

ANALYSIS OF MACROECONOMIC EFFECT ON JAKARTA ISLAMIC INDEX

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Abstract

This study aims to analyze the impact of inflation, gold prices, and exchange rates on the Jakarta Islamic Index (JII) stock price index during 2013-2023. The background of this research is based on the importance of understanding macroeconomic factors that affect the movement of stock indices, especially the Jakarta Islamic Index (JII). As one of Indonesia's leading Sharia stock indices, JII is a reference for investors in determining investment decisions per Sharia principles. Using a descriptive-verification method with a quantitative approach, the study utilized secondary data from 30 companies listed in the JII and analyzed it with Eviews9. The results indicate that, simultaneously, inflation, gold prices, and exchange rates significantly influence the JII stock price index by 93.35%, while the remaining 6.65% is affected by other factors outside the model. Partially, inflation and gold prices have a significant effect, whereas exchange rates do not significantly impact the JII stock price index. These findings confirm that macroeconomic variables play a crucial role in the movement of the Islamic stock index.

Keywords: *Inflation, Gold Prices, Exchange Rate*

1. Introduction

Both internal and external variables influence the capital market. Investors will interpret a positive Composite Stock Price Index subjectively and statistically (Phan & Zhou, 2014). However, since it acts as a middleman for businesses that will get investment money from the investor community, the capital market significantly impacts a nation's economy (Belenzon et al., 2014). Stocks are among the investment options that might draw in investors. This is shown by the rise in the stock price index brought on by the capital market's quick growth (Pan & Mishra, 2018). A certificate of ownership or involvement in the business that issued the shares may be represented by shares. The paper, which takes the shape of a stock, explains that the paper's owner is a shareholder in the corporation that

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issues securities (Hussain, 2016). The Jakarta Composite Stock Price Index (JCI) includes the share prices of issuers listed on the IDX.

The stock market uses Islamic concepts consistent with the Sharia-based economy and Sharia-based activities, such as ta'awun (Apriliani & Nuryadin, 2024). The National Sharia Council of the Indonesian Ulema Council's fatwa No. 40/DSN-MUI/X/2003 supports this action. The capital market and basic rules based on Sharia principles for capital market operations are described in this fatwa. Fatwa No. 40/DSN-MUI/X/2003 was put into effect. As a result, the stock exchange introduced the Indonesian Sharia Stock Index with the Jakarta Islamic Index (JII), which includes companies that satisfy the Sharia requirements specified in the Sharia Securities List. To assist investors who want to invest their money in Sharia, the Indonesia Stock Exchange and PT Danareksa Investment Management (PT DIM) collaborated to create the Jakarta Islamic Index, which became live on July 3, 2000.

The Jakarta Islamic Index (JII) formation seeks to boost investor trust in several Sharia principles applied to the capital market sector. The Jakarta Islamic Index's growth is influenced by macroeconomic factors such as currency rates, inflation, and gold prices. Expanding shifting inflation variables will impact the capital market, which may raise or lower investment risks. According to Madura (2007), inflation is the rise in the price of goods and services during a specific period. In this instance, inflation is defined as a picture of unfavorable economic circumstances brought on by rising prices and a decline in people's buying power. A greater inflation rate will harm the economy by lowering money's buying power, and the actual income investors will get from their investments. Theoretically, inflation will thus hinder the stock price index's movement. This study supports the findings of (Septian et al., 2012). The JII stock index suffers from the pace of inflation. Changes in the price of gold will impact investment in JII.

Gold is a generally accepted form of money (Kurniawan, 2013). Gold may be sold anywhere because of its inherent worth and high liquidity (Apriliani & Nuryadin, 2024). Because consumers choose to invest in gold that carries no risk or offers them the possibility of significant future rewards, the price of gold may impact stock indexes. This significantly affects the JII stock index. In contrast to studies (Putri & Rizal, 2019), which found that gold prices had a considerable impact on the JII stock price index, Septian et al. (2012) found that gold prices do not affect the JII stock index. The JII stock market will experience price volatility if the exchange rate declines.

The exchange rate is the price in the exchange between two different types of currencies; in the exchange of the two currencies, there is a comparison of value or price. This comparison of values is called the exchange rate. The real exchange rate is the nominal exchange rate corrected with relative prices, namely, domestic prices compared to abroad (Akbar, 2017). Globally, macroeconomic variables such as inflation, gold prices, and exchange rates will affect investor activity in investing in JII. Based on this background, the

researcher is interested in conducting a study entitled "Analysis of Macroeconomic Effect on Jakarta Islamic Indeks."

2. Literature Review

2.1 Inflation

Adiwarman defines inflation as the gradual rise in the average price of commodities, products, and services (Karim, 2010). Eduardus Tandelin, on the other hand, asserts that inflation tends to raise product prices. A monetary phenomenon that happens everywhere is inflation. If a price rise for one or two commodities affects (or contributes to) the cost of other goods, it cannot be considered careless inflation (Utami & Herlambang, 2017). An overheated economy is often linked to a high rate of inflation. This indicates that prices usually rise when economic circumstances cause demand for a commodity to outpace its supply (Nersisyan & Wray, 2022). Additionally, excessive inflation reduces the buying power of money. Furthermore, investors may get less income from their assets due to rising inflation. On the other hand, investors should take heart if a nation's inflation rate declines, even if there is a chance that real income and money-buying power will decline (Adkins et al., 2021).

2.2 Gold Price

Due to its scarcity, durability, divisibility, mold resistance, and simplicity of identification, gold is often used as a form of currency in conjunction with silver (Management et al., 2021). Gold is the metal for monetary reserves, whereas silver is often used as legal currency (Taskinsoy, 2019). A lack of practical flexibility in the measures that central banks might otherwise employ to react to economic crises results from the difficulty of manipulating the gold standard to fit the financial requirement for money (Belke & Beretta, 2020). The London gold market standard has been a benchmark for global gold prices since 1968. where London Gold Fixing is the name of the mechanism in use. Twice a day, at 10.30 (Gold A.M.) and 15.00 (Gold P.M.), the pricing procedure is carried out. The US dollar, the British pound sterling, and the euro are the three currencies used to calculate the price of gold. The closing price, or Gold P.M., is the benchmark price of the global gold contract (Astuty & Permana, 2020).

2.3 Exchange Rate

The value of two currencies is compared to determine the exchange rate. Brealey (2007) states that the exchange rate is the amount of a nation's currency needed to purchase one unit of another nation's currency. Gitman (2009) asserts that the worth of two comparable currencies is the exchange rate. The value at which local money may be exchanged for foreign currency is the definition of the exchange rate, according to Bodie (2008). Achieving monetary stability and bolstering the national economy depends on the exchange rate. A stable exchange rate is required to provide a favorable environment for company operations (Topic, 2024).

2.4 Stock Price Index

The Stock Price Index is a form of historical information that is considered very appropriate for describing stock price movements in the past. A stock price index describes stock prices at a particular time or period. Stock price indices have a variety of presentation forms, among others (Sunariyah, 2011):

1. Individual Stock Price Index
2. Composite Stock Price Index

The Jakarta Islamic Index is intended as a benchmark to measure the performance of an investment in stocks with a Sharia basis. The selection order determines the stocks in the index's calculation (Manan, 2009).

3. Research Methods

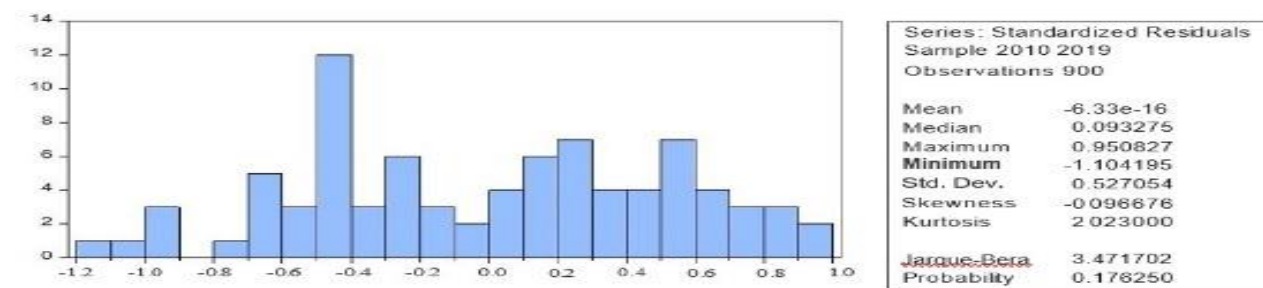
This study uses a descriptive method with a quantitative approach. The population in this study is companies listed on the Jakarta Islamic Index (JII) from 2010 to 2019. The number of population in this study is 30 companies. The sample in this study uses a non-probability sampling method, namely a non-random sampling method or a purposive sampling selection technique. The data sources used in this study are secondary data, data on related companies, and listings on the Jakarta Islamic Index from 2010 to 2019. Data was obtained from official websites such as www.bps.go.id, www.idx.co.id dan situs lainnya yang berkaitan dengan data seperti www.finance.yahoo.com, www.bi.go.id, www.logammulia.com. The research uses the classical assumption data testing method. Three approaches are used to choose the right time series model: the standard effect model, fixed effect model, random effect model, determination test, and hypothesis test.

4. Results and Discussion

4.1 Result

4.1.1 Classical Assumption Test

Normality Test



From the graph above, the normality test results with the probability value JB calculated as $0.176250 > 0.05$ so that it can be concluded that the residual (data) is usually distributed, which means that the classical assumption about normality has been fulfilled.

Multicollinearity Test

Table 1 Multicollinearity Test

	JII	Inflation	Gold Prices	Exchange Rate
JII	1.000000	-0.032421	0.038087	0.051766
Inflation	-0.032421	1.000000	0.667234	-0.611564
Gold Prices	0.038087	0.667234	1.000000	0.103058
Exchange Rate	0.051766	-0.611564	0.103058	1.000000

Based on the table above, the results of the multicollinearity test show that the value of the correlation matrix shows that the value of each variable is not more than 0.90 or < 0.90. Therefore, it can be concluded that there is no symptom of multicollinearity between the three independent variables.

Heteroscedasticity Test

Table 2 Heteroscedasticity Test

F-statistic	0.086553	Prob. F(3,80)	0.9672
Obs*R-squared	0.271761	Prob. Chi-Square (3)	0.9652
Scaled explained SS	0.132137	Prob. Chi-Square (3)	0.9877

Based on the table above, the regression model is free from the heteroscedasticity problem. The result is shown by the probability value of Obs*R-square of 0.9652, which is much greater than 0.05, so the heteroscedasticity assumption for regression testing has been fulfilled.

Autocorrelation Test

Table 3 Autocorrelation Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	39.28581	Prob. F(2,79)	0.0000
Obs*R-squared	41.88582	Prob. Chi-Square(2)	0.0000

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Date: 06/10/21 Time: 11:02

Sample: 1 900

Included observations: 900

Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
X1	-0.138168	0.500098	-0.276282	0.7831
X2	-0.202981	1.396792	-0.145319	0.8848
X3	0.278210	0.962821	0.288953	0.7734
RESID(-1)	0.719636	0.113375	6.347401	0.0000
RESID(-2)	-0.015600	0.113572	-0.137361	0.8911

R-squared	0.498641	Mean dependent var	7.46E-05
Adjusted R-squared	0.473255	S.D. dependent var	0.528345
S.E. of regression	0.383458	Akaike info criterion	0.978505
Sum squared resid	11.61616	Schwarz criterion	1.123196
Log likelihood	-36.09720	Hannan-Quinn criter.	1.036669
Durbin-Watson stat	1.938978		

Based on Table 3, The results of the autocorrelation test show Durbin Watson's number of 1.938978; this value will be compared with DW with the number of observations (n) = 84, the number of independent variables (k) = 3 and the significance level of 0.05 obtained the value of $dL = 1.5723$ and the value of $dU = 1.7199$ therefore $DW = 1.938978$ is above $dU = 1.7199$ but below $4-dU = 2.280$ ($1.7199 \leq 1.938978 \leq 2.280$). Since ($1.7199 \leq 1.938978 \leq 2.280$), DW is between the values of dU and $4-dU$ ($dU \leq d \leq 4-dU$), the hypothesis that there is no positive and negative autocorrelation in the regression model cannot be rejected or accepted, meaning that the model does not contain an autocorrelation problem.

4.1.2 Test Data Panel

Table 4 Chow Test

Redundant Fixed Effect Test			
Equation: Untitled			
Test cross-section fixed effect			
Effect Test	Statistic	d.f	Prob.
Cross-section F	41.596263	(20,60)	0.000
Cross-section Chi-square	226.719173	20	0.000

Based on Table 4, a F_{hitung} value of 41.596263 was obtained with a P-value of 0.0000. Because the P-value is less than $\alpha = 5\%$ or 0.05, the H_0 hypothesis states that we must choose the Common Effect model technique, so the model used in this study is the Fixed Effect model.

Table 5 Hausman Test

Correlated Random Effect – Hausman Test			
Equation: Untitled			
Test cross-section random effect			
Test Summary	Chi-S1.Statistic	Chi.Sq d.f	Prob.
Cross-section random	1162.333897	3	1.0000

Based on Table 14, the Chi-square value is calculated as 1162.333897 with a P-value of 1.0000. Because the p-value is more significant than $\alpha = 5\%$ or 0.05, the Random Effect approach is more appropriate.

Table 6 Lagrange Multiplier Test

Null (no rand. Effect) Alternative	Cross-section One-sided	Period One-sided	Both
Breusch-Pagan	103.0225 (0.0000)	1.691423 (0.1934)	104.7140 (0.0000)
Honda	10.15000 (0.0000)	-1.300547 (0.9033)	6.257510 (0.0000)
King-Wu	10.15000	-1.300547	2.452983

	(0.0000)	(0.9033)	(0.0071)
GYM	--	--	103.0225
	--	--	(0.0000)

Based on Table 7, the Breusch-Pagan critical value of 0.0000 in the Cross-section model is less than $\alpha = 5\%$ or 0.05; then the H_0 hypothesis is rejected; it can be concluded that the model chosen is the Random Effect technique because it is more appropriate to estimate the type of Cross-Section data. Based on the results of the Chow Test, Hausman Test, and Lagrange Multiplier Test which stated that the selected model from the three models used was the Random Effect model.

$$Y = 18.04564 + -1.277504 X1 + 2.990705 X2 + -16.38739 X3$$

The data regression model of the panel can be explained as follows:

1. The value of the Inflation variable regression coefficient of $18.04564 > 0$ means that if Inflation increases, the JII Stock Price Index will increase.
2. The value of the variable coefficient of Gold Price is $-1.277504 < 0$; then if the price of gold decreases, the JII Stock Price Index decreases.
3. The value of the variable regression coefficient of gold prices of $-16.38739 < 0$ means that if the amount of the exchange rate decreases, the JII Stock Price Index decreases

4.1.3 Hypothesis Testing

Table 7 Partial Test (T-Test)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	18.04564	8.626099	2.091982	0.0407
Inflation	1.277504	0.503142	-1.539054	0.0137
Gold Prices	2.990705	1.0977650	2.724645	0.0084
Exchange Rate	-16.38739	0.312975	-1.759630	0.0836

The table above for the variable Rupiah Exchange Rate Per US Dollar shows a p-value of 0.0836 with $\alpha = 5\%$ (0.05). H_0 is accepted, meaning that there is no influence between the Exchange Rate variable (Exchange Rate) and the JII Stock Price Index from this test.

Table 8 Simultaneous Test (F Test)

R-squared	0.933464	Mean dependent var	3.630432
Adjusted R-squared	0.907958	S.D dependent var	0.529953
S.E of regression	0.160779	Akaike info criterion	-0.582615
Sum squared resid	1.550995	Schwarz criterion	0.111905
Log-likelihood	48.46981	Hannan-Quinn criteria	-0.303424
F-statistic	36.59853	Durbin-Watson stat	2.070166

Prob (F-statistic)	0.000000		
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The statistical test used to test this simultaneous hypothesis is the F test. Table 17 above shows that the p-value is 0.000000, with $\alpha = 5\%$ (0.05), then H_0 is rejected. Therefore, it can be concluded that the Inflation, Gold Price, and Rupiah Exchange Rate variables significantly affect the JII Stock Price Index.

4.1.3 Regression Estimation Results (*R square*)

Table 9 Regression Estimation Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	18.04564	8.626099	2.091982	0.0407
INFLASI	-1.277504	0.503142	-2.539054	0.0137
HARGA_EMAS	2.990705	1.097650	2.724645	0.0084
NILAI_TUKAR	-16.38739	9.312975	-1.759630	0.0836

Effects Specification			
Cross-section fixed (dummy variables)			
R-squared	0.933464	Mean dependent var	3.630432
Adjusted R-squared	0.907958	S.D. dependent var	0.529953
S.E. of regression	0.160779	Akaike info criterion	-0.582615
Sum squared resid	1.550995	Schwarz criterion	0.111905
Log likelihood	48.46981	Hannan-Quinn criter.	-0.303424
F-statistic	36.59853	Durbin-Watson stat	2.070166
Prob(F-statistic)	0.000000		

From Table 9, it can be seen that the magnitude of the correlation coefficient is Inflation (X1), Gold Price (X2), and Exchange Rate (X3). The R-Square value in Table 4.11 is 0.933464, indicating that the proportion of the influence of Inflation (X1), Gold Price (X2), and Exchange Rate (X3) on the variables of the JII Stock Price Index is 93.3464%. This shows that inflation, gold prices, and exchange rates affect the JII stock price index by 93.3464%. At the same time, the remaining 6.6536% is influenced by other variables that are not in the regression model.

4.2 Discussion

4.2.1 The Effect of Inflation on the Jakarta Islamic Index (JII) Stock Price Index

The research results above show that the Inflation variable affects the Jakarta Islamic Index Stock Price Index for the 2010-2019 Period. This can be seen from the negative coefficient value obtained, which is -1.277504, and the significance of the T-test is $0.0407 < 0.05$. A variable coefficient marked negative means that every increase in the inflation value will result in a decrease in the JII Stock Price Index. It is indicated that this is due to the rise in the price of goods and services, which results in negative sentiment for investors, especially in the capital market. Inflation significantly impacts the Jakarta Islamic Index (JII) movement because inflation reflects the increase in the economy's price of goods and

services. When inflation increases, people's purchasing power tends to decrease, reducing consumption and investment, including investment in the stock market (Weale, 2015). This can lead to a decline in the performance of companies listed on the JII, which ultimately reduces the value of the index. In addition, high inflation usually encourages tighter monetary policy, such as interest rate hikes by Bank Indonesia, which can make stock-based investment instruments less attractive compared to fixed-interest instruments such as bonds. On the other hand, when inflation is under control or at a low level (Sanchez, & Kim, 2018). economic conditions become more stable, increasing investor confidence to invest their capital in the stock market, including in stocks that are members of JII. The study results align with Rusbariani's (2012) research, which states that the inflation rate negatively and significantly affects the JII stock price index. However, this result does not align with Ananto's (2011) research, which states that the inflation variable does not affect the JII stock price index variable.

4.2.2 The Effect of Gold Prices on the Jakarta Islamic Index (JII) Stock Price Index

From the research results above, the Gold Price variable affects the Jakarta Islamic Index Stock Price Index for the 2010-2019 Period. This can be seen from the results of the coefficient value obtained, which is 2.990705, and the significance of the T-test is $0.0084 < 0.05$. The variable coefficient shows that every increase in the Gold Price will decrease the JII Stock Price Index. Gold prices are significantly related to the Jakarta Islamic Index (JII) movement because gold is often seen as a haven asset. When economic conditions are unstable, or the stock market is experiencing high volatility, investors switch from stock-based investments to safer assets such as gold (Qezelbash et al., 2024). As a result, the increase in gold prices is usually accompanied by a decrease in investment interest in the stock market, including JII. On the other hand, when gold prices decline, and market conditions are more conducive, investors return to investing in stocks that are members of JII, which consist of companies that meet Sharia principles. Therefore, fluctuations in the price of gold can affect the attractiveness of stocks in JII and create an opposing movement pattern between the price of gold and the stock index (Rengasamy, 2020). The research results align with previous research from Marsha Gustiani (2014), in which the gold price significantly affects the JII stock price index. Meanwhile, this study is contrary to the research of Sangkyun Park (2006), which states that the cost of gold does not affect stock price.

4.2.3 Effect of Exchange Rate on Jakarta Islamic Index (JII) Stock Price Index

The research results show that the rupiah exchange rate variable per US Dollar has no effect on the *Jakarta Islamic Index* Stock Price Index for the 2010-2019 Period. This can be seen from the results of the coefficient value obtained is -16.38739, and the significance of the T-test is $0.0836 < 0.05$. The weakening of the rupiah exchange rate over 5 years has various fluctuations that affect the Indonesian economy, such as higher import activities than low export activities. The currency exchange rate volatility will also impact the financing of

business activities, especially for export-import-oriented companies (Atarodi et al., 2018). Indonesia is highly dependent on goods, mainly imported inputs. Even though the rupiah exchange rate weakened, Indonesia still had to import inputs or finished goods (Sugiharti et al., 2020). From the abovementioned conclusion, Indonesia is in a relatively high position of vulnerability in its import sector (Handayani et al., 2019). Interested parties must start opening the domestic product market (Khanna et al., 2015). Fiscal and monetary policies should be directed to revive the real sector oriented towards the import substitution industry (ISI) (Eko Atmadji, 2004). Based on the results of the research conducted, the results of this study are the research undertaken by Ananto (2011), which stated that Inflation, Gold Prices, and the Rupiah Exchange Rate per US Dollar have a significant effect on the JII Stock Price Index. However, it is not in line with the research of Rahardjo Sugeng (2010) and Ardedia Rezeki Harsono Saparila Worokinasih (2018) that the rupiah exchange rate does not affect the Stock Price Index.

5. Conclusions

The findings of this research highlight several important implications regarding the factors influencing the Jakarta Islamic Index (JII) stock price index during the 2010–2019 period. First, inflation was found to have a significant negative impact on the JII stock price index. Second, gold prices also significantly influence the JII stock price index, where an increase in gold prices negatively correlates with the index. Third, the Rupiah's exchange rate against the US Dollar does not significantly impact the JII stock price index. These results underscore the need for policymakers to focus on stabilizing inflation and reducing dependency on imports by supporting domestic production. Fiscal and monetary policies should strengthen the real sector and promote industries focused on import substitution. Additionally, investors are advised to monitor fluctuations in inflation and gold prices to make more informed investment decisions. Future research could explore additional macroeconomic and microeconomic factors, such as global oil prices, money supply, and firm-specific variables, to further understand their influence on the JII stock price index.

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