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Stock Selection and Market Timing Ability to Increase Indonesia's Equity Mutual Fund Performance

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Abstract

This study investigates the effect of stock selection, market timing, and fund size on the mutual fund's performance with Covid-19 as a moderating variable. The sample data is limited to the listed conventional mutual funds supervised by the financial service authorization from 2014 to 2021, denominated in Rupiah currency, have a complete report, and have more than Rp 350 billion in fund equities. The sample data implements twenty-eight of the listed conventional mutual funds and is examined by a random method of Panel data multi-regression with moderated regression analysis (MRA). The result shows that market timing positively affects, and Covid-19 can enhance the effect of stock selection on the mutual fund's performance. Meanwhile, stock selection, fund size, and Covid-19 do not affect the mutual fund's performance. Covid-19 cannot moderate the effect of market timing and fund size on the mutual fund's performance. Fund managers highlight market timing as a crucial indicator of obtaining more returns, and Covid-19 is the best moment to select and collect potential stock at affordable prices and trade them to get more returns after the crisis.

Keywords : Covid-19, Fund size, Mutual fund's performance, Market timing, Stock selection
JEL Classification : C10, D47, E22

1. Introduction

Investment is an instrument to develop the country's economy (Erdos, 1973) and stakeholder welfare (Svendsen & Ebert, 1936). Investment is a commitment of money and other sources (Bodie et al., 2018) to get the expected return (Rizki & Pajar, 2017). An individual can invest in mutual funds because this type of fund is a collective investment instrument (Ayu & Asriwahyuni, 2017) with promising higher returns than other instruments (Sudarmanto et al., 2021). Portfolio evaluations in mutual funds can be led by economic, investment, and management specialists (Bauman, 1968). As one of the factors, Covid-19 negatively affected mutual fund's performance.

During Covid-19, the Indonesia stock (IDX) market reported that collective mutual fund values decreased by 23.59 percent, collective balanced funds performance decreased by 14.14 percent, and collective fixed-income funds performance decreased by 3.78 percent (Infovesta, 2022). Mutual funds are an important instrument for investment in the IDX market. In 2018, the IDX market recorded mutual fund members reached 8,179,753 investors, and the mutual fund's index reached 2,198 indices. In 2021,

the net active value of mutual funds reached Rp—578 billion in 2021. Mutual funds had high returns, reaching 57 percent, while the financial market of mutual funds increased returns by 33 percent and mutual funds stocks by 1 percent from 2014 to 2021 (Indonesia Stock Exchange, 2022). Based on the capital market statistics, the amount of mutual fund members reached 8.179.753 investors in 2018. The amount of mutual funds reached 2.198 indices and the amount of net active value of Rp. 578 billion in 2021. From 2014 until 2021, mutual funds had high returns reaching 57 percent, while the financial market of mutual funds increased returns by 33 percent and mutual funds stocks by 1 percent (Indonesia Stock Exchange, 2021). The mutual funds stock has less return than others. Investors prefer to allocate their money to mutual funds because it has less cost, less risk, is more efficient, and is managed by the fund manager (Dwiyana et al., 2023).

The mutual fund's return reflects the rates provided from dividend and capital gains distributions and changes in net asset value per share per year, after the deductions for investment management fees, other operating expenses, and portfolio transaction costs (Bauman, 1968). Mostly, the fund manager optimizes a mutual fund's portfolio by measuring stock selection and market timing abilities (Amalia & Sihombing, 2014). The fund managers analyzed mutual fund performance historically or called the net asset value to get the expected return (Zhang, 2019), and also optimize the expected return by analyzing the bullish and bearish markets, or called market timing (Bu & Forrest, 2021).

There are contrary results that stock selection affects the mutual fund's performance (Lailiyah & Setiawan, 2020; Wicaksono & Sampurno, 2017) (Kireina et al., 2016), but stock selection and market timing did not impact the equity fund's performance (Rachmah et al., 2018) at the same time. Furthermore, a fund size with few assets under management is called small funds and this fund can invest in small stocks called "small-cap funds" (Chen et al., 2004). Fund size can increase the equity fund performance (Bani Atta & Marzuki, 2021), but it could decrease mutual fund performance (Agustin et al., 2022) at the same time. As a disruption factor, Covid-19 increased liquidity risk and reduced return (Szymczyk et al., 2022), and identified that Covid-19 cannot moderate the effect of market timing on equity fund performance (Ariswati et al., 2021).

In the IDX market, mutual funds are the safest and most desirable stocks for investors, because mutual funds can allow investors to spread their money across a variety of assets to reduce risk. Investors with risk-averse behavior prefer to hire professional fund managers who have expertise in navigating financial markets and offer flexibility in terms of investment amounts to select the stock with the best portfolio. Fund managers can also select potential stock with various calculations and determinations during the Covid-19 conquered Indonesia. This study explains Indonesia's mutual fund performance generally by analyzing time–series data from 2014 to 2021. For potential investors with risk-averse behavior, investing in various mutual funds and various countries is one of the best options to allocate their money, and this study release information of Indonesia's mutual fund behavior as one of the investment destinations.

2. Hypotheses Development

In 1960, the Capital Asset Pricing Model (CAPM) was developed as a market factor to exposure of non-diversifiable and systematic market risk (Sharpe & Sharpet, 1964) and as a reference model to calculate the stock return, and was later extended into the form of multifactor models (Martellini et al., 2003). Fund managers involve a market model to obtain the expected return of mutual funds. One of the reasons that investors buy mutual funds is the anticipation of the investment benefits that a portfolio manager might be able to achieve. Investment managers must evaluate their performance in determining stocks continuously, such as in evaluating the performance of funds with the choice of benchmark, and the choice of model (Sinha, 2010). Mostly, investors place almost twice as much of their capital in mutual funds, and it became the most attention for the literature (Elton & Gruber, 2020). As a professional, a fund manager calculates and selects the best stocks by adjusting performance and risk (Cici et al., 2018) while optimizing and dividing the funds into free-risk assets or not (Merton, 1969).

The stock selection model was developed by Henriksson and Merton (1981), called the model of active portfolio to transfer the stock value into the selected stock with optimized mean-variance of the risk asset portfolio in the right market timing. The choice of stock selection criteria affects the size and portfolio of mutual funds (Raza, 2021). In the IDX market, fund managers increase the mutual fund's

performance by optimizing the expected returns more than the market value, represented by the Jakarta Composite Index (Susilo & Najah, 2018), and stock selection can be determined by increasing net active value (Agarwal & Pradhan, 2019).
H_1: Stock selection positively impacts the mutual fund's performance.

Timing involves a fund manager changing the sensitivity of a portfolio to a factor over time to optimize the return (Elton & Gruber, 2020). The market return is related to investment activities (Henriksson & Merton, 1981), and is influenced by financial performance, the company's conflict of interest, the macroeconomy, and other political issues (Fabozzi & Mann, 2021). Market timing refers to the practice of predicting whether some broadly based index of market prices will rise or fall and investing appropriately, and this practice is considered one of several styles of portfolio management (Grant, 1978). Market timing analyzes the stock value compared to the market value (Baker & Wurgler, 2002), and is used to forecast the stock prediction will outperform riskless securities (Henriksson, 1984).

The mutual fund's performance would improve if the fund manager calculated the right market timing (Budiono & Musdalifah, 2020). In the IDX market, market timing is calculated by the return of the Jakarta Composite Index (JCI) is reduced by the Bank Indonesia (BI) Rate. BI rate is an interest risk-free rate from the price of loanable funds allocation (Boediono, 2014) and contains less risk.
H_2: Market timing positively impacts the mutual fund's performance.

Mutual fund size, known as net assets under management, affected mutual fund performance (Indro et al., 1999). Active asset management represented by high net assets can create higher flexibility for mutual funds and reduce costs (Hartono, 2013). Mutual fund size influences its performance because it relates to the market capitalization portion (Ayu & Asriwahyuni, 2017), and positively affect the mutual fund's performance (Pratama & Wirama, 2018). The large fund quantity can create less company risk and vice versa (Elton et al., 2014), can diversify some assets (Budiono & Musdalifah, 2020), can increase the fund's performance (Bani Atta & Marzuki, 2021), and optimize expected return (Lailiyah & Setiawan, 2020).
H_3: Mutual fund size positively affects the mutual fund's performance.

Covid-19 disturbed the stock market activities and increased tension in investment, governance issues, human resource issues, and payment authorization (OCED, 2020). In the long term, Covid-19 significantly changed the stock market into a hedge fund and caused financial market turbulence as an effect of the world health crisis (OCED, 2020). Covid-19 negatively affected various business sectors and investments worldwide (Millán-Oñate et al., 2020), and also decreased the stock price and return (Rakshit & Neog, 2022). Latin America focused on the fund manager's health which decreased the mutual fund's performance during Covid-19 (Mirza et al., 2020).
H_4: Covid-19 negatively affects the mutual fund's performance.

Covid-19 has weakened the conventional impact of stock selection on mutual fund performance as the pandemic introduced unprecedented market uncertainties and disruptions across various sectors. The unpredictability of the crisis made it challenging for even skilled analysts to accurately anticipate and select stocks that would consistently outperform in such a dynamic environment.
H_5: Covid-19 can moderate the effect of stock selection on the mutual fund's performance.

Covid-19 has weakened the conventional impact of market timing on mutual fund performance as the pandemic induced heightened market volatility and unpredictable economic conditions. The rapid and unforeseeable changes in market trends during the crisis made successful market timing more challenging, impacting the effectiveness of this strategy in navigating the uncertainties brought about by Covid-19.
H_6: Covid-19 can moderate the effect of market timing on the mutual fund's performance.

Covid-19 has weakened the traditional impact of fund size on mutual fund performance as market dynamics and investment opportunities became more unpredictable during the pandemic. The increased uncertainty and rapidly changing conditions may have made smaller, more agile funds better positioned to adapt and seize opportunities, mitigating the usual challenges associated with larger fund sizes.
H_7: Covid-19 can moderate the effect of fund size on the mutual fund's performance.

3. Method, Data, and Analysis

This study examines the current hypotheses to valiadte the relationship between the independent and dependent variables with a moderating variable. The independent variables consist of the stock selection, the market timing, and the fund size, then using Covid-19 as a moderating variable. Meanwhile, the dependent variable consists of the mutual fund's performance. The sample data population is limited to the listed conventional mutual funds that supervised by Indonesia's financial service authorization from 2014 to 2021, denominated in Rupiah currency, has a complete report, and has more than Rp 350 billion fund equities from 2015 to 2021.

The sample data is collected from idx.co.id and limited to twenty-eight samples consisting of Architas Saham Utama, Ashmore Dana Progresif Nusantara, Bahana Dana Ekuitas Andalan Kelas G, Batavia Dana Saham, Batavia Dana Saham Optimal, BNP Paribas Ekuitas, BNP Paribas Infrastruktur Plus, BNP Paribas Maxi Saham, BNP Paribas Pesona, BNP Paribas Solaris, Eastspring Investments Alpha Navigator Kelas A, Eastspring Investments Value Discovery Kelas A, FWD Asset Dividend Yield Equity Fund, Mandiri Investa Atraktif, Mandiri Investa Cerdas Bangsa, Mandiri Investa Equity ASEAN 5 Plus, Mandiri Investa Equity Movement, Mandiri Saham Atraktif Kelas A, Manulife Dana Saham Kelas A, Manulife Saham Andalan, Panin Dana Maksima, Schroder 90 Plus Equity Fund, Schroder Dana Istimewa, Schroder Dana Prestasi, Schroder Dana Prestasi Plus, Simas Saham Unggulan, Syailendra Equity Opportunity Fund Kelas A, and Tram Consumption Plus Kelas A (Indonesia Stock Exchange, 2022).

This research examined by a descriptive and an inferential analysis. Descriptive analysis explains the sample data by value of the mean, modus, and standard deviation (Sugiyono, 2017). This study conducted a panel data multi-regression analysis with Moderated Regression Analysis (MRA) that utilized datasets comprising multiple observations for each sampling unit and is examined by E-views 12 applications. These datasets, referred to as panel data, were obtained from pooling time series observations across diverse cross-sectional units. The data included the Common Effect (CE), which showed the presence of all observations, whether randomly or non-randomly, despite attrition or sample selection, as well as a Fixed Effect (FE). Furthermore, FE employed a binary indicator through the Least Squares Dummy Variable (LSDV) to capture intercept differences. Random Effect (RE) showed the capacity to mitigate heteroscedasticity in this study (Baltagi, 2014).

The models obtained underwent scrutiny using 3 statistical methods. As Toyoda (1974) proposed, the Chow test examined the difference between CE and FE estimators. Baltagi (2021) suggested that under hypothesis H0, the FE estimator was deemed suitable. Meanwhile, Hausman (1978) introduced a comparison between FE and RE estimators, emphasizing the importance of a difference in sampling error for initiating an endogeneity examination, known as the Hausman test. Baltagi (2014) stated that H0 was rejected, showing that the RE model was unsuitable. The LM test played a crucial role in selecting a suitable model for RE and FE estimators (Breusch & Pagan, 1980). Baltagi (2021) stated that under H0, the selected rule was considered ignorable for the RE model.

The utilization of panel data provided the benefit of controlling individual heterogeneity. This method led to more significant variability, reduced collinearity among variables, increased degrees of freedom, and an enhanced capacity to study the dynamics of adjustment. Furthermore, it facilitated identifying and measuring effects not discernible in cross-sectional or time-series data (Baltagi, 2021). Therefore, there was no need to test the classical assumption. The panel data regression conducted an analysis utilizing the F-test, t-partial test, and coefficient determination (R2). In this study, hypothesis testing maintained a significance level of 5percent, which showed an error tolerance of only 5percent (Gujarati, 2015). The panel data multi-regression model in this work was outlined as follows:

$$RP_{it} = \propto_0 + \beta_1 SS_{it} + \beta_2 MT_{it} + \beta_3 Size_{it} + \beta_4 CO19_{it} + \beta_5 (CO19 * SS)_{it} + \beta_6 (CO19 * MT)_{it} + \beta_7 (CO19 * Size)_{it} + \varepsilon_{it}$$

Where α= Constant; β1–β7= Coefficient; ε= Standard error; Rpit= Mutual fund's performance SS= Stock selection (Rm-Rf); MT= Market timing (D(Rm-Rf)); Size= Mutual fund's size (net active value); CO19= Covid-19 (Dummy variable for 1 is Covid-19, and 0 is Non Covid-19)

4. Results

Descriptive Analysis

Table. ***1*** describes the dependent variable represented by the mutual fund's performance (Rp) has a minimum value of -0.323 is owned by Schroder Dana Istimewa in 2017, a maximum value of 0.30 is owned by Mandiri Investa Cerdas Bangsa in 2021, and a mean value of 0.001. The moderating variable represented by Covid-19 has a minimum value of 0.000, a maximum value of 1.000, and a mean value of 0.296.

Table. 1 Descriptive Statistics

Variable	IDR	SS	MT	Size	COV	RM	RF
Mean	0.001	-0.008	0.005	9.315	0.296	0.005	0.055
Std. Dev	0.105	0.064	0.015	1.082	0.458	0.038	0.014
Variance	0.011	0.004	0.000	1.171	0.210	0.002	0.002
Minimum	-0.323	-0.184	-0.039	5.861	0.000	- 0.168	0.035
Median	0.010	-0.011	0.000	9.293	0.000	0.009	0.050
Maximum	0.296	0.285	0.067	11.987	1.000	0.094	0.078

The independent variable is represented by stock selection (SS), which has a minimum value of -0.184 is owned by Mandiri Saham Atraktif Kelas A in 2019, a maximum value of 0.284 is owned by Mandiri Investa Equity ASEAN 5 Plus in 2019, and a mean value of -0.008. Market timing (MT) has a minimum value of -0.039 is owned by Schroder Dana Prestasi Plus in 2020, a maximum value of 0.066 is owned by Schroder Dana Prestasi Plus in 2021, and a mean value of 0.005.

Market return (RM) has a minimum value of -0.167, a maximum value of 0.094, and a mean value of 0.005. Risk-free (RF) has a minimum value of 0.077, a maximum value of 0.035, and a mean value of 0.054. Fund size with a minimum value of 5.860 is owned by Mandiri Investa Equity ASEAN 5 Plus in 2017, a maximum value of 11.986 is owned by Schroder Dana Prestasi Plus in 2017, and a mean value of 9.3153.

Testing of Panel Data Multi-Linear Regression

There are three types of panel data regression models: the common effect model, the fixed effect model, and the random effect model (Widarjono, 2018) to determine the best model for Panel data multi-linear regression as follows:

Table 4. Comparison between the Chow Test, Hausmann Test, and Lagrange Multiplier Test

Model	Test Summary	Statistic	Df	Prob.	Result
Chow Test	Cross-section F	0.368	(27,161)	0.998	The common effect model is accepted
Hausman test	Cross-section Random	4.646	7	0.703	The random effect model is accepted
Lagrange Multiplier Test	Chi-Squared F	16.333		18.307	The random effect model is accepted

Testing of Panel Data Multi-Linear Regression

There are three types of panel data regression models: the common effect model, the fixed effect model, and the random effect model (Widarjono, 2018) to determine the best model for Panel data multi-linear regression as follows:

Table 4 explains that the Chow test result has a probability value of 0.998 is greater than 0.05, and the common effect model is accepted. The Hausmann result explains that a chi-square probability value of 0.703 is greater than 0.05, and the random effect model is accepted. Similarly, The Lagrange multiplier result shows a chi-square probability value of 18.307 is greater than 0.05, and the random effect model is accepted. Ultimately, this study implemented panel data multi-regression with a random effect model to validate the current hypotheses.

Empirical Result

Table 4 explains the capability of all independent variables to explain the dependent variable by analyzing the determination coefficient (R^2) value of 14.88 percent. It means that the mutual fund's performance is influenced by stock selection, market timing, and fund size, Covid-19, Covid-19 can

moderate the effect of stock selection, market timing, and fund size by 14.88 percent. Meanwhile, a mutual fund's performance can be influenced by others by 85.12 percent.

The F-test with a probability value of 0.000 is lower than 0.05, and H0 is accepted. The result states that stock selection, market timing, fund size, Covid-19, and Covid-19 can moderate stock selection, market timing, and mutual fund size have a significant effect on the mutual fund's performance simultaneously. Furthermore, the coefficient statistical result of panel data multi-regression with random effect model is converted into Equation 1 as follows:

Rp_{it} = 0.018 + 0.288SS + 1.153MT – 0.004SIZE +0.088CO19 +0.586SSCO19– 0.191MTCO19 – 0.006SIZECO19

Table 4 Statistical Result

Variable	Coefficient	Std. Error	Statistical	Prob.	Result
C	0.018	0.031	0.602	0.547	
SS	0.288	0.148	1.948	0.052	H1 is rejected
MT	1.153	0.579	1.989	0.048	H2 is accepted
SIZE	-0.004	0.004	-1.054	0.292	H3 is rejected
CO19	0.088	0.119	0.744	0.457	H4 is rejected
CO19*SS	0.586	0.232	2.526	0.012	H5 is accepted
CO19*MT	-0.191	1.241	-0.154	0.877	H6 is rejected
CO19*SIZE	-0.006	0.016	-0.381	0.703	H7 is rejected
R-squared	0.179			F-statistic	5.869
Adjusted R-squared	0.148			Prob(F-statistic)	0.000

5. Discussion

Stock selection does not affect the mutual fund's performance.

Stock selection is a crucial aspect of a financial analyst's role, directly impacting a mutual fund's performance. However, if a mutual fund is passively managed, tracking a specific market index, stock selection becomes less relevant as the fund aims to replicate the index's performance rather than actively choosing individual stocks. In such cases, the fund's success is tied to the overall market's performance, minimizing the impact of stock selection on its relative success or failure. This result proves that stock selection impacts the mutual fund's performance (Ariswati et al., 2021; Gusni et al., 2018).

Market timing positively affects the mutual fund's performance.

Market timing is involved on making strategic decisions to buy or sell assets based on predictions of future market movements. A financial analyst successfully timing the market can positively affect a mutual fund's performance by capitalizing on anticipated market trends. This skill allows the fund to enter or exit positions at advantageous times, potentially increasing returns and minimizing losses, showcasing the impact of effective market timing on overall fund performance. This result shows that market timing impacts the mutual fund's performance (Ariswati et al., 2021; Lailiyah & Setiawan, 2020).

The mutual fund's size does not affect the mutual fund's performance.

Contrary to the potential benefits of economies of scale, an excessively large mutual fund size can lead to performance challenges. As the fund grows, it can face difficulty in deploying capital efficiently, resulting in diminished returns. Moreover, the sheer size can limit the universe of investable assets and hinder the fund manager's ability to make nimble investment decisions, potentially offsetting any advantages gained from a larger size. This result approves previous research that found that mutual fund size did not impact the mutual fund's performance (Wulandari & Sukoco, 2023)

Covid-19 does not affect mutual fund's performance.

The impact of Covid-19 on mutual fund performance largely depends on the fund's investment strategy and the sectors it is exposed to. For example, funds heavily invested in technology or healthcare sectors might have experienced positive performance, while those focused on travel or hospitality sectors could have faced challenges. Overall, the pandemic's effect on mutual fund performance is not universal and is contingent on the fund's specific investment allocations and market conditions during the crisis.

Covid-19 enhances the effect of stock selection on the mutual fund's performance.

Covid-19 has created significant market volatility and divergent impacts on various industries, making stock selection more crucial for a financial analyst. Skilled stock selection during the pandemic allows mutual funds to capitalize on opportunities arising from sectors poised for growth or resilience, potentially enhancing overall performance. The dynamic market conditions and sector-specific challenges during the pandemic underscore the importance of astute stock selection in navigating and benefiting from the evolving economic landscape. This result shows that fund managers determine the mutual funds by stock selection analysis (Ariswati et al., 2021).

Covid-19 cannot moderate the effect of market timing on the mutual fund's performance.

Covid-19 has heightened market uncertainties and increased the importance of effective market timing for financial analysts manage the mutual funds. The pandemic's widespread impact on global markets creates more opportunities for astute market timing decisions, as economic conditions and investor sentiments continue to fluctuate. Therefore, rather than moderating the effect of market timing, Covid-19 underscores its significance in navigating the volatile and evolving financial landscape for mutual fund performance. This result approves (Ariswati et al., 2021) that market timing does not affect the mutual fund's performance during Covid-19.

Covid-19 cannot moderate the effect of a mutual fund's size on the mutual fund's performance.

The influence of fund size on mutual fund performance during Covid-19 remains pertinent, with the pandemic affecting funds differently based on their size and investment strategies. Larger funds may face challenges in deploying capital efficiently or adapting swiftly to changing market dynamics, irrespective of the pandemic's presence. Therefore, Covid-19 does not moderate the impact of fund size on performance, as size-related considerations persist in shaping how funds navigate the evolving financial landscape. This result approves (Wulandari & Sukoco, 2023) that Covid-19 cannot moderate the mutual fund's size effect on the mutual fund's performance.

6. Conclusion, Limitations, and Suggestions

Conclusion

For fund managers, stock selection, market timing, and fund size are critical variables to obtain the expected return of mutual funds. They calculate expected returns carefully by analyzing the market and the fundamentals of mutual funds. In Indonesia mutual funds, market timing is only can determine the mutual fund's performance. Fund managers collect high returns by watching market volatility and determining the right timing to buy or sell their mutual funds. They also record this stock volatility history to predict future decisions, then present their knowledge to potential investors who prefer buying mutual fund stocks.

As one of the global crises, Covid-19 is the best momentum for fund managers to select the potential stocks that can be predicted to increase their value after the crisis. Covid-19 decreased the performance of companies and stocks, and most investors mitigated investment risk by selling the stock massively. This condition affects supply and demand instabilities in the IDX market, and high stock supplies decrease their price and return. Meanwhile, stock selection, fund size, and Covid-19 cannot moderate the effect of market timing and fund size on the mutual fund's performance. According to determination result, stock selection, market timing, fund size, and Covid-19 contributed to the mutual fund performance by less than 15 percent.

Limitations, and Suggestions

This study can be expanded by adding other variables that affects the determination of Indonesia's mutual funds. The further research can involve macroeconomic variables, expense ratio, and fees of investment management in this research. Future researchers also can expand more time-series data to get specific results about Indonesia's mutual fund's performance.

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