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Determinants Of Indonesian Islamic Mutual Fund Performance: The Role of Macroeconomics Variables, Dow Jones Islamic Market Index, and Mutual Fund Attributes

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Abstract

The Islamic capital market industry has grown rapidly over the past five years; however, in 2022, Islamic capital market assets comprised only 6.42% of Indonesia's total financial assets, which are predominantly controlled by conventional finance at 89.31%. The performance of Islamic mutual funds has steadily declined over the past three years due to limited Islamic assets in the capital market, low levels of financial literacy and inclusion, and the Muslim community's preference for traditional investments such as property, gold, and bank savings. Since 2022, Islamic mutual funds have been further impacted by market volatility, high interest rates, and the revocation of tax incentives. This study uses panel data regression analysis to examine the influence of macroeconomic variables, the Dow Jones Islamic Market Index (DJIMI), and mutual fund attributes on the performance of Islamic mutual funds in Indonesia during 2019-2023. The results show that the money supply, DJIMI, and expense ratio negatively affect performance, while Indonesian crude oil prices and fund age positively impact performance, and fund size shows no significant effect. Overall, these six variables account for 96.27% of the performance of Islamic mutual funds in Indonesia. This research contributes to signaling theory, market efficiency, and provides practical insights for investors, managers, and policymakers in advancing Islamic mutual fund instruments.

Keywords: *Islamic Mutual Funds; Macro Economics; Mutual Funds Attributes; Dow Jones Islamic Market Index.*

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INTRODUCTION

The revival of Islamic Economics is an interesting phenomenon and a breath of fresh air for the people of Indonesia with the largest Muslim country in the world, so various Islamic financial industries also need to be improved. The conventional financial industry, which initially dominated, has collapsed in recent decades due to global economic shocks. The collapse of the conventional economy was the beginning of the Islamic financial industry developing in the community (Nandari, 2017).

The development of the Islamic financial industry over the past 6 years has continued to grow. Starting from 2017 to 2022, the Islamic capital market is an industry with a stable development that increases and is the highest every year compared to other industries. In 2022, the total assets of the Islamic capital market reached 1,427.46 trillion. In the second rank, the largest total assets are in the Islamic banking industry, totaling 802.28 trillion. The last rank of the non-bank Islamic financial industry total assets only amounted to 148.12 trillion. The Islamic capital market industry has several market products, namely stocks, public offering corporate sukuk, mutual funds and state securities. The total value of securities and market share of shares is the largest of the four products at 4,786.02 trillion and 50.41%. Meanwhile, the product with the smallest Islamic securities value and market share is Islamic mutual funds, which amounted to only 40.38 trillion and 8.01%.

Mutual fund instruments are one of the favorite instruments in the capital market. Islamic mutual funds have a slower development in terms of the number of mutual funds and their performance. There is a huge difference between the number of conventional mutual funds. The number of conventional mutual funds is 10 times bigger every year. Not only from the number of mutual funds, the comparison of mutual fund performance between conventional and sharia mutual funds is also very different. The value of mutual fund performance and the number of Islamic mutual funds continued to decline throughout 2021 to 2023.

According to Marsono et al., (2022), mutual fund performance is very important for investors to control the success of their investment by measuring mutual fund performance. There are several theories that can explain the relationship between macroeconomic variables and mutual fund performance, namely market efficiency theory by (Fama, 1970), business cycle theory (Schumpeter, 1939), and capital structure and interest rate theory (Modigliani, 2005). In addition, some theories also explain the relationship between mutual

fund attribute variables and mutual fund performance, namely modern portfolio theory (Markowitz, 1991) and signal theory(Spence, 2002).This study uses market efficiency theory and signal theory to explain the relationship between macroeconomic variables and mutual fund attribute variables on the performance of Islamic mutual funds in Indonesia.

There is previous research that examines the relationship between mutual fund performance and the factors that influence it. Research (Nandari, 2017) examines the relationship between inflation, exchange rate, and BI rate variables on NAV. In research by Azis et al., (2022) examining the relationship between market timing ability, stock selection skills, inflation and the rupiah exchange rate on mutual fund performance While in research by Ilyas & Shofawati, (2020) examining the relationship between inflation, rupiah exchange rate and BI rate on the performance of Islamic protected mutual funds.

Arifin & Nur, (2019) examined the relationship between macroeconomic variables in a crisis, namely the variables of money supply, inflation, BI interest rates, rupiah exchange rates and ISSI.The introduction contains research background, brief description of literature review from previous researches (State of the art) to show the limitation of previous research, the expected goals, the renewal of research. Unlike research reports, the literature review should be in the form of previous studies (state of the art) to show the renewal of the scientific article. to the NAV of Islamic mutual funds in Indonesia. Miha & Laila (2017) examined the relationship between inflation, BI rate, money supply and Indonesia crude price on the NAV of Islamic mutual funds. Ahmed & Alrashidi (2015) examined the relationship between oil prices and mutual fund performance.

Several studies have also examined the relationship of mutual fund attribute variables to the performance of Islamic mutual funds. Faadilah & Sukmaningrum (2019) examined the relationship between turnover ratio, cashflow, and expense ratio on the performance of Islamic equity mutual funds. Marsono et al., (2022) examined the relationship between investment manager skills, mutual fund characteristics, and analysis coverage on the performance of Islamic mutual funds. Singh & Tandon (2022)examined the relationship of fund size, expense ratio, fund age, portfolio turnover, net asset value variables with gross return mutual fund performance.

Babbar & Sehgal (2018) examined the relationship between net asset value, fund size, fund size growth, portfolio turnover, fund age with risk-adjusted mutual fund performance. In addition, Filip (2018)also examined the relationship between fund size, expense ratio and fund age variables on mutual fund performance. In another study, Muhammad et al., (2021) examined the relationship between operational performance, mutual fund age and mutual fund size on the performance of Islamic mutual funds in Indonesia and Malaysia.

The results of Arifin & Nur (2019) and Qureshi et al., (2019) found that money supply has a significant positive impact on the performance of Islamic mutual funds in Indonesia. While the results of Maulana (2013)prove that the money supply has no influence on mutual fund performance.

Indonesia Crude Oil Price is the price of crude oil used in the state budget. According to Antonio et al., (2013) oil prices have great potential to affect all aspects of the country's economy. The results of research from Miha & Laila (2017) prove that the Indonesia Crude Oil Price has an effect on mutual fund performance. In line with the results of research by Rahmawati & Nuris (2018) which states that oil prices affect mutual fund performance.

The growth of the Islamic stock market is heavily influenced by fluctuations in the global stock market. This phenomenon arises due to the increasingly strong integration between various stock markets around the world. The presence of foreign stock exchanges can be used as an investment benchmark, one of which is the Dow Jones Islamic Market Index (DJIMI). Previous research conducted by Restuti & Tri Cahya (2023) showed that DJIMI has a significant positive effect on mutual fund performance.

Mutual fund attributes also have an influence on the performance of Islamic mutual funds in Indonesia. Fund size or mutual fund size refers to the total assets managed by the investment manager. According to the results of research conducted by Gusni et al., (2018) fund size has no influence on mutual fund performance. Meanwhile, Singh & Tandon (2022) prove that fund size has a significant negative effect on mutual fund performance.

Fund age or mutual fund age is the operating time of a mutual fund, the age of a mutual fund can be calculated from the effective date of the mutual fund trading until now. There are different research results regarding the effect of fund age on mutual fund performance, Muhammad et al., (2021) that the age of mutual funds has a significant negative effect on the performance

of Islamic mutual funds. Meanwhile, Babbar & Sehgal (2018) say that fund age has a significant positive effect on mutual fund performance. According to Faadilah & Sukmaningrum (2020) expense ratio is a comparison of operating expenses with the average NAV (Net Asset Value) in one year, this expense ratio illustrates the efficiency of investment managers in managing mutual funds (Faadilah & Sukmaningrum, 2020). The results of research from Filip (2018) say that the expense ratio has a significant positive effect on mutual fund performance. Meanwhile, in the research of Faadilah & Sukmaningrum (2020) expense ratio has a significant negative effect on the performance of equity mutual funds.

Literature Review

Market Efficiency Theory

Market efficiency theory states that the prices of financial assets, such as stocks, reflect all information available in the market (Fama, 1991). In other words, the market is considered efficient because current prices reflect all information that can affect the value of the asset. So far, market efficiency theory has often been used to test the strength of Indonesia's Islamic capital market such as research conducted by Khajar (2012) which examines the strength of Indonesia's Islamic capital market before and after the 2008 global financial crisis. Wardoyo et al., (2022) used this theory to analyze stock prices in the capital market. In addition, this theory is often used in assessing mutual fund performance, research by Aziqoh (2021) Khajar et al., (2019), Babbar & Sehgal (2018), Filip (2018) used market efficiency theory to test mutual fund performance.

Signal Theory

This signaling theory was first proposed by Spence (2002). This signalling theory focuses that signalers are insiders such as managers and executives who have information related to products, individuals, or organizations that are not available to outsiders. The essence of this signal theory is the deliberate communication of positive information in an effort to convey positive organizational/corporate attributes (Connely, et al. 2010). Signal theory is also often used to analyze mutual fund performance such as research conducted by Marsono et al., (2022), Faadilah & Sukmaningrum (2020), and Gusni et al., (2018) which examines the factors that affect the performance of Islamic mutual funds in Indonesia.

Net Asset Value

Net asset value is one measure of investment performance in Islamic mutual funds (Nandari, 2017). Net asset value (NAV) per share or per participation unit is the fair value of the mutual fund portfolio after deducting all operational costs (liabilities), then divided by the number of shares or participation units outstanding (owned by investors) at a certain time. In many previous studies that have been conducted, net asset value is used as a dependent variable such as research conducted by Restuti & Tri Cahya (2023), Titi et al., (2021), Aziqoh (2021), Ilyas & Shofawati (2020), Vidal-García et al., (2018), Babbar & Sehgal (2018), and many other studies that use net asset value as the object of research.

Money Supply

According to Juliana (2017) in the context of today's modern economy, money has a crucial role as a medium of exchange that facilitates smooth economic activity. Money enables efficient trade transactions, accelerates the wheels of economic development by increasing the level of specialization and productivity. The use of paper money is an important milestone in economic development, marking a significant evolution in the financial system (Juliana, 2017). According to Setiawan & Qudziyah (2021), the relationship between the amount of money in circulation and commodity prices, both in the form of goods and services, will form an economic and monetary cycle. In several studies, the money supply is used to analyze inflation and analyze the effect on the stock price index. Maulana's research (2013) uses money supply as a factor that has an influence on the performance of Islamic mutual funds. According to Miha & Laila (2017) the positive relationship between money supply and the performance of Islamic mutual funds occurs when the increase in money supply will increase real wealth so as to encourage public interest in investing in Islamic mutual funds.

H1: Money supply has a positive and significant effect on the performance of Indonesian Islamic mutual funds.

Indonesia Crude Oil Price

The price of crude oil refers to the price of a barrel of oil, the price of oil in a country is volatile. The movement of oil prices greatly affects the economic conditions of a country. This is because oil is the main energy raw material in production (Rahmawati & Nuris, 2018). According to Antonio et al. (2013), oil prices have a major role in influencing economic activity. In the investment world, rising oil prices have an impact on investment instruments (Rahmawati

& Nuris, 2018). Based on research conducted by (Miha & Laila, 2017) the price of Indonesian crude oil has a significant effect on the performance of Islamic mutual funds. Meanwhile, Ahmed & Alrashidi (2015) said that the Indonesia Crude Oil Price has no influence on mutual fund performance.

H2: Indonesia Crude Oil Price has a positive and significant effect on the performance of Indonesian sharia mutual funds.

Dow Jones Islamic Market Index

The Dow Jones Islamic Market Index is the first index specifically designed for investors who have a view of the obligation to invest in sharia investment instruments. The DJIMI management process involves a screening process carried out by a Shariah Supervisory Board consisting of scholars and experts in the field of Islamic finance. Fathimiyah & Fianto's research (2020) proves that there is an influence of DJIMI on the Indonesian Sharia Stock Index (ISSI). Kurniawan's research (2019) proves that the Dow Jones Islamic Market Index (DJIMI), Dow Jones Islamic Market Japan (DJIMP), and Dow Jones Islamic Market Malaysia (DJIMM) have a significant influence on the Islamic stock index in Indonesia. Restuti & Tri Cahya's research (2023) says that DJIMI has a significant influence on Islamic mutual fund returns in Indonesia.

H3: The Dow Jones Islamic Market Index has a positive and significant effect on the performance of Indonesian Islamic mutual funds.

Fund Size

Fund size refers to the amount of assets managed by a mutual fund. Fund size is one of the characteristics of a mutual fund. The size of the mutual fund can be seen from the assets managed by each fund. the greater the amount of assets or funds managed, the greater the size of the mutual fund fund (Faadilah & Sukmaningrum, 2020). The size of a mutual fund can be seen from the total assets managed by the mutual fund or commonly referred to as Asset Under Management. Fund size in some studies is used to measure the stock return of a company, to see the profitability that a company will produce. However, currently the majority of fund size concepts are used to assess the performance of a mutual fund, this variable is used in several studies such as research conducted by Babbar & Sehgal (2018), Faadilah & Sukmaningrum (2020), and (Busse et al., 2021).

H4: Fund Size has a positive and significant effect on the performance of Indonesian Islamic mutual funds.

Fund Age

Mutual fund age is the duration a mutual fund has been in operation. Mutual fund age also shows the length of time the mutual fund has been traded since the effective date of operation. The concept of fund age is very much attached to mutual funds, in mutual fund research fund age is used to measure mutual fund performance. Mutual funds that have been operating for a longer period of time will have a more detailed performance history, allowing investors to evaluate mutual fund performance over a certain period. The presence of investment managers with longer experience in managing portfolios in older mutual funds can provide greater stability in performance. Fund age is used as an independent variable to assess mutual fund performance in studies conducted by Singh & Tandon (2022), Babbar & Sehgal (2018), and (Busse et al., 2021).

H5: Fund Age has a positive and significant effect on the performance of Indonesian Islamic mutual funds.

Expense Ratio

Expense ratio is used to assess profit growth in banks, expense ratio is also used to assess the solvency of the company and is used to assess various financial performance of the company. Expense ratio can also be called expense ratio. Expenses incurred by investment managers are annual maintenance costs including operational costs and administrative costs. The expense ratio which includes operational and administrative costs is a cost that is integrated with mutual fund performance and managerial expertise. In research by Filip (2018), Singh & Tandon (2022), Faadilah & Sukmaningrum (2020), and many other studies that use expense ratio to analyze the performance of conventional and sharia mutual funds.

H5: Expense ratio has a negative and significant effect on the performance of Indonesian Islamic mutual funds.

METHODOLOGY

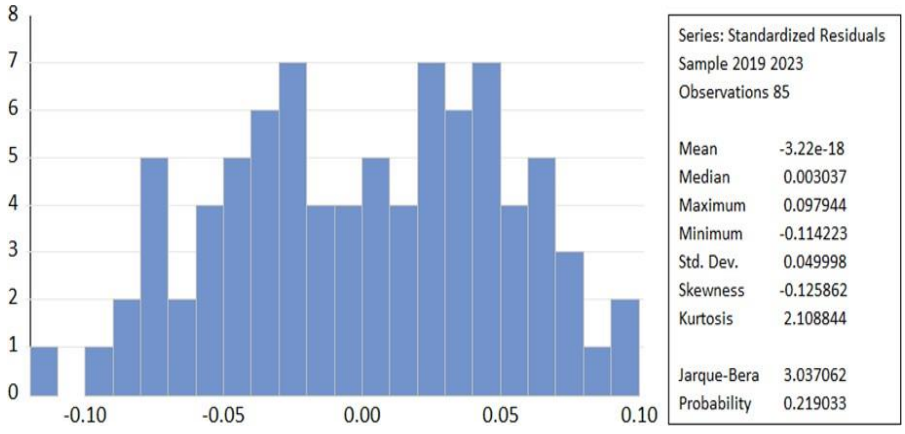
This research method is quantitative and uses a descriptive causality research design. The population in this research is Islamic mutual funds in Indonesia. the sample in this study is Islamic mutual funds that are actively operating and publishing financial reports in the Bibit application during 2019-2023. This research uses Ordinary Least Square (OLS) analysis technique. Sampling using non-probability sampling method using purposive sampling. This research uses the Eviews12 application.

RESULTS AND DISCUSSION

The purpose of this study was to determine and analyze data on money supply, Indonesia Crude Oil Price, Dow Jones Islamic Market Index, fund size, fund age, and expense ratio on the performance of Islamic mutual funds in Indonesia for the period 2019-2023. Based on the completeness criteria, 17 Islamic mutual funds were obtained that met the sample criteria. After conducting two stages of model selection tests with the Chow Test and Hausman Test, it was found that the results of the research model selection that the best regression model for this study was the Fixed Effect Model.

Normality Test

Figure 1. Normality test



Data is said to be normally distributed if the JB probability value is greater than 0.05 (= 0.05). Conversely, if the JB probability value is less than 0.05, the data is considered abnormal. Based on Figure 1 shows a probability value of 0.219033. So that the probability value of 0.219033> 0.05, the data is normally distributed.

Expense Ratio Multicollinearity Test

Table 1. Hasil Uji Multikolinearitas

	JUB	ICP	DJIMI	SIZE	AGE	EXPENSE
JUB	1.000000	0.575062	0.585946	0.062803	0.304912	0.004675
ICP	0.575062	1.000000	0.090379	0.038006	0.158452	0.106889
DJIMI	0.585946	0.090379	1.000000	0.069483	0.185769	-0.068879
SIZE	0.062803	0.038006	0.069483	1.000000	-0.413414	-0.266573
EXPENSE	0.304912	0.158452	0.185769	-0.413414	1.000000	0.658306

Table 1 shows that the six research variables have low coefficients, with no coefficient exceeding 0.80. Therefore, it can be concluded that this study does not experience multicollinearity.

Heteroscedasticity test is used to identify whether there is a difference in the variance of the residuals between one observation and another. The Eviews12 program rejects heteroscedasticity test testing. In this study, the data used by the author experienced heteroscedasticity. Heteroscedasticity generally occurs in cross section data, where panel data has characteristics that are more similar to cross section data than time series (Basuki & Yuliadi, 2015).

In the Generalized Least Square (GLS) method, this model anticipates heteroscedasticity and there is no correlation between cross sections. According to Franklin (2004) when linear regression indicates heteroscedasticity, the approach commonly used in the least squares method is to use Generalized Least-Squares (GLS) instead of OLS. The advantage of GLS is that we can estimate the model without having to know the cause of heteroscedasticity in the data. The GLS method basically gives weight to the variation of the data used. Thus, the use of GLS can overcome the problem of heteroscedasticity (Mulyasari, 2018).

Panel Data Regression Analysis

Table 2. Panel Data Regression

Dependent Variable: NAB

Method: Panel EGLS (Cross-section weights)

Date: 06/20/24 Time: 09:38

Sample: 2019 2023

Periods included: 5

Cross-sections included: 17

Total panel (balanced) observations: 85

Linear estimation after one-step weighting matrix

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2594.470	140.8194	18.42410	0.0000
JUB	-0.254018	0.031411	-8.086801	0.0000
ICP	6.483579	1.871638	3.464120	0.0010
DJIMI	-0.053486	0.023437	-2.282153	0.0259
SIZE	-0.129028	0.065880	-1.958525	0.0547
AGE	161.0835	12.92362	12.46427	0.0000
EXPENSE	-14228.71	1621.986	-8.772396	0.0000

Effects Specification

Cross-section fixed (dummy variables)

Weighted Statistics

Root MSE	435.0297	R-squared	0.972496
Mean dependent	5194.304	Adjusted R-squared	0.962736

var			
S.D. dependent var	5504.931	S.E. of regression	509.3690
Sum squared resid	16086323	F-statistic	99.64445
Durbin-Watson stat	1.835534	Prob(F-statistic)	0.000000

Unweighted Statistics			
R-squared	0.793386	Mean dependent var	1895.334
Sum squared resid	18360908	Durbin-Watson stat	1.631634

Based on the regression analysis results in table 2, the multiple linear regression equation of this study is as follows:

$$\mathbf{NAB = 2594.470 - 0.254JUB + 6.486ICP - 0.053DJMI - 0.129SIZE + 161.083AGE - 14228.706EXPENSE + e}$$

The multiple linear regression equation above, then the above equation is explained as follows:

1. The constant value (β0) is 2594.470, this indicates that if the money supply, Indonesia Crude Oil Price, dow jones islamic market index, fund size, fund age, and expense ratio are assumed to be zero, then the net asset value variable is 2594.470.
2. The coefficient value (β1) of the money supply variable is -0.254, meaning that if the money supply variable increases by 1%, there will be a decrease in the net asset value variable by 0.254.
3. The coefficient value (β2) of the Indonesia Crude Oil Price variable is 6.486, meaning that if the Indonesia Crude Oil Price variable increases by 1%, there will be an increase in the net asset value variable by 6.486.
4. The coefficient value (β3) of the dow jones islamic market index variable is -0.053, meaning that if the money supply variable increases by 1%, there is a decrease in the net asset value variable by 0.053.

5. The coefficient value (β4) of the fund size variable is -0.129, meaning that if the fund size variable increases by 1%, there is a decrease in the net asset value variable by 0.129.
6. The coefficient value (β5) of the fund age variable is 161.083, meaning that if the money supply variable increases by 1%, there will be an increase in the net asset value variable by 161.083.
7. The coefficient value (β6) of the expense ratio variable is -14228.70, meaning that if the expense ratio variable increases by 1%, there is a decrease in the net asset value variable by 14228.70.

T- test

The effect of money supply on the performance of Islamic mutual funds Based on the table above, the results of t count -8.086801 or smaller than t table 1.99085 which means rejecting H1 is rejected and H0 is accepted. While the probability of money supply 0.0000 is smaller than 0.05. This means that the money supply has a significant effect on the performance of Islamic mutual funds in Indonesia. Furthermore, the coefficient value of the money supply is - 0.254018 which means that the money supply has a negative relationship with the performance of Islamic mutual funds.

The results of this study are in line with research conducted (Qureshi et al., 2019) which shows that there is a significant and negative relationship to mutual fund performance in the long run. The results of research by Miha & Laila (2017), Arifin & Nur (2019) and Setiawan & Qudziyah (2018) show that money supply has an influence on the performance of Islamic mutual funds. However, the results of this study reject the research of Maulana (2013) which states that the money supply does not have a significant effect on mutual fund performance. In the theory of market efficiency, the movement of Islamic mutual fund performance can be seen from the money supply. An increase in money supply can be a positive signal for investment, encouraging investor optimism. However, in the long run, it can be a negative signal due to the potential increase in inflation which reduces people's purchasing power and their capacity to invest. Inflation reduces the real value of investments, lowering mutual fund returns and their attractiveness as an investment option.

In addition, an increase in money supply can lead to an increase in interest rates as a response by central banks to control inflation. Higher interest rates increase borrowing costs, which can reduce the profitability of companies in an Islamic mutual fund portfolio. Excessive money supply also

causes volatility and uncertainty in the financial markets, reducing the value of Islamic mutual funds due to market fluctuations and investor withdrawals.

Coefficient of Determination Test

Based on table 2, the results show that the Adjusted R^2 is 0.962736 which means that the influence of the independent variables of money supply, Indonesian crude oil price, Dow jones islamic market index, fund size, fund age, and expense ratio has an influence of 96.27% on the performance of Indonesian sharia mutual funds. therefore, it is concluded that the independent variables in this study are able to explain the dependent variable very strongly (a value close to 1).

The effect of Money Supply on the performance of Islamic mutual funds

Based on table 2, the result of t count is -8.086801 or smaller than t table 1.99085, which means that H1 is rejected and H0 is accepted. While the probability of money supply 0.0000 is smaller than 0.05. This means that the money supply has a significant effect on the performance of Islamic mutual funds in Indonesia. Furthermore, the coefficient value of the money supply is -0.254018 which means that the money supply has a negative relationship with the performance of Islamic mutual funds. Therefore, it can be concluded that the money supply has a significant negative effect on the performance of Islamic mutual funds in Indonesia.

The results of research by Miha & Laila (2017), Arifin & Nur (2019) and Setiawan & Qudziyah (2018) which resulted in the money supply having an influence on the performance of Islamic mutual funds. However, the results of this study reject the research of Maulana (2013) which states that the money supply does not have a significant effect on mutual fund performance. The money supply does not affect the performance of stock mutual funds. The more people who can anticipate changes in the money supply appropriately, the more effective the impact of these changes will be reflected in real activities. The phenomenon of increasing money supply in Indonesia occurs at certain times, such as during religious holidays (Maulana, 2013).

Investors see an increase in money supply as a sign of economic slowdown, so they tend to withdraw funds from the market, which ultimately lowers the performance of Islamic mutual funds. In theory, an increase in money supply can be a positive signal for people to invest, but in the long run, this can trigger inflation which reduces purchasing power and erodes the real value of investments. Rising inflation will make interest rates rise, which in

turn increases the cost of borrowing for companies, including those in the portfolio of Islamic mutual funds, thus reducing the profitability and performance of mutual funds. In addition, market volatility and uncertainty caused by an increase in money supply can also reduce the value of mutual funds, as negative market sentiment encourages investors to withdraw their funds from the market.

The effect of Indonesia Crude Oil Price on the performance of Islamic mutual funds

Based on the table 2, the t-count result is 3.464120 or greater than the t table 1.99085, which means that H1 is accepted and H0 is rejected. While the probability of Indonesia Crude Oil Price 0.0010 is smaller than 0.05. Indonesia Crude Oil Price has a significant effect on the performance of Islamic mutual funds in Indonesia. Furthermore, the coefficient value of Indonesia Crude Oil Price is 6.483579 which means that Indonesia Crude Oil Price has a positive influence on the performance of Indonesian Islamic mutual funds.

The results of this study are in line with the research of Miha & Laila (2017) and Rahmawati & Nuris (2018) which say that the Indonesia Crude Oil Price has a significant and positive influence on the performance of Islamic mutual funds. This significant positive effect is because oil prices have great potential to affect all aspects of the economy in a country. Whereas in the research of Ahmed & Alrashidi (2015) contrary to the results of this study, the results of the study said that crude oil prices have no effect on mutual fund performance.

An increase in the price of Indonesian crude oil (Indonesia Crude Oil Price or ICP) increases state revenues from the energy sector, which supports economic growth and strengthens the domestic stock market. Higher oil prices may cause inflation, but this has a positive impact on Islamic mutual funds that invest more in stocks. Energy companies benefit from rising oil prices, boosting their profits and share prices. Rising oil prices also create positive sentiment in the stock market, increasing demand and share prices of energy companies, and boosting the performance of Islamic mutual funds that invest in the sector. However, oil price volatility can create market uncertainty and risk. Therefore, while an increase in ICP can be positive for Islamic mutual funds, fund managers need to pay attention to global market dynamics and maintain a balanced investment strategy to manage the risks associated with oil price fluctuations.

The effect of Dow Jones Islamic Market Index on the performance of Islamic mutual funds

Based on table 3, the results of t count -2.282153 or smaller than t table 1.99085 which means rejecting H1 is rejected and H0 is accepted. While the probability of dow jones islamic market index 0.0259 is smaller than 0.05. Dow jones Islamic market index has a significant effect on the performance of Islamic mutual funds in Indonesia. Furthermore, the coefficient value of -0.053486 dow jones Islamic market index which means that the dow jones Islamic market index has a negative influence on the performance of Indonesian Islamic mutual funds.

In the research of Fathimiyah & Fianto (2020), (Kurniawan, 2019) DJIMI has an influence on one of the stock indices, namely the Indonesian Sharia Stock Index (ISSI). Restuti & Tri Cahya (2023) found that there was a significant influence of DJIMI variables on Islamic mutual fund returns. The existence of a significant influence in Restuti & Tri Cahya (2023) research is based on arbitrage pricing theory which assumes that the return of a security can be influenced by many factors and occurs because the study took a specific research sample of Islamic stock mutual funds. So that the movement of the Islamic stock exchange will affect stock prices, and these stock prices will affect the rate of return on Islamic mutual funds. Research by Soeharjoto & Inviah (2021) and Beik & Fatmawati (2014) found that DJIMI has a significant negative effect on the Indonesian Sharia Stock Index.

In the results of this study indicate that the dow jones islamic market index that there is a negative relationship to the net asset value of Islamic mutual funds in Indonesia. The existence of this influence occurs because the research sample in this study is various types of Islamic mutual funds not only specific to equity mutual funds. fluctuations in global market indices such as DJIMI can cause uncertainty and a decrease in the performance of Islamic mutual funds. Investment managers should consider global factors in their strategies to manage risk and maximize returns. The negative influence of DJIMI shows that global markets affect local markets, making portfolio diversification and the use of hedging instruments important. The study also highlights the need for stable economic policies from the government and financial authorities to protect domestic markets from global volatility, including responsive fiscal and monetary policies and financial market regulations that support stability and sustainable growth.

The effect of Fund Size on the performance of Islamic mutual funds

Based on the table 2, the t-count result is -1.958525 or smaller than the t table 1.99085, which means that H1 is rejected and H0 is accepted. While the probability of fund size 0.0547 is greater than 0.05. Fund size has no influence on the performance of Indonesian Islamic mutual funds. Furthermore, the coefficient value of fund size is -0.129028 which means that fund size has a negative influence on the performance of Indonesian Islamic mutual funds.

The results of this study are in line with the results of research by Singh & Tandon (2022) and Babbar & Sehgal (2018) which say that fund size has a negative effect on mutual fund performance. Meanwhile, Titi et al., (2021) Muhammad et al., (2021) and Gusni et al., (2018) in their research, stated that fund size does not affect mutual fund performance. In contrast, the research of Muhammad et al., (2021) and Filip (2018) proves that fund size has a significant positive effect on the performance of Islamic mutual funds. Meanwhile, research by Faadilah & Sukmaningrum (2020) found that fund size has a significant positive effect on mutual fund performance. Singh and Tandon (2022) prove that fund size has a significant negative effect on mutual fund performance, indicating that mutual funds with smaller funds tend to provide better performance.

Signaling theory shows how unequal information among market participants affects investment decisions. This study found that fund size has no significant effect on the performance of Islamic mutual funds. This means that fund size does not always provide a clear or consistent signal about the potential future performance of Islamic mutual funds. While a large fund size may be perceived as the manager's ability to attract more capital, this does not translate into better performance. Factors such as limited Shariah-compliant investment options and liquidity challenges may play a role. According to efficient market theory, security prices reflect all available information. If the Islamic mutual fund market is efficient, information about fund size should already be reflected in the price and performance of mutual funds. The finding that fund size does not affect performance suggests that the market already considers fund size and other factors, so information about fund size does not provide any additional advantage in predicting mutual fund performance. This is consistent with the efficient market hypothesis.

The effect of fund age on the performance of Islamic mutual funds

Based on the table 2 , the t-count result is 12.46427 or greater than the t table 1.99085, which means that H1 is accepted and H0 is rejected. While the

probability of fund age 0.0000 is smaller than 0.05. Fund age has an influence on the performance of Indonesian Islamic mutual funds. Furthermore, the fund age coefficient value is 161.0835 which means that fund age has a positive influence on the performance of Indonesian Islamic mutual funds.

Fund age has a significant positive effect, meaning that the longer the age of the investment manager operates, it will improve the performance of Islamic mutual funds. These results are in line with research conducted by Babbar & Sehgal (2018) which says that the relationship between mutual fund age and mutual fund performance is significantly positive. The results of this study contradict the results of research conducted by Muhammad et al., (2021) and (Filip, 2018) which state that the effect of mutual fund age on mutual fund performance is significantly negative. Meanwhile, Singh & Tandon (2022) and Marsono et al., (2022) state that fund age has no significant effect on the performance of Islamic mutual funds. Based on Spence's signal theory (2002), mutual funds with a longer age are considered a positive signal for investors. Investors tend to view mutual funds that have been operating for a long time have management with proven effective strategies.

The effect of expense ratio on the performance of Islamic mutual funds

Based on table 2 above, the t count result is -8.7772396 or smaller than the t table 1.99085, which means that H1 is rejected and H0 is accepted. While the expense ratio probability of 0.0000 is smaller than 0.05. Expense ratio has an influence on the performance of Indonesian sharia mutual funds. Furthermore, the fund age coefficient value is - 14228.71 which means that the expense ratio has a negative influence on the performance of Indonesian Islamic mutual funds.

The negative effect of expense ratio on the performance of Islamic mutual funds means that if there is a 1% increase in expense ratio, there will be a decrease in net asset value by 1%. This research is in line with the results of research by Vidal-García et al., (2018) and Faadilah & Sukmaningrum (2020) which say that the expense ratio has a significant negative effect on mutual fund performance. Contradictory research results are found in Filip's research (2018) which found that the expense ratio has a significant positive effect on mutual fund performance. Meanwhile, research by Singh & Tandon (2022) and Babbar & Sehgal (2018) found that the expense ratio has no significant effect on mutual fund performance.

Market efficiency theory in the mutual fund industry, found that a significant negative relationship between management costs and mutual fund performance, higher costs result in worse performance (Vidal-García et al., 2018). A low expense ratio is considered a positive signal to investors. Investors assume that investment management operates efficiently and seeks to maximize returns for investors. A low expense ratio also reflects management's commitment to providing added value to investor.

CONCLUSION

The development of the Islamic capital market industry over the past five years has been the most superior industry among other Islamic financial industries. Even so, the portion of Islamic capital market assets in 2022 only amounted to 6.42% of Indonesia's total financial assets. The 89.31% portion of Indonesia's financial assets is dominated by conventional finance. The number of Islamic mutual funds and the performance of Islamic mutual funds over the past three years has continued to decline. The purpose of this study is to describe the effect of macroeconomic variables, dow jones islamic market index, and mutual fund attributes on the performance of Islamic mutual funds in Indonesia in 2019-2023.

The results showed that money supply had a significant negative effect, Indonesia Crude Oil Price had a significant positive effect, Dow Jones Islamic Market Index had a significant negative effect, fund size had no effect, fund age had a significant positive effect, and expense ratio had a significant negative effect on the net asset value of Islamic mutual fund performance. The implications of this research theoretically support the theory presented by Eugene Fama in 1965, namely market efficiency theory and signal theory proposed in 1973 by Michael Spence. For investment managers and the government, the implications of this research can be used to identify macroeconomic factors that can affect the performance of Islamic mutual funds. For the government, the results of this study can be used to develop more effective supervision and regulation policies for the Islamic mutual fund industry. The implications of this research for investors, this research can help investors in diversifying their portfolios.

This research recommendation is intended for investors, investment managers, government, and further researchers. For investors, it is hoped that this research can be knowledge that can be taken into consideration in making decisions to invest in Islamic mutual funds. For investment

managers, investment managers are required to have adaptive capabilities and strategies in managing mutual fund portfolios, choosing the right investment instruments, being aware of the potential risks that can arise from the large size of mutual funds. For the government to be able to control the policies issued that will affect the Islamic capital market. For further researchers, it is hoped that it can increase the number of Islamic mutual funds and can balance the types of mutual funds used as research samples. Future researchers are also expected to add macroeconomic variables and other relevant mutual fund attributes to assess the performance of Islamic mutual funds.

Author's Contribution

1. Rumaisha : Creating and designing analyses; Collecting data; Contributing data or analysis tools; perform analysis; Writing paper.
2. Hilda Monoarfa: Approved the journal, review all results, provide writing advice and approve the final version of the manuscript.
3. Rumaisah Azizah Al Adawiyah: Approved the journal, review all results, provide writing advice and approve the final version of the manuscript.

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Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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