



Oil Price Volatility And Macroeconomics, Does It Affect The Performance Of Islamic Stocks In The Jakarta Islamic Index?

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Abstract

Purpose - This study aims to determine the effect of world crude oil prices and macroeconomics on the performance of Islamic stocks in the Jakarta Islamic Index (JII).

Method - The research approach uses quantitative with the Autoregressive Distributed Lag (ARDL) method to analyze the short-term and long-term influence. The research sample was taken from as many as 29 companies included in the JII Index with the observation period from 2016-2022.

Result - The results of this study show that the relationship between crude oil prices and Islamic stock performance has a significant negative effect. The rupiah exchange rate has a significant negative effect on the performance of Islamic stocks. Central bank interest rates, in this case using the BI Rate, have a significant positive effect on the performance of Islamic stocks. Inflation has a significant positive effect on the performance of Islamic stocks.

Implication - This study uses Islamic stock performance data from each company listed in the Jakarta Islamic Index and macroeconomic data obtained based on bank indonesia reports and crude oil prices derived from WTI crude oil prices.

Originality - This study looks at the short-term and long-term effects of crude oil prices and macroeconomics on the performance of Islamic stocks in the JII. The ARDL method is used to provide accurate results.

Keywords: Oil, Macroeconomics, Stocks, JII.



Introduction

The economic growth of a country can be seen, among others, in the development of the capital market investment sector (Prasetyo, 2022; Triuspitorini, 2020). Basically, the stock market is considered the best way to reflect the economic position of a country (Al-haji et al., 2018; Najaf, 2016). The vital use of the capital market as a fundraiser and alternative investment place makes its presence play an important role in the Indonesian economy (Nurliandini et al., 2021). Investment activities in the capital market have been running in Indonesia since the government issued Law No.8 of 1995 (Muan & Susilo, 2022). The development of investment activities continues to skyrocket because the level of public knowledge on investment is increasing (Ardana, 2016). This is also evidenced by the increasing performance of the Composite Stock Price Index (JCI) which represents the actual condition of the national Islamic capital market (Prasetyo, 2022).

The capital market in Indonesia continues to grow by giving birth to a sharia-based investment platform in 1997 in the form of Islamic mutual funds by PT Danareksa Investment Management (Putri, 2019). The basic reason for the issuance of the Islamic capital market is because it sees the potential of the majority Muslim Indonesian people so they want to accommodate the needs of investing according to Islamic principles (Suciningtias & Khoiroh, 2015). The presence of the Islamic capital market will also indirectly have a positive impact on the Islamic financial industry (Nevada & Kusumaningtias, 2020). So that over time, the Indonesia Stock Exchange created a new index specifically accommodating Islamic investment instruments in collaboration with PT Danareksa Investment Management which was named the Jakarta Islamic Index (JII) (Putri, 2019). JII is a stock index that meets investment criteria based on sharia principles in the Indonesian capital market, where there are 30 stocks with high liquidity and large market capitalization (Afendi, 2017). Every six months the IDX conducts a review of the JII after the initial selection process by Bapepam and will conduct further selection based on the stock's trading performance (Hakim, 2020).



Then supported by the National Sharia Council of the Indonesian Ulama Council as an institution that controls sharia activities through fatwas issued, it can provide an accelerating stimulus in the development of the Islamic capital market (Fathimiyah & Fianto, 2020). As a result, various Islamic investment instrument products emerged such as Islamic bonds (sukuk), Islamic mutual funds, and the Sharia Securities List (DES) which later transformed into the Indonesian Sharia Stock Index (ISSI) (Beik & Wardhana, 2011; Prasetyo, 2022). Even in 2015, the dominance shown by the Islamic stock market with the number of shares reaching 61% of the total shares on the Indonesia Stock Exchange beat the conventional stock market at that time (Putri, 2019). Thanks to the risk-adjusted performance with the screening process carried out by the Indonesia Stock Exchange on the Islamic index, it produces good performance during declining economic conditions (Febrianti, 2018).

DSN MUI Fatwa No.59 of 2007 has defined sharia stocks as certificates that show proof of ownership of a company by the issuer where business activities and management methods do not conflict with sharia principles (Basri & Mayasari, 2019). The enthusiasts of Islamic stocks have made the capitalization value of the Jakarta Islamic Index (JII) even greater, although in 2016 it was shaken and fluctuated due to the impact of the subprime crisis in the United States (Nevada & Kusumaningtias, 2020; Prasetyo, 2022). As explained by Touiti, (2016) that in totality the performance provided by the Islamic index is maximized and better than the conventional index. Various economic events both nationally and internationally can affect transaction activities in the Islamic capital market (Nevada & Kusumaningtias, 2020).

According to Syahrir (1995) and Surbakti & Tjun (2011), several important factors can affect the growth of the Islamic index including several macroeconomic and monetary variables and internal factors such as national economic conditions, security, political conditions, and government policies. Reflecting on the possibilities that will occur, Islamic stocks are considered capable of hedging in investment instruments (Mubarok et al., 2017; Sukmana & Kholid, 2012). However, the most influential macroeconomic factors include inflation where there is a widespread and continuous increase in the prices of



general goods that it greatly affects the Islamic capital market (R. Rahmawati & Djatnika, 2020; Triuspitorini, 2020). Rising prices can reduce demand for stocks as people's real income decreases. If inflation increases, the company's production costs will increase and cause a decrease in the company's gross, operating, and net profit values (Triuspitorini, 2020). So that a decrease in company profits can result in a decrease in dividends for investors in the capital market (Calystania et al., 2022). An unstable inflation rate will have an impact on the level of investment in the capital market, including the Indonesian sharia stock index (Setyani, 2018).

Then the interest rate has the potential to affect the performance of Islamic companies and stocks because an increase in interest rates will increase the company's burden and have an impact on company profits, so that it can affect investors' decisions in buying company shares (Rahmawati & Baini, 2020). A low-interest rate policy can encourage people to invest in the stock sector rather than saving, on the other hand, if interest rates rise, people choose to save to get profits as well as if the increase in the BI rate can affect the decline in stock prices (Muan & Susilo, 2022). In addition to macroeconomic factors, the development of Islamic stock performance is also triggered by crude oil prices because it is one of the commodities needed by the world in driving the company's economic activities (Hasibuan et al., 2023).

In addition, the exchange rate is also an external factor in the stock index movement. According to Sukirno, (2010) the exchange rate shows the value of a country's currency against another country's currency. When the Rupiah exchange rate weakens, it indicates that the Indonesian economy is not good so it can have a bad impact on investors (Putri, 2019). As a result, investors may sell their shares and cause a decline in the stock price index, including the Jakarta Islamic Index (Fathimiyah & Fianto, 2020). Then the growth in crude oil prices indicates that the economy is improving because the prices of other goods will also be affected (Basit, 2020). As the theory conveyed by Septiawan et al. (2016) where an increase in crude oil prices can affect the economy of a country, both importers and exporters, because the increase has an impact on the performance of a company. Fluctuations in crude oil prices indirectly affect



the capital market including Islamic stocks in certain countries (Arifah et al., 2020; Basit, 2020).

Various sources of literature show different perspectives from research that has been conducted regarding the effect of crude oil prices and macroeconomics on the performance of Islamic stocks. Research (Nur and Fatwa, 2022) and (Ardiansyah and Lubis, 2017) say that inflation has a positive effect on Islamic stocks. In contrast to Suciningtias & Khoiroh, (2015); Triuspitorini, (2020); Hakim, (2020) states that there is no significant effect of inflation on Islamic stocks. Agreeing with the statements of previous researchers Nurliandini et al., (2021) and Muan and Susilo, (2022) also explained where inflation does not affect the Islamic stock price index.

Then the interest rate has a positive effect on the performance of Islamic stocks (Ardiansyah & Lubis, 2017). In line with previous research, Gustina, (2021) explains that the BI Rate has a positive and significant effect on the performance of Islamic stocks so any changes will have an impact on investors' decisions to invest in these instruments. Meanwhile, the results of research by Mulyadi et al. (2022) explain the opposite, where interest rates have a negative impact on both short and long-term Islamic stocks.

Furthermore, macroeconomic elements in the form of exchange rates show the findings of Ardiansyah and Lubis, (2017) and Munir and Rosyidah, (2021) have a negative effect on Islamic stocks. The same thing was also conveyed by Pratama and Pimada, (2022) where the exchange rate did not affect the performance of Islamic stocks in the short term. Contrary to the previous opinion, the results obtained show that there is an influence between the exchange rate and the development of Islamic stocks in the short term (Gustina, 2021). This opinion is reinforced by other studies which explain that the exchange rate partially has a significant effect on Islamic stocks (Hasibuan et al., 2023).

Fluctuations in crude oil prices as explained by Basit, (2020) have a positive and significant effect on Islamic stocks. World Oil Prices partially have a significant effect on the development of Islamic stocks (Hasibuan et al., 2023).



But in contrast to these findings, research by Arifah et al. (2020) shows that the volatility of world crude oil prices did not have a positive relationship during the early research period until the first semester of 2008. After the 2008 global crisis, world oil prices were not constant following the theory of supply and demand. This is supported by the opinion of Istamar et al., (2019) and Prasada and Pangestuti, (2022) which explain that world crude oil prices (WTI) have a negative and insignificant effect on Islamic stocks in the short term.

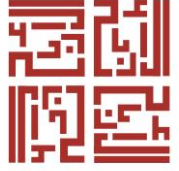
Based on the explanation of the influence of oil price fluctuations and macroeconomics in the form of inflation, interest rates, and exchange rates, the authors are interested in providing updates by using a different method from previous studies, namely Autoregressive Distributed Lag (ARDL) to test the effect of independent variables on the dependent variable. Because the use of these methods in the surrounding research is still very limited. In addition, inconsistencies in the results of previous studies encourage the author to reconsider the relationship between oil prices and macroeconomics with the performance of Islamic stocks.

Literature Review

Signaling Theory

Signaling theory is a theory first proposed by Spence in 1973 which explains that the owner of the information provides a signal or signal in the form of information that describes a condition of a company that is beneficial to investors. According to Brigham and Houston (2011), this theory explains management's perception of a company's future growth, which will affect the response of potential investors to the company. The signal contains information that explains management's efforts to realize the owner's wishes. This information is important for investors and business people in making investment decisions.

Information submitted by the company and received by investors will be interpreted and analyzed first, whether the information is considered a positive signal (good news) or a negative signal (bad news) (Jogiyanto, 2010).



If the information contains positive news, it means that investors will respond positively and investors are able to distinguish between good quality companies and not, so the stock price will be higher and the company value will increase. However, if investors give negative signals, it will indicate that investors' desire to invest will decrease and affect the decline in company value.

According to Owolabi and Inyang (2013), the signal given can be in the form of debt issuance. The use of this debt is adjusted to the company's ability to fulfill its obligations. Managers with low capabilities will not be able to pay high levels of debt and will experience bankruptcy. Conversely, if the manager is able to use a large amount of debt to show his confidence in the company's prospects to the market and act as a compatible signal for outsiders.

Broadly speaking, signaling theory is closely related to the availability of information. Financial reports can be used to make decisions for investors, financial reports are the most important part of the company's fundamental analysis (Fahmi, 2012).

Agency Theory

According to Jensen and Meckling (1976), agency theory is a theory related to the relationship between principals (shareholders) and agents (managers). Shareholders are the party that provides resources for management. Meanwhile, management is the party that is given resources to provide services following the interests of investors and authority in decision-making to achieve a desired company goal.

Widyasari (2015) argues that the principal tries to optimize company value by involving professionals (agents) who are more familiar with company management. However, agents often prioritize personal interests over company interests, so this causes agency conflicts (agency problems). To avoid agency problems, it is necessary to supervise by aligning the objectives of managers or shareholders through increased managerial ownership. According to Primadhanny (2017), agency costs are costs that must be paid by the company as a result of handing over the principal's authority to the agent



to manage the company for the survival of the company and the interests of shareholders.

Management is considered an agent and the owner is considered a principal (Manurung, 2006). Agency theory states that high managerial ownership will affect the low capital structure. Management also has rights to the company's shares and will be responsible for all risks that occur either profits or losses of the company, so that management minimizes the use of debt by applying minimize cost and maximize value (Maftukhah, 2013).

Sharia Stocks

Shares are capital formation in investment instruments that play an important role in an economy as capital formation in expanding production capacity, increasing national income and opening new jobs and increasing tax revenue for the government (Nurhidayah et al., 2022). Sharia stocks are certificates that show ownership of a company issued by issuers whose business activities and management practices are in accordance with Sharia principles (Choirunnisak, 2019). Shares are securities that represent shareholders' ownership of a company (Shelly Midesia, 2020). In sharia principles, capital participation is carried out in companies that do not violate sharia principles, such as gambling, usury, and producing prohibited goods. Capital participation in the form of shares can be carried out based on musyarakah and mudharabah contracts. The musyarakah agreement is generally used for closed companies, while the mudharabah agreement is generally used for shares of public companies (Lathifah et al., 2021).

World Crude Oil

Oil is a very important commodity for the Indonesian economy (Sugiyanto & Sarialam, 2022). Because, oil is utilized in various ways, such as industrial raw materials to vehicle fuel. This makes oil a vital tool in the economy. The world price of crude oil directly affects an indicator made from petroleum and oil prices indirectly affect costs such as transportation and manufacturing (Prasada & Pangestuti, 2022b). According to Tursoy and Faisal (2017), oil



prices are a very effective indicator for investors to make their investment portfolio decisions.

Fluctuations in world oil prices can have a major impact on the economy and capital markets. For exporting companies engaged in the mining sector or the oil commodity sector, the increase in world oil prices has an impact in the form of increased revenue or profitability of the company. This is able to attract investors to invest in assets or increase their investment. As a result, the company's share price increases, which directly affects the movement of the stock index. So the increase in world oil prices is considered capable of increasing stock prices and increasing the stock index. A different impact is felt by companies other than the mining sector and oil commodities, where the operational costs borne by companies swell from the increase in the price of non-subsidized industrial fuel oil. Automatically, the profits earned by the company will fall, triggering shareholders to release shares, so as not to bear large losses. This in turn will lower the company's stock index.

H1: Oil prices have a significant negative effect on Sharia stocks.

Exchange Rate (Kurs)

The exchange rate is the amount of domestic currency that must be paid to obtain one unit of foreign currency (Lipsey et al., 1993). If a currency appreciates, it can be said that the currency strengthens because it can buy more foreign currency. Conversely, when a currency depreciates, it can be said that the currency weakens (Mankiw, 2003).

In the category of export companies or companies that have foreign receivables, a depreciating exchange rate will certainly have a positive impact where the level of exports will increase. The increase in exports will certainly increase the profitability of the company and increase the dividends received by investors. The high dividends that will be received will certainly attract investors to invest and will increase the company's stock price and stock index. The opposite will occur when the rupiah exchange rate appreciates or strengthens.



H2: The exchange rate has a significant negative effect on Islamic stocks.

BI Rate

According to (Soemitra 2017), the BI Rate is a financial policy set by Bank Indonesia every month which is decided after a meeting of the board of governors by reviewing overall domestic and foreign economic conditions. The interest rate is one of the monetary indicators that have an impact on various aspects of economic activity (Nurrahmawati et al., 2021). Interest rates also include the price of a loan and are expressed as a percentage of principal money per unit of time (Sunariyah, 2004).

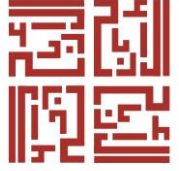
If there is an increase in the BI Rate, it will trigger a decrease in stock prices and stock sales which can simultaneously trigger an increase in stock purchases, but if the BI Rate decreases, it will trigger an increase in stock prices and stock sales which can simultaneously trigger a decrease in stock purchases (Saputra 2017).

H3: Interest rates (BI-Rate) have a significant positive effect on Islamic stocks.

Inflation

The occurrence of inflation can lead to a decrease in the purchasing power of the currency so that more money is needed to meet the consumption needs of the same goods (Setyowati et al., 2017). Inflation can also be said to be a monetary phenomenon in a particular commodity (Fathonah, 2020). So that there is a decrease in the purchasing power of money or decreasing purchasing power of money.

An increase in inflation can increase production costs higher than the increase in raw material prices compared to the increase in prices that can be set by the company. This can reduce the company's profitability with the assumption that sales remain even declining. The results of this study are in accordance with the research of Rachmawati & Laila (2015), and Putri (2018) which state that inflation does not significantly affect Islamic stocks in carrying out investment risk.



Meanwhile, when inflation decreases or is low, it can increase profitability where production costs are reduced due to low raw material prices and fixed sales prices. Increased company profitability will result in an increase in the company's share price because many investors want to invest in the company and this will result in an increase in the stock index.

H4: Inflation has a significant positive effect on Islamic stocks.

Literature Review

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Research conducted by Fauzan, Andri, and Rahmat (2023) produces important points, namely, inflation partially has a significant effect on Islamic stocks, exchange rates significantly affect Islamic stocks, and world oil prices have a significant effect on Islamic stocks. Then Muhammad, Ana, and Bela (2023) provide several conclusions in which the inflation rate, interest rate, rupiah exchange rate, simultaneously affect Islamic stocks. While Noval (2022), in his research, explained that the price of crude oil has no significant effect on Islamic stocks. This is because the impact of rising crude oil prices has been anticipated by the government through the provision of fuel oil subsidies. While the rupiah exchange rate (USD/IDR) has a significant negative effect on the Islamic stock market in Indonesia. This is because the exchange rate has increased, issuers with foreign debt will spend more rupiah to pay off so that the Islamic stock market return will decrease.

Qodir and Edi (2022) in their study findings based on multiple linear analyses concluded that partially the exchange rate variable has a significant



effect on the Islamic stock index, meaning that if the dollar exchange rate falls (depreciation) then the Islamic stock index will rise. And vice versa. In this study, the interest rate variable has a significant effect on the stock price index, which means that if the Bank Indonesia interest rate is high, the stock price will decrease, and vice versa. Partially, the world oil price variable has a significant effect on stock prices, which means that if world oil rises, stock prices will fall and vice versa.

Pada penelitian Feri (2022), menggunakan analisis regresi linear berganda dapat disimpulkan bahwa secara simultan variabel Dow Jones Industrial Average (DJIA), Harga Minyak Dunia, BI 7-Day reverse Repo Rate dan Inflasi berpengaruh signifikan terhadap Indeks Saham Jakarta Islamic Index (JII) di Bursa Efek Indonesia (BEI). Secara Parsial DJIA dan BI 7-Day reverse Repo Rate berpengaruh negatif namun tidak signifikan, sedangkan Harga Minyak Dunia dan Inflasi berpengaruh positif signifikan terhadap Jakarta Islamic Index (JII).

Further research by Arfandi and Santry (2022) suggests that there is a positive and significant relationship of the variables presented both partially and simultaneously. This indicates that Islamic businesses in various countries have patterns that tend to be the same both macro and micro-economically so that the Islamic stock index tends to get a positive response from the market. In line with previous opinions, Agung (2021) found that the results of research on inflation variables, BI Rate, Bank Indonesia Certificates, and world oil prices show that they have a positive and significant effect on the Stock Index in Indonesia both partially and simultaneously. Meanwhile, in the perspective of Islamic economics, investment is an economic activity that is not only oriented toward worldly matters, in this case Islam combines the dimensions of the world and the hereafter.

Meanwhile, Nurul, Sukma, and Jesi (2021), the results of an analysis of the effect of inflation, BI Rate, exchange rate, world oil prices, and world gold prices on the Indonesian Sharia Stock Index (ISSI) for the 2018-2020 period, found that inflation had no effect on the Indonesian Sharia Stock Index for the 2018-2020 period. BI Rate has a negative effect on the Indonesian Sharia Stock Index



(ISSI) for the 2018-2020 period. Exchange rate has a negative effect on the Indonesian Sharia Stock Index (ISSI). World oil prices have a positive effect on the Indonesian Sharia Stock Index (ISSI). World gold prices have a negative effect on the Indonesian Sharia Stock Index (ISSI). Further research by Ahmad, Muhammad, and Hasni (2021), explains that inflation can have a significant negative short-term effect on the Indonesian Sharia Stock Index (ISSI). But inflation has a significant positive long-term effect on the Indonesian Sharia Stock Index (ISSI). Then the money supply in the long term has a positive and significant effect on the Indonesian Sharia Stock Index (ISSI), but in the short term the money supply has an insignificant relationship with the ISSI. Furthermore, the exchange rate in the long term and short term has a significant negative effect on the ISSI. This means that as the exchange rate increases, stock prices will decrease and vice versa, if the exchange rate decreases, stock prices will increase. Then interest rates (BI Rate) in the long term and short term have a negative and significant relationship with the ISSI. Increasing interest rates can reduce stock prices and vice versa, decreasing interest rates is a signal to increasing stock prices. In addition, there is an insignificant long-term relationship between world oil prices (WTI) and ISSI.

Methods

The research approach used is a quantitative approach, where the type of quantitative research is a form of statistical analysis (inferential) that is procedural so that research will produce data in the form of numbers that have certain meanings (Silaen, 2018). This research method uses the Autoregressive Distributed Lag (ARDL) method to analyze the effect of crude oil prices and macroeconomics on the performance of Islamic stocks in the Jakarta Islamic Index (JII), and uses Eviews 10 as software to process the data. The sample used in this study amounted to 30 Islamic stocks included in the Jakarta Islamic Index (JII) list. The minimum sample criteria have three years of financial statement data. Then, the research period was taken monthly for seven years from 2016 to 2022. The reason for taking this period is to capture more broadly the events that affect the performance of Islamic stocks as selected variables in this study.



The performance of Islamic stocks in this study is proxied by the Tobin's Q variable.

The population used in this study is data collected from world oil prices based on West Texas Intermediate (WTI), inflation, interest rates (BI Rate), and the rupiah exchange rate against the United States dollar. The data source used in this research is secondary data. Data collection was used using library research techniques obtained from the Bank Indonesia web page to obtain data on interest rates, inflation, and the rupiah exchange rate. The price of West Texas Intermediate (WTI) sport per barrel is used as a variable of world oil prices taken from the Yahoo Finance website.

The method used in this research is Autoregressive Distributed Lag (ARDL) to analyze the long-term and short-term effects of crude oil price data, inflation, Bank Indonesia interest rates, and exchange rates on the performance of Islamic stocks in the Jakarta Islamic Index (JII). The reason for choosing ARDL is because this model is able to see the effect of Y and X over time, as well as the effect of past Y variables on current Y. ADRL is also not concerned with the degree of integration of each variable. This eliminates uncertainty. This approach is applied by ignoring the degree of integration of each variable, whether integrated at degree zero, $I(0)$ or degree one integration, $I(1)$ (Zaretta & Yovita, 2019). The model used in this study is as follows:

$$\Delta TOBQ_t = \alpha_0 + \sum_{i=1}^n \alpha_{1i} \Delta KSS_{t-1} + \sum_{i=1}^n \alpha_{2i} \Delta OIL_{t-1} + \sum_{i=1}^n \alpha_{3i} \Delta INF_{t-1} + \sum_{i=1}^n \alpha_{4i} \Delta INT_{t-1} + \sum_{i=1}^n \alpha_{5i} \Delta KURS_{t-1} + \theta_1 KSS_{t-1} + \theta_2 OIP_{t-1} + \theta_3 INF_{t-1} + \theta_4 INT_{t-1} + \theta_5 KURS_{t-1} + e_t$$

Where:

TOBQ = Sharia Stock Performance period t

OIL = Crude Oil Price

INF = Inflation

INT = Bank Indonesia Interest Rate

KURS = Exchange Rate



Δ	= lag
$\alpha_{(1i)} - \alpha_{(5i)}$	= short-term dynamic relationship model
θ_{1-5}	= long-term dynamic relationship model
e	= error

Results and Discussion

Descriptive statistics were used to measure variables using Eviews 10 software as shown in Table 1. Each variable has 2436 observations for 29 Islamic stocks. One company was not included in the data management because it did not meet the research sample criteria. It can be seen in Table 1 that the value of Tobin's Q as a proxy for the performance of Islamic stocks averaged 1.5445 with the maximum touching the level of 11.79 and the lowest at 0. Then, some independent variables such as crude oil prices showed the maximum value at 114.67 dollars per barrel and at the bottom point worth 18.84 dollars per barrel. The average crude oil price is 59.7861. Meanwhile, the rupiah exchange rate shows its average at 9.5568 with the highest value at 9.68 and the lowest at 9.47. Then the interest rate has a maximum value of 0.06 percent and a low of 0.04 percent with an average of 0.479 percent. Finally, the inflation variable obtained an average value of 0.0302 percent with the lowest level at 0.01 percent and the highest at 0.06 percent.

This study shows that the highest value of Tobin's Q as an indicator of sharia stock performance was obtained by a company with the code CPIN worth 11.79% in January 2018. This is due to the increasing amount of market value equity. While the lowest point is in the company-coded BRIS in January 2018 because it has not been listed on the Indonesian stock exchange so that the value is given zero. Then, the world crude oil price in May 2022 reached its highest point in the last seven years with a value of 114.67 dollars per barrel and was at its lowest point worth 18.84 dollars per barrel in April 2020. The lowest decline was triggered by, among others, the war between Ukraine and Russia which resulted in obstructed crude oil trade.



Table 1. Descriptive Statistics

Variables (unit)	Mean	Maximum	Minimum	Std. Dev.	Observations
TOBQ (%)	1.5445	11.7900	0.0000	1.6172	2436
OIL (USD)	59.7861	114.6700	18.8400	18.5457	2436
KURS (%)	9.5568	9.6800	9.4700	0.0459	2436
INTEREST (%)	0.0479	0.0600	0.0400	0.0077	2436
INFLASI (%)	0.0302	0.0600	0.0100	0.0109	2436

Furthermore, the rupiah exchange rate with the highest value at 9.68 in April 2020 and the lowest at 9.47 in October 2016. The increase in the exchange rate at the peak level is in line with the increasing price of crude oil, so that simultaneously has a relationship in the world economy, especially in the exchange rate between the rupiah and the US dollar. While the interest rate has a maximum value of 0.06 percent and the lowest is 0.04 percent. Then inflation gets the lowest level at 0.01 percent and the highest at 0.06 percent.

P-values are in parentheses. *, **, and ***, denote significance levels of 10%, 5%, and 1%, respectively. H0: The variable has a unit root.

Table 2. Unit Root Test Results in Level

Variables	Augmented Dickey-Fuller		Phillips-Perron	
	Constant	Constant and Trend	Constant	Constant and Trend
In	130.461	175.638	163.576	223.251
(TOBQ)	(0.0000)***	(0.0000)***	(0.0000)***	(0.0000)***
OIL	52.8747 (0.6658)	33.0189 (0.9966)	59.9264 (0.4057)	41.1348 (0.9542)
KURS	147.977 (0.0000)***	391.633 (0.0000)***	105.256 (0.0001)***	405.705 (0.0000)***
INTEREST	61.2489 (0.3602)	9.01984 (1.0000)	77.9845 (0.0412)**	14.2452 (1.0000)
INFLASI	193.338 (0.0000)***	98.6848 (0.0007)***	192.226 (0.0000)***	96.1527 (0.0012)***

**Table 3. Unit Root Test Results in First Different**

Variables	Augmented Dickey-Fuller		Phillips-Perron	
	Constant	Constant and Trend	Constant	Constant and Trend
In	595.549	1541.82	569.674	1521.53
(TOBQ)	(0.0000)***	(0.0000)***	(0.0000)***	(0.0000)***
OIL	991.494	1088.11	991.436	1082.12
	(0.0000)***	(0.0000)***	(0.0000)***	(0.0000)***
KURS	882.383	1323.22	534.2	1094.94
	(0.0000)***	(0.0000)***	(0.0000)***	(0.0000)***
INTEREST	927.209	1333.98	925.572	1334.83
	(0.0000)***	(0.0000)***	(0.0000)***	(0.0000)***
INFLASI	546.06	448.009	534.2	1735.42
	(0.0000)***	(0.0000)***	(0.0000)***	(0.0000)***

P-values are in parentheses.

*, **, and ***, denote significance levels of 10%, 5%, and 1%, respectively.

H0: The variable has a unit root.

The first step in analyzing panel data using ARDL is to ensure that all variables must be non-integrated at order two/second difference or higher. Before testing for cointegration, what needs to be done first is to test the unit root test using Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP). The treatment will determine the stationarity of the variables and their integration order. Table 2 illustrates the results of these tests which consistently note that all series are not stationary at level, except for Tobin's Q, exchange rate, and inflation which are stationary at level ($I(0)$). While Table 3 shows that the unit root test in the form of the first difference yields stationary and integrated values at order one $I(1)$, based on the diverse integration results between $I(0)$ and $I(1)$, this study fulfills the prerequisite to apply the ARDL model which is more suitable than the Johansen cointegration model to investigate the impact of Islamic stock performance indicators on crude oil prices and the macroeconomy.



Table 4. Panel Unit Root Test Results

Alternative Hypothesis	Pedroni (Individual Intercept)	
	Common AR coefs	Individual AR coefs
Panel v-Statistic	0.118268	-
	(-0.4529)	-
Panel rho-Statistic	-7.264247	-8.377871
	(0.0000)***	(0.0000)***
Panel PP-Statistic	-8.874475	-10.821
	(0.0000)***	(0.0000)***
Panel ADF-Statistic	-2.933722	-3.032675
	(0.0017)***	(0.0012)***

Notes:

P-values are in parentheses.

*, **, and ***, denote significance levels of 10%, 5%, and 1%, respectively.

H0: The variable has a unit root.

Table 5. Estimasi Short-Run Coefficients

Dependent Variable: ln (TOBQ)	Coefficient	t-Statistic	Prob.*
COINTEQ01	-0.061088	-3.103675	0.0019
D(TOB(-1))	-0.201457	-6.006354	0.0000
D(INT)	-6.544702	-2.528674	0.0115
D(INT(-1))	-0.764019	-0.59284	0.5534
D(INT(-2))	4.472968	2.677688	0.0075
D(INF)	-2.182926	-2.133344	0.0330
D(INF(-1))	-0.560696	-0.423026	0.6723
D(INF(-2))	-0.958366	-0.677474	0.4982
D(KURS)	-0.790218	-2.921923	0.0035
D(KURS(-1))	-0.425854	-1.124781	0.2608
D(KURS(-2))	0.759037	0.660203	0.5092
D(OIL)	0.00019	0.137161	0.8909
D(OIL(-1))	-0.00097	-0.758781	0.4481
D(OIL(-2))	0.001464	0.68595	0.4928

**Table 6. Estimated Long-Run Coefficients**

Dependent Variable: ln (TOBQ)	Coefficient	t-Statistic	Prob.*
OIL (USD)	-24.0248	-4.867982	0.0000
KURS (Rp)	-8.615864	-2.214984	0.0269
INTEREST (%)	0.153907	5.438499	0.0000
INFLASI (%)	0.019194	8.423941	0.0000

The panel unit root test using Pedroni (Individual Intercept) displayed in Table 4 shows that there is a short-term to the long-term relationship between the research variables. It can be seen from the various alternative hypothesis models that all show significant values in the common region, except for the Panel v-Statistic. While in the Individual region, all are significant.

When viewed from the Error Correction Model (COINTEQ01) value in Table 5, the results show significant and negative effects. This meets the requirements for using Panel ARDL. The COINTEQ01 value that has been obtained in the Short-Run Coefficients estimation means that when there is a fluctuation of the variable, it will adjust or speed of adjustment within 22 days ($360 \text{ days} \times 0.061088$).

Based on the test results in Table 6, a 1 percent increase in crude oil prices has a significant effect on causing a decrease in Islamic stock performance by 24.02 percent. This shows that the relationship between crude oil prices and Islamic stock performance is the opposite in the long run. Andriyani and Budiman, (2021); Najaf, (2016); Putri and Rizal, (2019); Istamar et al., (2019); and Prasada and Pangestuti, (2022) said similar results. So that these findings have confirmed that fluctuations in crude oil prices can affect company finances, especially profits, and provide signals for investors to pay attention to portfolios and make investment decisions.

Furthermore, the rupiah exchange rate has a significant negative effect on the performance of Islamic stocks in the long term. Logarithmically, these results can be interpreted as an increase in the rupiah exchange rate (depreciation) by 1 percent can cause a decrease in the performance of Islamic stocks by 8.61 percent. In accordance with the theory that says that the weakening of the rupiah exchange rate indicates that the Indonesian economy



is experiencing a shock. Such events will have a bad effect on investors so that it is possible to sell their shares and have an impact on the stock price index. These results are reinforced by previous research from Putri and Rizal, (2019); Ardiansyah and Lubis, (2017) and Munir and Rosyidah, (2021) which explain the same thing.

Then, the central bank interest rate, in this case using the BI Rate, has a significant positive effect on the performance of Islamic stocks in the long term. An increase in central bank interest rates by 1 percent can make an increase of 0.15 percent in the performance of Islamic stocks. The financial performance of companies and Islamic stocks is largely determined by the potential level of central bank interest rates. Because an increase in interest rates can trigger an increase in company expenses which also affects company profits. Automatically, investors' decisions will be affected in buying Islamic stocks. Ardiansyah & Lubis, (2017) argue that interest rates in their research have a positive influence on the performance of Islamic stocks. Likewise, Gustina, (2021) explained in her findings that the performance of Islamic stocks is significantly positively affected by the BI Rate.

Then inflation has a significant positive effect on the performance of Islamic stocks in the long run. This means that every 1 percent increase in inflation will have an impact on the increase in Islamic stock performance by 0.01 percent. This is contrary to research that has found that general and periodic price increases will affect the condition of the Islamic capital market. Because company profits will be affected by taking into account the increasing expenses (R. Rahmawati & Djatnika, 2020; Tripuspitorini, 2020). Decreased company profits can have an impact on reduced dividend distributions for investors in the capital market (Calystania et al., 2022).

Conclusion

Many factors affect the performance of Islamic stocks such as crude oil prices and macroeconomics. The performance of Islamic stocks will greatly impact investors' decisions in their investment portfolios. The better the performance of Islamic stocks, automatically able to attract investors to put



their funds in the company. Based on the research, it is found that the oil price variable in the long term has a significant positive effect on the performance of Islamic stocks in the JII with a value. The rupiah exchange rate in the long term has a significant positive effect on the performance of Islamic stocks on the Jakarta Islamic Index with a coefficient value of -8.615864. a 1% increase in the rupiah exchange rate (depreciation) can lead to a decrease in Islamic stock performance by 8.61%. Investors may sell their shares when the rupiah exchange rate increases (depreciation), thus affecting the overall performance of Islamic stocks.

When viewed in the long term, the interest rate variable or BI rate has a significant positive effect on the performance of Islamic stocks on the Jakarta Islamic Index. Then, inflation has a significant positive effect on the performance of Islamic stocks. This means that every 1% increase in inflation will have an impact on the performance of Islamic stocks by 0.01%. The Error Correction Model (COINTEQ01) value that has been obtained in the Short-Run Coefficients estimate explains the fluctuations of the variables that will adjust or the speed of adjustment within 22 days ($360 \text{ days} \times 0.061088$).

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