The Role of Inflation, SBI Interest Rates, and The Dollar Exchange Rate In Influencing The Composite Stock Price Index (IHSG) Study In 2020-2023

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Abstract

Research Objectives : *This study aims to analyze the simultaneous and partial influence of macroeconomic indicators—namely inflation, SBI (Bank Indonesia Certificate) interest rates, and the USD/IDR exchange rate—on the Jakarta Composite Index (JCI) during the 2020–2023 period.*
Method *: This quantitative study employs secondary monthly time series data (n = 43) from January 2020 to July 2023. Data were sourced from official databases (BI, BPS, IDX) and analyzed using multiple linear regression. Classical assumption tests including normality, multicollinearity, autocorrelation, and heteroscedasticity were performed to validate the model.*
Research Findings : *The results indicate that inflation has a significant positive effect on the JCI, while the SBI interest rate and USD exchange rate have a significant negative effect. Simultaneously, the three variables significantly influence the JCI, explaining 49.7% of its variation.*
Theoretical Contribution / Originality : *The study contributes to signaling theory by confirming that macroeconomic indicators serve as important signals to investors in stock market decision-making. It also enriches empirical literature with mixed findings on inflation's role in equity markets.*
Practitioner / Policy Implications : *Findings suggest that policymakers and investors should closely monitor inflation trends and interest rate movements to anticipate capital market dynamics. BI rate policy shifts and exchange rate volatility directly impact investment behavior in Indonesia.*
Research limitations *: The study is limited by the use of monthly secondary data and a short observation period during extraordinary events (COVID-19, geopolitical tensions), which may influence generalizability.*
Keywords: *Inflation, Interest Rate, Exchange Rate, Jakarta Composite Index (JCI), Capital Market, Macroeconomic Indicators.*

1. Introduction

Macroeconomics is the state of the economy that is influenced by the economic situation of everyday people which then affects the changes and development of the economy of a country as a whole. Macroeconomics affects the development of a country's economy as a whole, including the capital market. According to Ali et al. (2019), stock market fluctuations reflect macroeconomic conditions, showing a close relationship between the two. The capital market acts as a link between investors and companies through instruments such as stocks and bonds. Decree of the Indonesian Minister of Finance No. 1548/KMK/1990 defines the capital market as a structured financial system that affects the country's capital sector.

In Indonesia, the development of the capital market is measured through the Jakarta Composite Index (JCI), which is the main guide for investors in investing. The JCI reflects the state of the capital market and is influenced by macroeconomic factors such as inflation, interest rates (BI rate), and exchange rates. Haholongan (2021) notes that the JCI is influenced by macro indicators such as Gross Domestic Product (GDP), inflation, interest rates, and exchange rates.

The COVID-19 pandemic and the Ukraine-Russia war exacerbated the global crisis, causing inflation that impacted purchasing power, corporate earnings and stock prices. Indonesia's inflation reached 5.28% in January 2023, lower than December 2022. Inflation reduces purchasing power, lowers corporate sales, and weakens the JCI.

The BI rate also affects investment. An increase in interest rates makes investors prefer deposits over stocks, which can depress the JCI. The exchange rate of the US dollar against the rupiah is another factor that affects the JCI. Rising exchange rates cause investors to shift funds to the dollar because it is considered more profitable.

The three indicators of inflation, BI rate, and USD/IDR exchange rate have a significant influence on JCI and investment decisions in Indonesia. This data is the basis of analysis in understanding the relationship between macroeconomics and capital markets.

Table 1.1 Data on JCI Growth, Inflation, SBI interest rate, and USD to rupiah exchange rate.

Year	JCI		Inflation		SBI Rate		USD Rate	
	Price	Growth (%)		Growth (%)		Growth (%)		Growth (%)
2019	6.299		2,72%		6%		IDR 14,000-14,500/usd	
2020	5.979	-5%	1,68%	-38,2%	4.75%	-20,8%	IDR 15,000-15,500/usd	6,6%
2021	6.581	10%	1,87%	11,3%	4.75-5%	0-5,2%	IDR 14,500-15,000/usd	-3.3%
2022	6.850	4%	5,51%	194,6%	4.75-5%	0%	IDR 14,000-14,500/usd	-3,4%

Source: (Central Bureau of Statistics, 2023) (data processed by researchers)

From the data table 1.1 above, it can be seen that the conditions of inflation, SBI rate, USD rate and JCI performance in the last 4 years have fluctuated. Research by Sitompul & Setyawan (2021) shows that inflation, SBI rate, and money supply simultaneously affect the JCI. Partially, inflation has a significant positive effect on JCI, as also stated by Ratnasari et al. (2021), where a 1% increase in inflation increases the JCI by 1%. In contrast, Nurwahida & Trilogi (2020) and Octasylva et al. (2019) stated that inflation has no effect or a significant negative impact on the JCI.

Haholongan (2021) found that SBI interest rates have a positive effect on JCI, where a 1% increase in interest rates increases JCI by 1%. However, other studies such as Octasylva et al. (2019), Nurwahida & Trilogi (2020), and Ratnasari et al. (2021) show a negative or insignificant impact. Interest rates can increase the JCI through the property sector, but can also decrease it as investors prefer deposits over stocks.

The USD/IDR exchange rate, according to Haholongan (2021) and supported by other studies, has a significant negative effect on the JCI. The exchange rate does not directly affect stock prices because the exchange rate is not directly related to the demand for money in the stock market.

Several studies on the influence of macroeconomic factors on the Jakarta Composite Index (JCI) on the Indonesia Stock Exchange show mixed results. Ambarwati et al. (2022) found that world gold prices had no significant effect, while world oil prices had a positive effect and the rupiah/dollar exchange rate had a negative effect on the JCI. Research by Octasylva et al. (2019) shows that inflation and interest rates have a significant negative relationship with the JCI, while the exchange rate is not significant. Haholongan (2021) revealed that GDP has a significant positive effect, positive interest rates, and negative exchange rates on the JCI. Ratnasari et al. (2021) found that inflation has a significant positive relationship, interest rates have an insignificant negative effect, and exchange rates have a significant negative effect on the JCI. Sitompul & Setyawan (2021) showed that inflation and money supply have a significant positive effect on the JCI, while SBI interest rates have a significant positive or negative effect. Finally, Nurwahida & Trilogi (2020) found that inflation has no significant effect, but interest rates and exchange rates have a significant negative effect on the JCI.

Based on the background and the results of the above research which are inconsistent with the results of research on the effect of inflation, SBI interest rates, and dollar exchange rates on the Composite Stock Price Index, the researcher is interested in making this a topic of research with the title The Role of Inflation, Sbi Interest Rates, and Dollar Exchange Rates in Affecting the Composite Stock Price Index (JCI) (Study in 2020-2023).

1.1 Statement of Problem

Is the Jakarta Composite Index (JCI) influenced simultaneously and partially by Inflation Rate, SBI Interest Rate, and US Dollar Exchange Rate?

1.2. Research Objectives

To determine the performance of the Jakarta Composite Index (JCI) after being influenced simultaneously and partially by the Inflation Rate, SBI Interest Rate, and US Dollar Exchange Rate.

2. Method

In this study, researchers will use quantitative research methods. Quantitative method is an approach that utilizes data in the form of numbers and statistical analysis to obtain an understanding and explanation of the phenomenon being studied. The data used in this study are secondary data obtained from the official websites of BI, BPS, and IDX with monthly time series data on inflation, SBI interest rates, and the US dollar exchange rate. Data obtained from documents and analyzed by multiple linear regression, using a sample of 43 monthly data from January 2020 to July 2023. The data analysis methods used in this study include multiple linear regression analysis, classical assumption test, T test, F test, and coefficient of determination analysis..

3. Results and Discussion

3.1 Results

Descriptive Statistics

Descriptive analysis is a statistic used to analyze data by describing the data that has been collected is the explanation of Rianto et al., (2019, p. 90). Changes in data in the time span January 2020 to July 2023 have been observed in this study. During the observation period of 43 months, there were fluctuations up and down in the USD dollar exchange rate, SBI interest rate, inflation rate, and JCI variables.

Descriptive Statistics Results

	N	Minimum	Maximum	Mean	Std. Deviation
Inflation (%)	43	1.06	5.95	2.8667	1.54263
Interest Rate (%)	43	3.50	5.75	4.2209	.85775
USD Dollar Rate	43	13650	16300	14653.79	512.323
JCI	43	4539.00	7228.91	6237.8351	788.98043
Valid N (listwise)	43				

Source: SPSS data processing results 2023

Descriptive analysis of the Inflation variable indicates the inflation movement which shows that it has a minimum value of 1.06% and a maximum value of 5.95%. The average value (mean) on the inflation variable is 2.8667% and the standard deviation is 1.54263. The SBI interest rate variable shows fluctuations in the SBI interest rate, which has the lowest value of 3.50% and the highest value of 5.75%. With an average value (mean) on the inflation variable of 4.2209% and a standard deviation of 0.85775. The USD Dollar Exchange Rate variable shows fluctuations

The USD Dollar Exchange Rate has a low value of 13650 and a high value of 16300 with an average (mean) value on the USD Dollar Exchange Rate variable of 14653.79 and a standard deviation of 512.323. The Jakarta Composite Index (JCI) variable on the Indonesia Stock Exchange (IDX) indicates that the movement of the JCI has a low value of 4539.00 and a high value of 7228.91. The average (mean) of the Jakarta Composite Index (JCI) variable is 6237.8351, while the standard deviation is 788.98043.

1. **Normality Test**

Kolmorogov-Sirminov Normality Test Results (K-S)

			Unstandardized Residual
N			43
Normal Parameters[a,b]	Mean		.0000000
	Std. Deviation		559.29587523
Most Extreme Differences	Absolute		.094
	Positive		.094
	Negative		-.084
Test Statistic			.094
Asymp. Sig. (2-tailed)[c]			.200[d]
Monte Carlo Sig. (2- tailed)[e]	Sig.		.435
	99% Confidence Interval	Lower Bound	.422
		Upper Bound	.448

Source: secondary data processed on SPSS

The Kolmogorov-Smirnov test results show that the variable significance values are above 0.05. Therefore, it can be concluded that the residual values of the regression model have a normal distribution.

2. **Multicollinearity Test**

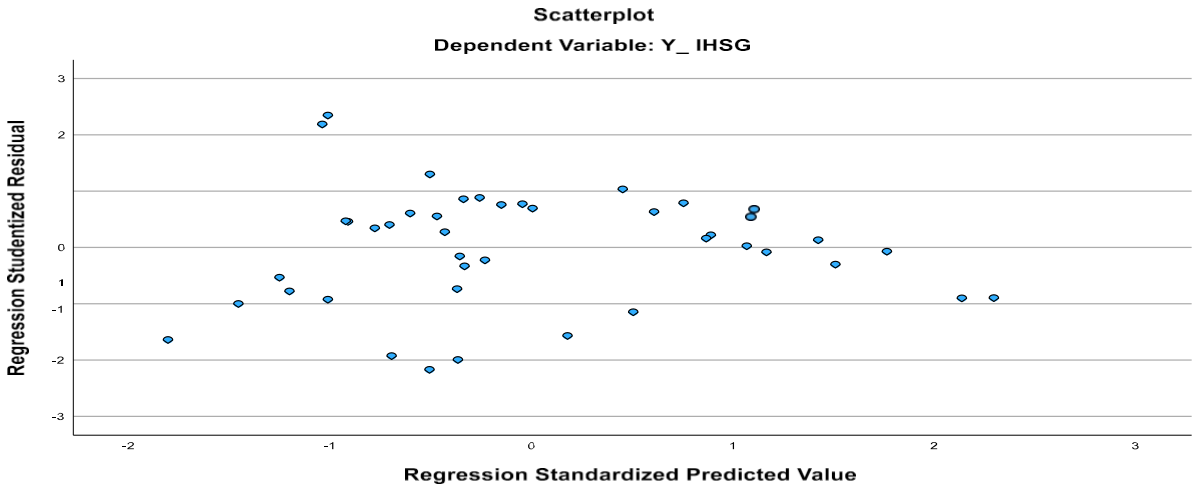
Multicollinearity Test Results

Model		Collinearity Statistics	
		Tolerance	VIF
1	INFLATION	.443	2.260
	INTEREST RATE SBI	.596	1.678
	USD DOLLAR RATE	.522	1.915

Source: secondary data processed on SPSS

From Table 4.3, it can be observed that the VIF values of all independent variables are below 10. Therefore, it can be concluded that there is no indication of multicollinearity.

3. Heteroscedasticity Test



Source: secondary data processed on SPSS

Based on the pattern above, it shows that there is no clear pattern, and the points spread with irregular patterns and spread randomly either above or below the number 0 on the Y axis. it can be concluded that the data does not occur heteroscedaticity problems

4. Autocorrelation Test

Autocorrelation Test Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.705[a]	.497	.459	580.40876	.340

Source: secondary data processed on SPSS

With the result that 4-du is 2.3368, it will result in a value of 4-du> DW, namely 2.3368> 0.340 so it can be concluded that there is no autocorrelation so that the classification assumption test is all fulfilled.

Multiple Linear Regression Analysis

Multiple Linear Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	14604.391	3344.185		4.367	<,001
	INFLATION	526.860	87.271	1.030	6.037	<,001
	INTEREST RATE SBI	-278.858	135.272	-.303	-2.061	.046
	USD DOLLAR RATE	-.594	.242	-.386	-2.454	.019

Source: secondary data processed on SPSS

By looking at the regression model and the results of the multiple linear regression analysis, we can construct an equation that explains the factors that influence the Composite Stock Price Index, as follows:

1) The constant value of 14604.391 indicates that when the values of the Inflation, SBI Interest Rate, and USD Dollar Exchange Rate variables are all zero, the JCI value has a minimum value of 14604.391.
2) Inflation has a significant positive effect on the Jakarta Composite Index (JCI), with an inflation coefficient of 526.860, indicating that when there is a 1% increase in the inflation rate, it is expected that the JCI value will increase by approximately 526.860. The same principle applies in the opposite direction, i.e. if there is a 1% decrease in inflation, the JCI value is expected to decrease by approximately 526,860. The high t- statistic value (6.037) and very low significance value (<0.001) indicates that Inflation significantly affects the JCI.
3) The SBI Interest Rate (BI Rate) has a significant negative effect on the Composite Stock Price Index (CSPI), with a regression coefficient of approximately -278.858. This means that if the BI rate increases by 1%, it is anticipated that the property sector stock price index will decrease by -278.858 points. The t-statistic value (-2.061) indicates that variable X2 has a significant influence on the dependent variable, but with a fairly low significance level (0.046).
4) The USD exchange rate has a significant negative impact on the Jakarta Composite Index (JCI), with a regression coefficient -.594. This means if the foreign exchange rate increases by 1 dollar, it is expected that the property sector stock price index will decrease by about .594 points. The t-statistic value (-2.454) indicates that the USD exchange rate has a significant influence on the JCI, with a fairly low significance level (0.019).

Determination Coefficient Test

Determination Coefficient Test Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.705[a]	.497	.459	580.40876	.340

Source: secondary data processed on SPSS

Judging from the results of the calculation of the model presented in table 4.6, it can be seen that the value of R Square: 0.497 and the Adjusted R Square value: 0.459. This means that the regression model in this case is able to explain about 49.7% of the variation in the dependent variable JCI through the independent variables of Inflation, SBI Interest Rate, and USD Dollar Exchange Rate in the model. The lower Adjusted R Square value (0.459) indicates that, after considering the complexity of the model and the number of independent variables, about 45.9% of the variation in the dependent variable can still be explained by the independent variables in the model.

Partial T Test (T Test)

T Test Results (Partial)

Model		Unstandardized Coefficients		Standardized Coefficient	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	14604.391	3344.185		4.367	<,001
	INFLATION	526.860	87.271	1.030	6.037	<,001
	INTEREST RATE SBI	-278.858	135.272	-.303	-2.061	.046
	USD DOLLAR RATE	-.594	.242	-.386	-2.454	.019

Source: secondary data processed on SPSS

Based on the results of the T test table 4.7 processed with SPSS, it can be seen that the significance value of the inflation variable is 0.001, the SBI interest rate is 0.046, the USD dollar exchange rate variable is 0.019. When the value of 0.001 is smaller than 0.05. This indicates that the Inflation, Interest Rate, and USD Dollar Exchange Rate variables have a significant impact on the JCI.

Simultaneous F Test (F Test)

F Test Results (Simultaneous)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13006486.046	3	4335495.349	12.870	<,001[b]
	Residuals	13138098.794	39	336874.328		
	Total	26144584.840	42			

a. Dependent Variable: Y_ JCI

b. Predictors: (Constant), X3_ COURSE, X2_ SBI, X1_ INFLATION

Source: secondary data processed on SPSS

Based on the results of the F test table 4.8 processed with SPSS, it can be seen that with an F test significance value of 0.001 which is lower than the threshold of 0.05, the null hypothesis (H0) is rejected and the alternative hypothesis (H1) is accepted. This indicates that together, the independent variables, namely Inflation, SBI Interest Rate, and USD Dollar Exchange Rate have a significant influence on the dependent variable, namely JCI.

DISCUSSION

a. Effect of Inflation on JCI

Based on this research, changes in the inflation rate have an impact on the JCI. If there is an increase in inflation, the price of raw materials also tends to increase, causing the burden on the JCI to increase. companies increase due to higher raw material costs, increased operational costs, and other factors. This could lead to a decrease in the company's earnings and potentially affect the JCI. The result of this study shows that inflation has a significant positive impact on JCI. This result is not in accordance with the hypothesis that has been formulated and the theory that applies in general. This condition occurs because inflation fluctuations from month to month in this period are volatile, so that it has a significant effect on the JCI. This result is supported by research conducted by (Sitompul & Setyawan, 2021, p. 696) and (Ratnasari et al., 2021, p.1146) which states that partially inflation has a significant positive effect on JCI.

b. Effect of SBI Interest Rate on JCI

From the results of the regression analysis that has been carried out, it can be concluded that there is a significant negative effect on the SBI interest rate on the JCI. If interest rates increase, the JCI tends to decrease and vice versa. This result is consistent with the research hypothesis that has been proposed and the theory that applies in general.

The results of this study are in line with the research hypothesis that has been formulated as well as generally accepted theories. Interest rates play a crucial role in influencing a country's economic growth, as interest rates will determine the cost of various investment decisions. If interest rates increase, then interest-related instruments, such as Bank Indonesia Certificates (SBI), will also increase. As a result, capital owners tend to switch and

invest their capital in SBIs. This implies a possible decline in stock prices.

These results are supported by several studies conducted previously, namely research by Octasylva et al., (2019, p. 218) which shows that interest rates have a significant negative effect on JCI. The same opinion is also obtained from the results of research by Nurwahida & Trilogi, (2020, p. 53) and Ratnasari et al., (2021, p.1146).

c. Effect of USD Exchange Rate on JCI

From the results of the regression analysis that has been carried out, it can be concluded that there is a significant negative effect on the USD Dollar Exchange Rate on the JCI. If the USD Dollar Rate increases, the JCI tends to decrease and vice versa. This result is consistent with the research hypothesis that has been proposed as well as the theory that applies in general. According to Nugroho & Hermuningsih (2020, p.39) A decrease in the dollar exchange rate against the rupiah indicates an improvement in the state of the economy in Indonesia, on the contrary, an increase in the dollar exchange rate indicates a weaker rupiah currency. This has an impact on the Indonesian economy which ultimately has an impact on the condition of the JCI.

The results of this study are supported by research conducted by Haholongan, (2021, p. 142) which states that the Exchange Rate has a negative effect on the Composite Stock Price Index. This statement is supported by research by Ambarwati et al., (2022, p. 12), Octasylva et al., (2019, p. 218), Ratnasari et al., (2021, p. 1146), and Nurwahida & Trilogi, (2020, p. 55) which states that partially the exchange rate or exchange rate has a significant negative effect on the composite stock price index.

4. Conclusion

The conclusion of this study shows that inflation has a significant positive effect on the JCI, where an increase in inflation tends to increase the JCI. This makes the first hypothesis accepted. Meanwhile, the SBI interest rate has a significant negative effect on the JCI, where an increase in the interest rate causes a decrease in the JCI, thus the second hypothesis is also accepted. In addition, changes in the USD exchange rate also have a significant negative effect on the JCI, which means an increase in the USD exchange rate causes the JCI to decline, supporting the third hypothesis. Overall, inflation, SBI interest rate, and USD exchange rate simultaneously have a significant effect on JCI, but these three variables only explain 45.9% of the change in JCI, while the remaining 54.1% is influenced by other factors not included in the research model.

References

[1] Ali, K., Sari, D. R., & Putri, R. (2019). The Effect of Inflation, Rupiah Exchange Rate and World Gold Price on the Mining Stock Price Index on the Indonesia Stock Exchange (2016-2018 Period). *Darmajaya Business Journal*, *5*(2).

[2] Ambarwati, Rahayu, D. P., & Dewi, J. P. C. (2022). The Effect of World Gold Price, World Oil Price, and Rupiah / US Dollar Exchange Rate on the Composite Stock Price Index. *JCA (Journal Scholar Accounting)*, *3*(2), 1-15. http://journal.unpar.ac.id/index.php/unpargraduate/article/view/552

[3] Central Bureau of Statistics. (2023). General main page of the Indonesian Central Bureau of Statistics. *General Publications*, 1. https://www.bps.go.id/

[4] Central Bank of Indonesia. (2020). Main Functions of the Central Bank of Indonesia. *Bank Indonesia*, 1. https://www.bi.go.id/id/fungsi-utama/default.aspx

[5] Haholongan, R. (2021). MACROECONOMIC IMPACT ON THE PRICE INDEX JOINT STOCK IN INDONESIA. *Eqien: Journal of Economics and Business*, *8*(2). https://doi.org/10.34308/eqien.v8i2.249

[6] Nurhayati, S. P., Mardani, R. M., & (2020). The Effect of the Dollar Exchange Rate, the Dow Jones Index and the Bank Indonesia Certificate Interest Rate (SBI) on the Composite Stock Price Index (JCI) (2016 Period). 2016. *Journal Scientific Research.* http://riset.unisma.ac.id/index.php/jrm/article/view/6166

[7] Nurwahida, N., & Trilogi, U. (2020). *The Role of Inflation, SBI Interest Rates, Dollar Exchange Rates in Affecting the Composite Stock Price Index (Ihsg)*.

[8] Octasylva, A., Sahat, E., & Yazid, A. (2019). *The Effect Of Inflation, Exchange Rates, And Interest Rates On The Indonesian Composite Stock Price Index (IHSG)*. *Journal of Science and Technology*, *3*(2), 209-219. https://doi.org/10.31543/jii.v3i2.150

[9] Ratnasari, Q., Muljaningsih, S., & Asmara, K. (2021a). The Effect of Macroeconomic Factors on the Composite Stock Price Index on the Indonesia Stock Exchange (2010-2019 Period). *Journal of Health Science*, *2*(6). https://doi.org/10.46799/jsa.v2i6.254

[10] Rianto, M. R., Sulistyowati, A., Hidayat, W. W., Woestho, C., & Husadha, C. (2019). Analysis of Macro and Microeconomic Factors on Stock Prices in the Banking Sector listed on the Indonesia Stock Exchange (2013-2017). *Scientific Journal of Accounting and Management (JIAM)*, *15*, *No.2* (0216-7832), 28-37.

[11] Sartika, U. (2017). The Effect Of Inflation, Interest Rates, Exchange Rates, World Oil Prices And World Gold Prices On IHSG and JII On The Stock Exchange. *Balance Journal Accounting And Business*, *2*(2). https://doi.org/10.32502/jab.v2i2.1180

[12] Sitompul, E. T. F., & Setyawan, I. R. (2021). The Effect of Inflation, Sbi Interest Rates and Money Supply on the Composite Stock Price Index (JCI) with the Arch-Garch Model. *Journal of Managerial and Entrepreneurship*, *3*(3), 688. https://doi.org/10.24912/jmk.v3i3.13152

[13] Sugiyono. (2018). Sugiyono Quantitative Qualitative Research Methods. *Qualitative*

Quantitative Research Methods.

[14] Tammu, R. G. (2020). The Effect of Inflation and Bank Indonesia Interest Rates on the Composite Stock Price Index (JCI) for the Period 2014 - 2018. *JEMMA (Journal of Economic, Management and Accounting)*, *3*(1), 62. https://doi.org/10.35914/jemma.v3i1.343

[15] Winarto, E. (2020a). The Effect of Micro and Macroeconomic Factors on the Stock Price of Food and Beverage Companies. *Adbis: Journal of Administration and Business*, *14*(2), 116. https://doi.org/10.33795/j-adbis.v14i2.97