The Influence of Exchange Rate, Interest Rate and Inflation on Stock Price of LQ45 Index in Indonesia

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Abstract—There are many factors that affect Indonesian public listed companies stock prices. Macroeconomic factors are crucial for any change in national capital markets. The aim of this research study is to focus on examining the impact of foreign exchange rates, inflation rates, and interest rates on stock prices in Indonesia. The monthly data of 5 years range from 2013 to 2017 was used for this research study. The findings of the study revealed that there is a relationship between the dependent and independent variables.

Keywords—foreign exchange rate; interest rate; inflation; stock prices; LQ45 index

I. INTRODUCTION

Capital market has an important role for the economy of a country because the capital market operates two functions, namely the first as a means for companies to get funds from investors or as a means for business funding. Funds obtained from the capital market can be used for addition of working capital, expansion, business development, and others, both capital markets become a means for people to invest in financial instruments such as mutual funds, bonds, stocks and others [1]. Thus, the community can place its funds in accordance with the characteristics of the advantages and risks of each instrument. One factor that limits economic development in the developing country is the unavailability of savings and investment in productive companies. On the other hand, in fact many developing countries have considerable savings to invest in capital goods, but are not supported by the existence of an adequate financial system to allocate savings to productive companies [2].

The decision to finance investment involves determining the sources of funds to be used. Investment is defined as an activity of placing funds on one or more assets over a certain period in the hope of earning income and / or increasing the value of investment [3]. Investment in the broadest sense is a sacrifice of the amount of money now to obtain a sum of money in the future. Investment is the planting of two capital for one or more assets that are owned and usually long-term in the hope of obtaining future profits [4]. According to Tandelilin, investment is a commitment to a number of funds or other resources that are done at this time, with the aim of obtaining a number of profits in the future [5].

According to the form of investment, it can be divided into investments in financial assets and investment in real assets. Investments in financial assets are more ownership of claims or assets that are manifested in legal documents which are then referred to as securities, while for investments in real assets are

tangible assets such as buildings, land, and equipment [6]. An investor who wants a high rate of return will certainly face a high risk. To address this, then one way is to use appropriate diversification efforts among the various forms of investment choices available. Investment decisions are an investment analysis that always involves four main elements of consideration. The main elements of investment decisions include investor conditions, investment motives, instrument characteristics and techniques as well as analysis models.

Based on the above explanation, holding cash is not an investment because cash does not provide income and its value will decrease if inflation occurs. Instead placing cash on savings at the bank is an investment because savings provide income or return in the form of interest. Likewise, stock purchases are one type of investment in financial assets, because stocks provide income in the form of dividends, and their value can be expected to increase in the future. In general, investors will be interested in investments which are considered to provide relatively better income than if invested in another or in other words investing in more profitable instruments. This is because investors generally aim to maximize profits. The purpose of stock investment can be divided into two, namely, investors whose purpose is to have shares that are temporarily stored and will be resold if revenue is obtained due to price differences known as capital gain and stock investment whose purpose is to have shares in a relatively long period of time and main expectations is dividend.

By owning shares, the investor has ownership claims to the company that issued the shares, while the bonds provide debt claims to the owners of these bonds. The need for large amounts of funds in the long term, one of the alternatives can be met through the capital market. Therefore it is necessary to develop capital markets in developing countries.

Each investment instrument contains different potential risks. But the principle that applies is the greater the potential yield of an investment, the instrument has a greater potential risk. Similarly in the capital market. The risk of stock investment is divided into two, namely non-systematic and systematic risk [7]. Non-systematic risk is related to micro factors. This risk can be minimized because it deals with the micro-environment of the company by carefully selecting assets and diversification. Corporate risk, for example, involves the size of the debt (financial risk) and the nature of the business (business risk). Industrial risk is a risk that arises because of the nature of the sector that is the company's claim. While systematic risk is related to the macro conditions of a

country. If the economy of a country is bad, the performance of companies in that country will be unsatisfying.

Stock investments that are affected by the macro conditions of a country are spread. One of them is the risk of decreasing purchasing power due to inflation. In the world economy, the value of a currency is never stable. On the other hand, prices of goods and services tend to increase. This situation will cause the purchasing power of the currency to fall which results in inflation. With the increase in the inflation rate, the economy will decline, so that this will have an impact on the decline in profits of a company, which results in stock price movements (equity securities) becoming less competitive [8].

In addition to inflation and interest rates, other variables are exchange rates. The exchange rate reflects the balance of demand and supply of domestic and foreign currencies. The decline in the Rupiah exchange rate reflects the declining demand of the international community for the Rupiah because of the declining role of the national economy or because of the increasing demand for US dollars by the public because of its role as an international payment instrument. The performance of money, especially foreign markets, is measured through the rupiah exchange rate, especially US dollars. The strengthening of the rupiah exchange rate to a certain extent means that describing the performance on the money market is increasingly showing improvement. As a result of the rising inflation rate, the exchange rate of the domestic currency has weakened against foreign currencies, which has caused stock prices to decline, and investment in the capital market has become less attractive [9].

Then based on previous research Iba and Wardhana has conducted a study that the minimum interest rate represented by Bank Indonesia as the basis for determining the return on investment should be positively correlated, but if the minimum interest rate increases high, then the stock price will react negatively and the stock price decreases [10]. Whereas the reverse change in interest rates will increase stock prices.

Kewal examined the effect of inflation rates, interest rates, foreign exchange and economic growth on Indonesia Composite Index, indicating that foreign exchange has a significant effect on Indonesia Composite Index, while inflation rates, interest rates, and economic growth have no significant effect on Indonesia Composite Index [11]. On the other hand, according to Boudoukh and Richardson inflation rates have a positive relations with nominal stock returns at long time horizons [12].

Geske and Roll examined that foreign exchange affect stock prices in securities trading [13]. This is because the depreciation of the domestic currency increases the volume of exports. So that the demand for elastic goods exports is needed which results in a high flow of money for domestic companies, then increases stock prices.

In this research study the macro variables to be used are inflation, interest rates, and exchange rates. While the data used is LQ-45 Index, this is because the stocks included in the LQ-45 Index calculation are seen as reflecting the movements of actively traded shares and also affecting the market condition, consisting of stocks with high liquidity and market capabilities

that have growth prospects and good financial condition. Additionally, the IDX continues to monitor the developments included in the calculation of the LQ-45 Index. Every six months a stock ranking movement is reviewed and to ensure the fairness of stock selection, so that if there are stocks that do not meet the criteria it will not be included in the LQ-45 index and replaced with other shares that meet the criteria.

II. LITERATURE REVIEW

A. *Exchange Rate*

Hamdy defines foreign exchange (FOREX) or foreign currency as a foreign currency or payment instrument used to carry out or finance financial economic transactions internationally and which have official exchange rates at the central bank [14]. From several currency circulating in the world, there are only two types of currencies, namely hard currency and soft currency [15]. Changes in exchange rates can be caused by four things, depreciation, appreciation, devaluation and revaluation.

Money is a commonly accepted medium of exchange. The problem is more complicated when it comes to matters outside of national borders. Because in general, trade between countries can take place if it is possible for a process of exchanging currencies from one country to another. The exchange rate or exchange rate of one currency against another currency is part of the foreign exchange process. The term foreign currency refers to the actual foreign currency or various claims on the currency, such as bank deposits or promissory notes traded.

Exchange rate is a monetary indicator that is important because exchange rate fluctuations may influence fiscal policy through its effects on insistence for money. Exchange rate fluctuations may also impact financial policy through its effect on the national stock market [9].

Exchange rate can be defined as the cost of one of the monetary standards in regards of other money [16]. The home currency cost of a unit of outside currency is called nominal exchange rate. This understanding has been selected since it is the most broadly utilized in the exchange rate research studies. This indicate that a rise in the exchange rate or increasing foreign legal tender prices means depreciation and vice versa if the foreign currency decreasing against the home country legal tender [17].

There is a concept named the exchange rate regime in the context of exchange rate. Ever since the fall of the Bretton Food regime in 1971 and following the time of high exchange rate instability, the swapping scale has been the "holy grail" of worldwide finance [18]. Exchange rate regime can be described on a range that establishes hard drives (currency board, currency union, dollarization), intermediate regimes (crawling pegs, bands, and peg basketball), independent floating, conventional fixed peg, and managed floating as indicated by the level of fixity of exchange rate [19]. Since the 1990s, some of low and middle income nations have encountered significant alteration in their exchange rate regimes. During 1991-2002 Argentina was embracing a currency board. In addition, some of the ex-Soviet countries

like Estonia, Lithuania, Latvia, and Ukraine who has just gained independent also adopted currency boards. Moreover, countries that moved to floating exchange rate regimes have experienced currency crises like in East Asia and Latin America region and caused a dollarization of Ecuador in 2000.

Research conducted by Ma & Kao also found that using data from six countries, appreciation (strengthening) of domestic money negatively affected domestic stock price movements for export-dominated economies and had a positive effect on domestic stock price movements in an import-dominated economy [20]. Furthermore Ajayi & Mougu through the Error Correction Model (ECM) approach, examine the dynamic relationship between exchange rates and stock indices in eight developed countries, namely Canada, France, Germany, Italy, Japan, the Netherlands, England, and the United States [21]. The results show that the stock index and exchange rate pairs for each country are integrated.

B. Inflation

Inflation is defined as the tendency of prices to rise in general and continuously [22]. The price increase of only one or two types of goods cannot be said as inflation unless the increase has an impact on the price increase of most other items. Broadly speaking there are three groups of inflation theory, each of these theories expressing certain aspects of the inflation process and each of them is not a complete inflation theory that covers all important aspects of the price increase process. The three theories are: quantity theory, Keynesian theory, and structuralist theory.

Fahlevi, M. several studies of inflation in developing countries, show that inflation is not merely a monetary phenomenon, but also a structural phenomenon or cost push inflation [23]. This is due to the economic structure of developing countries in general which still has an agrarian pattern. Thus, economic shocks originating from within the country, such as crop failure (due to external factors that change the season too quickly, natural disasters, etc.), or things related with foreign relations, for example deteriorating term of trade; foreign debt; and foreign exchange rates, can cause price fluctuations in the domestic market.

Inflation stability is a prerequisite for sustainable economic growth which ultimately benefits the improvement of people's welfare. The importance of controlling inflation is based on the consideration that high and unstable inflation has a negative impact on the socio-economic conditions of the community.

Inflation will affect stock prices with a decrease in income, wealth, and production efficiency. High inflation will decrease demand. The decline in demand will reduce the company's revenue so that it will affect the return received by the company.

Inflation shows the flow of prices in general [24]. Inflation is strongly associated with a decline in purchasing power, both individuals and companies. Research on the relationship between inflation and stock returns, as done by Widjojo which states that the higher inflation will further reduce the level of profitability of the company. The decline in company profits is

bad information for traders on the stock market and can result in a decrease in the company's stock price [25].

In another study conducted by Utami & Rahayu, empirically proved the influence of inflation on stock prices, the higher the inflation rate the lower the stock return [26]. The study was also conducted by Adams et al. who found a significant negative effect of inflation on stock returns [27]. High inflation for property companies will reduce the profitability of companies, so that stock returns can be affected.

C. Interest Rate

The interest rate is a policy interest rate that reflects the monetary policy stance or stance set by Bank Indonesia and announced to the public. The government through BI will raise interest rates to control the circulation of money in the community so that the circulation of money in the community remains controlled. A high interest rate is a negative signal for stock prices, an increased interest rate will cause an increase in the interest rate required for the investment of a stock. Besides that high interest rates can cause investors to withdraw their investments from stocks and move them to other forms of investment such as savings or time deposits [28].

Fahlevi, M. if in an economy there are community members who receive income beyond what they need for their consumption needs, then the excess income will be allocated or used for savings [23]. The offer for loanable funds is formed or obtained from the total amount of public savings for a certain period. On the other hand in the same period community members need funds for operations or expansion of their business.

The link between interest rates and stock returns is also stated by Boedie et al. which states that changes in stock prices are influenced by several factors, one of which is interest rates [29]. This is also supported by research conducted by Utami & Rahayu who found empirically the effect of interest rates on stock prices during the crisis period in Indonesia [26].

Meanwhile, a study that examines the relationship between interest rates and stock prices has different results. Granger states that there is a negative influence on interest rates on stock prices, but Mok using the Arima analysis model does not find a significant relationship between these two variables [30]. The significant effect of interest rates on stock prices as found by Granger states that there is a negative influence between interest rates on stock prices [30]. Low interest rates will cause lower borrowing costs because low interest rates will stimulate investment and economic activity which will cause stock prices to increase.

D. LQ45 Index

Along with the increase in trading activity, the need to provide more complete information to the public regarding the development of the exchange has also increased. One of the information needed is the stock price as a reflection of stock price movements. The stock price index is the main indicator that describes stock price movements. In the capital market an index is expected to have five functions [31], namely:

- As an indicator of market trends,

- As an indicator of the level of profit,

- As a benchmark for the performance of a portfolio,

- Facilitating the formation of portfolios with passive strategies,

- Facilitating the development of derivative products.

In the property industry, interest rates play a role in increasing economic activity so that it has a strong impact on the performance of property companies which has a direct effect on increasing stock returns. The interest rates of Bank Indonesia Certificates are often identified with risk-free assets, meaning assets with zero or lowest risk. The results of Haryanto's study prove that the size of SBI interest rates affects the company's systematic risk [32]. The smaller the interest rate of Bank Indonesia, the greater the systematic risk of stocks. Bank Indonesia interest rates are a benchmark in determining the amount of credit and savings interest. High SBI interest rates do not stimulate the development of businesses because it causes other bank interest rates to be high. So that the low SBI interest rate carries the risk of a sluggish economy. This results in a high risk of investing in the capital market.

Capital stocks are monetary securities that symbolize affirmation of ownership. An investor or stockholder is a partial proprietor of the firm, as the stock symbolizes the stockholder's corresponding responsibility of the business or 'pro rata'. An offer of stock gives the investors a privilege to a normal offer of the business benefits or, on account of liquidation, the pro rata exemption to the estimation of the business resources in abundance of its liabilities. Therefore, stocks in this manner can be seen as a legally binding deal between two parties, the party that has invested in the company itself. The consent of investor to exchange money to the stocks represents the desire that they will get more in the future. The predicted increase of stock's value cannot be surpassed somewhere else. Apart from that, the firms required the funds when issuing the stocks. It will consent to turn over probably a portion of the possession to the investors with the end goal to obtain these funds. In that capacity, stock is a monetary security that represents proprietorship claims [33].

This LQ45 index uses a weighted average method with the Paasche formula. As used on IDX JCI. So it is clear from the criteria set to pass stocks that have market capitalization and high liquidity. The LQ45 index also includes stocks with high market capitalization and liquidity and represents each industry sector [34].

E. Hypothesis Development

This section is aiming to propose a hypothesis that will be tested to answer the research question of this study. The development of the hypothesis is based on macroeconomics and stock prices literature that has already been presented in the previous section.

Bodie, et al. revealed that macroeconomic factors that can affect stock prices, among others interest rates, inflation, and exchange rates [35]. So if the condition of the Rupiah exchange rate expected to be bad, it is most likely a reflection on the stock price index which will decrease. This is because of the weakening of the Rupiah against the currency foreign is a negative signal for investors that will affect prices these shares [34]. Exchange rate changes themselves become the most dominant variable considered by investors to place their funds in the market capital because of short-term capital gains to be achieved by investor [36].

However, the results of theoretical studies related to the positive influence of value the exchange of stock prices is not reflected in the results of empirical research diverse. Although Wibowo and Rachmadhanto and Raharja in the results of his research found a positive influence on exchange rates on stock prices [37,38]. On the other hand, the results of the study conducted by Pujawati et al. who precisely reveals the results of different empirical studies, namely that of exchange rates negative effect on stock prices [39]. These different results encourage researchers to test further the effect of exchange rates on stock price.

Utami & Rahayu, showed that the empirically result of theoritical studies proved the influence of inflation on stock prices, the higher the inflation rate the lower the stock return [26]. The study was also conducted by Adams et al. who found a significant negative effect of inflation on stock returns [27].

Meanwhile, a study that examines the relationship between interest rates and stock prices has different results. Granger states that there is a negative influence on interest rates on stock prices, but Mok using the Arima analysis model does not find a significant relationship between these two variables [30]. The significant effect of interest rates on stock prices as found by Granger states that there is a negative influence between interest rates on stock prices [30].

Furthermore, Hunjra et al. stated that the interest rate also affected stock prices [40]. Foreign investors whose willing to invest in stock are reluctant for investing to the stock exchange when the financial institutions charge a high rates of interest for loans.

Reflecting from the previous research studies that have been conducted, the author recapitulates the hypothesis of this study as follows:

H1: Exchange rate has a significant impact on LQ45 Index
H2: Inflation has a significant impact on LQ45 Index
H3: Interest Rate has a significant impact on LQ45 Index

III. METHODOLOGY

The method of data collection used in this research study is the non-participant observation method, namely by recording written data from existing documents or known as secondary data. The data will be taken from the Indonesia Stock Exchange (IDX) website, Badan Pusat Statistik (BPS) and Yahoo Finance. The time horizon of this study is cross-sectional from the period of 2013 until 2017.

This study aims to find the effect of macroeconomic variables represented by 3 variables, namely currency exchange rates, inflation rates and the interest rates that affects the stock price of the LQ45 index. The selection of this

variable aims to measure the influence of external factors on the stock prices on the LQ45 index. Hence, this research study will be using numeric data and is decided to be quantitative analysis. Thus, after gathering the data, all data will be assemble to Microsoft Excel to be more accessible for interpreting the data.

The dependent variable is the stock price of companies that are listed at LQ45 Index. The LQ45 Index stock price is determined by the author to be the dependent variable as the LQ45 Index stock price is believed to have a strong influence on determining Indonesia capital markets situation.

Contemplating the prior studies that have been conducted by Kewal, Geske & Roll, Iba & Wardhana [10,11,13], there are three independent variables in this study, which are foreign exchange rates, inflation rates, and interest rates. Foreign exchange rate is a monetary indicator that is important because exchange rate fluctuations may influence fiscal policy through its effects on insistence for money. Exchange rate fluctuations may also impact financial policy through its effect on the national stock market [9].

Inflation is defined as the tendency of prices to rise in general and continuously [22]. The price increase of only one or two types of goods cannot be said as inflation unless the increase has an impact on the price increase of most other items. Inflation stability is a prerequisite for sustainable economic growth which ultimately benefits the improvement of people's welfare.

The interest rate is a policy interest rate that reflects the monetary policy stance or stance set by Bank Indonesia and announced to the public. A high interest rate is a negative signal for stock prices, an increased interest rate will cause an increase in the interest rate required for the investment of a stock.

Multiple regression analysis will be used in this research study in order to examine the relationship between LQ45 public listed companies' stock price and macroeconomic factors that influences the capital markets in Indonesia which are foreign exchange rates, inflation rates, and interest rates. The implementation of multiple regression analysis in this research study is because there are three independent variables that are being used to test their influences on the dependent variable.

LQ45i,t= b0 + b1 FXi,t + b2 INFi,t + b3 IRi,t

Where:

LQ45i,t   : LQ45 Index Stock Price
FXi,t   : Foreign Exchange Rate
INFi,t   : Inflation Rate
IRi,t   : Interest Rate

IV. FINDING AND DISCUSSION

This section will discuss about the regression analysis of this research. The author has formulated the regression which is as follow.

LQ45i,t= b0 + b1 FXi,t + b2 INFi,t + b3 IRi,t

in the research model above the author measures the dependent variable LQ45 with the LQ45 stock price index, on the independent foreign exchange variable the author measures using the exchange rate between US dollars against the Rupiah, in the Inflation variable the author uses changes in the inflation rate every month, and the interest rate variable the author uses change The BI Rate is regulated by the central bank on monthly basis.

TABLE I.   MODEL SUMMARY

Model	Model Summary		
	R	*R Square*	*Adjusted R Square*
1	0.676	0,457	0,428

From the table above shows that the variables entered independent variables such as foreign exchange rate, inflation, and interest rate. Whereas the removed variable does not exist. In the model summary, here we can obtain information about the magnitude of the influence of all independent variables on the dependent variable. The influence is symbolized by R (correlation). As seen in the summary table model value in column R is 0.676, it means that the influence of the Forex, Inflation, and Interest Rate on LQ45 is 67,6% (0.676 x 100%), but that value can be said to be "contaminated" by various noise values which might cause measurement errors, for that SPSS provides an alternative value for R Square as a comparison of the accuracy of its effect. It can be seen that the value of R Square is 0,457, which means 45,7%. This value is smaller than the R value due to an adjustment, but as a note, the value is not necessarily smaller than R, but also sometimes bigger. For more accurate predictions of our influence, it can also be based on the value of Adjusted R Square, which is the value of R Square, which has been more adjusted and is usually the most accurate. It can be seen that the Adjusted R Square value is 0.428 or 42,8% the influence of the independent variable on the dependent variable. The next column in the Model Summary table shows the accuracy of the regression model can be seen in the Standard Error of The Estimate column, there are numbers 63891,15. Pay attention to the descriptive statistical analysis that the standard deviation of the LQ45 value is 84440,96 which is much greater than the standard error, because it is smaller than the standard deviation of LQ45. The regression model is quite reliable in acting as a predictor of LQ45 value.

TABLE II.   F-TEST

Model	ANNOVA		
	Sum of Squares	*Mean Square*	*Sig.*
REGRESSION	192089830813,906	64029943604,635	,000

In the Anova table shows information about whether or not the independent variables influence the dependent variable simultaneously (together). In this table there are some things that need not be discussed, first Sum of Square and second Mean Square because we do not need it to draw conclusions whether or not there is influence of the independent variables on the dependent variable simultaneously. To make these

decisions can be used by looking at the value of Sig. (Significance). In the ANOVA table the value is sig. listed as 0.000 so we can easily conclude that the Independent variables such as Forex, Inflation, Interest Rate an effect on LQ45. This is by following the level of sig. 0.05 as the cut off value of the significance value. This means that if the probability value (significance) is below 0.05 then all the independent variables affect the dependent variable and vice versa.

TABLE III.   T-TEST

Model	Unstandardized Coefficients		
	B	*Std. Error*	*Sig.*
(Constant)	894124,193	102260,133	,000
Forex	17,379	6,865	,014
Inflation	705,656	14029,027	,960
Interest	-40035,910	6760,876	,000

In the coefficient table we are presented with various information, important information consists of the names of variables, Constant values, t values and significance values. Whereas the beta value in the standardized coefficient does not need to be discussed here because the value will be useful if you do path analysis, while the author is currently not doing any path analysis.

As the author stated before this table can be used to see the effect per variable. The author measures it by looking at the sig value. On each variable, if the value is sig. it is smaller than 0,05, the conclusion is the smaller the sig. then more influential.

- Seen in the Coefficients model column there is a value of sig 0,014. The sig value is smaller than the probability value of 0.05, or the value of 0,014 <0,05, then H1 is accepted and Ho is rejected. It can be concluded that the forex variable contributes to LQ45. The positive t value indicates that the forex variable has a relationship to LQ45. So it can be concluded that forex has a significant influence on LQ45.

- It can be seen in the Coefficients model column that there is a sig value of 0,96. The sig value is greater than the probability value of 0.05, or the value of 0,96 > 0,05, then H1 is rejected and Ho is accepted. It can be concluded that the Inflation variable does not contribute to LQ45. The positive t value indicates that the inflation variable has a relationship with LQ45. So it can be concluded inflation has no significant influence on LQ45.

- Seen in the Coefficients model column there is a value of sig 0.000. The sig value is smaller than the probability value of 0,05, or the value of 0.000< 0,05, then H1 is accepted and Ho is rejected. It can be concluded that the interest rate variable contribute to LQ45. The negative t value indicates that the interest rate variable has an opposite relationship with LQ45. So it can be concluded that the interest rate have a significant effect on LQ45.

From the data presented in the table above, the regression formula equation can be formulated as follows:

$$CPi,t = 894.124 + 17,3\ FX - 40.035\ IR$$

V.   CONCLUSION

To conclude, the main objective of this research study is to analyze the influences of macroeneomic factors on Indonesian public listed companies' stock prices. This research study is done by using data from publicly listed firms that included in the LQ45 Index within the period of 2013 until 2017. Moreover, the monthly interest rates set by the central bank of Indonesia, foreign exchange rates taken from the US Dollar against Rupiah, and monthly inflation rates are also used for conducting this research study. In order to examine the research objective, several theories were grounded and the hypothesis developed followed by the model. There are still other theories and factors to be considered as the macroeconomic factors that have influences on stock prices. In general, the outcomes of this research study show that foreign exchange rate, and interest rate have significant explanatory power to influences stock price. On the other hand, inflation rates does not have significant influences on stock price. By using the hypothesis stated in the previous section, this research study has completed the objective by presenting valid outcomes.

The multiple regression shows that the foreign exchange rate and interest rate are affecting the stock price movement. The result shows that foreign exchange rates have a value of sig 0,014. It can be concluded that the forex variable contributes to LQ45. The positive t value indicates that the forex variable has a relationship to LQ45. So it can be concluded that forex has a significant influence on LQ45, confirming Rachmadhanto & Raharja's study in the results of his research found a positive influence on exchange rates on stock prices [38]. As the second variable, seen in is result of the interest rate variable regression value for the LQ45 variable, meaning that if the interest rate variable increases, the LQ45 will decrease by 40.035, the coefficient is negative, meaning that interest rate has a relationship opposite to LQ45. The result support Granger's statement in Mok as there is a negative influence between interest rates on stock prices [30]. Furthermore, the analysis for the last variable which is inflation rates shows that the result of the regression value of variable inflation on the variable LQ45, meaning that if the percentage of the inflation increases, LQ45 will increase by 705,6. The coefficient is positive, meaning the percentage of inflation and LQ45 has a positive relationship. The result is not in accordance with Utami & Rahayu, showed that the empirically result of theoritical studies proved the influence of inflation on stock prices, the higher the inflation rate the lower the stock return [26].

REFERENCES

[1]   M. Baker, J.C. Stein, J. Wurgler, "When does the market matter? Stock prices and the investment of equity-dependent firms". The Quarterly Journal of Economics, 2003 Aug 1, vol. 118(3), pp. 969-1005, 2003.

[2]   N. Véron, G.B. Wolff, "Capital Markets Union: a vision for the long term". Journal of Financial Regulation. Mar 1, vol. 2(1), pp. 130-53, 2016.

[3] D.J. Denis, V. Sibilkov, Financial Constraints, Investment, and the Value of Cash Holdings. The Review of Financial Studies Vol. 23.1, 247-269, 2010.

[4] E.F. Fama, "Market Efficiency, Long-Term Returns, and Behavioral Finance". Journal of Financial Economics, vol. 49.3, pp. 283-306, 1998.

[5] T. Eduardus, Analisis Investasi dan Manajemen Portofolio. BPFE UGM, Yogyakarta. 2001.

[6] L.J. Gitman, D. Michael-Joehnk, Fundamental of Investing. Harper Collins College Publishers, New York, 1996.

[7] K. Giannopoulos, "Estimating the Time Varying Components of International Stock Markets' Risk". The European Journal of Finance, vol. 1.2, pp. 129-164, 1995.

[8] M.J. Flannery, A.A. Protopapadakis, "Macroeconomics Factors Do Influence Aggregate Stock Returns". The Review of Financial Studies, vol. 15.3, pp. 751-782, 2002.

[9] K. Kennedy, F. Nourzad, "Exchange Rate Volatility and Its Effect on Stock Market Volatility", International Journal of Human Capital in Urban Management, 2016.

[10] Z. Iba, A. Wardhana, "Pengaruh Inflasi, Suku Bunga SBI, Nilai Tukar Rupiah Terhadap USD, Profitabilitas, dan Pertumbuhan Aktiva Terhadap Harga Saham Perusahaan Pembiayaan di Bursa Efek Indonesia". Jurnal Kebangsaan, vol. 1.1, 2012.

[11] S.S. Kewal, "Pengaruh Inflasi, Suku Bunga, Kurs, dan Pertumbuhan PDB Terhadap Indeks Harga Saham Gabungan". Jurnal Economia, vol. 8.1, 2012.

[12] J. Boudoukh, M. Richardson, Stock Returns and Inflation: A Long-Horizon Perspective. The American Economic Review Vol. 83.5, 1346-1355, 1993.

[13] R. Geske, R. Roll, "The Fiscal and Monetary Linkage Between Stock Returns and Inflation". The Journal of Finance, vol. 38, pp. 1-33.

[14] H. Hamdy, Valas Untuk Manajer. Jakarta: Ghalia Indonesia, 2001.

[15] P. Rahardja, M. Manurung, Pengantar ilmu ekonomi (mikroekonomi & makroekonomi). Lembaga Penerbit Fakultas Ekonomi Universitas Indonesia. Jakarta. 2008.

[16] A.O. Krueger, Exchange-rate determination. Cambridge: Cambridge University Press, 1983.

[17] R. MacDonald, Exchange rate economics: theories and evidence. Oxfordshire: Routledge, 2007.

[18] J.O. Hairault, T. Sopraseuth, "Exchange Rate Dynamics: A New Open Economy Macroeconomics Perspectives, vol. 27. New Jersey: Routledge, 2003.

[19] H. Mitsuo, New Developments of the Exchange Rate Regimes in Developing Countries. New York: Springer, 2006.

[20] C.K. Ma, G.W. Kao, "On exchange rate changes and stock price reactions". Journal of Business Finance & Accounting, Jun, vol. 17(3), pp. 441-9, 1990.

[21] S. Setyorini, S. Supriyadi, "Hubungan Dinamis antara Nilai Tukar Rupiah dan harga saham di bursa efek Jakarta Pasca Penerapan Sistem devisa Bebas Mengambang". Simposium Akuntansi Nasional. Ke III, pp. 771-793, 2000.

[22] B. Boediono, Peengantar Ilmu Ekonomi No.2, Ekonomi Makro. Yogyakarta: BPPE, 1982.

[23] M. Fahlevi, A. Marlinah, "The Influence Of Liquidity, Capital Structure, Profitability And Cash Flows On The Company's Financial Distress". Jurnal Bisnis dan Akuntansi, vol. 20(1), pp. 59-68, 2018.

[24] P.A. Samuelson, "Factor‑price equalization by trade in joint and non-joint production". Review of International Economics, Nov;1(1):1-9, 1992.

[25] L.S. Almilia, "Analisis Faktor-faktor yang mempengaruhi kondisi financial distress Suatu Perusahaan yang Terdaftar di Bursa Efek Jakarta". Simposium Nasional Akuntansi, vol..VI. pp. 546-564, 2004.

[26] M. Utami, M. Rahayu, "Peranan Profitabilitas, Suku Bunga, Inflasi Dan Nilai Tukar Dalam Mempengaruhi Pasar Modal Indonesia Selama Krisis Ekonomi", Jurnal Manajemen dan Kewirausahaan, vol 5, No.2 September, 2003.

[27] G. Adams, G. McQueen, R. Wood, "The Effects of Inflation News on High Frequency Stock Returns". The Journal of Business, vol. 77. No. 3, pp. 547-574, 2004.

[28] E. Tandelilin, Portofolio dan Investasi: Teori dan aplikasi. Kanisius, 2010.

[29] Z. Bodie, "On the risk of stocks in the long run". Financial Analysts Journal, May 1, vol. 51(3), pp. 18-22, 1995.

[30] H.M.K. Mok, "Causality of Interest Rate, Exchange Rate and Stock Prices at Stock Market Open and Close in Hong Kong". Asia Pacific Journal of Management, vol.10, No.2, pp. 123-143, 1993.

[31] Indonesia Stock Exchange, Sejarah dan Milestone. Retrieved from PT Bursa Efek Indonesia: http://www.idx.co.id/tentang-bei/sejarah-dan-milestone/, 2007.

[32] R. Haryanto, "Pengaruh Suku bunga Sertifikat Bank Indonesia dan nilai kurs terhadap resiko sistematik saham perusahaan di BEJ". Jurnal Keuangan dan Bisnis, vol. 5, No.1 Maret 2007, pp. 24-40, 2007.

[33] R.W. Hafer, S.E. Hein, The Stock Market. Westport: Greenwood Publishing Group, 2007.

[34] R. Ang, Buku Pintar Pasar Modal Indonesia. Jakarta. Mediasoft Indonesia, 1997.

[35] Z. Bodie, A. Kane, A.J. Marcus, Investment (7th Ed). New York: McGrow-Hill, 2007.

[36] N. Nurhakim, Pengaruh Perubahan Nilai Tukar, Inflasi, Suku Bunga, dan Beta Terhadap Return Saham Jakarta Islamic Index pada Periode Bullish dan Bearish (Januari 2004 – Desember 2008). Universitas Islam Negeri Sunan Kalijaga. Yogyakarta, 2010.

[37] S. Wibowo, "Pengaruh Nilai Tukar, Suku Bunga Sertifikat Bank Indonesia dan Indeks Saham Dow Jones Terhadap Indeks Harga Saham Gabungan Indonesia". Jurnal Bisnis dan Akuntansi, vol. 14, No.2, 2012.

[38] D.T. Rachmadhanto, R. Raharja, "Analisis Pengaruh Faktor Fundamental Perusahaan dan Kondisi Ekonomi Makro Terhadap Tingkat Underpricing Saat Penawaran Umum Perdana (Studi Empiris pada Perusahaan Go Publik yang Terdaftar di Bursa Efek Indonesia Tahun 2008 – 2011)". Diponegoro Journal of Accounting, vol. 3, Nomor 4, 2014.

[39] P.E. Pujawati, I.G.B. Wiksuana, L.G.S. Artini, "Pengaruh Nilai Tukar Rupiah Terhadap Return Saham dengan Profitabilitas Sebagai Variabel Intervening". E-Jurnal Ekonomi dan Bisnis Universitas Udayana 4.04, 2015.

[40] A.I. Hunjra, M.I. Chani, M.S. Ijaz, M. Farooq, K. Khan, "The Impact of Macroeconomic Variables on Stock Prices in Pakistan". International Journal of Economics and Empirical Research, vol. 2(1), pp. 13-21, 2014.