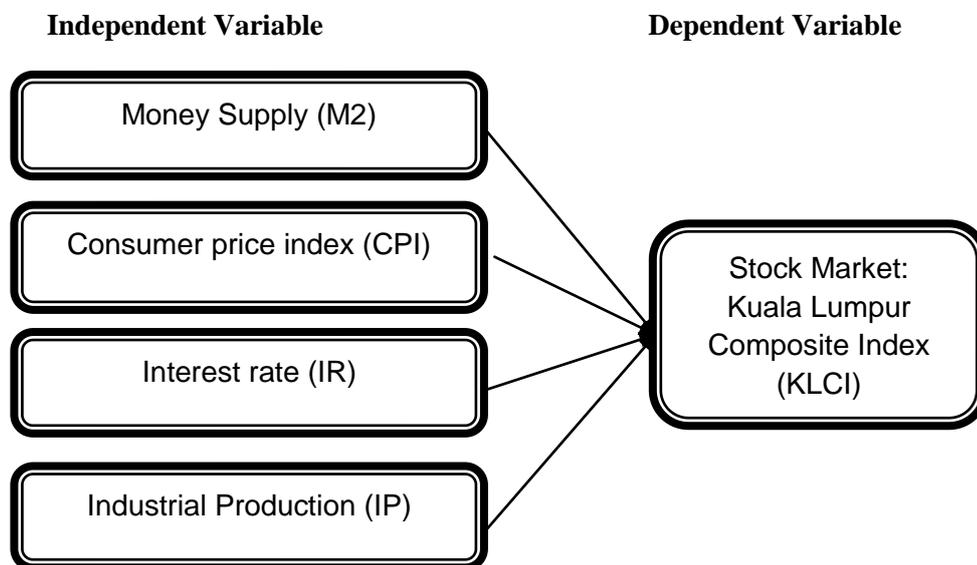


Figure 1: Framework of factors affecting stock prices

(Sources: Ting, H. L., Feng, S. C., Wen, T. W., & Lee, W. K. (2012))

1.7 Research Hypothesis

Hypothesis 1

H₁ : There is a relationship between macroeconomic indicators, Money supply (M2) and KLCI

Hypothesis 2

H₁ : There is a relationship between macroeconomic indicators, Consumer Price Index (CPI) and KLCI

Hypothesis 3

H₁ : There is a relationship between macroeconomic indicators, Interest rate

and KLCI

Hypothesis 4

H₁ : There is a relationship between macroeconomic indicators, Industrial Production and KLCI

1.8 Scope of Study

The aim of this study to investigate the relationship between stock market return and macroeconomic variables includes interest rate, money supply, industrial production and consumer price index from the year of monthly data 2008 until 2011. The researcher uses 48 samples or number of observations for the research.. Apart from that, the data collected from various website such as Bursa Malaysia and Bank Negara Malaysia to obtained data to investigate the relationship between stock return and macroeconomic variables. The data also collected from data streams. In completing this study, many research papers, reports, articles and journals publications were referred to get more information about the research. This study also was carried out by using SPSS to run all the data to test the relationship between variables

2.0 LITERATURE REVIEW

2.1 Overview

This chapter discuss about the literature review and opinion of others to the related topic of the study.

2.2 Stock market (Kuala Lumpur Composite Index, KLCI)

According to Ibrahim and Wan Yusoff (2001), they aims to evaluate the dynamic interactions among stock price (KLCI), the exchange rate and three macroeconomic variables namely real output, price level and money supply. The share price in Malaysian Stock Market is sensitive to macroeconomic fundamental

Islam (2003) replicated the above studies to examine the short-run dynamic adjustment and the long-run equilibrium relationships between four macroeconomic variables (interest rate, inflation rate, exchange rate, and the industrial productivity) and the Kuala Lumpur Composite Index. His conclusions were similar: there existed statistically significant short-run (dynamic) and long-run (equilibrium) relationships among the macroeconomic variables and the KLCI stock returns.

Stock market plays a major role in both developed and developing countries by controlling redundant resources from surplus to deficit units in the economy stated by (Asaolu & Ogunmuyiwa, 2011). However, stock return is the rate of return of the stock market. Kuala Lumpur Composite Index (KLCI) is the main index and as a market indicator in Malaysia. KLCI gives the investor a general

idea about the stock returns of Malaysia as well as the direction and performance of the market. Other than that, KLCI also contains the selected 30 largest companies from main board by full market capitalization from Bursa Malaysia and comprise multi-sectors companies ('FTSE Bursa Malaysia KLCI', 2011).

2.3 Money Supply (M2)

Money supply is one of the macroeconomic indicators that effect to stock return. This research attempts to ensure whether money supply has positive or negative relationship with stock return. According to Kraft, J. and Kraft, A. (1977), they have found that there is no causal relationship between US money supply and stock return. However, Maghayereh (2003) stated that he found negative but not statistically significant relationship stock return and money supply in Jordan. According to Ozbay (2009), he also proved that the relationship between stock return and money supply is found to be insignificant in Turkey case.

Changes in the stock price are predominantly set by changes in money supply intuitively makes sense to argue that an increase in the rate of growth of money supply strengthens the rate and finally increase in stock prices stated by (Shiblee, 2009) According to Sellin (2001), he has proved that an unexpected money supply increase indicates higher money demand given an accommodating monetary policy. He also said that the higher money demand will lead to increase in risk. As a result, investors demand higher risk premium for holding stocks making them less attractive, which causes equity prices to fall. Results presented by Chena et al (2005) also suggested that money supply and unemployment could **significantly** explain stock price returns. In particular, money supply and stock returns are **positively related**. Maghayereh (2003) stated that he found **negative** but not statistically **significant relationship** stock return and money supply in Jordan.

2.4 Consumer Price Index(CPI)

Consumer Price Index (CPI) also is one of the macroeconomic indicators that effect to stock market. The purpose of this research is to examine whether Consumer Price Index (CPI) has positive or negative relationship to stock return. Apart from that, the relationship between inflation and common stock returns has been studied long time ago. Theoretically, stocks are assumed to be inflation neutral for unexpected inflation which means always have a negative relationship with stock prices. For example, according to Schwert (1981) he found that stock market and unexpected inflation in the Consumer Price Index(CPI) were showing negatively relationship although only small reaction. In another study by Zhao (1999),he look over the relationships among inflation, output (industrial production) and stock prices in the Chinese economy covering the period from 1993 to March, 1998. The results show a **significant and negative relation** between stock prices and inflation.

According to Maysami, Howe and Hamzah, (2004), they also find a **positive relationship** between inflation rate and stock returns from their study.

Al-Khazali (2004) explained the **negative relationship** between real stock returns and expected inflation in the Jordanian economy. Hasan (2008) has found that regression results show **positive and statistically significant relationship** between stock returns and inflation in United Kingdom which are consistent with the Fisherian hypothesis.

2.5 *Interest Rate (IR)*

Studies on interest rate and stock returns were populated in financial research before the popularity of the macroeconomic model. Interest rate (IR) also is one of the macroeconomic indicators that effect to stock market. The purpose of this research is to examine whether Interest rate (IR) has positive or negative relationship to stock return. Higher interest rate in saving will be attracted for investors to keep in the bank rather than invest in the risky stock market. Positive effect of increase in interest rate on stock prices found by few economist while some studies explored **negative relationship** between these two variables for example according to Ratanapakorn and Sharma, (2007). Maysami, Lee & Hamzah (2004) also the result shows that there will have **positive effect** on future expected return for the firm. Demand on deposit will increase rather than going for investment when the interest rate rises this is because the cost of borrowing is costly.

The result from Maysami, Lee and Hamzah (2004) also show that they have short term and long term interest rates respectively have **significant** mixed result with the stock market.

2.6 *Industrial Production (IP)*

Industrial Production (IP) also is one of the macroeconomic indicators that effect to stock market that focuses on Kuala Lumpur Composite Index (KLCI). The purpose of this research is to examine whether Industrial Production (IP) has positive or negative relationship to Kuala Lumpur Composite Index (KLCI). Many studies use the industrial production index as a proxy for economic conditions. According to (Chen, Ross, & Roll, 1986) said that the growth of production index must be consistent with the average growth of firms' sales and cash flows. Therefore, the industrial production index should be useful in the asset pricing model. Other than that, based on Humpe and Macmillan (2009), they used a co-integration analysis and they also found in their research for both the US and Japanese market which is positive relationship between the industrial production index and stock prices. For the Japanese data there is also a positive relationship between industrial production and the stock market, although the coefficient is higher, suggesting as discussed above, a higher sensitivity of stock prices to industrial production. (Humpe & Macmillan, 2007).

Besides, there is a **positive relationship** between stock price and Industrial Production Index (IPI) suggest by Wongbangpo and Sharma (2002). They also said industrial production used as a proxy for the levels of economic activity, which is influence stock prices through its impact on corporate profitability

Regarding to Nishat (2004) also said that the result also indicates that industrial production **is significantly affects** to macroeconomic variables. Apart from that, industrial production index and stock prices are positively related because increase in IPI cause to increase in production of industrial sector which cause to increase the profit of industries and corporations

3.0 RESEARCH METHODOLOGY

The data is then keyed in using the software to be analyzed. The program that will be used to analyze the data is called SPSS (Statistical Program for Social Science). SPSS is one of the most widely available and powerful program to summarize data and also determine whether there are significant or insignificant differences between groups, examine relationships among variables and graph results. In this research, Multiple Linear Regression Analysis, R, R², T-statistic, F-statistic and Durbin Watson will be calculated in order to determine the coefficient relationship money supply, consumer price index, industrial production and interest rate.

4.0 FINDING AND INTERPRETATION

4.1 Analysis And Findings

After undergoing the findings and analysis process, this research found the result to achieve the research objectives.

4.2 Interpretation Of Results (Multiple Regression Analysis)

VARIABLES	REGRESSION COEFFICIENTS	STANDARD ERROR	T-STATISTICS
CONSTANT	2411.964	1054.030	2.288
M2	0.002	0.000	7.817
CPI	-54.474	12.721	4.282
IR	39.750	35.138	1.131
IP	16.328	3.358	4.863

Table 1: The regression results

R = 0.8894
R-Square = 0.800
F-Statistics = 43.008
Durbin-Watson = 0.964

4.2.1 Correlation Of Coefficient (R)

For this analysis the researcher want to know the relationship between Kuala Lumpur Composite Index and Macroeconomic variables includes Money supply, consumer price index, interest rate and industrial production.

Therefore, the result for this study for correlation of coefficient (R) is 0.8894. This result show the amount of R is 0.8894 close to 1. So, it indicates that R is a positive linear relationship between dependent and independent variables and has strength relationship between variables.

4.2.2 Coefficient Of Determination (R²)

Coefficient of determination (R²) is to determine how well the regression line fits the data that had been collected. Therefore the results show that R-Square is 0.800. In other words, 80% of the changes in the Kuala Lumpur Composite Index (KLCI) can be explained by the macroeconomic variables that is M2, CPI, IR and IP. While the other 20% remains unexplained, this could be due to the omission of some important variables.

As a rule of thumb, the higher the value of R², the higher the explanatory power of the estimated equation and the more accurate for forecasting purposes but for the result also shows that the relationship between the KLCI and macroeconomic variables has a **very higher explanatory power**.

4.2.3 Estimated Multiple Linear Regression

Table 2: Multiple Regression Model

$$\text{KLCI} = f \{M2, \text{CPI}, \text{IR}, \text{IP}\}$$

$$\text{KLCI} = \alpha + \beta_1 M2 + \beta_2 \text{CPI} + \beta_3 \text{IR} + \beta_4 \text{IP} + \varepsilon$$

$$\text{KLCI} = 2411.964 + 0.002M2 - 54.474\text{CPI} + 39.750\text{IR} + 16.328\text{IP}$$

Where:

KLCI	= Kuala Lumpur Composite Index
α	= alpha (constant)
M2	= Money supply
CPI	= Consumer Price Index
IR	= Interest Rate
IP	= Industrial Production
$\beta_1, \beta_2, \beta_3, \beta_4$	= regression coefficients
ε	= error term

From the Table 2 above, the multiple regressions analysis, the result shows that Kuala Lumpur Composite Index has relationship with macroeconomic variables. The result shows the macroeconomic variables has positive or negative relationship with Kuala Lumpur Composite Index. From this study, the researcher found the negative and positive effects of macroeconomic variables on stock prices. There is has relationship between independent variables with dependent variable. The research shows that money supply, Interest rate and industrial production reacts positively relationship with stock prices. The result provides that consumer price index mainly negatively relationship with stock prices.

4.2.4 Interpretation Of Regression Coefficient

From the table, for the money Supply (M2) it shows that there is a **positive** relationship between M2 and Kuala Lumpur Composite Index. An increase by 1 unit of KLCI, the M2 will increase by 0.002 units. This result is same with the theory where, there is a positive relationship between M2 and KLCI. So when KLCI increases, it will increase the M2. While if decrease in KLCI, it will also decrease the M2.

For the Consumer Price Index, the table above shows a **negative** relationship between CPI and KLCI. An increase in 1 unit of KLCI will result in decrease of CPI by 54.474 units. This result is same with the theory where, there is a negative relationship between CPI and KLCI. So, when KLCI increases, it will decrease the CPI. But when KLCI decreases, it will increase the CPI.

Discuss about interest rate, the result state that when KLCI increases in 1 unit, the Interest rate will increase by 39.750 units. This shows that there is a **positive** relationship between Interest Rate and KLCI. But in theory, it supposed to be positive relationship between Interest Rate and KLCI, which can be explained that, an increase in KLCI would lead to increase in Interest rate and decrease in KLCI will decrease the Interest rate.

The researcher also found the result about Industrial Production, from the table above, it shows that when KLCI increases in 1 unit, the IP will increase by 16.328 units. This shows that there is a **positive** relationship between IP and KLCI. But in theory, it supposed to be positive relationship between IP and KLCI, which can be explained that, an increase in KLCI would lead to increase in IP and decrease in KLCI will decrease the IP.

4.2.5 F-Statistics

F-statistics is designed to test the significant of the overall regression equation. The f-value from the table above is 43.008. The number of observation is 48. The formula for the degree of freedom for numerator and the degree of freedom for denominator is as follows:

From the calculations, the critical value for f-distribution table is 2.8387 (refer to table). Therefore, since the outcome result is 43.008. So there is significant relationship between macroeconomic variables (M2, CPI, IP and IR) and KLCI because of F-test greater than F-table ($43.008 > 2.8387$). Therefore, from the hypothesis, **H₀ will be rejected.**

4.2.6 T-Statistics

The significant relationship between dependent variable and each independent variable can be determined by using t-stat, which the test must be certain with the degree of confidence.

From the table, T-Statistics is 7.817. The number of observation is 48. The formula for degree of freedom is:-

Since the degree of freedom is 43, at 95% confidence interval, the t-distribution table is 2.000 (refer to table). Therefore, from the result, the M2 shows statistically significant because t-value is greater than the t-distribution table ($7.817 > 2.000$). So it can be said that, there is most significant relationship between M2 and KLCI.

For the Consumer Price Index, The result for t-value is 4.282. Therefore, at 95% confidence interval, the calculated t-value is greater than the t-distribution table ($4.282 > 2.000$). It shows that there is a significant relationship between CPI and KLCI.

Then interest rate t-value show is 1.131. The number of observation is 48. Since the degree of freedom is 43, the t-distribution table is 2.000 (refer to t-table). Therefore, at 95% confidence interval, the calculated t-value is lower than the t-distribution table ($1.131 < 2.000$). So there is insignificant relationship between Interest rate and KLCI.

From the table, the t-value is 4.863. The number of observation is 48. Since the degree of freedom is 43, the t-distribution table is 2.000 (refer to t-table). Therefore, at 95% confidence interval, the calculated t-value is greater than the t-distribution table ($4.863 > 2.000$). So there is significant relationship between Industrial rate and KLCI.

4.2.7 Durbin-Watson

From the regression, based on the table, the computed Durbin-Watson is 0.964. The number of observation is 48 and the independent variables are 4. By looking at the Durbin-Watson table:

$$d_L = 1.421 \qquad 4 - d_U = 2.326$$

$$d_U = 1.674 \qquad 4 - d_L = 2.579$$

Reject H_0 Positive Correlation DW: 0.964	zone	Do not Reject H_0	zone	Reject H_0 negative correlation		
	in decision		in decision			
0	dL	dU	2	4-dU	4-dL	4
	1.421	1.674		2.326	2.579	

Based on the table, the computed Durbin-Watson is 0.964. Since the D-W shown that 0.964 means that there is evidence of positive serial correlation among the data. As a rule of thumb, the result of Durbin Watson less than 1.5 means that it positive autocorrelation and **H_0 will be rejected.**

5.0 CONCLUSION AND RECOMMENDATION

5.1 Conclusion

This study investigates the relationship of macroeconomic variables on stock prices. From the analysis shows that f- statistic for this research is significant for the overall regression equation where f-statistic is greater than f- table. In this research also determine the Coefficient of determination (R^2) where 80% of the changes in the Kuala Lumpur Composite Index can be explained by the macroeconomic variables that is M2, CPI, IR and IP. While another 20% remains unexplained, this could be due to the omission of some important variables. The coefficient of determination for this analysis is more than 50% means that dependent variable is strongly explained by independent variables.

The objective of this research is to investigate the relationship between consumer price index, interest rate, and money supply with stock price (KLCI). From the investigation, it can conclude that among four of the independent variables, only three variables which is money supply, industrial production and consumer price index have significant with dependent variable and only one

independent variable is interest rate is insignificant with dependent variables (KLCI). In addition, money supply, interest rate and industrial production has positive relationship but consumer price index is negative relationship with stock price. Based on beta, among the three macroeconomic variables shows the most significant variables is money supply than consumer price index and industrial production but the variables that least significant is interest rate.

By referring to the major findings presented above, money supply has positive relationship with KLCI. It means money supply significant with KLCI. To approve the result for this study where money supply as macroeconomic variables and stock return has positive relationship, a few evident will get to approve it. The evident to prove the result that money supply is significant positive relationship is from Habibullah (1998). He said and he also support there is positive correlation between money supply and stock prices in Malaysia. From the research, he also found a long run relationship between the stock prices at Bursa Malaysia and domestic macroeconomic variables, which includes M1, M2 and national output.). Suliaman et al., (2009) showed that the money supply (M2) is significantly related to stock prices. According to Chen et al. (2005), Bulmash and Trivoli (1991) and Barrows and Naka (1994), they said a positive relation between money supply and stock returns.

The positive correlation between money supply changes and stock returns is consistent with the findings of Mukherjee and Naka (1995) that attributed a rise in the discount rate to the expansionary effect of money supply increase. Regarding to Fama (1981), he explained a spurious, rather than causal, positive relation between money supply and stock prices through a simple quantity theory model, where money demand is stimulated through increases in real activity, which in turn drive stock returns prices. Other than that, increase in money aggregate puts more money in the hands of consumers, making them feel wealthier and cause them to increase spending. This leads to sales increase in business firms and business firms will respond by increasing production. So, stock prices will rise.

Other than that, the finding also shows consumer price index has significant with KLCI but there is negative relationship. This is because when increase in inflation expected to increase the nominal risk-free rate, which in turn will raise the discount rate used in valuating stocks. Other than that, higher discount rate will be neutralized if cash flows increase at the same rate. Besides, if contracts are nominal and cannot adjust immediately, the effect will be negative. This action will guide the stock prices caused by higher demand in stocks. According to Zoicas and Fat (2008), they found that inflation rate has led to the estimation of significant relationships to the variations of stock market. The study by Suliaman et al., (2009) also found that whole sale price index is significantly related to stock prices. Regarding to Chen et al. (1986), Mukherjee and Naka (1995), Wongbangpo and Sharma (2002), Flannery and Protopapadakis (2004), they also found that inflation rate negatively

affect stock returns. Consistent with Kaul's results, Spyrou (2001) found that inflation and stock returns are negatively related. While some studies such as Fama and Schwert (1977), Fama (1981) found a significant negative relationship between stock market and inflation. Regarding to Wongbangpo and Sharma (2002), they found a negative effect has been found between CPI and stock prices and this can be explained as the results of the higher risk of future profitability. It means an increase in prices level will increase the cost of production which, in turn, would reduce future profitability.

Furthermore, the result from the finding also shows insignificant and positive relationship between KLCI and Interest rate. Interest rate is the variable that least significant. A few evident state that the positive relationship between interest rate and stock price When the interest rate rises, demand on deposit will increase rather than going for investment because the cost of borrowing is costly. Therefore, the return on the deposit may increase. Few economists found positive effects of increase in interest rate on stock prices while; some studies explored negative relationship between these two variables for example regarding to Ratanapakorn and Sharma, (2007), they reported positive relationship stock prices and rate of interest.

There is positive correlation between interest rates and stock prices found by Apergis and Eleftheriou (2002). However, this correlation is statistically insignificant because stock prices depend on inflation rather than nominal interest rate movement, despite the close relationship between inflation and nominal interest rates.

In addition, industrial production has positive relationship with KLCI and it also significant relationship with KLCI and Industrial production. There is significant because when increase in the real activity it will increase the production and revenue causing profit also to increase. A few evident has be found to approve the result for this analysis. According to Ibrahim (1999), he said and found that relationship between stock price and industrial production index is a positive relationship.

According to Nishat (2004), she also said that the result also indicates that industrial production is significantly affects to macroeconomic variables. Apart from that, industrial production index and stock prices are positively related because increase in IPI cause to increase in production of industrial sector which cause to increase the profit of industries and corporations. The results indicate a positive relationship between stock price and industrial production index; this is contracting with the finding of Ibrahim (1999). Regarding to Mukherjee and Naka (1995), Gjerde and Saettem (1999), Ibrahim and Aziz (2003), they have found industrial production statistically significant in influencing the stock price in the market. Regarding to McMillan (2005), he finds a significant positive causation between industrial production and stock prices. The main reason for this is the fact that an increase in the real sector raises the future cash flow that creates a higher future dividend. With the expectation of higher dividend, investors have been always willing to buy shares at higher prices.

5.2 Recommendation

Overall from these findings, there are some recommendations for the researcher, investor and government in order to obtain more precise findings.

5.2.1 To the researcher

First, the researcher must add more independent variables in order to analyze the relationship between stock return and macroeconomic variables. More independent variables are potential the researcher to get more significant result. The researcher will get significant relationship for all the independent variables. In this study the researcher get only three independent variables are significant relationship with dependent variable which is money supply, consumer price index and industrial production. If the researchers use more independent variable, it can help the investor to forecast market condition based on variety macroeconomic variables used.

Secondly, the researchers need to use more data or number of observations. For example for this research the researchers need to use more sample period like the researcher should use quarterly basis data. If the researcher use in quarterly basis the researcher will get more data. In order to get accurate and reliable result, the researcher should consider the length of observation. Other than that, use more data will the researcher to get consistency of the findings as well as increase the reliability of the study.

Thirdly, the researcher can use other methods than multiple linear regressions to investigate the relationship between stock price and macroeconomic variables. The researcher can use granger causality test, ordinary least square, unit roots test and other test to examine the relationship the dependent and independent variables. The researcher will get accurate result if use other methods.

5.2.2 To the investor

Other than that, examine the relationship between stock price and macroeconomic also important to investor .The investors also need to know or understand about the relationship between stock prices and macroeconomic indicators in order to make investment decisions. As an investor, they need to choose the best result and they also must know and follow about the stock market and the economy to minimize their risk and avoid loss. Investors may use research as a guideline in forecasting stock market viability and to decide whether it is worthwhile to invest in it. Investors also need to forecast stock prices and earn profits.

5.2.3 To the government

In addition, the government must be cautious with how interest rate, money supply and inflation rate are managed since they have ramifications for the budding stock price. Government also

must plan and control the interest rate to help the growth of the stock market. So, the government should increase money supply because of the change in the money supply provides information on money demand, which is caused by future output expectations. If the money supply increases, it means money demand also is increasing, which, in effect, signals an increase in economic activity. So, higher economic activity implies higher cash flows, which causes stock prices to rise.

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