

The Influence of Liquidity, Stock Selection Skill on the Performance of Mixed Mutual Funds with Interest and Inflation as Moderation Variables

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Abstract: In this study, interest rates and inflation rates were raised as interaction variables for independent variables of liquidity and stock selection skills to determine the performance of mixed mutual funds for the 2019-2021 period. The sample selection in this study used a non-probability sampling method and the technique used was purposive sampling, so there were 38 conventional mixed mutual funds that met the criteria as samples. This study uses panel data regression analysis techniques to process and discuss the data that has been obtained and to test the hypotheses that have been determined.

Keywords: mutual fund performance, liquidity, stock selection skills, inflation and interest rates.

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I. Introduction

In investing, of course, investors want to know how their investment is performing. According to Aziz & Iskandar, (2021: 16) states that "The performance of a mutual fund is defined as a portfolio not only looking at the rate of return generated by the portfolio, but also having to pay attention to other factors such as the level of risk, and other factors. According to Deb (2019) states that the performance of mutual funds is considered significant because it ensures the investment manager's expertise in managing the portfolio by observing the level of return and risk. Therefore, a performance in a mutual fund company directly affects the activities of investment managers in terms of fund management (Ferson & Mo, 2016).

In this study, interest rates and inflation rates are raised as interaction variables for the independent variables of liquidity and stock selection skills which stand alone and are not directly related to the performance of mixed mutual funds for the 2019-2021 period. According to Aziz et al., (2017) stated that mixed mutual funds are a combination of bond and stock instruments whose ratio is certain according to the investment manager's policy, so that they are more flexible. Where interest rates and inflation rates are macroeconomic factors that are not in the company and cannot be controlled by the company, so that it can be controlled, interaction is carried out with the company's internal factors in this study, namely the variables of liquidity and stock selection skills so that they have a significant effect on the performance variables of mutual funds. According to Liana, (2009) moderating variables are variables that can strengthen or weaken the direct relationship between the independent variables and the dependent variable. Moderating variables are variables that have an influence on the nature or direction of the relationship between variables.

II. Literature Review

A. Investment Management

According to J.Fabozzi et al, (2011) Investment Management is portfolio management and money management, which requires an understanding of investment objectives, investment vehicles, whether the investment value is reasonable or not, how to build a portfolio and evaluate the performance of various securities such as stocks, bonds and etc.

B. Stewardship Theory

Stewardship theory shows where managers are motivated to act and behave collectively for the benefit of the organization. Where the cooperation of all members of the organization is the main characteristic of stewardship (Donaldson et al., 1991). Managerial behavior and motivation is the theory of stewardship, which is obtained psychologically and sociologically. Managers who identify with the organization in such a way work to achieve organizational goals, solve problems, overcome obstacles that will prevent the successful fulfillment of tasks and responsibilities (Raharjo, 2007).

C. Portfolio Theory

Portfolio theory is an investment approach initiated by Harry M. Markowitz (1972) which explains that investors invest in securities portfolios with the aim of minimizing risk as assessed by the standard deviation of portfolio returns. According to Herisson, SE. M.Si (2018: 27) states that "portfolio theory in general is that risk can be reduced by combining several types of risky assets, where investors form portfolios (diversify) to reduce the risk they bear."

D. CAPM and APT theory

According to Sharpe 22 et., al. (2005: 405) reveals that "The Capital Asset Pricing Model (CAPM) is an equilibrium asset pricing model which states that the expected return on a particular security is a positive linear function of the sensitivity of the security to changes in market portfolio returns. Then Stephen A. Ross in 1976 formulated the Arbitrage Pricing Theory (APT) on the basis of two investment opportunities that have identical characteristics and cannot be sold at different prices. APT assumes that the expected return is influenced by various factors in the economy and industry.

E. Mutual Fund Performance

Mutual fund performance can be interpreted as an activity to improve and ensure the long-lasting investment of mutual fund products that will benefit investment managers because they have prospects and become an option in managing portfolios (J.Fabozzi et al., 2011). The purpose of mutual fund performance is to ensure that mutual funds are chosen to invest, and to ensure the ability of investment managers to carry out portfolio processing (Zhao et al., 2007). The measurement used in this study is the Shape Ratio method, which calculates the amount of excess return from a product compared to a risk free investment for each risk taken (Sharpe, 1990).

F. Liquidity

Liquidity is defined as a condition where securities can easily absorb the flow of buying and selling smoothly (Shen & Starr, 2002). Liquidity can be measured by different scales, the number of trading assets, trading volume, asset turnover and others.

G. Stock Selection Skills

Stock selection skills are skills in selecting assets where micro predictions are used, predictions about relative individual stock price movements and predictions of individual stocks whose value is below or more than equity in general (Deb et al., 2007). In this study, the Jensen model is used to calculate stock selection skills, with the aim of measuring the microforecasting (stock selection) ability of investment managers. This can be seen through the amount of α , if α is greater than 0, investment managers have the ability to choose good securities. and conversely, if α is less than 0 then the investment manager has the ability to choose securities that are neither good nor bad.

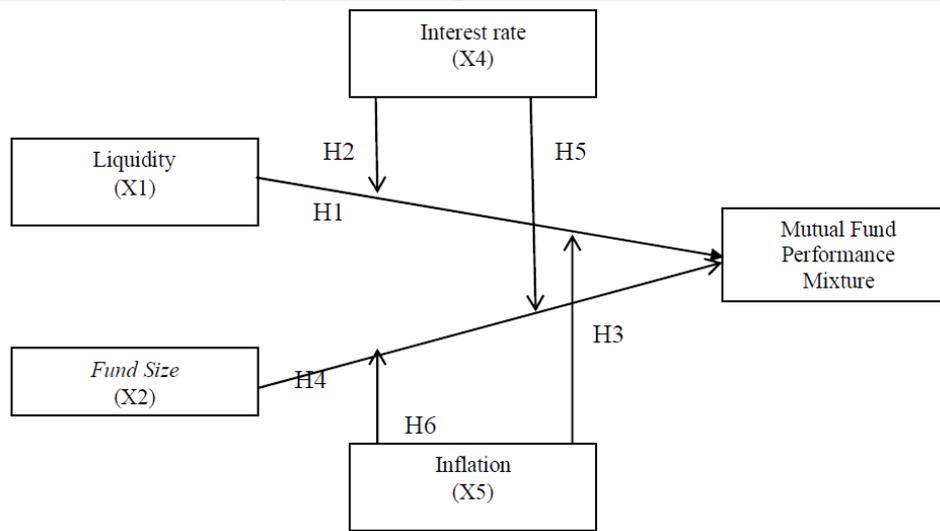
H. Interest rate

The interest rate is a monetary policy set by the central bank to serve as a reference for banks in offering loans and investments to prospective customers. In setting interest rates, this has implications for bank profitability, especially impacting bank margins according to López-Penabad et al., (2022) in Dadang Lesmana's research (2022).

I. Inflation

Structuralist theory believes that inflation occurs because of an imbalance in the economy. This theory shows that inflation is not merely a monetary phenomenon, but also a structural phenomenon. Due to these structural reasons, the increase in production of goods is slower than the increase in people's needs. According to Azis & Iskandar, (2021: 56) states that "inflation can be caused by Demand-Pull Inflation and Cost-Push Inflation"

Figure 2.1. Concept Framework Model



Hypothesis:

- H1: Liquidity has a significant effect on the performance of conventional mixed mutual funds in Indonesia.
- H2: Interest rates and liquidity are significant and interact in the relationship between liquidity and the performance of conventional mixed mutual funds in Indonesia
- H3: Inflation and liquidity are significant and interact in the relationship between liquidity and the performance of conventional mixed mutual funds in Indonesia
- H4: Stock Selection Skill has a significant effect on the performance of conventional mixed mutual funds in Indonesia.
- H5: Interest rates and stock selection skills are significant and interact in the relationship between stock selection skills and the performance of conventional mixed mutual funds in Indonesia.
- H6: Inflation and stock selection skills are significant and interact in the relationship between stock selection skills and the performance of conventional mixed mutual funds in Indonesia.

III. RESEARCH METHODOLOGY

Sample Determination

The sample selection in this study used a non-probability sampling method. As for the technique used in this study is purposive sampling with some considerations or certain criteria, where the sampling of 38 samples and the type of mutual funds used is the conventional type.

Data analysis technique

In this study, there are two analytical tools used in this study, namely descriptive statistics and multiple linear regression with moderation models. Descriptive statistical analysis is the process of analyzing statistical data by describing or illustrating the data that has been collected without intending to make general conclusions or generalizations (Sugiyono, 2017: 232. Panel data moderation regression model used to determine the relationship of Liquidity (X1), Stock Selection Skill (X2) on the Performance of Conventional Mixed Mutual Funds with Interest Rates (X3) and Inflation (X4) as moderating variables as follows:

$$Y = \alpha_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_1X_3 + \beta_4 X_1X_4 + \beta_5 X_2X_3 + \beta_6 X_2X_4 + \epsilon$$

Is known :

Y : Mutual Fund Performance α : Constant ϵ : Error Term

X1 : Liquidity X2 : Stock Selection Skill

X3 : Interest Rate X4 : Inflation Rate X1*X3 : Interaction Variable 1 X2*X3 : Interaction Variable

X1*X4 : Interaction Variable 2 X2*X4 : Interaction Variable β_1 : Liquidity Regress Coefficient nt

β_2 : Stock Selection Skill Regression Coefficient

β_3 : Regression Coefficient of Interaction Variable 1

β_4 : Regression Coefficient of Interaction Variable 2

β_5 : Regression Coefficient of Interaction Variable 3

IV. Results

Table. 1 Descriptive Statistics

Variable	Obs.	Means	Max.	Min.	Std. Dev.
KR (Y)	114	-0.256965	3.130000	-3.678000	0.992340
LQD (X1)	114	168.0104	1510.7500	0.872435	189.7432
SSS (X2)	114	-0.015219	0.289000	-0.562000	0.096539
SB (X3/moderation)	114	4.465333	5.625000	3.521000	0.876197
INF (X4/moderation)	114	2.208333	3.029000	1.560000	0.614674

Based on Table 1 it can be explained as follows:

1. The number of observations was 114 from 38 conventional mixed mutual fund companies in Indonesia. Where the Performance of Conventional Mixed Mutual Funds has a minimum value of -3.6780 or -368%, namely in 2021 the mixed mutual fund BNP Paribas Equitra Harmoni Mix. Meanwhile, the minimum value of Liquidity is 0.8724 or 87% which will occur in 2021 for the Mandiri Active mixed mutual fund. Stock Selection Skill with a minimum value of -0.5620 or -56% in 2020 in mixed mutual fund Aurora Bermbang. The minimum interest rate is 3.5210 or 3.52% in 2021. Inflation rate is a minimum value of 1.560 or 1.56% in 2021.
2. The performance of Conventional Mixed Mutual Funds has a max. 3.1300 or 313% that is in 2020 in our Fund Flexible Investment mixed fund. Max value Liquidity of 1510,750 occurred in 2019 in the mixed mutual fund Mega Asset Strategic Total Return. Stock Selection Skill with max value. of 0.2890 or 2.89% in 2019 in balanced mutual fund Sucorinvest Anak Pintar Balanced Fund. Interest rate max. of 5.6250 or 5.62% in 2019. Inflation rate max. of 3.0290 or 3.03% in 2019.
3. The average performance value of Conventional Mixed Mutual Funds from 114 companies listed on the PasarDana during the 2019-2021 period was -0.257, while Liquidity was 168.0104, Stock Selection Skill was -0.0152 and Interest rate was 4.465, Inflation Rate was 2.208, during the period of this study.
4. Std.Dev value. The performance of Conventional Mixed Mutual Funds from 114 companies listed on PasarDana during the 2019-2021 period was 0.992340, while Liquidity was 189.7432, Stock Selection Skill was 0.096539 and Interest rate was 0.876197, Inflation Rate was 0.614674, during this study period.
5. The relationship between the mean value and the Std. Dev. with different independent variables and moderating

variables for the performance of mutual funds showing that the value of Std. Dev. 0.992340 is greater than the mean value of the mutual fund performance variable, while the Std. Dev. of 189.7432 greater than the mean value of liquidity, Stock selection skills of 0.096539 greater than the mean value of stock selection skills and the Std. Dev. of 0.876197 is greater than the mean value of the interest rate and the Std. Dev. of 0.614674 greater than the mean value of the inflation rate, during this study period.

Table 2 Multicollinearity test

VARIABLE	LQD (X1)	SSS (X2)	SB (Moderation1)	INF (Moderation2)
LQD (X1)		0.03428	0.07659	0.07725
SSS (X2)	0.03428		0.21617	0.21292
SB (Moderation1)	0.07659	0.21617		0.99969
INF (Moderation2)	0.07725	0.21292	0.99969	

Based on table 2 above, the results of the multicollinearity test found that the moderating variables, namely interest rates and inflation, were mutually multicollinear, while the independent variables were free from multicollinearity.

Table 3 Multiple linear regression

VARIABLE	coefficient	std. Error	t-Statistics	Prob.
C	-3.614587	3.086526	-1.17109	0.2441

LQD (X1)	-0.000155	0.000322	-0.48234	0.6305
SSS (X2)	8.076357	0.61804	13.0677	0.0000
SB (Moderation1)	3.079231	2.32851	1.322404	0.1888
INF (Moderation2)	-4.638408	3.316302	-1.39867	0.16648

Based on the table above, the multiple linear regression equation is obtained as follows:

1. A constant value of -3.614587 states that if the variables Liquidity, Stock Selection Skills, Interest Rates and Inflation have a value equal to zero (0), then the dependent variable Performance of Conventional Mixed Mutual Funds is 3.614%.
2. It is known that LQD has a negative effect on mutual fund performance, with a regression coefficient of -0.000155, but not significant with the Prob value. $0.6305 > 0.05$. So it can be said that for every 1% increase in LQD, the performance of Conventional Mixed Mutual Funds will also decrease by -0.0002%.
3. It is known that SSS has a positive effect on mutual fund performance, with a coefficient value of 8.076357, and is significant with a Prob value. $0.0000 < 0.05$. So it can be said that for every 1% increase in SSS, the performance of Conventional Mixed Mutual Funds will also increase by 8,076%.

Table 4 Test Results for the Coefficient of Determination (R2)

R-squared	0.624781	Mean dependent var	-0.193049
Adjusted R-squared	0.611011	S.D. dependent var	0.861138
S.E. of regression	0.537083	Sum squared resid	31.44190
F-statistic	45.37418	Durbin-Watson stat	2.502614
Prob(F-statistic)	0.000000		

Based on the results of the calculation of the Coefficient of Determination Test (R2), it is known that the Coefficient of Determination (R2) = 0.6110. This value means that liquidity, stock selection skills, interest rates and inflation simultaneously affect mutual fund performance by 61.10%, this figure is included in the strong correlation category.

Table 5 Test F

R-squared	0.624781	Mean dependent var	-0.193049
Adjusted R-squared	0.611011	S.D. dependent var	0.861138
S.E. of regression	0.537083	Sum squared resid	31.44190
F-statistic	45.37418	Durbin-Watson stat	2.502614
Prob(F-statistic)	0.000000		

Based on the results of the F test calculation above, it shows that the Prob(F-statistic) value is 0.0000 < 0.05, so the F test shows the variables of liquidity, stock selection skills, simultaneously have a significant effect on mutual fund performance.

Table 6 T test

VARIABLE	coefficient	std. Error	t-Statistics	Prob.
C	-3.614587	3.086526	-1.17109	0.2441
LQD (X1)	-0.000155	0.000322	-0.48234	0.6305
SSS (X2)	8.076357	0.61804	13.0677	0.0000
SB (Moderation1)	3.079231	2.32851	1.322404	0.1888
INF (Moderation2)	-4.638408	3.316302	-1.39867	0.16648

From the table above shows that:

1. The regression coefficient is -0.000155, the t-Statistic value is -0.48234 with a Prob value. of 0.6305. Value P Value > 0.05. This shows that Liquidity has a negative and insignificant effect on Mutual Fund Performance.
2. The regression coefficient of 8.076357 is obtained, the t-statistic value is 13.0677 with a Prob value. of

0.0000. Significant value < 0.05. This shows that Stock Selection Skill has a positive and significant effect on Mutual Fund Performance.

Table 7 MRA test

VARIABLE	coefficient	std. Error	t-Statistics	Prob.
C	-0.133075	0.091055	-1.0461482	0.1468
LQD (X1)	-0.013073	0.014947	-0.874587	0.3838
SSS (X2)	61.51607	33.67081	1.826985	0.0705
LQD*SB	0.010842	0.011232	0.965301	0.3366
LQD*INF	-0.015995	0.015948	-1.002947	0.3181
SSS*SB	-42.23899	25.5329	-1.654297	0.101
SSS*INF	61.17221	36.47071	1.677297	0.0964

Based on the MRA test results above, the moderation equation is obtained as follows:

$$Y = -0.133075(C) - 0.013073(X1) + 61.51607(X2) + 0.010842(X1 * X3) - 0.015995(X1 * X4) - 42.23899(X2 * X3) + 61,17221(X2 * X4) + \epsilon$$

V. Discussion of Research Results

Based on the regression results described above, the following research results were found:

1. Based on the results of the analysis in this study, it was found that liquidity has a negative and not significant effect on the performance of conventional mixed mutual funds in Indonesia. This significant negative result indicates that funds that have more illiquid assets in their portfolio tend to have good performance thereby indicating a liquidity premium (Scholes & Williams, 1977 & Dimson, 1979), meaning that if the fund has many liquid assets, then the tendency to have poor or low performance. Perold & Salomon, (1991) also stated that large assets can erode mutual fund performance due to liquidity.
2. Interest rates and liquidity are not significant and do not interact in the relationship between liquidity and mutual fund performance. Very high liquidity indicates that interest rates do not affect companies in fulfilling their obligations, so interest rates do not have an influence or interact on the relationship between liquidity and mutual fund performance. The results of this study are different due to the different dependent variables and research objects.
3. Inflation and liquidity are not significant and do not interact with the relationship between liquidity and mutual fund performance. When prices rise continuously, inflation will occur, so that the purchasing power of investors per unit of currency can only buy fewer goods and services, which causes inflation to erode the purchasing power of money so that company profits will decrease. When the company's performance decreases, it results in changes in stock prices and stock returns (Ayuningrum et al., 2021). The average decrease in inflation during the study period was 0.49%. This value is classified as mild inflation that can be controlled by the government or companies for a long time and does not have a big impact, so companies are able to adapt to these conditions.
4. Selection skills have a significant positive effect on the performance of conventional mixed mutual funds in Indonesia. These results indicate that with good investment manager skills, more and more people will want to invest because they know that investment managers are competent individuals or groups.
5. Inflation and stock selection skills are not significant and do not interact in the relationship between stock selection skills and mutual fund performance. If inflation increases or decreases, it will change the spending pattern of a person or investor in investing, so they will not interact even though the investment manager has high stock selection skills.
6. Interest rates and stock selection skills are not significant and do not interact in the relationship between stock selection skills and mutual fund performance. Whereas with stock selection skills, investment managers can rely on the ability to select

stocks on the performance of Islamic mutual funds, so that the ability of investment managers to choose assets to form a portfolio is predicted to provide the expected return in the future.

VI. Conclusion

This study examines the effect of Liquidity, Sock Selection Skills on the Performance of Mixed Mutual Funds with Interest Rates and Inflation as Moderating Variables for the period 2019 to 2021. Based on the results of the analysis and discussion, the following conclusions are obtained:

1. Liquidity has a negative direction and is not significant to the performance of conventional mixed mutual funds.
2. Interest rates and liquidity are not significant and do not interact with the relationship between liquidity and the performance of conventional mixed mutual funds in Indonesia.
3. Inflation and liquidity are not significant and do not interact with the relationship between liquidity and the performance of conventional mixed mutual funds in Indonesia.
4. Stock selection skills have a significant positive effect on the performance of conventional mixed mutual funds in Indonesia.
5. Inflation and stock selection skills are not significant and do not interact in the relationship between stock selection skills and mutual fund performance.
6. Interest rates and stock selection skills are not significant and do not interact in the relationship between stock selection skills and mutual fund performance.

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