Impact of Macroeconomic Factors and Neighboring Country's Stock Indices Affect the LQ45 Stock Index

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ABSTRACT
This study investigates the macroeconomic factors represented by inflation and the neighboring countries' stock price index (the Singapore stock price index or STI) in influencing the LQ45 stock price index's volatility on the Jakarta stock exchange. The data used are secondary data from the period of January 2013 to December 2019. The method used is the Error Correction Model. This method will consider long-term and short-term analyses of the influence of macro variables affecting the LQ45 Stock Price Index. The results depicted that both inflation and STI Index had no significant influence on the LQ45 stock price index in the short-term period, then for the long term period, both inflation and STI stock indexes determine the LQ45 stock price index.

Keywords: *Inflation, STI Index, LQ45*

1. INTRODUCTION

This study investigates the macroeconomic factors represented by inflation and the neighboring countries' stock price index represented by the Singapore stock price index or STI in influencing the LQ45 stock price index's volatility on the Jakarta stock exchange. We elaborate on those variables because movements or changes in these variables are very vulnerable to the prices of goods in the market. This means that they will give a different shock to the LQ 45 stock index, representing the market price of the shares of companies listed on the stock exchange.

Preceding research explained that volatilities to inflation and the exchange rate could exhibit changes to the LQ45 market price index only in the long term [1]. The other study analyzes the antecedents of foreign external factors: the foreign stock market index, world gold prices, the global economic crisis, and domestic external factors, particularly the macroeconomic indicators on the CSPI. The foreign stock market indices used in this study are DJIA (United States), Nikkei 225 (Japan), and DAX (Germany), while the macroeconomic indicators used include the BI rate, inflation rate, and the rupiah to the USD exchange rate. The analytical method used in this study was multiple regression analysis on monthly data for 2007-2015. The conclusion elucidated that DJIA and Nikkei 225 had a significant positive effect on CSPI. The BI rate, the rupiah's exchange rate to the US dollar, and the dummy crisis had a negative impact on the CSPI. Meanwhile, DAX, emission levels, and world gold prices did not significantly affect the CSPI [2].

Following the previous investigation, [3] analyzed macroeconomic variables on the composite index in Southeast Asian countries. This study's variables were interest rates, exchange rates, gross domestic product (GDP), crude oil prices, prices of primary commodities, and wages in Indonesia, Malaysia, Singapore, the Philippines, and Thailand. This study uses time-series data from 2001-2015 in each country. By using a threshold autoregressive conditional heteroscedasticity analysis technique, the results of the comparison of interest rates, GDP had a negative effect on the composite index in all countries except Thailand; Crude oil prices have a positive effect in Indonesia, Malaysia, and Singapore, while in the Philippines and Thailand it had a positive effect. Primary prices compete only positively with the composite index in Singapore, while the Philippines and Thailand had a negative impact on the composite index. Wages had a positive and significant effect on the composite index in all countries.

Other research is mainly to infer the impact of some global stock indices and macroeconomic indicators on JCI. The global stock indices and macroeconomic indicators taken in this examination are the Dow Jones Industrial Average Index, Nikkei 225 index, Shanghai Composite Index, FTSE100 index, oil prices, gold prices, exchange rate IDR/USD, BI rate, and inflation, monthly data explored from 2009 to 2014, by [4] and also another interesting research by [5] investigated the impact of some foreign stock indexes and Indonesia’s macroeconomic indicators on Jakarta Composite Stock Price Index (JCI). This examination used some foreign stock indexes that were Dow Jones Industrial Average (DJIA), Shanghai Composite Index (SSEC), and Strait Times Index (STI), also some macroeconomics variables, for instance, the exchange rates of USD/IDR, the interest rates and inflation in Indonesia. The monthly data were taken from January 2013 to August 2015

According to [6] in his book, macroeconomic factors can directly influence stock performance and company performance, in this case, represented by the LQ45 stock price index. Indeed, Macroeconomic factors influence the Indonesian Stock Exchange's stock price, argued by [3].

Therefore, it is always interesting to investigate volatile macroeconomic variables to oversee the effect on the market and keep stable on the stock markets. This study used two macroeconomic factors, namely inflation and external factor, the neighboring country index represented by Straits Times Index, in influencing movements in the LQ45 stock price index. This is noteworthy since the listing companies in the LQ45 group are liquid and are in huge demand by investors.

[7] (2013) outlines that inflation is closely watched and widely discussed because it is thought to be a tremendous economic matter. Many business leaders rank inflation as a serious problem that must be kept under control. However, many would agree that some inflation is desirable. The inflation rate depends primarily on growth in the money supply, which a national central bank controls. In the long run, therefore, inflation is mostly an unrelated matter.

Another explanation, according to [6] inflation is an increase in the price level and is usually measured on an annual basis. The inflation rate is the positive percentage change in the price level on an annual basis. When the inflation rate is known, the next steps to do with income are found out. Besides, previous research discovered a prominent negative effect of inflation on stock returns[8].

This research also uses a neighboring country's stock index variable, represented by the Strait Times Index, which constitutes a capital-weighted stock market index that is regarded as the benchmark index for the Singapore stock market. It tracks the performance of the top 30 corporations listed on the Singapore Exchange.

We elaborate on all the variables and analyze inflation and the Strait Times Index affected Index LQ45.

2. METHODS

This investigation is quantitative research. The data taken in this research are secondary data obtained from the Bank Indonesia website. The interest rate and exchange rate data examined are the period 2013 to 2019. The LQ45 index data was extracted from www.theinvesting.com with the same period, 2013 to 2019. So, the data taken is time-series data over six years.

Data analysis will be processed using the error correction method commonly renown as the ECM Method. This method can allow information on the impress of independent variables in a short time and long time. Therefore, it can contribute to decision-makers in making better decisions in particular periods [9].

3. RESULTS AND DISCUSSION

The data processing results used eviews by running the steps of the error correction method model composed in reference [9]. Then, discovered the results of data on the short time and long time variables in this research as follows:

Table 1. Result in Short Period

Description	Result
Inflation	0.2376
STI	0.1495

Source: processed data

The data depicted in the table above shows the inflation value of 0.2376. This indicates a value greater than five percent, which means that it is not significant, then conclusions drawn at the inflation variable do not affect the movement of the LQ45 index. While the exchange rate variable gives a value of 0.1495, it is greater than the significant value, which means that the variable exchange rate does not affect the movement of the LQ45 index in the short term.

Table 2. Result in Long Period

Description	Result
Inflation	0.0000
STI	0.0000

Source: processed data

The table above shows the inflation and straits times index variables are equal to 0,0000 less than 5 percent, meaning that the two variables' changes affect the LQ45 index. So, the balance that occurred in this period was in line with previous research conducted by [9];[10]; [3]; [11]. conversely, some previous research did not support such as [2];[12]; [13] who found that the two variables did not affect the stock index.

The results in the short-term investigation of two variables, inflation, and strait times index, can ignore their movements in the short term in making decisions. However, it is different in a long-term situation. This needs to be observed because the business world does not only run business quickly but also for an unlimited time, in other words, long term. Therefore, it is necessary to observe the variable interest rate and exchange rate in determining the decision. Thus, the results of the decision will exhibit results that are beneficial to the business being run.

Reference [6] exhibited, macroeconomic factors can directly or indirectly affect stock performance. It should be a preserved policy to increase or decrease interest rates as one of the macroeconomy factors and keep no big shock to the exchange rate fluctuations to induce economic situation. Macroeconomic factors are factors that exhibit color and image to the economy of each country. Therefore, the right policy is the best way to induce these factors' movement[6]. Indeed, it can impact the company's business performance illustrated in the stock index in this LQ45.

4. CONCLUSIONS

The above research results explained that the macroeconomic factors, in these, are the inflation and external factor, Strait Times Index, their volatilities do not affect the short term but affect the long term. Indication by Strait Times Indeks showed strong interconnection between two countries. Hence, needs to be established good cooperation and mutual benefit between the two countries. In line with the research results, the existence of the realization from economic cooperation between Indonesia and Singapore, particularly economic zone including investment, will enrich the spirit for relations that benefit both of the countries.

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