THE EFFECT OF MARKET TIMING ABILITY

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Submission date: 27-Nov-2022 06:52AM (UTC+0700)
Submission ID: 1963768155
File name: THE_EFFECT_OF_MARKET_TIMING_ABILITY.pdf (551.14K)
Word count: 4153
Character count: 21507

THE EFFECT OF MARKET TIMING ABILITY AND FUND SIZE ON MUTUAL FUND PERFORMANCE OF MUTUAL FUND COMPANIES IN INDONESIA

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Abstract

This study aims to analyze the effect of market timing ability and fund size of mutual funds on the performance of equity funds. This research was conducted at a mutual fund company registered in the Financial Services Authority (OJK) 2018-2019 period. This study uses purposive sampling with a total sample of 65 mutual fund shares. The type of data used is quantitative data and data sources in the form of company annual financial statements. Data analysis tools used are descriptive statistics and panel data regression. The results of this study indicate that the market timing ability has a significant positive effect on the mutual fund performance and the fund size has a significant negative effect on the mutual fund performance.

***Keywords**: Market Timing Ability, Fund Size, Mutual Fund Performanceand, Equity Fund*

1. INTRODUCTION

In the mutual fund industry, we often hear the term NAV. NAV stands for Net Asset Value which shows how much the value of assets managed in a mutual fund is. The value of net assets divided by the unit of participation shows the price of the mutual fund, at this price the sale or purchase of mutual funds is carried out.

Mutual fund performance is defined as a portfolio that not only looks at the rate of return generated by the portfolio, but also has to consider other factors such as fund size, market timing, securities portfolio analysis and portfolio risk level (Ünal & Tan, 2015). In this case, a mutual fund company's performance directly affects matters related to fund management by investment managers (Ferson & Mo, 2016).

The total value of net assets (NAV) along with the number of units produced by all types of mutual funds in Indonesia has increased from year to year. In investing in mutual funds, an investor needs to understand portfolio management carried out by investment managers. Chang & Lewellen (1984) explained that to determine the performance of a good stock mutual fund, there are several variables that can be considered for investors in investing, one of which is market timing ability.

Huij & Post (2011) explained that timing in the market is the ability of investment managers to make adjustments to the asset portfolio in order to anticipate changes or movements in general market prices. Philippas, (2011) explained that market timing ability has an influence on performance in a which is carried out using the Treynor-Mazuy method. The example is the comparison of the measurement of mutual fund performance and market timing ability of mutual funds, especially in equity funds registered with the Financial Services Authority (OJK).

Fund size is also important for an investor to understand before investing in mutual funds. Fund size can be seen from the total portfolio of securities in a mutual fund (Vithessonthi & Tongurai, 2015). The larger the size of the managed securities funds will provide flexibility, increase the strength of the company and facilitate the creation of economies of scale which

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company can have an impact on reducing costs so that it will have a positive impact on performance, and therefore will be able to provide a better picture of performance to investors.

2. LITERATURE REVIEW

From the basic model of the financial literature, Markowit et al. (2011) stated portfolio theory shows that investors invest in a portfolio of securities to minimize the risk assessed by the standard deviation of portfolio returns. Fama (1970) described two main things in the company, namely investment funds and portfolio management. This methodology begins with a theoretical model developed by Fama (1970) explaining stock returns as a function of several references such as risk-free rate, market return, firm size, market value, firm profit, and firm investment activity.

In the reference there is no general definition of mutual fund performance. In this case the performance in a company can be defined as a managed portfolio which is generally not determined by the rate of return obtained but other things such as the level of portfolio risk that needs to be known (Deb, 2019). This refers to how well a mutual fund investment manager can use the primary ability to manage securities portfolios and generate high returns. The explanation used as an overview of the overall securities portfolio during a certain period so that it can be used as a ratio for similar investment managers in managing and regulating each type of mutual fund which will be invested in its portfolio, the company's performance becomes a reference for choosing an investment manager (Nal & Tan, 2015).

The purpose of mutual fund performance is to ensure in choosing the type of mutual fund to be an investment destination, as well as how to determine the ability of investment managers to manage portfolios (Zhao & Wang, 2007). Investment managers can be seen from their performance by managing funds, services and information transparency. Performance can be improved by ensuring the things that need to be invested gradually from time to time so that investment managers have prospects and become investors' choice in managing their portfolios. Market timing ability is the investment manager's expertise in analyzing a change in the price of a stock mutual fund so that the investment manager will position his portfolio in such a way as to generate returns that exceed market returns (Baker & Wurgler, 2002). Maciel, Gomide, Ballini (2016) explained that companies are more likely to issue equity when the market value or share price is high, relative to book and past market values and to repurchase equity when the market value or share price is low. Market timing ability is managed by an investment manager with psychological aspects that can affect the performance of the portfolio he manages, in this case the investment manager spends so much time controlling the market, but forgets to master himself, understand the calculations and thoughts that affect the high or low performance of mutual funds.

Fund size is a presentation of the total capitalization of mutual funds, besides that fund size is a measuring tool in determining the size of mutual funds based on the funds in the managed portfolio and described in the securities portfolio (Chen et al., 2004). Asset Under Management (AUM) or managed funds in mutual funds which refers to the total value of investments managed by investment managers. AUM also refers to the total managed securities funds which will be directly related to the size of the mutual fund itself which can be seen from the total securities portfolio. The previous study explained the effect of the size of the securities portfolio on the excess return which was directly related and stated that a higher effect size would cause the risk faced by the company to be lower than securities with a low value (Elton et al., 2012).

3. RESEARCH METHODS

The purpose of this study is to analyze the effect of the independent variables, namely market timing ability literacy (X1), fund size (X2 simultaneously and partially on the dependent variable, namely mutual fund performance (Y). The population in this study were all mutual fund companies in the registered stock mutual funds and published by the Financial Services Authority (OJK) for the period 2018-2019. The sample used is purposive sampling, which means it is used based on certain criteria. In this study, especially stock mutual funds that have the conventional type.

The type of data in this study is quantitative data. In this study, the data source used is secondary data. The data collection method in this study is by collecting all data consisting of a population of mutual fund investment managers with the conventional type of stock mutual funds. In this case, the research sample is a company that publishes a prospectus and is published and published by the Financial Services Authority (OJK) during the 2018-2019 period. The calculation of market timing ability uses the Treynor-Mazuy Ratio method while the fund size uses the total securities portfolio with Ln (natural logarithm). In calculating mutual fund performance using the Sharpe Ratio method of stock mutual funds.

Variable	Variable Measurement	Source
Dependent Variable; Mutual Fund Performance (Y)	$\text{Sp} = \frac{Rp - Rf}{\sigma p}$ *Sharpe Ratio* Information: Sp : performance index Sharpe Rp : portfolio return or market rate of return Rf : risk-free return risk-free interest rate σp : standard deviation of portfolio returns during the observation period	Deb, (2019)
Independent Variable; *Market Timing Ability* (X_1)	$Rp - Rf = \alpha + \beta(Rm - Rf) + \gamma(Rm - Rf)2 + \varepsilon p$ *Treynor-Mazuy Ratio* Information: α : Intercept which is an indication of stock selection from the investment manager *Rp* : The average return of mutual funds for period t *Rf* : Average risk-free investment return period t *Rm* : Average market return period t β : Regression coefficient of excess market return or slope when the market is down (bearish) γ : Regression coefficient which is an indication of the investment manager's market timing ability εp : random error	Wattanatorn & Tansupswatdikul, (2018)
Independent Variable; *Fund Size* (X_2)	*Ln*(TPE) Information: TPE : *Total Securities Portfolio*	Phillips et al., (2017)

4. RESULTS AND DISCUSSION

The researcher tested the descriptive statistical analysis as follows;
Descriptive Statistics Table

	MFF	MTA	FS
Mean	-276.5618	-35.33975	25.35575
Median	-0.538000	-0.086000	25.72642
Maximum	0.699000	0.465000	29.54082
Minimum	-4071.000	-2051.000	18.19754
Std. Dev.	739.4779	238.7628	2.184822
Observations	130	130	130

The author uses a panel data regression technique by using a model of three alternative approaches to processing methods.

Regression Results in Fixed Effect Model (FEM)
Dependent Variable: MFF?
Method: Pooled Least Squares
Date: 03/17/20 Time: 11:18
Sample: 2018 2019
Included observations: 2
Cross-sections included: 65
Total pool (balanced) observations: 130
White cross-section standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1354.938	168.2154	8.054784	0.0000
MTA?	2.329440	3.33E-09	7.00E+08	0.0000
FS?	-61.39023	0.000112	-547830.7	0.0000
Fixed Effects (Cross)				
_ASIE--C	68.03827			
_ADEN--C	440.0028			
_ADPN--C	387.4415			
_ADSB--C	309.7426			
_AECS--C	45.20841			
_BDPR--C	275.9299			
_BPRR--C	326.2399			
_BTRR--C	71.44905			
_BNSA--C	389.3635			
_BDSO--C	129.5450			
_BSLE--C	144.2585			
_BDSI--C	365.6278			
_BNEI--C	258.7603			
_BPEK--C	196.3877			
_BPIP--C	-12.34003			
_BPPE--C	174.4262			
_BPSO--C	70.84613			
_CEFF--C	161.0682			
_COEQ--C	-166.8648			
_CPID--C	187.9502			
_CPSE--C	215.6020			
_CPTR--C	231.7757			
_DEAN--C	276.8699			
_DEPR--C	305.7434			
_DPRE--C	173.0967			
_EIAN--C	250.2805			
_EIVD--C	386.1796			
_FSIH--C	245.1806			

_FSIP--C	257.6985
_FSIS--C	242.2236
_IIVS--C	106.6009
_KRPR--C	61.05840
_LEPR--C	144.2558
_LGFU--C	102.2947
_LSMA--C	136.4158
_LSPR--C	140.0034
_MSAI--C	158.9428
_MIAT--C	345.9200
_MICB--C	340.0390
_MIED--C	258.3720
_MIEA--C	165.4321
_MIEF--C	-381.8035
_MIEM--C	304.5908
_MDSA--C	-212.7687
_MIEF--C	-381.8035
_MSAN--C	-409.5591
_MSSP--C	-502.3416
_MAGI--C	-402.4167
_MAMA--C	-664.3212
_OAEI--C	-717.3413
_OBEF--C	-860.7368
_OFEF--C	711.9652
_OMEF--C	-564.7676
_OSFU--C	-945.4750
_PADS--C	381.7969
_PBON--C	-385.8929
_PDMA--C	-514.3487
_PDPR--C	-441.5895
_PDTE--C	-449.9669
_PDUL--C	-581.9407
_PEEX--C	-644.4419
_PILC--C	119.4821
_PSAG--C	-453.7427
_PSUN--C	-591.6916
_RSKI--C	222.0482

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.713956	Mean dependent var	-286.5700
Adjusted R-squared	0.414292	S.D. dependent var	744.4924
S.E. of regression	569.7718	Akaike info criterion	15.83472
Sum squared resid	20452314	Schwarz criterion	17.31260
Log likelihood	-962.2567	Hannan-Quinn criter.	16.43523
F-statistic	2.382517	Durbin-Watson stat	3.939394
Prob(F-statistic)	0.000329		

Hasil Uji Chow
Redundant Fixed Effects Tests

Pool: OJK
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	0.741400	(64,63)	0.8823
Cross-section Chi-square	72.985206	64	0.2066

Hausman Test Results
Correlated Random Effects - Hausman Test
Pool: OJK
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	1.240918	2	0.5377

** WARNING: estimated cross-section random effects variance is zero.

Based on the results of the Chow test output from the Eviews version 10 tool, it can be seen that the F test value is significant at 0.8823 and the Chi-square value is also significant at 0.2066 which is greater than 0.05. This means that the null hypothesis is accepted, so the OLS method is better than FEM. Then the Hausman test was carried out. Based on the results of the Hausman test output with the Eviews version 10 tool, it can be seen that the p-value is greater than 0.05, which is 0.5377. Thus, the null hypothesis is accepted, so the use of a better method in this study is the REM method compared to OLS. However, due to the low R-square value in the OLS and REM methods, it is better for researchers to choose to use the FEM method in view of the large R-square value.

Descriptive Statistics Test Results

	MFF	MTA	FS
Mean	-276.5618	-35.33975	25.35575
Median	-0.538000	-0.086000	25.72642
Maximum	0.699000	0.465000	29.54082
Minimum	-4071.000	-2051.000	18.19754
Std. Dev.	739.4779	238.7628	2.184822
Skewness	-3.177018	-7.027490	-0.723713
Kurtosis	13.95046	52.96124	3.550142
Jarque-Bera	868.2177	14590.70	12.98752
Probability	0.000000	0.000000	0.001513
Sum	-35953.04	-4594.168	3296.248
Sum Sq. Dev.	70540753	7353991.	615.7749
Observations	130	130	130

Multicollinearity Test Results

MTA	FS

MTA	1	-0.1236025977724393
FS	-0.1236025977724393	1

Heteroscedasticity Test Results

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	1.229632	Prob. F(2,127)	0.2959
Obs*R-squared	2.469536	Prob. Chi-Square(2)	0.2909
Scaled explained SS	6.281563	Prob. Chi-Square(2)	0.0432

To examine the classical assumption test in this study, the author used the multicollinearity test, heteroscedasticity test and autocorrelation test. The results of multicollinearity test showed that there is no relationship between the independent variables with a value of more than 0.90 so that the panel data model in this study does not have a multicollinearity problem. In this study, there was also no heteroscedasticity where the probability value of Osb*R-squared was 2.4695 (greater than 0.05). Furthermore, the autocorrelation test showed the DW value of 1.937305 which then refers to the Durbin-Watson benchmark, the test results show that the DW value of 3.9393 is between -3 < DW < 3 where there is autocorrelation.

Panel Data Regression Analysis Results
On Market Timing Ability (MTA) and Fund Size (FS) Variables

Dependent variable	Independent Variable	Regression Coefficient	t-count	Prob.	Direction	Information
MFF	Constant	1354.938	8.054784	0.0000		
	MTA	2.329440	7.001407	0.0000	(+)	Significant
	FS	-61.39023	-547830.7	0.0000	(-)	Significant
R–Square		0.713956				
Adjust R Square		0.414292				
F-Stats		2.382517				
F Significant		0.0000329				

In the FEM model, the coefficient of determination (R2) is 0.713956. This means that the dependent variable (MFF) can be influenced by 71.39 percent by independent variables (MTA and FS), while the remaining 28.61 percent is explained by other variables not included in this research model. The results of the panel data regression test showed that the statistical F value was 2.382517, with the same significance value (F significant) of 0.000000 which was smaller than 0.05 (0.0000 < 0.05). These results explain that two independent variables of MTA and FS simultaneously affect MFF in the observed sample for the 2018-2019 and have shown a feasible model. In the t-test, MTA variable (X1) has a t-count value of 7.001407 and a probability level of 0.0000 > 0.05, which means that partially the variable has a significant positive effect on MFF. The FS variable (X2) has a t-count value of -547830.7 with a probability value of 0.0000 <0.05, which means that partially the variable has a significant negative effect on MFF.

4.1. Effect of Market Timing Ability on Mutual Fund Performance

Market timing ability has a positive and significant effect on mutual fund performance in equity mutual funds in Indonesia. This means that the determination of market timing by investment managers in portfolio management by using some measures. One of which is portfolio diversification, which increases investor confidence in investment managers. The results of the study are in line with research conducted by Wattanatorn & Tansupswatdikul, (2018), Deb, (2019), Ferson & Mo, (2016).

Investment managers who have high market timing skills and expertise tend to have high performance. This is due to the right decision by the investment manager in making portfolio adjustments when buying and selling shares in anticipation of changes in market prices.

4.2. Effect of Fund Size on Mutual Fund Performance

Fund size has a negative and significant effect on mutual fund performance in mutual fund companies in Indonesia. The results of this study differ from the hypothesis which states that fund size has a positive and significant effect on mutual fund performance. The results of this study differ from the hypothesis which states that fund size has a positive and significant effect on mutual fund performance in mutual fund companies in Indonesia.

The results of this study are not in line with Phillips et al. (2017), Huij & Post, (2011), and Shilpi & Arti, (2014) who state that fund size has a positive and significant effect on mutual fund performance. Investors who invest in equity mutual funds do not pay much attention to managed funds to choose a portfolio. Investment managers, especially equity mutual funds, must have more expertise in diversifying their portfolios and providing the latest information on managed securities funds as a benchmark for investors.

5. CONCLUSION

Based on the analysis that has been done in the previous chapter, the following conclusions can be drawn:

Market Timing Ability has a positive and significant effect on Mutual Fund Performance. Investment managers who have skills and expertise in timing the market tend to have high performance. This is due to the right decision by the investment manager in making portfolio adjustments when buying and selling shares in anticipation of changes in market prices.

Fund Size has a negative and significant effect on Mutual Fund Performance. Investors when investing do not consider the managed funds from the mutual fund portfolio but pay more attention to the ability of the investment manager to manage the funds. In addition, this result is due to the very low information service provided by investment managers to investors.

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