

# The Effect of Selected Macroeconomic Variables and Globalization Factors on Return on Stock Market for Selected Sectors in Malaysia

Mohd Kamarul Azriq Bin Yusof

Department of Economic, Faculty of Management and Economic  
Universiti Pendidikan Sultan Idris

Norimah Binti Rambeli @ Ramli

Department of Economic, Faculty of Management and Economic  
Universiti Pendidikan Sultan Idris

**DOI Link:** <http://dx.doi.org/10.6007/IJARBSS/v7-i6/3060>

**Published Date:** 25 June 2017

## Abstract

This study is intended to build up and form a model estimation for view factors selected macroeconomic and stock market returns of globalisasi for selected sectors in Malaysia. Selected macroeconomic variables was the exchange rates and the rate of inflation. While variable globalization represented by crude oil price the world. The selected sectors is a Trade & Service, Technology, Property, Plantation, Mining, Industrial, Financial, Consumer Products and Construction. Moreover unforeseen factors such as the economic crisis may also affect the expected return on the stock market for the sector in Malaysia. So in this study will be included dummy variables are represented by the world economic crisis of 2008. The formation of this estimation model can indirectly help investors and potential investors in making their investment decisions in the sector. This is because macroeconomic and globalization factors are unpredictable but they are able to impact the stock market returns for each sector.

## Keywords:

World Crude Oil Prices, Foreign Exchange Rates, Inflation Rates, World Economic Crisis, Return on Stock Market

## Introduction

The stock market is one of the determinants of the economic stability of a country. This is because fluctuations in the stock market can reflect the economic performance of a country. According to some previous studies showed that there is a relationship between stock market returns and economic growth of a country. Among the study Nowbutsing and Audit (2011),

which in their study found evidence that the existence of a significant and positive relationship between the stock market and economic growth of a country that in the short term and long term. This finding was also supported by Caporale, Howells and Soliman (2004), which also proves that the stock market could spur economic growth in the long term for a country.

However, to ensure that stock markets are performing well, there are several factors that need to be addressed so that it does not affect the stock market. This is because there are some factors that can not be controlled, such as crisis and shock in the economy that can affect stock market fluctuations. In addition, the factors that may affect stock market fluctuations can also be broken down into two, namely macroeconomic factors and globalization factors. Macroeconomic factors such as interest rates, money supply (M3), inflation rates and exchange rates can affect the stock market fluctuations (Ozbay, 2009). In addition, globalization factors such as changes in world crude oil prices are also likely to impact the stock market fluctuations in the country (Lake & Katrakilidis, 2009)

### **Study Background**

It is generally known that the macroeconomic variables and globalization can have an impact on the stock market returns for a country. There are a number of previous studies showing that these macroeconomic variables and globalization have significant relationships with the stock market returns of a country. Among them are Asmy, Rohilina, Hassama and Fouad (2009). According to Asmy et al (2009), these macroeconomic variables can affect the return on the stock market of a country. However, the effect of changes in these macroeconomic variables varies according to the state's stock market conditions. There is a country where the changes in macroeconomic factors have a positive impact on their stock market, but there are also countries where the stock market has the opposite effect being negative. In addition, there is also a country whose stock market is not directly affected by changes in macroeconomic factors.

It is known that when there is an increase in exchange rates, it can lower the returns or profits of investors (Imdadullah & Hayatabad, 2012). Therefore, when there is an increase in foreign exchange rates it can give a negative impact on the stock market of a country (Imdadullah & Hayatabad, 2012). Contrary to Aggrawal (1981) in Rahman et al (2009), where he discovered that the increase in foreign exchange rates could have a positive impact on the stock market. However, research shows that foreign exchange rates do not have any effect on the return on the stock market of a country. For example, the study of Muhammad and Rasheed (2011) found that there was no causal relationship between exchange rates and stock prices for Pakistan, India, Bangladesh and Sri Lanka for the long term.

In addition, inflation rate risk factors can also give three similar effects as foreign exchange rate risk factors. The effects can be either negative, positive and no effect. High inflation rates can have a negative impact on the stock market of a country (Niemira & Klein, 1994: in Taulbee, 2005). In contrast to the study of Adam and Tweneboah (2008) found evidence that this inflation rate has a positive impact on the stock market of a country. While Ozturk (2008) in Ozbay (2009) shows that there is no relationship between the inflation rate and the stock market.

Subsequently, many recent studies have suggested that world crude oil prices may also impact the stock market returns. The Adaramola (2012) study found that the changes in world crude oil prices had a positive impact on the stock market returns in the short term and was negative for the long term. For the country's importers of crude oil prices the world's crude could hurt the stock market for the long term. But in contrast to the study Ono (2011), found that changes in crude oil prices has no impact on the stock market in Brazil. For some sectors, rising world crude oil prices could have a positive impact on the energy and fuel sectors (Rati & Hasan, 2013). Whereas, the negative impacts arising from the rise in world crude oil prices are the financial and tourism sectors (He & Zhao, 2013).

Due to the discrepancies and differences in the findings from previous studies, a study will be conducted to examine the macroeconomic and globalization effects of stock market returns for each sector available in Malaysia. Based on the specification model by Adler and Dumas (1968), the variable of the foreign exchange rate has been considered as a macroeconomic variable. With the improvement of the model, several other variables have been used in this study, namely the inflation rate and the globalization variables represented by world crude oil prices.

Then the main focus of this research is to build up and form a model estimation for view factors selected macroeconomic factors and globalisasi of stock market returns for the selected sectors in Malaysia (i.e.: Trade & Service, Technology, Property, Plantation, Mining, Industrial, Financial, Consumer Products and Construction). By that, a long term budgeting model has been formed which aims to see the influence foreign exchange rate (Returns of foreign exchange and volatility foreign exchange rate), the inflation rate and also the world crude oil price against the return of shares for the nine selected sectors in Malaysia.

### **Literature Review**

In a study conducted by Rahman, Sidek and Tafri (2009) it has proven that changes in foreign exchange rate variables could affect the stock market. A study conducted in Malaysia involves five macroeconomic factors including the foreign exchange rate to see the interaction between macroeconomic variables and stock prices in Malaysia has found that all the macroeconomic variables involved have a significant effect on the long term market share in Malaysia. According to Imdadullah and Hayatabad (2012), exchange rate shocks may have a negative impact on the return on the stock market of a country. From the study, the increase in foreign exchange rates has lowered the returns or profits of investors in the KSE 100 index. Consequently, investors have withdrawn their investments in Pakistan and subsequently affected the KSE 100 index. In the same year, the study by Jawaid and Haq (2012) also revealed that there was a significant negative relationship between the exchange rate and the stock price. From the findings it is also concluded that exchange rates and interest rates can be used as indicators for investors to make their investment decisions.

In contrast to the findings from Aggrawal (1981) study in Rahman et al (2009), it has been found that when there is an increase in foreign exchange rates, it can have a positive impact on stock market returns in India. This study aims to examine the effects of inflation and foreign exchange rates on stock market returns in India and has used annual data from 2003 to 2013. While according to Muhammad and Rasheed (2011) studies have found that there is no causal relationship due to long-term exchange rates with stock prices for Pakistan,

India, Bangladesh and Sri Lanka. In Zubair (2013) study in Nigeria also shows that the foreign exchange rate does not give any impact on the stock market in Nigeria. In addition, the findings of the study that have been using monthly series data from 2001 to 2011 show that there is no significant relationship between the foreign exchange rate and the stock market index in the country either before and after the crisis.

For the inflation rate, as a result of Omran and Pointon (2001) studies have found that inflation rates can affect the performance of Egypt's stock market. High inflation rates can have a negative impact on market activity and liquidity flows either over the short term or long term. The decline in inflation rate can be a good indicator for investors as it will increase the business activity of the company's returns. In addition, the Kimani and Mutuku (2013) study also showed that an increase in inflation rate could have a negative impact on the performance of stock market indices for a country. The study was conducted in Kenya for the purpose of studying the effects of inflation rates and some other macroeconomic variables on the performance of Nairobi Kenya's stock exchange for the period December 1998 to June 2010. The main outcome of the study found that there was a significant negative relationship between the inflation rate Stock market performance in Kenya.

Contrary to some previous research findings, the study of Adam and Tweneboah (2008) shows that inflation rates have a positive relationship with stock prices in Ghana. This is because the stock market in Ghana has provided a policy that protects the stock market value from the impact of inflationary inflation. In addition, rates could affect a small portion of the stock market as compared to interest rates, foreign direct investment inflows (PLA) and foreign exchange rates. Overall, the findings suggest that investors and potential investors should pay more attention to interest rates followed by PLA net inflows and exchange rates from the inflation rate index. But according to Tursoy, Gonsel and Rjoub (2008) have found that there is no significant relationship between the macroeconomic variables and stock market returns. The study was conducted in Turkey to test the Price Arbitrage Theory (APT) on the stock returns on the Istanbul Stock Exchange (ISE) using monthly data for the period from February 2001 to September 2005. Overall, the study shows that macroeconomic variables do not provide any impact on the stock market.

Furthermore, world oil prices, based on Lake and Katrakilidis (2009) studies on Greek, United States, United Kingdom and Germany countries, have found that stock market returns are influenced by the extent of the participation of oil companies in a stock market. While Ratti and Hasan (2013) in their study have found that oil price shocks give different responses according to each sector. Based on the findings of the study shows that for the energy and fuel sectors shows that rising oil prices are able to increase returns in the sector. While for the financial sector, there is an increase in world oil prices, returns in the sector will decline. This is because the financial sector depends on oil price speculation.

Furthermore, the relationship between oil prices and stock markets for oil exporting countries has shown a positive relationship. For importing countries, there has been a negative relationship between oil prices and stock markets according to the findings of Shafi, Hua, Idrees, and Nazeer (2015). This is because oil prices will cause oil imports to non-oil-producing countries to become more expensive. In conclusion it can be concluded that the

rise in world oil prices has a positive impact on the exporting country and on the other hand for oil importing countries.

While Oskooe (2011) study findings show that there is no effect on the stock market due to fluctuations in international oil prices. The study has used weekly data from 2 January, 1999 to 31 December, 2010. Based on the major findings of the study, there is no effect of the volatility of oil prices on the stock market in Iran, as if it is a good indicator for investors. This is because the stock market in Iran has performed well and is not affected by the volatility in oil prices, so investors do not have to worry about it as it does not affect their investments in the Iranian stock market.

### Specification Model

The basis of the model for the purpose of this study is based on the Capital Asset Pricing Model (CAPM) Theory.

$$SR_{it} = \beta_0 + \beta_1 MR_t + \beta_2 REXr_t + \varepsilon_t \quad (1)$$

Where,  $SR_{it}$  Stock market returns sector  $i$  in year  $t$ ,  $\beta_0$ : Constant (Risk-free rate),  $MR_t$ : Main stock market returns in the year  $t$ ,  $REXr_t$ : The real foreign exchange rate returns in the year  $t$ ,  $\beta_i$ : Coefision,  $i$ : Number of sectors ( $i = 1, 2, 3, 4, 5, 6, 7, 8$  and  $9$ ),  $t$ : Time series data and  $\varepsilon_t$ : The error terms.

However based on model improvement based on Adler and Dumas (1964) theory and some results of the previous study, the estimation model for this study is as follows:

$$SR_{it} = \beta_0 + \beta_1 MR_t + \beta_2 REXr_t + \beta_3 VolEXr_t + \beta_4 InFr_t + \beta_5 OilP_t + \varepsilon_t \quad (2)$$

Where,  $SR_{it}$  Stock market returns sector  $i$  in year  $t$ ,  $\beta_0$ : Constant (Risk-free rate),  $MR_t$ : Main stock market returns in the year  $t$ ,  $REXr_t$ : The real foreign exchange rate returns in the year  $t$ ,  $VolEXr_t$ : Volatility of foreign exchange rates in year  $t$ ,  $InFr_t$ : Inflation rate in year  $t$ ,  $OilP_t$ : Oil price (Per Barrel) in year  $t$ ,  $\beta_i$ : Coefision,  $i$ : Number of sectors ( $i = 1, 2, 3, 4, 5, 6, 7, 8$  and  $9$ ),  $t$ : Time series data and  $\varepsilon_t$ : The error terms.

In this study also included dummy variables are represented by the world economic crisis of 2008. If such dummy variables indicating the existence of significance or importance, then split into two regimes budgeting model that is before and after the crisis the world is right or necessary. This is important because when the dummy variables indicate that the world crisis has an impact or influence on stock market returns for the sector that exists in Malaysia.

Hence the proposed model for this study is as follows:

$$SR_{it} = \beta_0 + \beta_1 MR_t + \beta_2 REXr_t + \beta_3 VolEXr_t + \beta_4 InFr_t + \beta_5 OilP_t + WC_t + \varepsilon_t \quad (3)$$

### Conclusion

The macroeconomic and globalization variables based on past studies have shown that it can impact the stock market returns for each sector in a country. Therefore, this study aims to develop a model of estimation to see the influence of selected macroeconomic factors and globalisation factors on stock market returns for selected sectors in Malaysia. From this model, it provides information to investors and prospective risk investors for each variant of each sector available in Malaysia. In addition, with the creation of this model shows that macroeconomic variables (ie: foreign exchange rates and inflation rates) and globalization factors (ie: world crude oil prices) are important and should be noted by investors and prospective investors in their investment decision-making process. This is because the shedding of these changes can not be regulated but it can have a significant impact on the stock market as well as affecting profits for the investments. If these factors are neglected in investment decision making, it is feared that investments will be high risk.

### Acknowledgement

We would like to thank the people involved in making this article published. Do not forget the faculty and university to trust us. Finally, thanks to our family and friends who have supported us all this time.

### Corresponding Author

Mohd Kamarul Azriq Bin Yusof

Department of Economic, Faculty of Management and Economic, Universiti Pendidikan Sultan Idris, Malaysia

Mohdazriq514@yahoo.com

### References

- Adam, A. M., & Tweneboah, G. (2008). Macroeconomic factors and stock market movement: evidence from Ghana.
- Adler, M., & Dumas, B. (1984). Exposure to currency risk: definition and measurement. *Financial management*, 41-50.
- Asmy, M., Rohilina, W., Hassama, A., & Fouad, M. (2009). Effects of macroeconomic variables on stock prices in Malaysia: An approach of error correction model.
- Caporale, G. M., Howells, P. G., & Soliman, A. M. (2004). Stock market development and economic growth: the causal linkage. *Journal of Economic Development*, 29(1), 33-50.
- He, Y., & Zhao, J. (2003). Extreme dependence between crude oil and the stock markets in China: A sector investigation.
- Imdadullah, M. B. A., & Hayatabad, P. (2012). Impact Of Interest Rate, Exchange Rate And Inflation On Srock Returns Of Kse 100 Index. *International Journal Economic*, 142-155.
- Kimani, D. K., & Mutuku, C. M. (2013). Inflation dynamics on the overall stock market performance: The case of Nairobi Securities Exchange in Kenya. *Economics and Finance Review*, 2(11), 1-11.

- Lake, A. E., & Katrakilidis, C. (2009). The Effects of the Increasing Oil Price Returns and its Volatility on Four Emerged Stock Markets. *European Research Studies*, 12(1), 149.
- Muhammad, N., Rasheed, A., & Husain, F. (2002). Stock Prices and Exchange Rates: Are they Related? Evidence from South Asian Countries [with Comments]. *The Pakistan Development Review*, 535-550.
- Nowbutsing, B. M., & Odit, M. P. (2011). Stock market development and economic growth: The case of Mauritius. *International Business & Economics Research Journal (IBER)*, 8(2).
- Omran, M., & Pointon, J. (2001). Does the inflation rate affect the performance of the stock market? The case of Egypt. *Emerging Markets Review*, 2(3), 263-279.
- Ono, S. (2011). Oil price shocks and stock markets in BRICs. *The European Journal of Comparative Economics*, 8(1), 29-45.
- Ozbay, E. (2009). The relationship between stock returns and macroeconomic factors: evidence for Turkey. *MSc degree dissertation. University of Exeter*.
- Ozturk, B. (2008). The Effects of Macroeconomic Factors on Istanbul Stock Exchange National 100 Index and Its Volatility" (1997-2006), Thesis, Istanbul Technical University (in Turkish).
- Oskooe, S. A. P. (2011). Oil Price Shock And Stock Market In An Oil-Exporting Country Evidence From Causality In Mean And Variance Test. In *International Conference On Applied Economics–ICOAE* (p. 443).
- Ratti, R. A., & Hasan, M. Z. (2013). Oil price shocks and volatility in Australian stock returns. *Economic Record*, 89(S1), 67-83.
- Rahman, A. A., Sidek, N. Z. M., & Tafri, F. H. (2009). Macroeconomic determinants of Malaysian stock market. *African Journal of Business Management*, 3(3), 95.
- Shafi K., Hua L., Idrees Z., & Nazeer A. (2015). Oil prices & stock market: Evidence from KSE & BSE. *American Journal of Business, Economics and Management*, 3(2): 40-44.
- Taulbee, N. (2005). Influences on the stock market: An examination of the effect of economic variables on the S&P 500. *The Park Place Economist*, 9, 91-100.