

## Analysis of LQ45 Index Stock Movements using the ARIMA Method during Uncertainty in Global Economic Conditions in 2023

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### ABSTRACT

This research aims to analyze the movement of the LQ45 stock index using the ARIMA method during the uncertainty of the global economic conditions in 2023. The study used a quantitative approach with secondary data sourced from yahoo.finance website from April 2021 to April 2022. The data were analyzed using the ARIMA method to identify the patterns and trends of the LQ45 stock index movement during the uncertain economic conditions in 2023. The results show that the LQ45 stock index is affected by the uncertain global economic conditions in 2023. The ARIMA method was able to capture the patterns and trends of the stock index movement and predict its future values. The study found that the LQ45 stock index is expected to experience fluctuations in the short term but will likely trend upward in the long run. The findings of this research can be used as a reference for investors and policymakers in making investment decisions and policies related to the stock market during uncertain economic conditions. The study also contributes to the literature on the application of the ARIMA method in analyzing stock market movements during periods of economic uncertainty.

**Keywords :** LQ45 Index, ARIMA Method, Investment, Global Economy 2023.

### 1. INTRODUCTION

IHSG, which stands for Composite Stock Price Index in Indonesian, is a value used to measure the overall performance of shares listed on the stock exchange. IHSG has an important role as a barometer to indicate the health of a country's economy and as a basis for conducting statistical analysis of current market conditions. IHSG reflects the movement of stock prices of all companies listed on the stock exchange as a whole. In the capital market, the IHSG is the main reference in monitoring the development of economic activity in the capital market. The LQ45 index, which is a component of the Composite Stock Price Index (IHSG) in Indonesia.

The stock market is a crucial part of any economy, as it provides investors with an avenue to invest in various businesses and companies, and also helps businesses raise capital. In Indonesia, the LQ45 stock index is one of the primary indicators of the stock market's performance. Stock market research is crucial for understanding the role of the capital market in developing the concept of sustainable development in the real economy (Próchniak et al., 2023). Similar research has been conducted to analyze sectors in Indonesia's JCI, namely the banking, FMCG and Pharma sectors using ARIMA (Khandelwal & Mohanty, 2021). The LQ45 index comprises 45 companies listed on the Indonesia Stock Exchange (IDX) that are considered to be the most liquid and actively traded. The LQ45 has become the prima donna for investors. The LQ45 index consists of 45 leading stocks selected based on certain criteria, such as liquidity, market capitalization and company financial performance. The reason why the LQ45 Index is the main choice for investors is because stocks belonging to this index are considered to have higher growth potential and relatively better stability. The index's performance is closely monitored by investors, analysts, and policymakers as it reflects the overall performance of the Indonesian stock market.

Global economic conditions have a significant impact on the performance of the stock market, including the LQ45 index. In recent years, the global economy has been characterized by various uncertainties, including trade tensions, geopolitical risks, and the COVID-19 pandemic. These uncertainties have resulted in fluctuations in the stock market and have made it challenging for investors and policymakers to make informed decisions. As a result, there is a need for accurate and reliable methods to analyze the stock market's movements during periods of economic uncertainty. One method that has been widely used to analyze the stock market's movements is the Autoregressive Integrated Moving Average (ARIMA) method. ARIMA is a time-series analysis method that is commonly used to predict future values based on past patterns and trends. It is a popular method in the field of finance as it is well-suited to analyze the complex and dynamic nature of financial data.

This research aims to analyze the movement of the LQ45 stock index using the ARIMA method during the uncertainty of the global economic conditions in 2023. The study's significance lies in its ability to provide valuable insights into the LQ45 stock index's behavior during times of uncertainty. The study will help investors and policymakers understand the stock market's dynamics during periods of economic uncertainty and make informed decisions based on the findings. The study will use a quantitative approach with secondary data sourced from the yahoo.finance website from April 2021 to April 2023. The data will be analyzed using the ARIMA method to

identify the patterns and trends of the LQ45 stock index movement during the uncertain economic conditions in 2023. The findings of the study are expected to show the effects of global economic conditions on the LQ45 stock index's performance and provide predictions for its future values. The study's findings will have practical implications for investors and policymakers. The findings can be used as a reference for investors in making investment decisions related to the stock market during uncertain economic conditions. In particular, for investors, understanding the bilateral contagion behaviours of global equity financial markets helps to explore more opportunities for resource allocation, encourage new ideas for portfolio diversification, and conduct better dynamic portfolio risk management (Lu et al., 2023). Policymakers can also use the study's findings to formulate policies related to the stock market, taking into account the effects of global economic conditions on the LQ45 index's performance.

Furthermore, the study will contribute to the literature on the application of the ARIMA method in analyzing stock market movements during periods of economic uncertainty. The study's methodology and findings can be used as a reference for future research in the field of finance and economics. In conclusion, this study's significance lies in its ability to provide valuable insights into the behavior of the LQ45 stock index during times of uncertainty. The study's findings will have practical implications for investors and policymakers and contribute to the literature on the application of the ARIMA method in analyzing stock market movements during periods of economic uncertainty. The exact uses related to this research help investors to find out the trend of the LQ45 index, after knowing the trend, investors only need to choose a number of stocks that are performing well in the LQ45 Index which are good for making profits in the capital market.

### **1.1 Objective of the study This**

This paper reviews forecasting permits based on time series model construction using ARIMA from the LQ45 sector in Indonesia as a whole. The goal is to increase the amount of knowledge about time series forecasting and its limitations. In addition, the consideration of using this model is good for overall time series analysis to represent some of the performance of stocks in the sector. LQ45 as an object of research because company shares listed in the LQ45 index are shares that are actively selling in the capital market and their prices continue to fluctuate in line with the trading intensity. The results of the analysis can be a consideration for investors to choose some good stocks in the LQ45 sector.

### **1.2 Contribution to the study This**

This research looks at the progress achieved in efforts to determine stock price movements in the LQ45 sector by using the ARIMA model to determine the efficiency of the linear model so that beginners can understand the trend of several sector stocks in Indonesia and can gain profits in a highly volatile capital market. although stock price forecasting has been the subject of various investigations. However, this study focuses on unifying a popular stock sector trend in Indonesia, namely LQ45 and providing an overview of what the stock trends in it are like.

## **2. Data and methodology**

The stock index close variable in LQ45 which will be predicted using data from April 2021 to April 2023 obtained from yahoo.finance was taken in April 2023. With this data a prediction of the value of the closing price (close price) in the LQ45 Stock Index will be obtained for April 2021 to April 2023. The close price is used to determine the opening price for shares in the LQ45 Index which will be seen from the value of the previous close price. By forecasting daily stock prices on the LQ45 index, it will be easier to find out whether prices are increasing or decreasing in the capital market, which will be useful for investors to see the trend of movement in this index. This research is used in determining models, forecasting, and determining more accurate software in the data identification stage is the Box-Jenkins ARIMA time series method using Minitab version 18 software.

The first step is to formulate a model that is relevant to the state of the data. Then carry out a stationarity test in variance to ensure that the variability of the data between the groups being compared remains constant. By verifying the stationarity of the data, we can avoid misinterpretation and ensure the validity of the results of the variance analysis performed. If we do not carry out stationarity tests in variance, then we can perform transformations to change the time series data into a form that better meets the assumptions of classical statistical analysis. After this process is carried out, we need to test the stationarity of the data in the mean to ensure that the basic assumptions of statistical analysis are met, so that the results of the analysis become more valid and reliable. Differencing needs to be done to achieve stationarity in time series data. Differencing involves taking the difference between successive values in a time series.

After the initial process has been completed, then we enter the process of analyzing the ACF and PACF plots, we can obtain useful information to identify the AR order, MA order, and differencing order that are suitable for the ARIMA model to be used in time series analysis. This helps in building an optimal model and obtaining more accurate results in predicting and analyzing time series data. After that, the process of preparing parameter estimates for ARIMA models. This process is very important to obtain optimal values for the model parameters used in time series analysis. Parameter estimation is performed using the observed time series data to determine the model coefficients that best suit the data.

Furthermore, the process of observation Diagnostic test the model to evaluate the extent to which the model that has been built is in accordance with the observed time series data. Diagnostic tests assist in verifying model fit and identifying potential problems or possible violations of assumptions. By conducting a model diagnostic test, we

can identify problems or violations of assumptions that may occur in the time series analysis model. If the model does not meet the assumptions or produces unsatisfactory results, corrective steps or model adjustments can be taken to improve the suitability of the model with the observed time series data. After we get the best model, we continue with forecasting and simulating the best models that are useful for helping effective and efficient decision making. By utilizing good forecasting and simulation models, you can have a better understanding of the future and take the right steps to achieve your goals, in this case knowing the trend of an LQ45 stock index in Indonesia. The following is a framework for describing the steps in the ARIMA procedure in Figure 1, adoption of the development of previous research (Rezaldi & Sugiman, 2021).

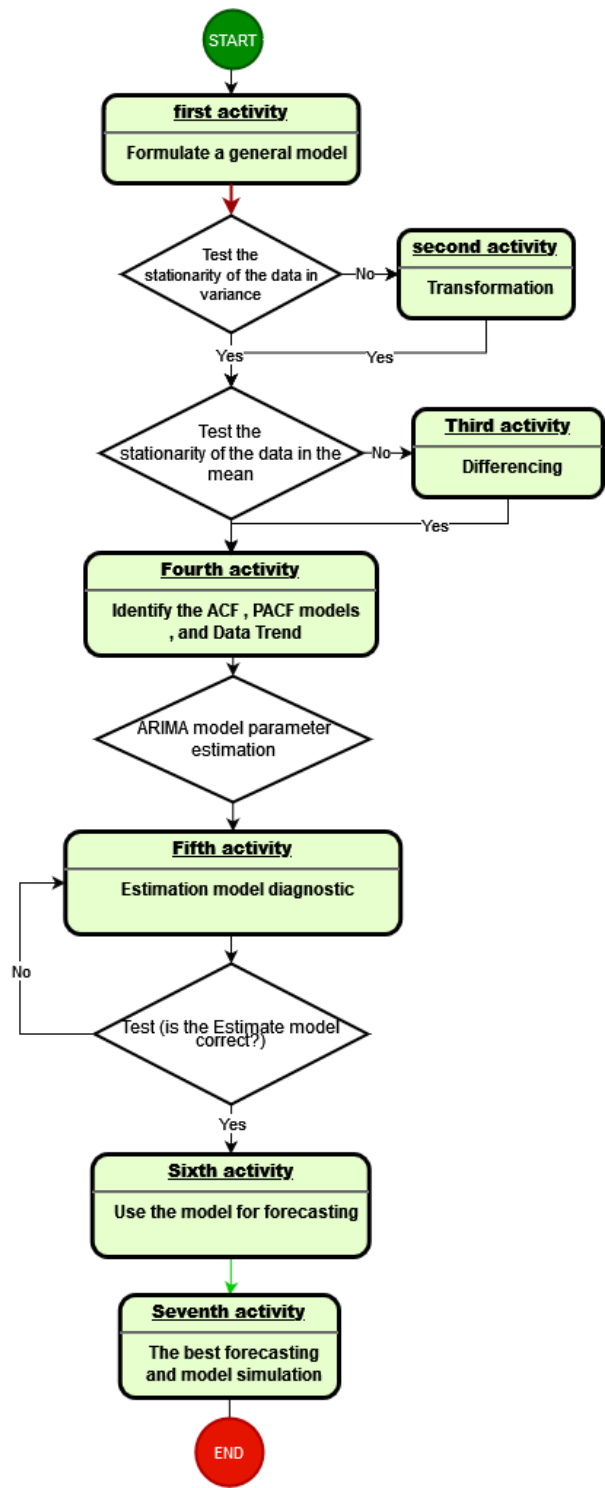


Figure 1 Framework procedure

### 3. Results and discussion

Forecasting the price (point) close of the LQ45 Index using the ARIMA method is carried out by the following ARIMA steps:

#### 3.1 Identification of Time Series Models

The application of the ARIMA method for forecasting prices (points) close the LQ45 Index is applied to data close to the LQ45 Index as many as 564 daily data, starting from April 2021 to April 2023. The LQ45 Index close data pattern is shown in Figure 2.

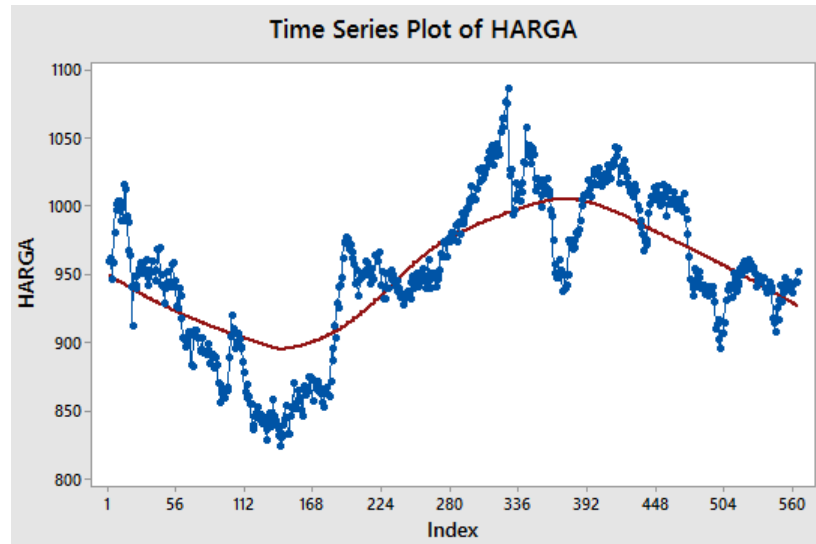


Figure 2 Plot of close data for the LQ45 Index from April 2021 to April 2023

In Figure 2 it can be seen that the LQ45 Index close data is not stationary (there is still an element of trend), so it must be stationary. This is important because stationarity is a basic assumption that must be met in order to apply various statistical methods and models that are commonly used. Stationarity refers to the statistical nature of data that is fixed or consistent over time. By ensuring stationarity in time series data, we can increase the validity of the analysis, obtain more consistent parameter estimates, produce more accurate forecasts, and avoid inferential errors. so it is often called a stochastic trend. After knowing the pattern of the data, the next step is to check the data whether the data is stationary in terms of mean (average) and variance (data deviation from the mean) or not. If the data is not stationary in the mean, it is necessary to carry out the differencing process and if it is not stationary in the variance, it is necessary to carry out the transformation process according to Figure 1. To see the stationarity in the variance, it can be seen through the Box-Cox transformation. If the rounded value or lambda ( $\lambda$ ) is equal to 1, it can be said that the data is stationary in variance. However, if lamda ( $\lambda$ ) is not equal to 1 then a transformation must be carried out until the rounded value on Box-Cox is 1 (Nugroho et al., 2023), can be seen in figure 4.

Simple observations related to the distribution of existing data by looking at the trend of the data. Trend plots in statistical software such as Minitab are used to visualize trends or patterns in data over time. The main function of trend plots is to help users identify changes or trends in time series data and observe any patterns that may exist. Through these trend plots, you can gain a better understanding of changes and patterns in time series data over a given period, and make better decisions based on this analysis. Trend LQ45 Index close data pattern is shown in Figure 3.

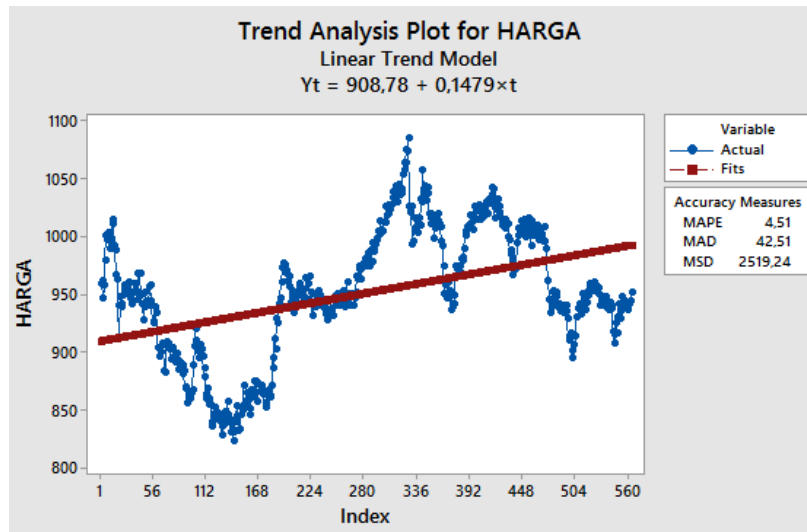


Figure 3 Plot Trend of close data LQ45 Index from April 2021 to April 2023

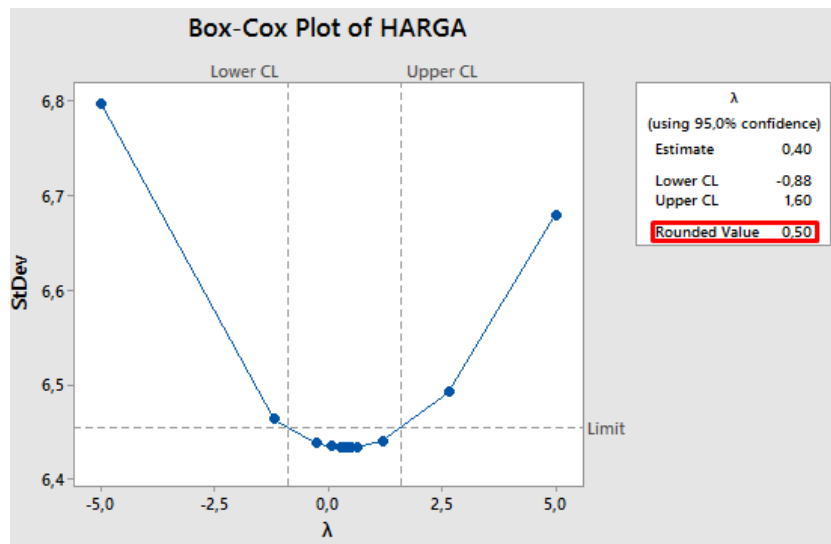
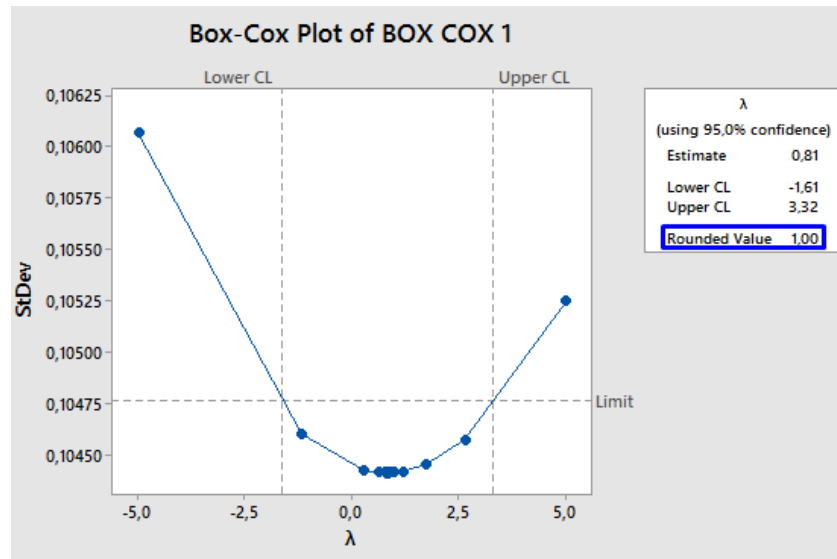


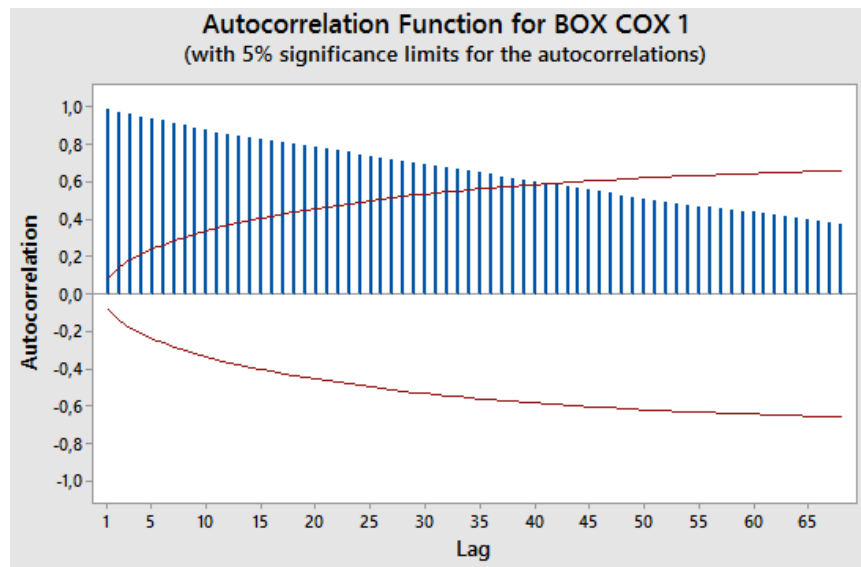
Figure 4 Box-Cox plot close index Lq45

Figure 4 shows if the data is not stationary in the variance represented by a rounded value of 0.50. Data can be said to be stationary in variance if the value of the rounded value ( $\lambda$ ) is 1. So the data must be transformed into data.



**Figure 5 First Transformation Box-Cox data close Index Lq45**

The first Box-Cox transformation was created with the name BOX COX 1, in Figure 5 a rounded value of 1.00 was obtained. This shows that the Lq45 close index data is stationary in variance. Meanwhile, to see stationarity in averages (means) can be seen through time series plots or ACF plots. If in the time series plot there is no trend element in the data or in the ACF plot it drops to near zero quickly, generally after the second or third lag, then it can be said that the data is stationary on average.



**Figure 6 graph of the results of the first transformation autocorrelation function data close Index Lq45**

Figure 6 shows that there are forty consecutive time lags that fall outside the significance limit, so that the data close to the LQ45 index can be said to be not stationary on average and it is necessary to perform data differencing.

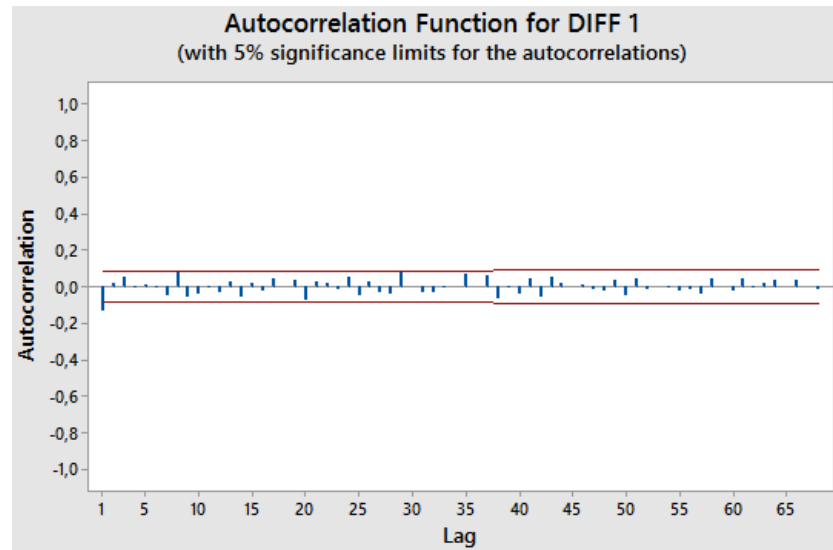


Figure 7 graph of the results of the first differencing Autocorrelation function data close Index LQ45

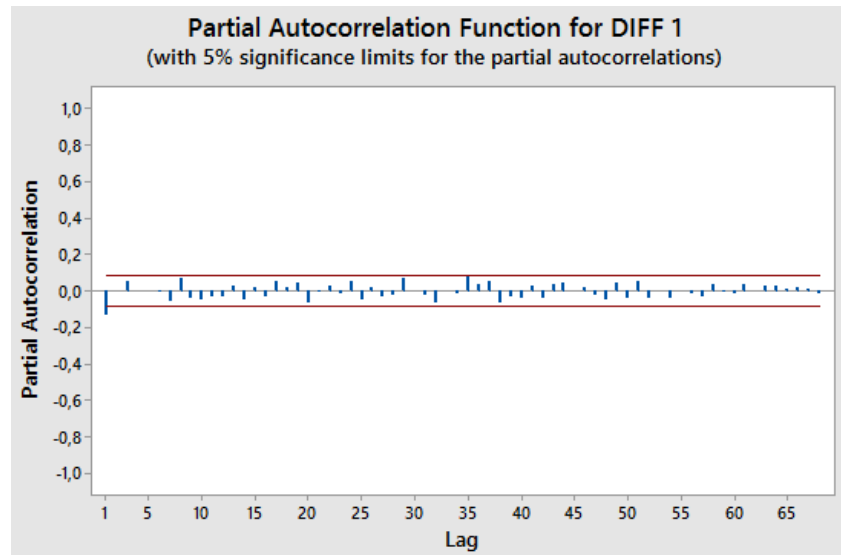


Figure 8 graph of the results of the first differencing Partial Autocorrelation function data close Index LQ45

Based on Figure 7 it can be seen that in the ACF plot the autocorrelation value at lag 1 is outside the significant limit or outside the dotted line, while in Figure 8 it can be seen that the PACF plot the partial autocorrelation value at lag 1 is outside the significant limit (Minhaj et al., 2022). So that in the ACF plot there is 1 lag that exceeds the significant limit and in the PACF plot there is 1 lag that exceeds the significant limit, indicating an Autoregressive (AR) process of order 1 and Moving Average (MA) of order 1. So we get ARIMA models that may be as following.

1. Model 1 : ARIMA (0,1,1)
2. Model 2 : ARIMA (1,1,0)
3. Model 3 : ARIMA (1,1,1)

### 3.2 Estimation and Test of Significance of Parameters

The estimation stage is used to obtain estimates of the coefficients and models that have been obtained, a parameter significance test is carried out where the model with the smallest MSE will be selected as the best model form which will later be used in describing the LQ45 Index close data. By selecting the model that has the smallest MSE, we can have greater confidence that the model provides a forecast that is closer to the true value.

Tabel 1 ARIMA model estimation close data Index LQ45

No	Model Estimation	Parameters	P. Value	Significance Test Results
1	ARIMA (0,1,1)	MA(1)	0,003	Significant
2	ARIMA (1,1,0)	AR(1)	0,002	Significant

3	ARIMA (1,1,1)	AR(1) MA(1)	0,644 0,964	Not significant
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The p-value in time series analysis does not have a fixed limit for significance. The commonly used significance threshold is a p-value of less than 0.05 or 0.01, which indicates a statistical significance level that is generally accepted in the analysis (Gowda et al., 2019). This study uses below 0.01 because it provides a higher level of security in decision making. When the p-value is below this limit, researchers or decision makers tend to believe more that their findings will be replicated or applied in a wider context.

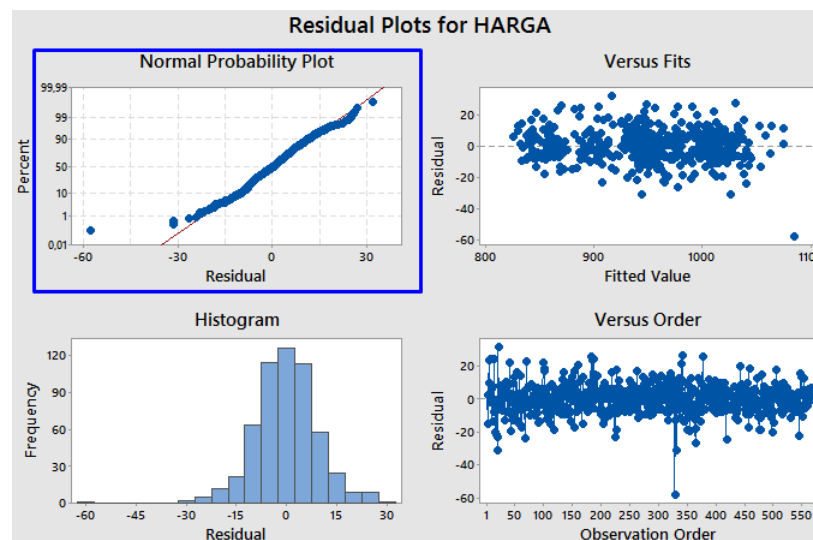
### 3.3 Model Verification

The model with the smallest Mean Squared Error (MSE) will be chosen because MSE is a general metric used to measure the quality of predictions or forecasting in data analysis. MSE calculates the average of the squared differences between the predicted values and the true values. The smaller the MSE value, the better the model is at predicting data with high accuracy. The model with the smallest MSE can be considered as the most optimal and effective model in modeling data and providing accurate predictions.

**Table 2 The MSE value of the ARIMA model data close Index LQ45**

No	Model Estimation	MSE	Selected
1	ARIMA (0,1,1)	89,95	N
2	ARIMA (1,1,0)	89,89	Y

Based on table 2, the best model is obtained which has the smallest MSE value. The smallest MSE is owned by ARIMA (1,1,0) with an MSE value of 89.89. Then check to see if the residuals of the model are white-noise or random by looking at the p-value and Ljung-Box. if it is white-noise ensures that there are no patterns or structures left in the residuals that are not explained by the model. If the residuals are white-noise, it means that there is no correlation or systematic pattern seen in the residuals and if is random, so it ensures that there are no patterns or structures left in the residuals that can be explained by other variables outside the model. To find out whether the residuals are white-noise or random, various methods and techniques of residual analysis can be used, such as the autocorrelation test, Ljung-Box test, Durbin-Watson test, or residual plot visualization. This study uses the observation that the Ljung-Box test of the ARIMA model (1,1,0) fulfills the white noise assumption, that is, the remainders are independent of each other or randomly distributed. Model fit was also tested with residual normality.



**Figure 9 Normal output probability plot residual Minitab**

Figure 9 shows that the residuals are normally distributed because the data is around the center line, so the ARIMA model (1,1,0) can meet the criteria and can be used for forecasting.

### 3.4 Forecasting Data Close Stock Index Lq45

It is known that the data close forecasting value for the Lq45 index for the period April 2021 to April 2023 uses the selected model, namely ARIMA (1,1,0). With the equation is as follows.

$$Y_t = Y_{t-1} + (-0,0419) - 0,1321\epsilon_{t-1}$$

$$Y_t = Y_{t-1} - 0,0419 - 0,1321\epsilon_{t-1}$$

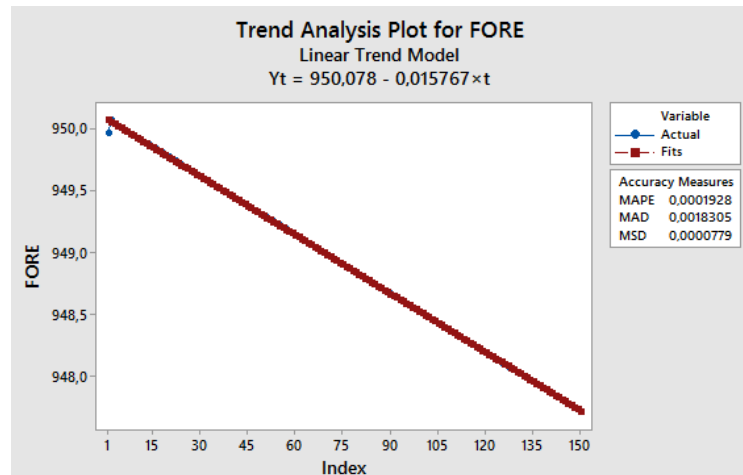


**Tabel 3 Results of the close forecasting of the LQ45 Index in Indonesia for the period April 2023 to November 2023**

No	Day	Forecasting	No	Day	Forecasting
1	01/05/2023	949,956	31	12/06/2023	949,591
2	02/05/2023	950,063	32	13/06/2023	949,575
3	03/05/2023	950,031	33	14/06/2023	949,559
4	04/05/2023	950,017	34	15/06/2023	949,543
5	05/05/2023	950,001	35	16/06/2023	949,528
6	08/05/2023	949,986	36	19/06/2023	949,512
7	09/05/2023	949,97	37	20/06/2023	949,496
8	10/05/2023	949,954	38	21/06/2023	949,48
9	11/05/2023	949,938	39	22/06/2023	949,464
10	12/05/2023	949,922	40	23/06/2023	949,449
11	15/05/2023	949,907	41	26/06/2023	949,433
12	16/05/2023	949,891	42	27/06/2023	949,417
13	17/05/2023	949,875	43	28/06/2023	949,401
14	18/05/2023	949,859	44	29/06/2023	949,385
15	19/05/2023	949,843	45	30/06/2023	949,37
16	22/05/2023	949,828	46	03/07/2023	949,354
17	23/05/2023	949,812	47	04/07/2023	949,338
18	24/05/2023	949,796	48	05/07/2023	949,322
19	25/05/2023	949,78	49	06/07/2023	949,306
20	26/05/2023	949,764	50	07/07/2023	949,291
21	29/05/2023	949,749	51	10/07/2023	949,275
22	30/05/2023	949,733	52	11/07/2023	949,259
23	31/05/2023	949,717	53	12/07/2023	949,243
24	01/06/2023	949,701	54	13/07/2023	949,228
25	02/06/2023	949,686	55	14/07/2023	949,212
26	05/06/2023	949,67	56	17/07/2023	949,196
27	06/06/2023	949,654	57	18/07/2023	949,18
28	07/06/2023	949,638	58	19/07/2023	949,164
29	08/06/2023	949,622	59	20/07/2023	949,149
30	09/06/2023	949,607	60	21/07/2023	949,133
61	24/07/2023	949,117	91	04/09/2023	948,643
62	25/07/2023	949,101	92	05/09/2023	948,627
63	26/07/2023	949,085	93	06/09/2023	948,612
64	27/07/2023	949,07	94	07/09/2023	948,596
65	28/07/2023	949,054	95	08/09/2023	948,58
66	31/07/2023	949,038	96	11/09/2023	948,564
67	01/08/2023	949,022	97	12/09/2023	948,548

68	02/08/2023	949,006
69	03/08/2023	948,991
70	04/08/2023	948,975
71	07/08/2023	948,959
72	08/08/2023	948,943
73	09/08/2023	948,927
74	10/08/2023	948,912
75	11/08/2023	948,896
76	14/08/2023	948,88
77	15/08/2023	948,864
78	16/08/2023	948,849
79	17/08/2023	948,833
80	18/08/2023	948,817
81	21/08/2023	948,801
82	22/08/2023	948,785
83	23/08/2023	948,77
84	24/08/2023	948,754
85	25/08/2023	948,738
86	28/08/2023	948,722
87	29/08/2023	948,706
88	30/08/2023	948,691
89	31/08/2023	948,675
90	01/09/2023	948,659
121	16/10/2023	948,169
122	17/10/2023	948,154
123	18/10/2023	948,138
124	19/10/2023	948,122
125	20/10/2023	948,106
126	23/10/2023	948,09
127	24/10/2023	948,075
128	25/10/2023	948,059
129	26/10/2023	948,043
130	27/10/2023	948,027
131	30/10/2023	948,012
132	31/10/2023	947,996
133	01/11/2023	947,98
134	02/11/2023	947,964
135	03/11/2023	947,948

98	13/09/2023	948,533
99	14/09/2023	948,517
100	15/09/2023	948,501
101	18/09/2023	948,485
102	19/09/2023	948,469
103	20/09/2023	948,454
104	21/09/2023	948,438
105	22/09/2023	948,422
106	25/09/2023	948,406
107	26/09/2023	948,391
108	27/09/2023	948,375
109	28/09/2023	948,359
110	29/09/2023	948,343
111	02/10/2023	948,327
112	03/10/2023	948,312
113	04/10/2023	948,296
114	05/10/2023	948,28
115	06/10/2023	948,264
116	09/10/2023	948,248
117	10/10/2023	948,233
118	11/10/2023	948,217
119	12/10/2023	948,201
120	13/10/2023	948,185
136	06/11/2023	947,933
137	07/11/2023	947,917
138	08/11/2023	947,901
139	09/11/2023	947,885
140	10/11/2023	947,869
141	13/11/2023	947,854
142	14/11/2023	947,838
143	15/11/2023	947,822
144	16/11/2023	947,806
145	17/11/2023	947,79
146	20/11/2023	947,775
147	21/11/2023	947,759
148	22/11/2023	947,743
149	23/11/2023	947,727
150	24/11/2023	947,711



**Figure 10** The results of the trend plot prediction of the LQ45 index score

Based on Table 3 and Figure 10, it is found that the closing price of the LQ45 Stock Index has decreased every day. In this case there is a possibility that stock prices in the LQ45 sector/index will continue to decline, this decline is not purely as a spread of fear among investors but only as additional information considering that the decline is not influenced by time alone but is also influenced by other factors, other external factors. so that with this information it can be an additional reference for investors to be more selective and careful in investing, especially stock investment in the Index LQ45.

### 3.5 The influence of stock movements in Indonesia

There are two factors that have a significant influence on stock prices, namely external factors and internal factors. External factors refer to factors that influence stock price movements globally. One example is the global stock index, which reflects the performance of stock markets in different countries. Changes in these global indices can have a direct impact on stock prices in local markets.

On the other hand, internal factors involve aspects related to stock movements within the domestic sphere (Salihin, 2021). One example is the condition of the domestic economy. When a country's economy experiences steady growth, the demand for local company shares tends to increase. On the other hand, if there is economic uncertainty or a decline in domestic business performance, share prices may decrease. Therefore, to understand stock price movements as a whole, it is important to pay attention to external factors such as global stock indexes and internal factors such as domestic economic conditions. The combination of these two factors will assist investors and market participants in conducting a comprehensive analysis of stock price movements.

First of all, Indonesia is one of the countries with an open stock market that is connected to global markets. In the era of globalization and economic linkages between countries, stock price movements on global stock exchanges can affect investor sentiment in Indonesia. When global indices experience a significant increase or decrease, investors in Indonesia tend to respond by changing their investment position in the domestic stock market. The LQ45 index, which includes 45 leading stocks on the Indonesian stock exchange, is also inseparable from the influence of global indices. Many companies listed in the LQ45 index have international business links or cooperation with foreign companies. Therefore, changes in the performance of shares on global exchanges can affect the share prices of these companies, which in turn have an impact on the movement of the LQ45 index.

In addition, foreign investors also have an important role in the Indonesian stock market. Global indices that experience significant changes can affect the investment decisions of foreign investors. an increase in the Dow Jones Index will effect on the increase in the JCI on the Indonesia Stock Exchange (Wicaksono & Yasa, 2017). Other domestic macroeconomic factors, such as inflation and real interest rates, were found not to affect the LQ45 index because the psychology and habits of LQ45 index investors tend to invest for long-term goals (Winy & Yulfiswandi, 2022). When the global indices experience a positive trend, the interest of foreign investors to invest in the Indonesian stock market also tends to increase. Conversely, if there is a decline in the global index, foreign investors may withdraw their funds from the Indonesian stock market, which may affect the overall share price.

Therefore, stock exchanges in Indonesia, especially the LQ45 index, are highly dependent on global indices in accordance with research that has been conducted Wicaksono & Yasa 2017 that the Dow Jones index positive effect on the Composite Stock Price Index (IHSG). Conditions and changes in global stock markets can provide important indications for investors and market players in Indonesia. Realizing this relationship, market participants need to pay close attention to global index movements and trends to make more informed investment decisions on the Indonesian stock market. other research shows the Dow Jones Index, Nikkei 225 Index, Hang Seng Index, and Inflation Exchange rates affect the movement of the Jakarta Composite Index (IHSG) (Salihin, 2021).

## 4. Conclusion

The right time series model for forecasting close data for the Lq45 Index from April 2021 to April 2023 is the ARIMA model (1,1,0) which has the smallest MSE value of 89.89 so that it can be used for forecasting by having the model equation  $Y_t = Y_{t-1} - 0.0419 - 0.1321\epsilon_t - 1$ . based on the model used, it is produced that the trend of the sector/LQ45 stock index in Indonesia will indicate a downward trend in terms of the existing forecasting data. However, if we analyze the last score on May 14, 2023 where the last LQ45 score was 932, it is indicated that LQ45 will experience a side way trend, meaning that in the context of point movements it refers to conditions when prices will move in a relatively flat or horizontal range for a significant period of time. So that this can still have the opportunity to provide benefits for investors to look for stocks listed on the LQ45 Index that have good performance.

Overall, this research has revealed that the movement of the IHSG (Composite Stock Price Index) and the LQ45 Index is highly dependent on global economic conditions. The results of this study provide an important quantitative overview regarding the movement of the LQ45 Index, which can provide valuable information for you to always be prepared to face all global economic situations and conditions that might affect the stock market in Indonesia. In a globally connected world, understanding the interrelationships between the Indonesian stock market and global economic conditions is an important step in making smart and effective investment decisions. By taking global economic factors into account in your investment strategy, you can prepare yourself with the data and knowledge to deal with potential changes and adapt your portfolio to the current situation in global stock markets.

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