“Macroeconomic factors and LQ45 stock price index: evidence from Indonesia”

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MACROECONOMIC FACTORS AND LQ45 STOCK PRICE INDEX: EVIDENCE FROM INDONESIA

Abstract

This paper provides the relationship between macroeconomic variables, including exchange rate, BI rate and inflation, and stocks performance, particulary bluechip stocks listed in LQ45 index in Indonesia Stock Exchange. The study particularly gives insights on bluechip stocks listed in LQ45 stock price index in Indonesia Stock Exchange between 2015 and 2017. The data were obtained from various sources during the period, including the Indonesia Stock Exchange (IDX), the Central Bank of Indonesia (BI), and the Ministry of Trade. This study followed a Vector Error Correction Model (VECM) attempting to estimate the relationship between variables both in the short term and in the long term. The findings of the study showed that in the long run, exchange rate, BI rate and inflation have a negative impact on stock market performance, particularly on LQ45 index in Indonesia Stock Exchange. It implies that an increase in macroeconomic variables results in the decline of stock market performance. Meanwhile, in the short run, two variables, namely the exchange rate and inflation, positively affect stock market performance in Indonesia. On the contrary, the relationship between BI rate and stock market performance showed a negative correlation. These findings have significant implication for the understanding of how macroeconomic variables affect the stock market performance, particularly LQ45 price index in Indonesia Stock Exchange.

Keywords exchange rate, BI rate, inflation, LQ45 stock price index, VECM

JEL Classification E31, F31, R53

INTRODUCTION

The presence of financial sectors plays an important role in the economy by providing demand and supply for money, as well as lenders and borrowers. Stock, for instance, is one of the most considerable instruments for investors. From the company sides, it helps company to enlarge their firms receiving greater funds directly from investors rather than collecting money from intermediary institutione such as banks and other financial institutions. In contrast, from investors' perspective, it provides an opportunity to obtain higher return, instead, they have bigger risks.

The valuation of stocks becomes the challenge and the opportunity for investors. Since asymmetric information exists, it is difficult for individuals to determine a good company with valued stock prices and a bad company with undervalued stock prices. In Indonesia, the presence of stock listed market by several categories helps the investor in reducing asymmetric information problems. Bluechip stock is the most considerable for the investor to put their money, which is listed on the LQ45 stock index. The bluechip stocks are of high market capitalization, considered very suitable for the novice investor (Budiarti, Ratnaningsih, & Penangsang, 2017). This is reasonable, because stocks

with high market capitalization are not easily affected by its share price. From the LQ45 stock price index is important for the novice investors, because LQ45 stock price index that includes 45 issuers with very high liquidity stocks.

In LQ45 stock price index, investors can determine how much movement of shares from 45 companies was assessed from market capitalization. Because of that, the stock price not always will continue to rise, but could also decrease in value, which is no exception to 45 issuers in LQ45. Given the ups and downs of stock prices here, in 6 months, for 45 issuers, LQ45 stock price index changes according to the assessment criteria of its shares (Hermuningsih, 2012).

Macroeconomic factors such as exchange rate, BI rate, and inflation have a relationship with the performance of the company and stock prices. Noticeable studies on macroeconomics and its impact on stock prices have been examined in several countries such as Malaysia, Pakistan, Kenya, Iran, Indonesia, India and so forth (Rad, 2011; Jawaid & Haq, 2012; Ouma & Muriu, 2014; Tripathi & Seth, 2014; Nordin et al., 2014; Khalid & Khan, 2017; Sutrisno, 2017; Mumo, 2017; Gursida, 2018). Nordin et al. (2014) remarked a negative correlation between interest rates, exchange rates, and stock prices in Malaysia. Meanwhile, Jawaid and Haq (2012) remarked that there is a long-term relationship between the exchange rate and interest rates on stock prices in Pakistan. Similarly, several macroeconomic variables, including money supply, exchange rates, and inflation, affect the stocks market return in Kenya (Mumo, 2017). Indeed, Khalid and Khan (2017) showed that the exchange rate and inflation positively affect stock market volatility in the long run. In contrast, Rad (2011) mentioned that macroeconomic variables such as consumer price index, free-market exchange rates do not play an important role in fluctuating stock prices in Iran.

In Indian context, Tripathi and Seth (2014) revealed a correlation between stock market indicators and macroeconomic factors. Meanwhile, Sutrisno (2017) mentioned that inflation and exchange rate have negative impact on all industries in Indonesia. Based on previous studies mentioned, however, there is still uncertainty whether macroeconomic variables impact on stock market performance. Surprisingly, to date, there are few studies that have investigated the association between macroeconomic factors and stock market performance in Indonesia. Therefore, this study addressed the relationship between macroeconomic factors and stock market performance, particularly on LQ45 stock index in Indonesia.

This paper has been divided into five sections. The Introduction section deals with the current existing macroeconomic problems in Indonesia and their impact on stock market performance. Section one begins by laying out the theoretical dimension of the research and looks at the relationship between macroeconomic variables and stock price in several countries. In addition, section two is concerned with the methodology used for this study. Section three presents the results and the discussion. Final section presents the findings of the research and focuses on the three key macroeconomic factors, which are exchange rate, BI rate and inflation.

1. LITERATURE REVIEW

1.1. Macroeconomic factors and stock market performance

The capital market index is an important indicator for investors, which is formed from historical information that describes the movement of stock prices during a certain period. The performance stock price index can be used as an indicator of overall economic performance and reflects what is happening in the economy from the macroeconomic perspective. Several previous studies agree that macroeconomic economic variable affects stock market performance (Cammilery et al., 2019; Kewal, 2012; Pilinkus, 2010). Cammilery et al. (2019) remarked that selected macroeconomic variables have a relationship with the stock price in European countries. Another research by Kewal (2012) using a Vector Auto Regression (VAR) found that macroeconom-

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ic factors are co-integrated with the stock price in two emerging countries, namely Egypt and Tunisia. Pilinkus (2010) investigated the causality between macroeconomic indicators and stock market index in Baltic states: Lithuania, Latvia, and Estonia.

1.2. Inflation and stock market performance

Inflation affects the economy of a country through income, wealth, and production efficiency (Sumon & Miyan, 2017; Antonakakis et al., 2017; Wulandari et al., 2019). A high level of inflation may cause a negative impact on the particular country. It will also cause a decrease in purchasing power of money. In addition, high inflation can also reduce the level of real income that investors obtained from their investments. Conversely, when the inflation level experiences a decreasing trend, it will be a positive signal for investors, as the risk of purchasing power of money and the risk of falling real income decrease. Uwubanmwen and Eghosa (2015) mentioned that high inflation causes a company's profits to decline, which causes securities to become less competitive. Indeed, Daferighe and Charlie (2012) have conducted a study on the relationship between inflation and stock market performance in Nigeria during 1991–2000. The findings showed that stock market investment is regarded as a good hedge againts inflation. However, on the other hand, Antonakakis et al. (2017) remarked that correlations between the inflation and stock prices in the United States evolve heterogeneously over time. An increasing inflation can reduce capital gains, which results in declined profits received by investors. From the company perspective, an upward trend inflation where the increase cannot be borne by consumers can reduce the level of corporate income. It means that the risks faced by the company will be greater to keep investing in shares. Consequently, the demand for shares will also decrease and this issue can reduce a company's profits that make securities in the capital market become unattractive commodities.

1.3. Exchange rate and stock market performance

The exchange rate is one of the most important prices in an open economy given the enormous influence on the current account balance and other macroeconomic variables. There are two approaches that are used to determine currency exchange rates, namely the monetary approach and the market approach. In the monetary approach, currency exchange rates are defined as prices where foreign currencies are traded against the domestic currency and those prices are related to money supply and demand. When a country's exchange rate weakens against the US Dollar, companies that have US Dollar debt will experience a decline in profits or even losses.

Studies on the relationship between exchange rate and stock market performance have been conducted in many countries. Olugbenga (2012), using Granger causality test, showed that the variations in the Nigerian stock market are influenced by volatility in exchange rate. Adebowale and Akosile (2018) remarked that the exchange rate has a significant positive effect on Nigerian stock market development during the period 1981–2017. On the contrary, Suriani et al. (2015) mentioned that there is no relationship between exchange rate and the stock market in Pakistan. Similarly, Korsah and Fosu (2016) highlighted on negative correlation between exchange rate and stock market in Ghana both in the short term and in the long term.

1.4. BI rate and stock market performance

Interest rates are the price of borrowed funds. In principle, Bank Indonesia Certificates (SBIs) are securities in Rupiah performance issued by the Central Bank in recognition of short-term debt and traded with a discount system. These are calculated from the weighted average interest rates for Bank Indonesia Certificates (SBI) for a period of one month at auction Bank Indonesia Certificate (SBI) at Bank Indonesia. Ningsih and Waspada (2018) stated that BI rate has a negative impact on IDX Composite in Indonesia. Indeed, Subiantoro et al. (2018) showed the a negative correlation between BI rate and IDX Composite during research period 2015–2017. In addition, Uddin and Alam (2010) have analyzed relationship between the interest rate and the stock market in Dhaka. They showed that interest rate also has a significant negative relationship with the growth of share price.

2. METHODOLOGY

The study particularly analyzes the relationship between macroeconomic factors and bluechip stocks performance listed in LQ45 stock price index on Indonesia Stock Exchange from 2015 and 2017. The data were obtained from various sources, including the Indonesia Stock Exchange (IDX), the Central Bank of Indonesia (BI), and the Ministry of Trade. This study followed a Vector Error Correction Model (VECM) an attempt to estimate the relationship between variables both in the short term and in the long term. Furthermore, the data were analyzed using several tests, namely data stationarity tests, optimal lag test, cointegration test, Granger causality test, and vector error correction estimation

2.1. Stationarity data test

This study uses the Augmented Dickey-Fuller (ADF) to test the stationarity of data. If the value of absolute *t*-statistic is smaller than the critical value in the MacKinnon table at various levels of confidence (1%, 5%, and 10%), it indicates that the data are not stationary. Besides that, it can also be seen in the value of prob greater than 0.05, which also indicates that the data are not stationary. Conversely, if the ADF value is greater than the critical value of various confidence levels (1%, 5%, and 10%), then there is no unit root or stationary data. The ADF was formed in order to obtain the autoregressive equation as follows:

$$DX_t = a_0 + a_1 T + a_2 X_{t-1} + \\ + b_1 DX_{t-1} + b_2 DX_{t-2} ... b_{t-1} DX_{t-1} + Ut$$

or

$$DX_t = a_0 + a_1 T + a_2 X_{t-1} + b_1 \sum_{i=1}^{m} DX_{1-t} + Ut.$$

2.2. Optimal lag test

VAR estimation is very sensitive to lag length used. If the lag in judicial stationarity is too small, then the residuals of the regression are unable to show the process of white noise so that the models cannot accurately estimate the actual error. As a result of mistakes, standards are not estimated. However, if the lag is incorporated too much, it will reduce the ability to reject H0 as additional parameters that too much will reduce the degree of freedom. The testing lag also has the benefit of eliminating the autocorrelation problem, therefore, the use of optimal autocorrelation lag problem is no longer expected to arise.

2.3. Cointegration test

The existence of non-stationary variables can cause the most likely long-term relationship between the variables. Hence, cointegration test is required. Cointegration test is a test aimed at finding long-term and short-term relationship between variables. In this study, Johansen cointegration tests are used in the test for the existence of cointegration between the variables. The test developed by Johansen can be used to determine the cointegration number of variables (vectors). Johansen test can be seen with the autoregressive models as follows:

$$\Delta y_t = \Pi y_{t-1} + \sum_{i=1}^{p-1} \Pi_t \Delta y_{t-1} + \mathrm{B}\pi_t + \varepsilon_t,$$

$$\Pi = \sum_{i=1}^{p} A_i - I, \ \Pi_i = -\sum_{j=i+1}^{p} A_j.$$

2.4. Granger causality test

Granger causality test aims to determine the causal relationships between variables used in the study. The effect of causation is addressed to see the effect of each variable against another one by one instead of per group.

2.5. VECM estimation

VECM models can be applied if the studied variables proved to have a cointegration relationship. If the cointegration test results indicate a long-term equilibrium relationship, the results of the relevant dynamic regression estimation are VECM models. It can be used as a method to determine the effect of the caused by a variable in the long term and in the short term. VECM can be formulated as follows:

$$\Delta Y = \beta_0 + \sum_{i}^{n} \beta_1 \Delta Y_{t-i} + \sum_{i}^{n} \beta_2 \Delta X1_{t-i} + \\ + \sum_{i}^{n} \beta_3 \Delta X2_{t-1} + ... + \lambda EC_{t-i} + \varepsilon_t.$$

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3. RESULTS AND DISCUSSION

3.1. Stationarity data test

Table 1. Test of stationairity

Source: Authors (2019).

Variables	ADF value	Critical value (5%)	Value prob.	Information
Exchange rate	–7.262584	–2.951125	0.0000	Stationary
BI rate	–4.220292	–2.951125	0.0022	Stationary
Inflation	–5.330858	–2.951125	0.0000	Stationary
LQ45	–3.558986	–2.951125	.0122	Stationary

Based on the previous test for its stationarity using Augmented Dickey-Fuller (ADF), it was found that all the variables contain unit root or are non-stationary, therefore, research continues to the next step. Table 1 describes the results of the first stationarity test at different degrees in the group for all the data, which indicates the absence of a stationary unit root. This shows that all the data are integrated on the degree of integration of one (1).

3.2. Optimal lag test

Testing optimal lag length on VECM and Var used method aims to eliminate autocorrelation in the data. Parameters that can describe the optimal lag length criteria Akaike Information Criterion (AIC), Schwarz Information Criterion (SC) and Hannan Quinnon (HQ).

Table 2 illustrates the optimal lag test results of the study. In this test, it was found that the number of optimal lag is one. This suggests that the independent variable can affect the dependent variable. Determination of the optimal amount of lag can be seen from the number of asterisks (*) contained in the lag of one (1).

3.3. Granger causality test

Table 3 summarizes the result of Granger causality test between variables. From the calculation in the table, it can be seen that the variables, which have a causal relationship shown by variables that have a probability level of not more than 0.05, then H0 will be rejected, which means the influence of the variable to another variable. Conversely, when the probability is higher than 0.05, then H0 is accepted, it implies that there is no relationship between variables. From Table 3, there is a reciprocal relationship between the variables, both of variable inflation, the exchange rate, BI rate, and LQ45. H0 rejection is evident from the level of probability < α (0:05)

Table 2. Optimal lag test results

Source: Authors (2019).

lag	Log*L*	LR	FPE	AIC	SC	HQ
0	–69.37433	NA	0.001337	4.733828	4.918858*	4.794143*
1	–52.71616	27.94274*	0.001296*	4.691365*	5.616518	4.992942
2	–39.50839	18.74652	0.001643	4.871509	6.536784	5.414347
3	–26.39171	15.23227	0.002303	5.057530	7.462928	5.841629
4	–9.080906	15.63557	0.002917	4.972962	8.118482	5.998323

Table 3. Granger causality test results

Source: Authors (2019).

Null hypothesis	Obs	*F*-statistic	Prob.
DEXR does not Granger cause DLQ45	34	3.21269	.0828
DLQ45 does not Granger cause DEXR		0.47387	.4963
DINF does not Granger cause DLQ45	34	0.87991	.3555
DLQ45 does not Granger cause DINF		0.04571	.8321
DBI_RATE does not Granger cause DLQ45	34	5,58E-01	.4608
DLQ45 does not Granger cause DBI_RATE		2.96972	.0948
DINF does not Granger cause DEXR	34	1.95467	.1720
DEXR does not Granger cause DINF		0.00354	.9529
DBI_RATE does not Granger cause DEXR	34	0.05502	.8161
DEXR does not Granger cause DBI_RATE		0.44766	.5084
DBI_RATE does not Granger cause DINF	34	0.98270	.3292
DINF does not Granger cause DBI_RATE		0.02343	.8793

in all the variables. DEXR is not significantly affecting DLQ45 and vice versa, it has been proven from the value of the probability that both variables are above 0.05, which is about 0.08 and 0.49 at lag 1, respectively. The inflation variable does not significantly affect DLQ45 and vice versa, this can be seen from the probability values, which are about 0.35 and 0.83, respectively, at lag 1. Furthermore, the BI rate variable does not significantly affect the LQ45 variable and vice versa. It can be seen from the probability values, which are 0.46 and 0.09 at lag 1.

3.4. Cointegration test

In VECM estimation, cointegration relationship has a very important role for each item, namely where there is no cointegration relationship between the estimated VECM variables that cannot be used or canceled and replace it with the VAR method. Cointegration testing in this study is performed using Johansen with the critical value of 0.05.

Table 4. Cointegration test results

Source: Authors (2019).

Hypothesized No. of CE (s)	Eigenvalue	Trace statistics	0:05 Critical value	Prob. **
None*	0.653637	54.00626	47.85613	0.0118
At most 1	0.265788	17.95711	29.79707	0.5692
At most 2	0.146769	7.452568	15.49471	0.5256
At most 3	0.058677	2.055934	3.841466	0.1516

Table 4 informs about the result of the cointegration test. From the table, it can be explained that at a test level of 5 percent, there is one cointegration of rank-related variables. This can be evidenced from the trace statistic value greater than the value of critical value, it means the variables used have a long-term relationship with one another. Therefore, the estimated VECM can continue for further analysis.

3.5. VECM estimation test

In the VECM estimation, if the *t*-statistic is greater than the value of the *t*-table, then it can be stated that there is long-term or short-term relationship between the variables. In more detail, short-term or long-term relationship can be interpreted as the causal relationship between the variables, both positive and negative.

Table 5. Long-term VECM test

Source: Authors (2019).

No.	Variables	Coefficient	*t*-statistic	*t*-table
1	DEXR (–1)	–8.365089	[–6.07715]	1.69389
2	DBI_RATE (–1)	–4637379	[–2.65392]	1.69389
3	DINF (–1)	–179,471.6	[–2.01178]	1.69389

Table 5 explains the relationship between the variables in the long run. In general, the exchange rate, BI rate, and inflation had a significant negative effect on the stock market performance in Indonesia. In more detail, the test results showed that all of the *t*-statistic exceeds the *t*-table of 1.69389. The inflation rate is about 6.07715, –2.65392 is for the BI rate, and –2.01178 is for inflation. In the long term, the exchange rate has exhibited a significantly negative effect on stock prices. The increase in the rate of excessiveness and persistence will make investors feel inconvenient and opt out of the capital markets. This is reasonable, because the investor wants to invest in the most profitable returns. According to Samsul (2006), a sharp rise in the exchange rate of the US Dollar against the Rupiah will negatively affect the emitent who has debts of Dollars, while product issuers are sold locally. Indeed, Nordin et al. (2014) showed the negative relationship between exchange rate and stock market performance. However, the findings of this study are in contrast with Mgammal (2010) who suggested a positive relationship between the stock price index and the exchange rate.

Another result showed that BI rate has a negative impact on stock price index in the long run. This is understandable, because the BI rate has increased continually, which showed that the country's economy is getting worse. Kewal (2012) argues that the interest rate has a great influence on stock prices. It implies that higher interest rate can worsen the economy, raise interest costs, thereby lower the corporate profits and cause the investors to sell stocks and transfer funds into the bond market.

Inflation, a variable which plays an important role for a country, shows a significant negative effect on stock market performance in the long term. The excessive inflation rate will reduce net income produced by the company, this is due to inflation, which increased continuously, that the production cost will increase. Samsul (2006) stated that infla-

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tion may harm the overall economy in the sense that many companies will face bankruptcy. This means that high and prolonged inflation will drop stock price in the market. This study had similar results with Mgammal (2010), stating that there is the relationship between stock prices and inflation in the long term. However, in contrast, the findings of the study refused research by Gursida (2018), which states that inflation does not significantly affect the stock price index.

Table 6. Test results of VECM in the short term

Source: Authors (2019).

No.	Variables	Coefficient	*t*-statistic	*t*-table
1	D (DEXR (–1))	0.077487	[3.46863]	1.69389
2	D (DBI_RATE (–1))	–3,124.101	[–2.07614]	1.69389
3	D (DINF (–1))	2173.373	[2.03809]	1.69389

Table 6 provides information about the short-term relationship between the variables. From the table, it can be shown BI rate negatively affects stock market performance in Indonesia, while the exchange rate and inflation have a significant impact on stock market performance in the short term. This can be evidenced from the *t*-statistic value that exceeds the *t*-table, that is about 3.46863 for the exchange rate, 2.07614 is for BI rate, and 2.03809 is for inflation, respectively.

The results of this study indicated the same findings with Jawaid and Haq (2012) who state that the exchange rate has a positive effect on stock prices. In the short term, the exchange rate can have a significant positive effect on the LQ45 stock price index, this is because when the exchange rate depreciates, it can increase exports, which will increase investment. In other words, the increase in investment that occurs is a response to an increase in the utilization of capacity driven by increased exports (Bank Indonesia, 2010).

The BI rate in the short term has a significant negative effect on the LQ45 stock price index, indicating that when the BI rate increases, it will have consequences in declining stock market performance. This occurs, because investment also depends on loan interest rate. It implies that higher interest rate will promote higher level of costs generated, so that investors will rethink to invest the money. The results of this study are similar to Nordin and Ismail (2014) who state that interest rate has a negative influence on the stock price index.

Lastly, inflation in the short term has a significant positive effect on the LQ45 stock price index. It shows that the increase in inflation will increase stock prices, this is because if inflation increases, the costs incurred by companies will be higher, therefore the company will increase the number of shares in circulation. The results of this study rejects the results of Gursida (2018) who states that inflation does not significantly affect the LQ45 stock price index.

CONCLUSION

This study attempted to examine the relationship between macroeconomic factors and stock market performance in Indonesia, especially on LQ45 price index listed in Indonesia Stock Ecxhange. The findings of the study remarked that in the long run, exchange rate, BI rate, inflation have a negative impact on stock market performance. It implies that an increase in macroeconomic variables leads to decline of stock market performance. However, in the short run, two variables, namely the exchange rate and inflation, positively affect stock market performance in Indonesia. In contrast, the relationship between BI rate and stock market performance showed a negative correlation. This negative influence is related to the interest rate of the loan. This is understandable, because the level of costs generated will be higher when the loan of interest is higher, resulting in a decreasing number of projects being implemented. These findings have significant implication for the understanding of how macroeconomic variables affect the stock market performance in Indonesia. Considerably more work will need to be done to determine factors affecting stock market performance in Indonesia.

REFERENCES

1. Adebowale, E. A., & Akosile, A. I. (2018). Interest Rate, Foreign Exchange Rate, and Stock Market Development in Nigeria. *Binus Business Review, 9*(3), 247-253. https://doi.org/10.21512/bbr.v9i3.4941
2. Antonakakis, N., Gupta, R., & Tiwari, A. K. (2017). Has the correlation of inflation and stock prices changed in the United States over the last two centuries. *Research in International Business and Finance, 42,* 1-8. https://doi.org/10.1016/j.ribaf.2017.04.005
3. Bank Indonesia (2010). *Strengthen Exports and Investment Amid an Imbalance in Global Economic Recovery* (Report on the Indonesian Economy in 2010 Chapter V). Retrieved from https://www.bi.go.id/id/publikasi/laporan-tahunan/perekonomian/Pages/lpi_2011.aspx
4. Budiarti, E., Ratnaningsih, & Parikesit, P. (2017). Analysis of stock returns and non-blue chip stocks on the blue chip incorporated in LQ45 index in the Indonesia Stock Exchange. *Journal of Economics and Management, 2*(1)315-330.
5. Camilleri, S. J., Scicluna, N., & Bai, Y. (2019). Do Stock Markets Lead or Lag Macroeconomic Variables? Evidence from Select European Countries. *The North American Journal of Economics and Finance, 48,* 170-186. https://doi.org/10.1016/j.najef.2019.01.019
6. Gursida, H. (2018). The Influence of Inflation Rate, Interest Rate, And Money Supply on Share Price LQ45. *Sinergi: Jurnal Ilmiah Ilmu Manajemen, 8*(1), 21-28. https://doi.org/10.25139/sng.v8i1.667
7. Hermuningsih, S. (2012). *Introduction to the Indonesian Capital Market*. Yogyakarta: UPP STIM YKPN.
8. Jawaid, S. T., & Haq, A. U. (2012). Effects of interest rate, exchange rate and their volatilities on stock prices: evidence from banking industry of Pakistan. *Theoretical and Applied Economics, 8*(8), 153-166. Retrieved from https://www.researchgate.net/publication/254383728_Effects_of_interest_rate_exchange_rate_and_their_volatilities_on_stock_prices_evidence_from_banking_industry_of_Pakistan
9. Kewal (2012). Effect of Inflation, Interest Rate, exchange rate and GDP growth Against Composite Stock Price Index. *Journal Economic, 8*(1), 33-64.
10. Khalid, W., & Khan, S. (2017). Effect of Macroeconomic Variables on Stock Market Volatility: The Pakistan Experience. *Global Journal of Management and Business Research, 17*(4), 68-91. https://doi.org/10.12691/ijefm-5-2-4
11. Korsah, P., & Fosu, P. (2016). The Effects of Exchange Rates Movements on Stock Market Capitalisation in Ghana. *Journal of Applied Economics & Business Research, 6*(4), 312-327.
12. Mgammal, M. H. (2010). The Effect of Inflation, Interest Rates and Exchange Rates on Stock Prices Comparison Study Among GCC Two Countries. *International Journal of Finance and Accounting, 6*(1), 179-189. Retrieved from https://www.researchgate.net/publication/280136531_The_Effect_of_Inflation_Interest_Rates_and_Exchange_Rates_on_Stock_Prices_Comparative_Study_Among_Two_Gcc_Countries
13. Mumo, M. P. (2017). Effects of Macroeconomic Volatility on Stock Prices in Kenya: A Cointegration Evidence from the Nairobi Securities Exchange (NSE). *International Journal of Economics and Finance, 9*(2), 1-14. https://doi.org/10.5539/ijef.v9n2p1
14. Ningsih, M. M., & Waspada, I. P. (2018). Pengaruh Bi Rate dan Inflasi Terhadap Indeks Harga Saham Gabungan. *Manajerial, 3*(5), 247-258. Retrieved from http://ejournal.upi.edu/index.php/manajerial/article/view/11664
15. Nordin, N., Nordin, S., & Ismail, R. (2014). The Impact of Commodity Prices, Interest Rate and Exchange Rate on Stock Market Performance: An Empirical Analysis from Malaysia. *Malaysian Management Journal, 18,* 39-52.
16. Olugbenga, A. A. (2012). Exchange rate volatility and stock market behaviour: the Nigerian experience. *European Journal of Business and Management, 4*(5). Retrieved from https://www.iiste.org/Journals/index.php/EJBM/article/view/1504
17. Ouma, W. N., & Muriu, P. (2014). The Impact of Macroeconomic Variables on Stock Market Returns in Kenya. *International Journal of Business and Commerce, 3*(11), 1-31. Retrieved from https://www.researchgate.net/publication/312496946_THE_IMPACT_OF_MACROECONOMIC_VARIABLES_ON_STOCK_MARKET_RETURNS_IN_KENYA
18. Peiró, A. (2016). Stock prices and macroeconomic factors: Some European evidence. *International Review of Economics and Finance, 41,* 287-294. https://doi.org/10.1016/j.iref.2015.08.004
19. Pilinkus, D. (2010). Macroeconomic indicators and their impact on stock market performance in the short and long run: the case of the Baltic States. *Technological and Economic Development of Economy, 16*(2), 291-304. Retrieved from https://www.tandfonline.com/doi/abs/10.3846/tede.2010.19
20. Rad, A. A. (2011). Macroeconomic Variables and Stock Market: Evidence From Iran. *International Journal of Economics and Finance Studies, 3*(1), 1-10.
21. Samsul, M. (2006). *Capital Market and Portfolio Management*. Jakarta: Erlangga Publisher.
22. Subiantoro, A. N., & Sulasmiyati, S. (2018). Pengaruh Inflasi, BI Rate, Kurs USD/IDR, Indeks Shcomp, dan Indeks Nikkei 225 Terhadap Indeks Harga Saham Gabungan (Ihsg) (Studi Pada Bursa Efek Indonesia Periode 2015–2017). *Jurnal Administrasi*

http://dx.doi.org/10.21511/imfi.16(3).2019.23

Bisnis, 61(3), 198-206. Retrieved from http://administrasibisnis.studentjournal.ub.ac.id/index.php/jab/article/view/2614

23. Sumon, K. K., & Miyan, M. S. (2017). Inflation and Economic Growth: An Empirical Evidence of Bangladesh (1986–2016). *International Journal of Economics and Financial Issues, 7*(5), 454-464. Retrieved from https://www.researchgate.net/publication/331194407_Inflation_and_Economic_Growth_An_Empirical_Evidence_of_Bangladesh_1986-2016

24. Suriani, S., Kumar, M. D., Jamil, F., & Muneer, S. (2015). Impact of the Exchange Rate on Stock Market. *International Journal of Economics and Financial Issues, 5,* 385-388.

25. Sutrisno, B. (2017). Macroeconomic Variables and Sectoral Indices: Case The Indonesian Stock Exchange. *Etikonomi, 16*(1), 71-80.

26. Tripathi, V., & Seth, R. (2014). Stock Market Performance and Macroeconomic Factors: The Study of Indian Equity Market. *Global Business Review, 15*(2), 291-316. https://doi.org/10.1177%2F0972150914523599

27. Uddin, M. G. S., & Alam, M. M. (2010). The Impacts of Interest Rate on Stock Market: Empirical Evidence from Dhaka Stock Exchange. *South Asian Journal of Management Sciences, 4*(1), 21-30. Retrieved from https://www.researchgate.net/publication/312935824_The_Impacts_of_Interest_Rate_on_Stock_Market_Empirical_Evidence_from_Dhaka_Stock_Exchange

28. Uwubanmwen, A., & Eghosa, I. L. (2015). Inflation Rate and Stock Returns: Evidence From The Nigerian Stock Market. *International Journal of Business and Social Science, 6*(11), 155-167.

29. Wulandari, D., Utomo, S. H., Narmaditya, B. S., & Kamaludin, M. (2019). Nexus between Inflation and Unemployment: Evidence from Indonesia. *The Journal of Asian Finance, Economics and Business (JAFEB), 6*(2), 269-275. http://dx.doi.org/10.13106/jafeb.2019.vol6.no2.269