Research Article

The Relations Macroeconomics with Changes Stock Return in Index LQ45

Sugiyanto Sugiyanto [1], Sugiyanto Ikhsan [2], Muhamad Ardi Nupi Hasyim [3]

[1,2,3] School of Management Program, Ikopin, Indonesia;

E-mail address giyant2000@ikopin.ac.id

ARTICLE INFO	ABSTRACT
	Stock return is an important aspect for an investor in investing. In the development of financial science, there is arbitrage pricing theory (APT) which states that changes in stock returns can be determined by examining macroeconomic factors. This theory has been widely tested in emerging market countries as well as developed countries showing mixed results. This study aims to test the theory of APT on the LQ45 index. The research approach uses quantitative with macroeconomic period and LQ45 index during 2004-2020. The results showed that inflation and interest rates had an effect on stock returns on the LQ45 index, while the exchange rate had no effect on the LQ45 index. These results indicate that the APT theory is not always consistent in examining the effect of macroeconomics on stock returns, especially in emerging market countries that have high volatility. **Keywords:** Macroeconomics, Stock Return, LQ45 Index.

Introduction

In Arbitrage pricing theory (APT) there is a one-price rule (one market rule) in which the same asset cannot be traded at a lower price to receive the arbitrage value (buying a commodity at a low price but then selling it at a higher price to generate risk). Thus, if there is a difference between the purchase price of the asset and the selling price of the asset, the market will automatically return the asset price to its balance. The APT model shows that stock returns are a linear function of various macroeconomic variables and their responsiveness to changes. The factors are denoted by parameters that calculate the intensity of the property for each cause. APT is a general approach to price estimation based on a single market rule.

Empirically, research in India by Giri and Joshi (2017) has shown that inflation has a long-term positive impact on stock returns. Research conducted in Kenya, Nigeria and Tunisia by Alagidede (2009) found that inflation has a positive effect on stock returns. Study findings from Coovadia (2014) show that long-term and short-term portfolio returns are influenced by interest rates. Research conducted by Hamrita and Trifi (2011) in the United States shows that interest rates have a one-way effect on market returns. The findings of Ozair (2006) show that the exchange rate has an effect on stock returns. Research findings from Khan, et al (2012) show that the exchange rate affects stock returns.

Based on the findings of previous research, macroeconomic forces in a country such as inflation, exchange rates, and interest rates have been found to influence or reduce stock returns. The discovery of macroeconomic effect data on stock returns will significantly encourage investors to invest in businesses. The losses experienced by investors mostly occur in the type of investment in stocks, because investors initially assume that investing in this type of stock has two advantages that investors expect from stock investments, namely dividends and capital gains. Dividends are the distribution of company profits to shareholders, while capital gains are the positive difference between the selling price and the purchase price of a share.

An important factor for investors who will invest their shares in a country is to consider stock prices, because stock prices that increase in the short term will provide stock returns in the form of capital gains, while in the long term it means that the company's financial performance is getting better, allowing investors to earn dividends. . On the other hand, stock returns that tend to decrease in the short term mean that investors will experience a loss (capital loss), while in the long term it shows that the company's financial performance is getting worse so that investors will experience losses by not getting dividends.

The decline that occurs in stock returns will certainly have implications for the returns obtained by investors. Return is a comparison of the initial cost with the results obtained by investors. For stocks, the initial cost is the purchase price and the result is the difference between the purchase price and the selling price (capital gain). Return on investment will be directly proportional to the risk borne by an investor. The higher the expected return, the higher the level of risk that must be borne by investors.

In the context of Indonesia, the LQ45 index is a calculation of 45 stocks, which were selected through several selection criteria. In addition to the assessment of liquidity, the selection of these shares considers market capitalization. The LQ 45 index contains 45 stocks adjusted every six months (early February and August). Thus the stocks contained in the index will always change.

Since its launch in February 1997 the main measure of transaction liquidity has been the transaction value in the regular market. In accordance with market developments, and to further refine the liquidity criteria, since the January 2005 review, the number of trading days and the frequency of transactions are included as a measure of liquidity. So the criteria for a stock to be included in the calculation of the LQ45 index are as follows: a) have been listed on the IDX for at least 3 months; b) included in 60 shares based on the transaction value in the regular market; c) of the 60 shares, the 30 shares with the largest transaction value will automatically be included in the LQ45 index calculation

To get 45 shares, 15 more shares will be selected using the criteria of Transaction Days in the Regular Market, Frequency of Transactions in the Regular Market and Market Capitalization. The methods for selecting the 15 shares are: a) from the remaining 30, 25 shares are selected based on the Transaction Day on the Regular Market; b) from the 25 shares, 20 shares will be selected based on the Transaction Frequency in the Regular Market; c) Of the 20 shares, 15 shares will be selected based on Market Capitalization, so that 45 shares will be obtained for the calculation of the LQ45 index

In addition to looking at the liquidity criteria and market capitalization mentioned above, the company's financial condition and growth prospects will also be seen. On this basis, it is very interesting to examine the effect of macroeconomics on stock returns on the LQ45 index.

Method

This study uses a quantitative approach, using data on inflation, exchange rates, rates, interest and the LQ45 index during 2004-2020. The data collection was carried out to examine the effect of macroeconomics on stock returns during both crisis and normal periods. Data analysis used multiple regression, with the OLS model.

Result and Discussion

Table 1. Description of Research Data

	Inflation	Exchange Rate	Interest Rate	LQ45
Mean	5,9736	111882.5	6.985637	-61.52451
Median	5,2900	100750.0	6.750000	-167.0000
Maximum	183800.0	159460.0	12.75000	5295.000
Minimum	13200.00	84410.00	3.750000	-1716.000

The description of the research data shows that during 2004-2020 Indonesia's inflation averaged 5.9%, while the exchange rate was 111882, then the interest rate was 6.9%, while stock returns showed a negative result of -61.52451. This indicates that there has been a significant decline in shares in LQ45 companies.

Table 2. Autocorrelation Test

	Inflation	Exchange Rate	Interest Rate
Inflation	1.000000	-0.450212	0.776672
Exchange Rate	-0.450212	1.000000	-0.529019
Interest Rate	0.776672	-0.529019	1.000000

The autocorrelation test aims to test whether in a linear regression model there is a correlation between the confounding error in period t and the error in period t-1 (previous). If there is a correlation, it is called an autocorrelation problem. The results showed that inflation, exchange rates, and interest rates were below 0.80, which means the biggest problem is autocorrelation.

Table 3. Heteroscedasticity Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	644.6678	334.7555	1.925787	0.6555
Inflation	0.005495	0.002117	2.596061	0.4101
Exchange Rate	-0.001163	0.001874	-0.620532	0.5356
Interest Rate	-54.46516	39.24668	-1.387765	0.1668

Heteroscedasticity is one of the classic assumption test problems that often occurs in regression analysis. This problem raises a situation where there is a correlation or relationship between variables in linear regression analysis. The results of the study show that all Prob values are more than 0.05, this result shows a value greater than the alpha level of 0.05, it can be concluded that this data is free from heteroscedasticity problems.

Table 4. Multiple Regression Test Results

Dependent Variable: LQ45
Method: Least Squares
Date: 02/05/22   Time: 09:42
Sample: 1 204
Included observations: 204

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	447.5500	466.2174	0.959960	0.3382
INFLASI	0.006430	0.002948	2.181086	0.0303
NILAI_TUKAR	-0.000476	0.002609	-0.182319	0.8555
SUKU_BUNGA	-120.2422	54.65926	-2.199850	0.0290
R-squared	0.025782	Mean dependent var		-61.52451

Adjusted R-squared	0.011169	S.D. dependent var	696.1207
S.E. of regression	692.2224	Akaike info criterion	15.93710
Sum squared resid	95834361	Schwarz criterion	16.00217
Log likelihood	-1621.585	Hannan-Quinn criter.	15.96342
F-statistic	1.764291	Durbin-Watson stat	1.645245
Prob(F-statistic)	0.155239		

Based on the results of the study, partially, inflation has a positive effect on L45 stock returns, meaning that the greater the inflation, the higher the LQ45 index stock returns. Interest rates show an influence in a positive direction, meaning that the higher the interest rate, the higher the stock return. Meanwhile, the exchange rate shows no effect on the stock returns of the LQ45 index, meaning that the strengthening or weakening of the exchange rate will not have an impact on the stock returns of the LQ45 index. Interestingly, although there are two influential variables, this model simultaneously only affects 2% of changes in stock returns on the LQ45 index.

These results indicate a difference with the APT theory developed by Ross (1976), APT proposes a multifactor approach to explain asset prices through arbitrage price theory. This APT model is based on the law of one price (law of one price) where the same asset cannot be sold at different prices to gain arbitrage profits (buying low-priced assets, at the same time selling at a higher price so as to earn a risk-free profit).). Therefore, if there is a difference between the purchase price of the asset and the selling price of the asset, the market will immediately return the price of the asset to its equilibrium point. The APT model assumes that the return on securities is a linear function of various macroeconomic factors and their sensitivity to change. These factors are denoted by factor-specific coefficients that measure the sensitivity of assets to each factor. APT is a different approach to pricing assets and it derives its basis from the law of one price.

Ross (1976) adds that the patron will sell the stock if the expected risk premium on the stock is lower. The patron will buy the stock if the risk premium is higher, until both sides of the equation are balanced. Investors can get this formula back into balance is by using the term arbitrage.

This APT theory explains the price at which mispriced assets are expected to be so. It is often seen as an alternative to the Capital Asset Pricing Model (CAPM), as APT has more flexible assumption requirements. While the CAPM formula requires the rate of return expected by the market, the APT uses the expected rate of return of the risky asset and the principal risk of a number of macro-economic factors. Arbitration uses the Arbitrage Pricing Theory model to benefit by taking advantage of mispriced securities. A mispriced securities will have a price different from the price theoretically predicted by the model. By taking a short position on over-priced securities, while simultaneously taking a long position on a portfolio that uses the APT calculation, arbitrageurs are in a position to take theoretically risk-free profits.

Empirically, many previous researchers have studied the effect of macroeconomics on stock returns. Factors that affect stock returns are macroeconomic factors and fundamental factors. Macroeconomic factors stem from broad economic problems, one of which is inflation. This fundamental factor can be seen from the financial statements, and the issuer's financial statements can be seen from the level of financial performance both in terms of the ability to generate profits (profitability) (Sudarsono and Sudiyatno, 2016).

Inflation has a big impact on a national economy. High inflation will push the price of building materials to become more expensive, causing high production costs that must be borne by the company. The decline in purchasing power and high production costs will indirectly affect capital market conditions. The impact of inflation will be felt by all companies in the industry. This condition will affect the performance of the capital market, because many companies cannot operate optimally, as a result, the capital market faces high uncertainty. Rational investors will try to get the maximum expected return with a minimum level of risk. Return is usually directly proportional to risk, namely the higher the level of risk

faced, the higher the return from the investment, and vice versa (Nurlaelasari, Geriadi and Wiksuana, 2021).

Research related to inflation has also been carried out by many previous researchers, such as Coovadia (2014) conducting research on the effect of inflation on stock returns, the results show that there is a long-term positive effect. This research is reinforced by research by Parsva and Lean (2011) in Egypt, Iran, Jordan, Kuwait, Oman and Saudi Arabia which shows the results that there is a long-term, one-way effect between inflation and stock returns. Khairul (2015) who conducted research in Malaysia showed that there was a positive influence between inflation and stock returns. This research is complemented by research by Tan, et al (2016) in Malaysia which shows that there is a long-term effect between inflation and stock returns.

Giri and Joshi (2017) conducted research in India showing the results that inflation has a long-term positive effect on stock returns. Alagidede (2009) conducted research in Kenya, Nigeria and Tunisia, the results showed that inflation had a positive effect on stock returns. Hosseini, et al (2011) conducted research in China, the results showed that inflation had a long-term positive effect on stock returns. Riantani and Tambunan (2013) research results show that inflation has a positive effect on stock returns.

A different study in terms of influence was conducted by Mahmood, et al (2015) in Pakistan which showed that there was a negative influence between inflation on stock prices. This research is also strengthened by the research of Kaul (1987) which shows that there is a negative effect of inflation on stock returns. Ayuba, Balago and Dagwom (2018) conducted research in Nigeria showing the results that inflation has a negative effect on stock returns. Dwita and Rahmidani (2012) conducted research in Indonesia, the results showed that inflation had a negative effect on stock returns.

High inflation will result in a decrease in people's purchasing power and an increase in interest rates. The size of the inflation rate will affect interest rates and the company's financial performance, especially in terms of profitability. Inflation that is too high will reduce the profitability obtained by the company and vice versa. The greater the value of profitability means that the company is better at using its assets to make a profit. This makes investors interested in buying company shares and has an impact on increasing stock prices followed by high stock returns.

High inflation will result in a decrease in people's purchasing power and an increase in interest rates. The size of the inflation rate will affect interest rates and the company's financial performance, especially in terms of profitability. Inflation that is too high will reduce the profitability obtained by the company and vice versa. High inflation will push the price of building materials to become more expensive, causing high production costs that must be borne by the company. The decline in purchasing power and high production costs will indirectly affect capital market conditions. Investors will not be interested in investing and the demand for stocks, especially property and real estate stocks, will fall (Purnomo and Widyawati, 2013).

Inflation as a macro fundamental does not always have an influence on stock returns, it indicates that in some cases inflation is not considered a bad signal by investors. Barnor (2014) conducted a study in Ghana which showed the results that there was no influence between inflation on stock returns. These results are also reinforced by research in Pakistan, Khan, Khan and Rukh (2012) which show that there is no effect between inflation and stock returns.

In the context of developed countries, Coovadia (2014) research results show that interest rates have a long and short-term effect on stock returns. Hamrita and Trifi (2011) conducted research in the United States, the results showed that interest rates had a one-way effect on stock returns. Parsva and Lean (2011) conducted research in the United States, the results showed that interest rates had a one-way, long-term and short-term effect on stock returns. Orawan Ratanapakorn and Subhash C. Sharma (2007) conducted research in the United States, the results showed that interest rates had an effect on stock returns. Tarun K. Mukherjee and Atsuyuki Naka (1995) conducted research in Japan, the results showed that interest rates had a long-term effect on stock returns.

Qystrein Gjerdea and Frode Settem (1999) conducted research in Norway, the results showed that interest rates had an effect on stock returns. Muradoglu, et al (2000) conducted research in Greece, the

results showed that interest rates had an effect on stock returns. Humpe and MacMillan (2007) conducted research in the United States and Japan, the results showed that interest rates had a negative effect on stock returns.

The pattern of the relationship between interest rates and stock returns in developed countries consistently shows that there is an influence between inflation and stock returns, this can be seen from research in the United States, Norway, Greece, Singapore and Japan.

In the context of developing countries, Tan, et al (2016) conducted research in Malaysia, the results of the study showed that interest rates had a long-term effect on stock returns. Al Oshaibat (2016) research results show that interest rates have an effect on stock returns. Nasir, et al (2017) conducted research in Malaysia, the results showed that interest rates had an effect on stock returns. Rahman, et al (2009) conducted research in Malaysia, the results showed that interest rates had an effect on stock returns.

Ozlen and Ergun (2012) conducted research in Turkey, the results showed that interest rates had an effect on stock returns. Forson and Janrattanagul (2014) conducted research in Thailand, the results showed that interest rates had an effect on stock returns. Rjoub and Gunsel (2009) conducted research in Turkey, the results showed that interest rates had an effect on stock returns. Aigbovo and Izekor (2015) conducted research in Nigeria, the results showed that interest rates had an effect on stock returns. Asri and Suwarta (2014) research results show that interest rates have an effect on stock returns. Rusliati and Fathoni (2011) conducted research in Indonesia, the results showed that interest rates had an effect on stock returns. Nishan (2015) conducted research in India, the results showed that interest rates had an effect on stock returns.

Interest rates are an attraction for investors to invest in the form of deposits, so that investments in shares will be competitive. According to Cahyono (2010) there are two explanations why an increase in interest rates can push stock prices down. First, the increase in interest rates changes the map of investment returns. Second, an increase in interest rates will cut corporate profits. This happens in two ways. An increase in interest rates will increase the issuer's interest expense, so that profits can be cut. In addition, when interest rates are high, production costs will increase and product prices will be more expensive so consumers may delay their purchases and deposit their funds in the bank. As a result, the company's sales declined. The decline in the company's sales and profits will swallow the stock price.

Barnor (2014) conducted research in Ghana, the results showed that interest rates had a negative effect on stock returns. Okechukwu, et al (2019) conducted research in Nigeria, the results showed that interest rates had a negative effect on stock returns. Gupta and Reid (2012) research results show that interest rates have a negative effect on stock returns. Ayuba, Balago and Dagwom (2018) conducted research in Nigeria, the results showed that interest rates had a negative effect on stock returns. Riantani and Tambunan (2013) research results show that interest rates have a negative effect on stock returns. Wongbangpo and Sharma (2002) conducted research in Indonesia, Malaysia, the Philippines, Singapore and Thailand. The results showed that interest rates had a negative long-term effect on stock returns, except for Indonesia and Malaysia, which had a positive effect. Artaya, Purbawangsa and Artini (2014) research results show that interest rates have a positive effect on stock returns.

The pattern of the relationship between inflation and stock returns in emerging market countries shows inconsistencies, ranging from positive and negative effects, even in Pakistan interest rates have no effect on stock returns, this can be seen from the differences in research in Malaysia, the Philippines, Nigeria, Ghana, Thailand, Turkey , Indonesia, China, Brazil.

The rupiah exchange rate is an economic phenomenon that will have an impact on economic activities on a domestic and global scale, the depreciation of the rupiah against the US$ causes most companies to be unable to repay their loans to banks. One of the policies taken by the Government to reduce fluctuations in the exchange rate was by increasing interest rates through Bank Indonesia Certificates (SBI) and Money Market Securities (SBPU). As an investor, there is a number of important information that must be considered in relation to highly volatile stock prices, this greatly affects investors' decisions in making wise decisions in choosing and managing good and correct stocks. Ozair (2006) research results show that

the exchange rate has an influence on stock returns. Khan, et al (2012) research results show that the exchange rate has an influence on stock returns. Artaya, Purbawangsa and Artini (2014) research results show that the exchange rate has no effect on stock returns.

In developed countries, Hamrita and Trifi (2011) conducted research in the United States, the results showed that the exchange rate had a two-way effect on stock returns. Orawan Ratanapakorn and Subhash C. Sharma (2007) conducted research in the United States, the results showed that the exchange rate had an influence on stock returns. Muradoglu, et al (2000) conducted research in Greece, the results showed that the exchange rate had an influence on stock returns.

The pattern of the relationship between the exchange rate and stock returns in developed countries shows that there is a consistent influence between the exchange rate and stock returns, this can be seen from research in the United States, Greece and Singapore.

In emerging market countries, Coovadia (2014) conducted a study which showed that the exchange rate had an influence on stock returns. Lu Sui and Lijuan Sun (2016) conducted research in Brazil, Russia, India, China, and South Africa, the results showed that the exchange rate had an influence on stock returns. Khan, Khan and Rukh (2012) conducted research in Pakistan, the results showed that the exchange rate had an influence on stock returns. Tan, et al (2016) conducted research in Malaysia, the results showed that the exchange rate had a long-term effect on stock returns.

Nasir, et al (2017) conducted research in Malaysia, the results showed that the exchange rate had an influence on stock returns. Rahman, et al (2009) conducted research in Malaysia, the results showed that the exchange rate had an influence on stock returns. Ozlen and Ergun (2012) conducted research in Turkey, the results showed that the exchange rate had an influence on stock returns. Aigbovo and Izekor (2015) conducted research in Nigeria, the results showed that the exchange rate had a long-term effect on stock returns. Nisha (2015) conducted research in India, the results showed that the exchange rate had an influence on stock returns. Kibria, et al (2014) conducted research in Pakistan, the results showed that the exchange rate had an influence on stock returns.

Barnor (2014) conducted research in Ghana, the results showed that the exchange rate had a positive influence on stock returns. Okechukwu, et al (2019) conducted research in Nigeria, the results showed that the exchange rate had a positive influence on stock returns. Okonkwo (2019) conducted a study in Nigeria, the results showed that the exchange rate had a positive effect on stock returns. Giri and Joshi (2017) conducted research in India, the results showed that the exchange rate had a long-term positive effect on stock returns.

Khairul (2015) conducted research in Malaysia, the results showed that the exchange rate had a negative effect on stock returns. Wongbangpo and Sharma (2002) conducted research in Indonesia, Malaysia, Philippines, Singapore and Thailand, the results showed that the exchange rate had a negative long-term effect on stock returns, except for Indonesia and Malaysia which had a long-term positive effect. Riantani and Tambunan (2013) research results show that the exchange rate has a negative effect on stock returns.

The pattern of the relationship between the exchange rate and stock returns in emerging market countries shows that there is a consistent influence between the exchange rate and stock returns, although there is a difference between positive and negative, this can be seen from research in Ghana, Brazil, India, China, South Africa, Nigeria, Pakistan, Malaysia, Turkey, India, Philippines and Thailand.

The focus of this research is on the variables of exchange rates, inflation, interest rates and economic growth that affect stock returns in the financial sector listed on the IDX. This research is very important to examine the relationship between variables, and practically can be a reference for investors in making stock returns.

The exchange rate variable is the amount of one currency that can be exchanged per unit of another currency, or the price of one currency in another currency (Fabozzi & Modigliani, 1996). There are two approaches that can be used to determine currency exchange rates, namely the monetary approach and the market approach. In the monetary approach, the exchange rate is defined as the price at which foreign

currency is traded against the domestic currency and this price is related to the supply and demand for money. Fluctuations in exchange rates can lead to stock price movements, this is also known as the traditional approach. On the other hand, stock movements can cause capital flows that end in exchange rate fluctuations, this is known as the portfolio approach. Unstable exchange rate fluctuations can reduce the level of confidence of foreign investors in a country's economy. This will certainly have a negative impact on stock trading in the capital market, foreign investors will tend to withdraw capital resulting in capital outflow and this will have an impact on decreasing stock prices.

Conclusion

Based on the results of the study, it shows that inflation has a positive effect on stock returns on the LQ45 index, this indicates that the higher the inflation, the stock returns of the LQ45 index will also increase. Interest rates show a negative effect, meaning that the lower the interest rate, the stock returns on the LQ45 index will increase. Meanwhile, the exchange rate has no effect on LQ45 stock returns, which means that the increase or decrease in the exchange rate has no impact on LQ45 stock returns.

References

[1]   Aigbovo, O., & Izekor, A. O. (2015). The impact of macroeconomics variables on stock market index in Nigeria. African Journal of Management Sciences, 1(1), 18-40.

[2]   Aigbovo, O., & Izekor, A. O. (2015). The impact of macroeconomics variables on stock market index in Nigeria. African Journal of Management Sciences, 1(1), 18-40.

[3]   Al Oshaibat, S. (2016). The relationship between stock returns and each of inflation, interest rates, share liquidity and remittances of workers in the Amman stock exchange. The Journal of Internet Banking and Commerce, 21(2).

[4]   Alagidede P (2009) Relationship between stock returns and inflation. Applied Economics Letters 16, hlm. 1403-1408.

[5]   Artaya, M., Purbawangsa, I. B. A., & Artini, L. G. S. (2014). Pengaruh Faktor Ekonomi Makro, Risiko Investasi Dan Kinerja Keuangan Terhadap Return Saham Perusahaan Di Bursa Efek Indonesia (Bei). E-Jurnal Ekonomi dan Bisnis Universitas Udayana, 3(12), 689-701.

[6]   Asri, I. A. Y., & Suwarta, I. K. (2014). Pengaruh Faktor Fundamental dan Faktor Ekonomi Makro pada Return Saham Perusahaan Consumer Good di Bursa Efek Indonesia. E-Jurnal Akuntansi, 353-370.

[7]   Ayuba, J. A., Balago, G. S., & Dagwom, D. Y. (2018). Effects Of Macroeconomic Factors On Stock Returns In Nigeria. International Journal of Finance and Accounting, 3(1), 66-82.

[8]   Ayuba, J. A., Balago, G. S., & Dagwom, D. Y. (2018). Effects Of Macroeconomic Factors On Stock Returns In Nigeria. International Journal of Finance and Accounting, 3(1), 66-82.

[9]   Barnor C, 2014, "The Effect of Macroeconomic Variables on Stock Market Returns in Ghana (2000-2013)" Walden University Scholar Works.

[10]   Cahyono, Jaka E. (2002) 22 Strategi dan Kiat Meraih Untung di Bursa Saham. Jakarta: PT Elex Media Komputindo.

[11]   Coovadia M., 2014, "The dynamic relationship between economic factors and the South African stock market" University of the Witwatersrand, Johannesburg.

[12]   Dwita, V., & Rahmidani, R. (2012). Pengaruh Inflasi, Suku Bunga Dan Nilai Tukar Terhadap Return Saham Sektor Restoran Hotel Dan Pariwisata. Jurnal Kajian Manajemen Bisnis, 1(01).

[13]   Fabozzi, F. J., Modigliani, F., & Ferri, M. G. (1996). Mercados e instituciones financieras. Pearson Educación.

[14]   Forson, J., & Janrattanagul, J. (2014). Selected Macroeconomic Variables and Stock Market Movements: Empirical evidence from Thailand. Contemporary economics, 8(2), 154-174.

[15]   Giri, A. K., & Joshi, P. (2017). The impact of macroeconomic indicators on indian stock prices: An empirical analysis. Studies in Business and Economics, 12(1), 61-78.

[16]   Gupta R & Reid M., 2012, "Macroeconomic Surprises and Stock Returns in South Africa" Stellenbosch Economic Working Papers: 05/12.

[17]   Hamrita, M. E., & Trifi, A. (2011). The relationship between interest rate, exchange rate and stock price: A wavelet analysis. International Journal of Economics and Financial Issues, 1(4), 220-228.

[18]   Hosseini, S.M., Ahmad, Z., Lai, Y. (2011), The role of macroeconomic variables on stock market index in China and India. International Journal of Economics and Finance, 3, 233-243.

[19]   Humpe, A. and Macmillan, P. (2007), Can macroeconomic variables explain long term stock market movements? A comparison of the US and Japan, Centre for Dynamic Macroeconomic Analysis Working Paper Series.

[20]   Kaul, G. (1987). Stock Returns And Inflation. Journal of Financial Economics, 18(1), hlm. 253-276.

[21]   Khairul Najihah, Y. (2015). Influence of macroeconomic factors on Malaysian stock returns (Doctoral dissertation, Universiti Utara Malaysia).

[22]   Khan, Z., Khan, S dan Rukh, L. (2012). Impact of Interest Rate, Exchange Rate and Inflation on Stock Returns of KSE 100 Index. IJER, hlm. 142-155.

[23]   Kibria U, Mehmood Y, Arshad M U & Sajid M, 2014, "The Impact of Macroeconomic Variables on Stock Market Returns: A Case of Pakistan" Research Journal of Management Sciences ISSN 2319–1171 Vol. 3(8), 1-7.

[24]   Lu Sui, Lijuan Sun. (2016) "Spillover effects between exchange rates and stock prices:Evidence from BRICS around the recent global financial crisis." Research in International Business and Finance 36, 459–471.

[25]   Mahmood I, Nazir F and Junid M, 2015, "Stock Prices and Infl ation: A Case Study of Pakistan" Journal of Asian Business Strategy, 4(12)2014: 217-223.

[26]   Muradoglu, G., Taskin, F., & Bigan, I. (2000). Causality between stock returns and macroeconomic variables in emerging markets. Russian & East European Finance and Trade, 36, 6, 33-53.

[27]   Muradoglu, G., Taskin, F., & Bigan, I. (2000). Causality between stock returns and macroeconomic variables in emerging markets. Russian & East European Finance and Trade, 36, 6, 33-53.

[28]   Nasir, N. M., Hassan, N. M., Nasir, Z. A., & Harun, M. F. M. (2017). Macroeconomic Factors as the Determinants of Stock Market Return in Malaysia: Multivariate Cointegration and Causality Analysis. Terengganu International Finance and Economics Journal (TIFEJ), 3(1), 38-49.

[29]   Nisha, N. (2015). Impact of macroeconomic variables on stock returns: evidence from Bombay Stock Exchange (BSE). Journal of Investment and Management, 4(5), 162-170

[30]   Nisha, N. (2015). Impact of macroeconomic variables on stock returns: evidence from Bombay Stock Exchange (BSE). Journal of Investment and Management, 4(5), 162-170.

[31]   Nurlaelasari, E., Geriadi, A. D., & Wiksuana, I. G. B. (2021). Pengaruh Inflasi Terhadap Return Saham Risiko Sistematis dan Profitabilitas Sebagai Variabel Mediasi (Studi Empiris pada Perusahaan Properti Dan Real Estate Yang Terdaftar Di Bursa Efek Indonesia). HUMANIS (Humanities, Management and Science Proceedings), 1(2).

[32]   Okechukwu, dkk. (2019). Effects of Exchange Rate, Interest Rate, and Inflation on Stock Market Returns Volatility in Nigeria. International Journal of Management Science and Business Administration, 5(6), hlm. 38-47.

[33]   Okechukwu, dkk. (2019). Effects of Exchange Rate, Interest Rate, and Inflation on Stock Market Returns Volatility in Nigeria. International Journal of Management Science and Business Administration, 5(6), hlm. 38-47.

[34]   Okonkwo, J. J. (2019). Volatility of Stock Return and Selected Macroeconomic Variables: Evidence from Nigeria Stock Exchange. International Journal of Academic Research in Business and Social Sciences, 9(6).

[35]   Orawan Ratanapakorn & Subhash C. Sharma. (2007). Dynamic analysis between the US stock returnsand the macroeconomic variables. Journal Applied Financial Economics, 17(5), hlm. 369-377.

[36]   Øystein Gjerdea, Frode Sættem. (1999). Causal relations among stock returns and macroeconomicvariables in a small, open economy. Journal of International Financial Markets, Institutions and Money, 9(1), hlm. 61-74.

[37] Ozair, A. "Causality between stock prices and exchange rates: a case of the united states." Florida Atlantic University, master of science thesis, 2006.

[38] Özlen, S., & Ergun, U. (2012). Macroeconomic factors and stock returns. International Journal of Academic Research in Business and Social Sciences, 2(9), 315.

[39] Parsva, P., & Lean, H. H. (2011). The analysis of relationship between stock prices and exchange rates: Evidence from six Middle Eastern financial markets. International research journal of finance and economics, 66(5), 157-171.

[40] Purnomo, T. H., & Widyawati, N. (2013). Pengaruh Nilai Tukar, Suku Bunga, Dan Inflasi Terhadap Return Saham Pada Perusahaan Properti. Jurnal Ilmu & Riset Manajemen, 2(10), 1-20.

[41] Rahman, A. A., Sidek, N. Z. M., & Tafri, F. H. (2009). Macroeconomic determinants of Malaysian stock market. African Journal of Business Management, 3(3), 095-106.

[42] Rahman, A. A., Sidek, N. Z. M., & Tafri, F. H. (2009). Macroeconomic determinants of Malaysian stock market. African Journal of Business Management, 3(3), 095-106.

[43] Riantani, S., & Tambunan, M. (2013). Analisis pengaruh variabel makroekonomi dan indeks global terhadap return saham. Semantik, 3(1).

[44] Riantani, S., & Tambunan, M. (2013). Analisis pengaruh variabel makroekonomi dan indeks global terhadap return saham. Semantik, 3(1).

[45] Riantani, S., & Tambunan, M. (2013). Analisis pengaruh variabel makroekonomi dan indeks global terhadap return saham. Semantik, 3(1).

[46] Rjoub, H., Türsoy, T., & Günsel, N. (2009). The effects of macroeconomic factors on stock returns: Istanbul Stock Market. Studies in Economics and Finance, 26(1), 36-45.

[47] Ross, S. (1976). The Arbitrage Theory of Capital Asset Pricing. Journal of Economic Theory, 13, 341–360. https://doi.org/10.1016/0022-0531(76)90046-6

[48] Rusliati, E., & Fathoni, S. N. (2011). Inflasi, Suku Bunga Deposito dan Return Pasar terhadap Return Saham pada Industri Barang Konsumsi yang Terdaftar di BEI 2006-2009. Jurnal Bisnis dan Akuntansi, 13(2), 107-118.

[49] Sudarsono, B., & Sudiyatno, B. (2016). Faktor-faktor yang mempengaruhi return saham pada perusahaan property dan real estate yang terdaftar pada bursa efek indonesia tahun 2009 s/d 2014. Jurnal Bisnis dan Ekonomi, 23(1).

[50] Tan, H. W., Lee, K. C., Tan, Y. L., Wan, S. L., & Wong, P. M. (2016). Impact of Macroeconomic Factors on the Performance of Stock Market in Malaysia (Doctoral dissertation, UTAR).

[51] Tarun K. Mukherjee and Atsuyuki Naka. (1995). Dynamic Relations Between Macroeconomic Variables And The Japanese Stock Market: An Application Of A Vector Error Correction Model. Journal of Financial Research 18(2), hlm. 223-37.

[52] Wongbangpo, P., & Sharma, S. C. (2002). Stock market and macroeconomic fundamental dynamic interactions: ASEAN-5 countries. Journal of asian Economics, 13(1), 27-51.