Analysis of Market Timing and Stock Selection Ability on Indonesian Equity Mutual Funds Before and The Ongoing COVID-19 Over the Period of 2015-2021

Madeline[1], Eko Rizkianto[2]
{madeline.tjandra95@gmail.com[1]}

Universitas Indonesia, Indonesia[1, 2]

Abstract. This research analyzes the market timing and stock selection ability of 25 top gainers and 25 top losers of equity mutual funds in Indonesia before covid-19 and during the pandemic using time series analysis. Using Treynor-Mazuy and Henriksson-Mertons' theory, results show before covid-19, there are 9 and 22 mutual funds that doesn't have market timing ability respectively. Whereas using Jensen's Alpha method, before covid-19 there are 26 mutual funds that doesn't have stock selection ability. As for the period of the ongoing covid-19, there are 20 and 29 mutual funds that doesn't have market timing ability, using Treynor-Mazuy and Henriksson-Merton respectively. There are 28 mutual funds that doesn't have stock selection ability. Therefore, it was concluded that there is a decline in the performance of market timing and stock selection ability of equity mutual funds during the covid-19 pandemic in Indonesia. The majority of mutual funds which lack of market timing and stock selection ability came from the top losers' bracket.

Keywords: Market Timing, Stock Selection, Equity Mutual Funds, Covid-19, Indonesia

1 Introduction

The ongoing occurrence of Covid-19 pandemic since 2019 has caused an economic crisis in the world, including in Indonesia. After the contraction of economic growth in the second and third quarters which is minus 5.32% and minus 3.49% respectively, based on data released by the Central Statistics Agency, Indonesia officially experienced an economic recession on November 5, 2020. The Central Statistics Agency released data on the Open Unemployment Rate for the period August 2020 with an increase in the amount of unemployment by 1.84% since the last year. The existence of an economic recession can lead to an increase in the number of unemployment and an even greater economic contraction in the future. This research is important because the occurrence of Covid-19 pandemic made investors doubt as when to invest and which equity mutual fund is best for this situation. The result of this paper can be interpreted into a conclusion for investors as whether or not the equity mutual funds is worth to invest.

Among institutional investors, mutual funds play a key role in providing financial resources to the stock market, particularly in developing countries. Unlike other investments, the flow of mutual funds can be affected by the behaviour of retail investors and the

ICE-BEES 2021, July 27-28, Semarang, Indonesia

DOI 10.4108/eai.27-7-2021.2316892

overreaction of retail investors to certain events. There are large numbers of retail investors who withdrew their funds from stocks and mutual funds which was caused by panic and an urgent need for money due to the increasing number of unemployment, which can lead to a decline in the stock exchange and also the performance of mutual funds. According to Giudice and Paltrinieri [1], in his research on the influence of the Arab Spring and Ebola outbreaks on retail investor decisions in Africa, he found that the two outbreaks significantly affected the flow of funds, controlling mutual fund performance, spending and market returns. Retail investors in Africa overreacted to this big event so that many withdrew their savings from mutual funds in Africa. This irrational behaviour of the investors undermines the market timing ability of mutual fund managers and reduces the injection of equity capital into African stock markets. There is also Talwar et al. [2] who researched that during the Covid-19 incident, the large influence of retail investors' financial behaviour in India on trading activities with financial issues as the biggest factor, caused those irrational financial decisions. Thus, major events greatly affect the trading behaviour of irrational retail investors which can cause a decline in mutual fund performance so that it can contribute to a market crash.

According to Zhang et al. [3], the spread of Covid-19 has had a dramatic impact on financial markets around the world. This creates an unprecedented level of risk and causes investors to suffer significant losses in a very short time. Their research results show that global financial market risks have increased substantially in response to the pandemic. Individual stock market reactions are clearly linked to the severity of the outbreak in each country. The immense uncertainty from the pandemic as well as the associated economic losses have caused the market to be extremely volatile and unpredictable. In the case of Indonesia itself, Kamaludin et al. [4] researched that the performance of the Indonesian stock exchange has a very high dependence between the Jakarta Composite Index and the number of daily Covid-19 cases during early February to May 2020. Indonesia's financial market is also proven to be highly dependent on US stock market movements with visible dependencies over the sample period in the short-, medium- and long-term periods. The findings of this study corroborate the fact that financial markets respond to major events, including pandemic outbreaks and oil price volatility from the research of Al-Awadhi et al. [5] and also the research of Sharif et al. [6].

There is a certain literature gap within those articles where none of those researches have yet been explored, namely the effects of covid-19 pandemic towards market timing and stock selection ability of equity mutual funds. Indonesia is one of the developing countries thus can be an interesting population to research as recent studies have shown that irrational behaviour of retail investors exists in major events, especially in developing countries. This research is expected to be able to see the market timing ability of equity mutual funds in Indonesia between 2 periods, from before the Covid-19 pandemic and during the pandemic itself.

2 Method

The research method used in this study is a quantitative descriptive analysis method that provides an overview of equity mutual funds in Indonesia in carrying out market timing and stock selection ability conducted by investment managers of equity mutual fund which are the top gainers and top losers. The selection of equity mutual funds which belongs to the sample category of top gainer and top loser is done by looking at the risk-adjusted return value of all

stock mutual funds on March 19, 2021, 1 year after a massive decline in the price of mutual funds.

The objects which will be studied in this research are 25 equity mutual fund products that have the highest risk-adjusted returns as of 19 March 2021 and 25 equity mutual fund products that have the lowest returns as of 19 March 2021, which have been registered with Badan Pengawas Pasar Modal dan Lembaga Keuangan (Capital Market Supervisory Agency and Financial Institution) since February 2015 and are still active until March 2021. The equity mutual funds included in the research sample are 25 top gainers and 25 top losers by looking at the risk-adjusted returns as of March 19, 2021. Data of the risk-adjusted return values are obtained from the website www.bareksa.com and were calculated by adding up Jensen's Alpha, Beta, Sharpe ratio, portfolio standard deviation, and Treynor ratio Bareksa Portal Investasi [7]. The following are 50 equity mutual funds that were observed in this study are as table 1 and table 2.

Table 1. List of 25 Top Gainer Equity Mutual Funds

Rank	Top Gainer Equity Mutual Fund Name	Risk-Adjusted Return
1	Mandiri Dynamic Equity	11.2501
2	Manulife Saham SMC Plus	11.2006
3	Manulife Institutional Equity Fund	10.9188
4	Manulife Saham Andalan	10.1872
5	Shinhan Equity Growth	10.1714
6	Mandiri Investa Ekuitas Dinamis	10.1567
7	Ashmore Dana Progresif Nusantara	9.9759
8	Danareksa Mawar Fokus 10	9.1825
9	FWD Asset Value Select Equity Fund	8.9472
10	Sucorinvest Equity Fund	8.8983
11	BNP Paribas Solaris	8.8427
12	I AM Equity Fund	8.7402
13	Schroder Dana Istimewa	8.7008
14	TRIM Kapital Plus	8.3338
15	Panin Dana Maksima	8.2553
16	Architas Saham Dinamis	8.2153
17	Batavia Dana Saham Optimal	8.2051
18	Eastspring Investments Value Discovery Kelas A	8.1675
19	Sucorinvest Maxi Fund	8.1412
20	Panin Dana Ultima	8.0219
21	Ashmore Dana Ekuitas Nusantara	7.7998
22	Nikko Indonesia Equity Fund	7.6855
23	TRAM Consumption Plus	7.5573
24	Manulife Dana Saham Kelas A	7.4519
25	Millenium Equity Growth Fund	7.2400

Table 2. List of 25 Top Loser Equity Mutual Funds

Rank	Top Loser Equity Mutual Fund Name	Risk-Adjusted Return
1	Emco Mantap	-7.2221
2	Emco Growth Fund	-6.3180
3	Pacific Equity Growth Fund	-5.0140

Rank	Top Loser Equity Mutual Fund Name	Risk-Adjusted Return
4	Pacific Equity Progresif Fund	-3.6196
5	Narada Saham Indonesia	1.0094
6	MNC Dana Ekuitas	3.0935
7	Asanusa Enhanced Strategy Fund	3.1817
8	Simas Saham Unggulan	3.4678
9	HPAM Saham Dinamis	3.7013
10	Millenium Equity Prima Plus	3.8092
11	Bahana Trailblazer Fund	4.8116
12	HPAM Ultima Ekuitas 1	5.0213
13	Dana Ekuitas Prima	5.3374
14	Premier Ekuitas Makro Plus	5.4577
15	Mandiri Investa Equity Dynamo Factor	5.4913
16	Simas Danamas Saham	5.5890
17	Principal Indo Domestic Equity Fund	5.7062
18	Insight Wealth	5.7269
19	Mega Asset Greater Infrastructure	5.8480
20	Schroder Dana Prestasi Plus	6.1319
21	Schroder 90 Plus Equity Fund	6.3161
22	Mandiri Saham Atraktif	6.7621
23	Mega Asset Maxima	6.9737
24	Millenium Dynamic Equity Fund	7.0801
25	Danareksa Mawar Komoditas 10	7.0228

The observation period that will be covered in this study is the monthly data on equity mutual funds in the period before the onset of Covid 19, namely from March 2015 to February 2021 and the observation period during the Covid-19 period, namely from March 2020 to March 2021. This observation period is taken because the researcher wanted to observe the performance of equity mutual funds in Indonesia before and after the initial shock caused by the Covid-19 pandemic in March 2020.

This study calculates the performance of equity mutual funds through their market timing and stock selection abilities with a time series analysis. For calculating the stock selection ability of an equity mutual fund, Jensen's Alpha regression model is used. The Jensen Alpha ratio is a measurement of the average portfolio return that is above and above that predicted by the CAPM, by calculating the portfolio beta and the average market return. The Jensen Alpha ratio is used to assess the performance of investment managers on how much investment managers can generate returns above market returns. The higher the positive value of the Jensen Alpha ratio, the better the performance [8]. The measurement of the Jensen Alpha time series analysis model can be seen as follow:

$$r_{pt} - r_{ft} = \alpha_p + \boldsymbol{\beta_p}(r_{Mt} - r_{ft}) + e_p$$

Where:

$\boldsymbol{\alpha_p}$ = Jensen's Alpha ratio

r_{pt} = Portofolio return during the measurement period
r_{ft} = Risk-free rate return during the measurement period
r_{Mt} = Market return during the measurement period

β_p = Beta of portfolio or systematic risk of portfolio

The regression results from the Jensen's Alpha model are also used as a reference whether the investment manager has the ability to do stock selection on their mutual fund products. If the Alpha from the regression results is minus, then the investment manager of the mutual fund does not have a good stock selection ability. If the Alpha value from the regression results is positive, it can be concluded that the investment manager of the mutual fund has a good stock selection ability.

There are two models that can be used to measure market timing ability by investment managers or investors to identify market timing ability, which will be used for this research time series analysis, namely:

a) Treynor-Mazuy Model

Treynor and Mazuy propose a regression equation by adding the quadratic variable of market excess return to the linear regression model, so that the regression equation is as follows [9]:

$r_{pt} - r_{ft} = a + b(r_{Mt} - r_{ft}) + c(r_{Mt} - r_{ft})^2 + e_p$

Where:

r_{pt} = Portofolio return during the measurement period
r_{ft} = Risk-free rate return during the measurement period
r_{Mt} = Market return during the measurement period
e_p = Random error

Where r_p is the portfolio return, and a, b, and c are estimated by regression analysis. If c turns out to be positive, there is evidence of market timing ability, as this last term will make the characteristic line steeper.

b) Henriksson-Merton Model

Henriksson and Merton [10] suggest that the beta of a portfolio takes only two values: a large value if the market is expected to perform well and a small value otherwise. Under this scheme, the portfolio characteristic line appears with two distinct slopes. Such a line appears in the regression form as follows:

$r_{pt} - r_{ft} = a + b(r_{Mt} - r_{ft}) + c(r_{Mt} - r_{ft})D + e_p$

Where:

r_{pt} = Portofolio return during the measurement period
r_{ft} = Risk-free rate return during the measurement period
r_{Mt} = Market return during the measurement period
D = 1 if $r_{Mt} > r_{ft}$; D = 0 if other (Dummy Variable)
e_p = Random error

The following are the hypotheses developed based on linear regression for this study in order to calculate equity mutual fund performances with time series analysis:

a) Jensen Alpha's Model

H1: Equity mutual fund investment managers have stock selection ability
$H_0 : \alpha \leq 0$ Investment manager does not have stock selection ability
$H_1 : \alpha > 0$ Investment manager has stock selection ability

b) Treynor-Mazuy's Model

H2: Equity mutual fund investment managers have market timing ability
$H_0 : \gamma_P \leq 0$ Investment managers does not have market timing ability
$H_1 : \gamma_P > 0$ Investment manager has market timing ability

c) Henriksson-Merton's Model

H3: Equity mutual fund investment managers have market timing ability
$H_0 : \gamma_P \leq 0$ Investment managers does not have market timing ability
$H_1 : \gamma_P > 0$ Investment manager has market timing ability

3 Result and Discussion

After conducting preliminary statistic tests and readjustment of the model, the result of the regression of all the models, before the covid-19 period and the ongoing pandemic are as follow in table 3 and table 4.

Table 3. Regression Results of Equity Mutual Funds in the Top Gainer Category in Both Periods

Top Gainer Rank	Equity Mutual Fund Name	Period Before Covid-19			Period of the ongoing Covid-19		
		Jensen's Alpha Model Regression Coefficient	Treynor-Mazuy Model Regression Coefficient	Henriksson-Merton Model Regression Coefficient	Jensen's Alpha Model Regression Coefficient	Treynor-Mazuy Model Regression Coefficient	Henriksson-Merton Model Regression Coefficient
1	Mandiri Dynamic Equity	0.003220	1.30142	0.001656	0.011199	0.746665	-0.054791
2	Manulife Saham SMC Plus	-0.007575*	3.274725*	0.001268	0.010683	4.790001	-0.041665
3	Manulife Institutional Equity Fund	-0.001950	3.967796	0.005957	0.006762	1.145068	-0.013397
4	Manulife Saham Andalan	0.000729	2.961456*	-0.004357*	0.003810	2.330284	-0.020947
5	Shinhan Equity Growth	0.003195	3.452193	0.003187	-0.002666	-1.120447	-0.059093
6	Mandiri Investa Ekuitas Dinamis	-0.010499	2.386623	0.006883	0.001747	0.288668	-0.002378
7	Ashmore Dana Progresif Nusantara	-0.001736	1.375671	-0.000781	0.003516	1.200076	-0.017696
8	Danareksa Mawar Fokus 10	0.000238	8.702439*	0.010365*	-0.000776	3.471027	-0.050482
9	FWD Asset Value Select Equity Fund	-0.005867*	0.23045	0.000818	0.002670	1.699417	-0.024712
10	Sucorinvest Equity Fund	0.006248*	2.265843	0.010766	-0.000611	2.016095	0.006594
11	BNP Paribas Solaris	-0.002607	10.43438	-0.012817	-0.002386	3.905597	-0.059887
12	I AM Equity Fund	-0.004045	2.680445	-0.006857	-0.007985	1.601664	-0.007624
13	Schroder Dana Istimewa	-0.003791*	0.134784	-0.000823	0.001617	2.810132	-0.019058
14	TRIM Kapital Plus	-0.004621*	1.609359	0.004865	0.001355	0.435437	-0.003808
15	Panin Dana Maksima	-0.003717	2.141325	0.013526	-0.005261	3.299757	0.019576
16	Architas Saham Dinamis	-0.001347	0.03996	-0.00686	0.002878	0.438510	-0.006813

Top Gainer Rank	Equity Mutual Fund Name	Period Before Covid-19			Period of the ongoing Covid-19		
		Jensen's Alpha Model Regression Coefficient	Treynor-Mazuy Model Regression Coefficient	Henriksson-Merton Model Regression Coefficient	Jensen's Alpha Model Regression Coefficient	Treynor-Mazuy Model Regression Coefficient	Henriksson-Merton Model Regression Coefficient
17	Batavia Dana Saham Optimal	0.000375	1.799194*	0.003272*	-0.001971	-1.064917	-0.009521
18	Eastspring Investments Value Discovery Kelas A	-0.00098	0.438655	0.002545	-0.002509	-1.171936	-0.009359
19	Sucorinvest Maxi Fund	0.001566	3.444094*	0.015889*	-0.016726	-3.190445	-0.015797
20	Panin Dana Ultima	-0.005258*	0.300229	0.003251	-0.008864	2.618940	0.034508
21	Ashmore Dana Ekuitas Nusantara	-0.001108	0.957352	0.002764	-0.003225	-0.309849	-0.007188
22	Nikko Indonesia Equity Fund	0.000347	1.648926	-0.002019	-0.004610	0.739104	0.036054*
23	TRAM Consumption Plus	0.003286*	1.362062*	0.002777	-0.004698	0.577622	-0.005448
24	Manulife Dana Saham Kelas A	-0.003278*	0.889042	-0.002281	-0.003532	1.312572	0.007122
25	Millenium Equity Growth Fund	-0.025801*	-0.404828	-0.002586	-0.022568*	-2.200795	-0.007549

* 5% significance

Table 4. Regression Results of Equity Mutual Funds in the Top Loser Category in Both Periods

Top Loser Rank	Equity Mutual Fund Name	Period Before Covid-19			Period of the ongoing Covid-19		
		Jensen's Alpha Model Regression Coefficient	Treynor-Mazuy Model Regression Coefficient	Henriksson-Merton Model Regression Coefficient	Jensen's Alpha Model Regression Coefficient	Treynor-Mazuy Model Regression Coefficient	Henriksson-Merton Model Regression Coefficient
1	Emco Mantap	-0.125202	-2.764254	-0.008724	-0.032828	3.684061	-0.081944
2	Emco Growth Fund	-0.120726	-5.070822	-0.026995	-0.018219	1.821128	-0.044147
3	Pacific Equity Growth Fund	-0.003567	1.167901	-0.004441	-0.010742	0.133197	-0.018403
4	Pacific Equity Progresif Fund	-0.000309	1.098375	0.006169	-0.009233	-1.553098	-0.016757
5	Narada Saham Indonesia	-0.015900	-1.531765	0.018027	-0.075924	-23.86725	0.253404
6	MNC Dana Ekuitas	-0.003459	2.923968*	0.006941	-0.017443*	-2.791947	-0.008957
7	Asanusa Enhanced Strategy Fund	-0.003815	4.172779	0.026909	-0.022241*	-1.749958	0.005428
8	Simas Saham Unggulan	0.004902*	1.517997	0.010231	-0.016495*	-1.89128	0.018867
9	HPAM Saham Dinamis	0.001501	2.156255	0.0142	-0.017924	-0.185884	-0.065797
10	Millenium Equity Prima Plus	-0.034049*	2.340484	0.056045	-0.007747	2.136976	-0.003555
11	Bahana Trailblazer Fund	-0.003645*	0.08238	-0.002755	-0.012728*	-1.047434	0.007658*
12	HPAM Ultima Ekuitas 1	0.002764	-1.019946	0.002092	-0.011236	-2.474119	-0.031333
13	Dana Ekuitas Prima	-0.002914	0.365811	-0.007091	-0.011382*	-0.312728	0.006267
14	Premier Ekuitas Makro Plus	-0.002349	-0.318669	-0.006577	-0.014902	-0.009438	0.013586
15	Mandiri Investa Equity Dynamo Factor	0.003374*	5.607963*	0.024702*	-0.016660*	-0.160759	0.013968
16	Simas Danamas Saham	-0.003876	-0.074575	0.002111	-0.015903*	1.288328	0.015886
17	Principal Indo Domestic Equity Fund	-0.004473*	0.032093	-0.00686	-0.054921	5.227331	0.121334
18	Insight Wealth	-0.000404	1.867626*	-5.60E-05	-0.014021*	0.318449	0.005164
19	Mega Asset Greater Infrastructure	-0.005058*	0.930994	-0.004137	-0.010504*	-0.866090	0.013521
20	Schroder Dana Prestasi Plus	-0.001159	0.626749	-0.001958	-0.006773	0.803712	0.007986
21	Schroder 90 Plus Equity Fund	-0.002399	0.580645	-0.001352	-0.005542	0.827627	0.007446
22	Mandiri Saham Atraktif	-0.000334	0.422478	-0.002301	-0.006802	-0.003371	0.002079
23	Mega Asset Maxima	-0.003449	1.167143	-0.005564	-0.009164	-1.132493	0.000296

Top Loser Rank	Equity Mutual Fund Name	Period Before Covid-19			Period of the ongoing Covid-19		
		Jensen's Alpha Model Regression Coefficient	Treynor-Mazuy Model Regression Coefficient	Henriksson-Merton Model Regression Coefficient	Jensen's Alpha Model Regression Coefficient	Treynor-Mazuy Model Regression Coefficient	Henriksson-Merton Model Regression Coefficient
24	Millenium Dynamic Equity Fund	-0.014355	-2.436655	0.008778	-0.020522*	-3.154406	0.000814
25	Danareksa Mawar Komoditas 10	-0.000226	0.951463	-0.003794	-0.006141	0.819840	0.007340

*5% significance

From the regression results above, it can be concluded that prior to the Covid-19 pandemic, there were 26 mutual funds that did not have stock selection ability, where 9 of mutual funds that did not have market timing ability according to the Treynor-Mazuy model and 22 mutual funds that did not. market timing ability according to the Henriksson-Merton model. Compared to the period during Covid-19, there were 29 mutual funds that did not have stock selection ability, 21 mutual funds that did not have market timing ability according to the Treynor-Mazuy model and 28 mutual funds that did not have market timing ability according to the Henriksson-Merton model. Therefore, it was concluded that there was a decline in the performance of stock selection and market timing abilities for equity funds during the Covid-19 pandemic. The implication of the result for the future research is that there could have been a tweak in the regression model to identify the direct impact of covid-19 pandemic towards Indonesian equity mutual funds as this research only calculates the market timing and stock selection ability in both of the periods. Thus, it can be more specific as whether covid-19 pandemic is the main reason as to why the market timing and stock selection ability in Indonesian equity mutual fund is declining.

The performance of stock mutual funds can be observed according to the grouping of top gainers and top losers, where they can be compared as table 5.

Table 5. Comparison of Regression Test Results by Category

Regression Test Result	Period Before Covid-19			Period of the ongoing Covid-19		
Number of mutual funds that do not have:	Stock Selection	Market Timing (TM)	Market Timing (HM)	Stock Selection	Market Timing (TM)	Market Timing (HM)
Top Gainer Category	9	1	8	14	6	20
Top Loser Category	17	8	14	15	15	8

*TM indicates the Treynor-Mazuy's Model
*HM indicates the Henriksson-Merton's Model

From the table above, it can be seen that the comparison of the performance of stock mutual funds before and during the Covid-19 pandemic, where the decline in performance was more visible in the top gainer category of equity funds because the number of mutual funds that did not have stock selection and market timing abilities increased. Meanwhile, for the top loser stock mutual funds, it was found that mutual funds that did not have stock selection and market timing according to the Henriksson-Merton model decreased, although there was an increase in the number of top loser mutual funds that did not have market timing ability according to the Treynor-Mazuy model.

Most of the equity mutual funds that do not have stock selection and market timing are from the top loser category. However, there is an anomaly in which during the Covid-19 period for market timing ability according to the Henriksson-Merton model, there are more mutual funds in the top gainer category that do not have market timing.

4 Conclusion

The findings of this study confirm the facts from the results of previous studies. According to research results from Giudice and Paltrinieri [1], the market timing of African equity mutual funds also deteriorated during the Ebola pandemic and the Arab Spring. The results of research Talwar et al. [2] in India prove that major events greatly affect the trading behavior of irrational retail investors which can cause a decline in equity mutual fund performance so that it can contribute to a market crash. Al-Awadhi et al. [5] found that financial markets responded to major events, including pandemic outbreaks and oil price volatility from the study.

The decline in the stock selection and market timing abilities of mutual funds in Indonesia raises concerns about the instability and risk that exists in the capital market in the current situation of Covid-19. In a study conducted by Manurung and Nachrowi [11], saw that there was a negative effect on the return of the mutual fund portfolio because there was a negative effect on the ability of stock selection and market timing. This extends the problem where covid-19 pandemic period in Indonesia is making most of the equity mutual funds does not have stock selection and market timing ability.

Based on the results of the processing and analysis of data about the ability of market timing and stock selection of investment managers from 50 equity mutual funds sampled in this study, there are several things that can be concluded. First, the Covid-19 pandemic has wreaked havoc around the world, including the capital market in Indonesia. This resulted in panic among retail investors so that there was a massive capital withdrawal during the pandemic caused by the necessary emergency costs. The absence of stock purchases on the stock exchange makes it difficult for investment managers of equity funds to carry out portfolio rebalancing. Therefore, investment managers lose their analytical power as well as stock selection and market timing abilities in their mutual funds.

The second conclusion is that equity mutual funds in Indonesia experienced a decline in performance in stock selection and market timing abilities during the covid-19 pandemic, so that there were more stock mutual funds that did not have stock selection and market timing abilities. Most of the equity mutual funds that do not have stock selection and market timing abilities come from the top loser category.

This research is not perfect, so the author acknowledges that there are various limitations to this research, which includes when calculating the performance of equity mutual funds, it only calculates its Net Asset Value without considering the number of shares owned by the number of shares in the stock mutual fund portfolio. There is also a limitation on the period of time during the covid-19 pandemic because at the time of writing, the pandemic has only lasted for about a year. It is hoped that further research will be able to observe the period before the pandemic and during the pandemic with a balanced period of time. This research has no empirical basis on the performance of stock selection ability during a pandemic, so it is hoped that this research can be a note for further researches. Lastly, there is an anomaly in the results of the research on Henriksson-Merton's theory, where there are more mutual funds in

the top gainer category that do not have market timing ability, compared to mutual funds in the top loser category. Thus, it is hoped that this can be investigated further in further researches.

The analysis and results in this research may mean something for the researchers in the same field, where there is a decrease in the ability of market timing and stock selection of equity mutual funds in Indonesia before the pandemic and during the pandemic, it is possible that not only the pandemic is a factor in the decline in market timing and stock selection abilities of investment managers. It can be an interesting scope of research to further study the direct relation between covid-19 pandemic and the drop in market timing and stock selection ability itself. This study only analyzes 50 equity mutual funds in a period of 5 years before the pandemic and 1 year during the pandemic. It is hoped that further research will be able to analyze stock mutual funds with more samples with a longer period of time for the period during the pandemic. Thus, further research on these limitations and anomalies is recommended. Researchers in other fields such as behavioral finance could also extend this research as whether it is true or not that Indonesian retail investors behave irrationally during this major event.

As for the means of the result of this research for the general public, namely for the investor of equity mutual funds, this study shows that equity mutual fund investors should be more careful during the pandemic because most investment managers are under pressure during the pandemic so that they lose their ability in market timing and stock selection in their mutual funds. The results of this study conclude that even the best investment managers and mutual funds cannot maintain their good performance during the pandemic.

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