The Failure of Investment Strategy to Earn Outperform Investment Return on Equity Mutual Funds in ASEAN Market (A Study to Improve Performance Evaluation Model and to Enhance Implementation of Investment Strategy)

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Abstract

Traditional approach in implementation of investment strategy in managing equity mutual funds is no longer enough to earn outperform return in the volatile market. This research proposed empirical evidences that none of equity mutual funds were traded in ASEAN market during period January 2015 to December 2020 could continuously earn outperform return. This because the implementation of the determined strategy, whether active investment strategy or passive investment strategy, without significant stock selection ability and market timing ability. This research proposes to enhance the methodology of implementation of the determined investment strategy by implementing significant stock selection ability and market timing ability. Furthermore, a continuous monitoring on the market condition, fund performance as well as performances of the underlying assets are necessary to do especially if the changes in all of these variables may change the investment risks therefore certain action shall be taken not only to avoid investment loss but more importantly is to earn outperform return.

I. Introduction

The Equity mutual funds have been growing significantly from period 2011 to 2020 by 159.63%. (More, 2018). However, this significant grow is not followed by significant return which is generated by this investment instrument. Ferreira et al., (2012) investigated the performance of equity mutual funds in 27 countries around the world and found that performances of the observed equity mutual fund were underperform the market. Similar research in India over 240 observed equity mutual funds found that less than 10% of those equity funds could outperform the market return (Agarwal & Pradhan, 2019). Research in China also found that from 419 of observed equity funds in China, it was only 1% of them outperform the market return (Zhou & Wong, 2014). And, from 194 of equity mutual funds observed in Germany, none of the funds could outperform the market return (Fahling et al., 2019). Some of these investments may be caused by the ineffective implementation of the investment strategy that has been set; this may be due to several reasons (Cai, 2018); (Ghorbani & Korzeniowski, 2021).

Investment strategy affects portfolio performance hence the right investment strategy shall also be implemented in the right way (Wu et al., 2021); (Juddoo et al., 2021). In addition, under certain circumstances the right investment strategies earn significant excess return also adapted the recent technology that suitable purpose (Van der Hart, et al., 2003); (G. Li et al., 2021); (Purba et al., 2018). Theoretically, there are two major investment strategies that have been debated by many researchers on its respective superiority to the other in order to deliver higher return; active investment strategy and passive investment strategy.

The passive investment theory based on assumption that market price reflects all information available in the market hence the market price is predictable and no need to participate in active trading (Lucas & Sanz, 2016); (Y. Li, 2020); (Akperov et al., 2018). However, there is no such efficient market and all information is not available in the market. Furthermore, the market may change that at some point in time, the changes may change the investment risk that if no action is taken, it may be impossible for the established equity mutual fund to outperform market return (Skuciene & Markeviciute, 2021); (Wang & Hao, 2020). The existing theory and the baseline assumption are probably the root cause of why equity mutual fund could not outperform market return.

The other investment strategy, active investment strategy, requires to be actively involved in the trading by continuously monitoring the market and take proper decision to outperform market return (Yang et al., 2020); (Dzwigol & Dzwigol-Barosz, 2020); (Stern et al., 2020). However, many researchers as mentioned in the first paragraph proof that this strategy could not always generate outperform return. In fact, very few equity mutual funds in the market could outperform the market (Y. Li et al., 2019); (Zhang & Chen, 2019); (Shokhnekh et al., 2019).

This research studied factors that had never been properly considered by the investment fund manager in managing the equity mutual funds (Carías et al., 2019); (Woltering et al., 2018). There have been many researches proven that stock selection and market timing abilities affecting performance of equity mutual funds (Gusni et al., 2018) and contributed significantly to the fund performance (Jian et al., 2021) that these two abilities resulted outperform return (Alsharif & Ahmad, 2021). However, many researches also proof that there were very few equity mutual funds managed with strong stock selection and market timing abilities (Agarwal & Pradhan, 2019; Sherman et.al., 2017). Hence, the equity mutual funds could not outperform the market return (Fahling et al., 2019).

Furthermore, major ingredient of equity mutual funds is equities. These equities are traded in the stock market that its performance depends on the market condition such as macroeconomics, political situation. According to Yani in Syardiansyah (2020) performance is a result of work achieved by a person in carrying out the tasks assigned to him based on skill, experience and sincerity as well as time. This means that in work contains elements of the standard that achievement must be met, so, for those who reach the standards set means good performance (Wahjudewanti, 2021). As the macroeconomic condition affect stock performance in the market, it will also affect performance of equity mutual funds in the market. This argument supported by research was conducted by Panigrahi et al., (2019) and Gyimah et al., (2021) which were concluded that macroeconomic condition affect performance of equity mutual funds. However, certainly we have to understand to what indicator of macroeconomic condition shall be considered, analyzed by the investment manager during the establishment as well as in management of equity mutual funds in order to earn outperform return.

II. Review of Literature

2.1 Theory of Investment Strategy

Investment strategy is one of important to consider and implemented as it affects the performance of portfolio. Under certain circumstances, the right investment strategies earn significant excess return. (Van der Hart, 2000). Passive investment strategy may indicate that objective of portfolio to track the benchmark's performance whilst the active strategy will mandate the portfolio to outperform the benchmark (Glabadanidis, 2020). The passive investors purchase investment with the intention of long-term appreciation and limited turnover. (Birla, 2012)

Jensen (1968) suggested a foundation model to measure the portfolio performance by using capital asset pricing models ("CAPM") by Sharpe (1964), Litner (1965), and Treynor (1965) that in summary, these three models used several assumptions: 1) investors are risk averse and single period of expected terminal value, 2) decisions of all investors are identical, 3) investors choose their portfolio based on expected return and variance of returns, 4) there is no transaction cost and tax, 5) assets are divisible.

2.2 Theory of Stock Selection Ability and Market Timing Ability

Research by Jian et al (2021) found that assets with right timing strategy outperformed the assets without right timing strategy. The good skill of market timing requires Investment manager to have ability to predict future prices of the portfolio to minimize the risk (Jensen, 1968). However, most researchers found that such market timing ability were not existed. (Ferreira & Carvalhal, 2017)

Treynor & Mazuy (1966) started the research in market timing and stock selection ability of fund managers to understand whether the fund manager could anticipate market movement. They developed a quadratic model to understand these two abilities of the fund managers with assumption that the portfolio return is not a linear function. The model they developed is shown below:

$$R_{it} - R_{ft} = a_i + Q_i(R_{mt} - R_{ft}) + i(R_{mt} - R_{ft})^2 + sp(t)$$

From this model, the right-hand side of this model is composed of the market excess return $(R_{mt} - R_{ft})$ and market's quadratic of excess return$(R_{mt} - R_{ft})^2$. The left-hand side is the excess return of the mutual fund $R_{it} -$

R_{ft}. α_i shows stock selection ability of the fund manager. Therefore, if α_i is positive, it means that the investment manager has ability to establish optimal portfolio. β_i is th systematic risk associated to the mutual funds. γ_i is the market timing ability of the fund managers, the ability to adjust portfolio to anticipate market change. If γ_i is positive and significant, it means that the investment manager has ability to market timing.

2.3 Factor Affecting Outperform Return
a. Stock Selection and Market Timing Abilities

The existence concept of investment strategy, either active or passive strategies, requires the investment fund managers/investors to select the right underlying to be included in the mutual funds. The theoretical concept of the passive investment strategy, that the main objective is to generate return similar with the market return, may no longer relevant as investors requires bigger profit form their investment that return which is similar with the market return may no longer sufficient. The misconception of passive investment strategy that does not require active trading hence no action shall be taken along the way must be

revised as certain action shall be taken in dealing with certain extreme condition which resulting significant change in investment risk. (Bodie et al., 2017)

Researchers proof that stock selection ability and market timing ability influence the performance of mutual funds and may generate outperform return (Jian et al., 2021; Gusni et al., 2018; Devi & Sudirman, 2021; Lailiyah & Setiawan, 2020; Alsharif & Ahmad, 2021). However, it has been proven that very few equity mutual funds could outperform market return.

Recent research in Brazil to 130 actively managed equity funds for period 2006 to 2013 found that the fund managers had no statistically significant market timing ability. They only found seven funds with significant market timing ability and these fund managers were only based on publicly available information to predict market movement. (Ferreira et al., 2012). This is a similar finding in 77 Taiwanese mutual funds which were traded from January 2005 to December 2009. The research found that the investment manager had no stock selection and market timing abilities. (Chen, 2013).

b. Macroeconomic Factors Affecting Performance of Equity Mutual Funds

Major ingredients of equity mutual fund is equities of public companies which are listed in the stock market. Its weight is in range from 80% up to 100% of total underlying assets of an equity mutual funds that another underlying assets can be short term of government bond, money market, etc.

Research proofs that macroeconomic factors such as GDP, performance of Government Bond, affecting stock market performance and performance of stock prices (Gyimah et al., 2021) and influences performance of mutual funds (Panigrahi et al., 2019).

The macroeconomic factors also affect the implementation of investment strategy. Passive investment strategy rely on prediction of future macroeconomic factors (Sushko & Turner, 2018) and active investment strategy shall continuously monitor the market, including benchmarked index, to take necessary action to maximize the profit. (Han & Hirshleifer, 2015)

This research will be using two indicators of macroeconomics to understand factors which affecting equity mutual funds to outperform market return. The two indicators are RM and Yield of Government Bond. This because stock market performance (RM – return Market) is one of indicator of macroeconomics that contributes to the increment of the stock price (Setiawan, 2020) (Fauziah et al., 2020) (Bandono, et al., 2020). The Government bond can be included in an equity mutual funds and research by (Jian et al., 2021) proof that performance of the government bond is one of macroeconomic indicator which influences performance of equity mutual funds.

c. Other Factors Affecting Performance of Equity Mutual Funds

From many studies related to the performance of mutual funds, the size of fund and its growth affect the performance of mutual funds (Otten & Bams, 2002; Mahmood & Rubbaniy, 2016; Tangjitprom, 2014). This because the size of funds determines they investment fund manager to manage the fund. (Jiang et al., 2007)

Performance of underlying assets also influences performance of equity mutual funds such as P/E and DY. This because P/E of available equities can be used as a predictor to the stock return and has significant impact to the stock price. (Doblas et al., 2020) (Safitri et al., 2020)

Furthermore, DY reflects the reputation of the public company to provide return to its stockholders that this creates positive relationship between DY and stock return (Kang et al., 2019). Therefore, performance of underlying assets, which is equities, will also affect to the performance of equity mutual fund to generate outperform return.

III. Research Methods

There are two models used in this research. The first model is to identify equity mutual funds could consistently earn outperform return for having significant stock selection and market timing ability ("Model 1"). The researcher used performance modeling by Treynor and Mazuy (1966). The second model is designed to identify other factors affect equity mutual funds to outperform return as well as enhancing the Treynor and Mazuy (1966) model. ("Model 2") hence this model can be used to evaluate performance of equity mutual funds, whether the equity mutual fund will earn outperform return, more comprehensively.

IV. Discussion

4.1 Equity Mutual Funds with Outperform Return

Result of the DWH test concludes the data is stationary which means no autocorrelation in the observed data as the DWH score is 2. From the goodness fit of test to all 619 regressions, R2 tell sthat Treynor and Mazuy model could explain to certain of degree that the independent variables affect outperform return which means the stock selection and market timing ability affect outperform return. From the robustness test result (refer to table 2), it shows that independent variables are significant for 480 (out of 619) equity mutual funds.

Furthermore, p-values of 92% of the observed funds (619) of observed funds were smaller than the alpha (5% or 10%) and coefficient of RSME is very small, ranging from 0.001987 – 0.0361. This result shows that the error of the model is very low that the model could be used to predict the observed data.

Table 2. Summary of Descriptive Result of Model 1

Country	p-val RMRF (No. Fund p-val <alpha (0.05/0.1)	p-val RMRF-sq (No. Fund p-val <alpha (0.05/0.1)	R-sq	Adj. R-sq	t-RMRF	t-RMRF-sq	F-stat (No. Fund F-stat >F-table (49.5))	RSME	Reject H0? (Y/N)
Indonesia	0.0000000057 - 0.9955 (168)	2.14E-32 - 0.911 (165)	0.00125 - 0.086	0.0012 - 0.0855	(2.2356) - 5.4459	(12.044) - 1.283	2.36 - 103.46 (153)	0.0025 - 0.0249	
Malaysia	144E-10 - 0.9381 (179)	8.86 E-47 - 0.9151 (202)	5.30 E-06 - 0.1298	(0.000908) - 0.129029	(2.7406) - 6.442	(14.709) - 2.3302	2.69 - 163.29 (133)	0.0039 - 0.0361	
Singapore	2.71E-11 - 0.7486 (26)	1.24E-44 - 0.6148 (29)	0.000844 - 0.11479	(6.86E-05) - 0.1139	(2.037) - 6.696	(14.338) - 1.5753	0.92 - 141.93 (21)	0.00637 - 0.01108	
Thailand	3.47E-16 - 0.9095 (178)	4.16E-54 - 0.97514 (179)	9.72E-05 - 0.139.5	(0.000816) - 0.1387	(1.99) - 8.219	(15.924) - 1.206	0.1064 - 177.558 (157)	0.001987 - 0.01667	Y
Philippines	1.30E-13 - 0.0005524 (16)	2.11E-60 - 2.10E-23 (16)	0.0609 - 0.1576	0.06005 - 0.15687	3.459 - 7.454	(16.912) - 10.08786	70.9889 - 204.82 (16)	0.0065 - 0.00959	
Fund Proportion meets Statistical Assumption - total and % of observed equity funds	567 (92%)	591 (95.4%)					480 (77.5%)		

From the operated regression Model 1 to 619 equity mutual funds, the coefficient regression for alpha (α) and gamma (ɣ) show that none of equity mutual funds are managed with strong stock selection and market timing ability though there are 98 equity mutual funds (15.83% of observed equity mutual funds) with positive alpha (stock selection ability (α)) and 10 equity mutual funds (1.62% of observed equity mutual funds) with positive gamma (market timing ability (ɣ)).

Table 3. Recapitulation of Equity Funds with Positive Alpha (α) and Gamma (γ)

Country	No. of Equity Funds with Positive Alpha	No. of Equity Funds with Positive Gamma	Total Observed Funds
Indonesia	18	4	185
Malaysia	58	1	203
Singapore	18	3	34
Thailand	4	2	181
Philpines	0	0	16
Total	98	10	619
Percentage	15.83%	1.62%	

The regression result identify 5 (five) equity mutual funds with positive alpha (α) and positive gamma (γ). (Refer to Table 4) however the result is not significant and their performance could not consistently outperform market return.

Table 4. Equity Funds with Stock Selection Ability and Market Timing Ability

Country	Equity Proxy Name	α	Y	t-val - RMRF	t-val - RMRF-Sq	p-val - RMRF	p-val - RMRF-Sq	R-Sq	Adjt. R-Sq	RMSE	F-Statistics	DW
Indonesia	Equity A.I	0.0000431	0.12	(1.37)	0.11	0.17	0.91	0.22%	0.13%	0.0083	2.44	2
Malaysia	Equity M.I	0.0001970	1.70	(2.74)	2.33	0.01	0.02	0.34%	0.25%	0.0055	3.77	2
Singapore	Equity S.I	0.0002723	1.94	(2.04)	1.58	0.04	0.12	0.19%	0.10%	0.0092	2.09	2
	Equity S.II	0.0004213	0.61	(1.49)	0.57	0.14	0.57	0.16%	0.07%	0.0081	1.76	2
	Equity S.III	0.0004247	1.24	(1.90)	1.29	0.06	0.20	0.17%	0.08%	0.0072	1.90	2

Regression result over 619 equity funds shows none of equity mutual funds were managed with strong stock selection ability (α) as well as strong market timing ability (β). Hence, none of these equity mutual funds could consistently delivered outperform return. This result is quite similar with several previous researches that showed less than 10% of the 240 observed equity funds in India (Agarwal & Pradhan, 2019), 1% of 419 of observed equity funds in China (Zhou & Wong, 2014) with significant stock selection and market timing abilities (Cubas- Díaz, et al, 2018); (Zhou et al., 2018). This result also similar with research in Germany that all of the observed equity mutual funds in Germany (194 equity mutual funds) could not outperformed the market return otherwise the manager shall consider on fit strategy choice accordingly (Fahling, 2019); (Akperov et al., 2018).

4.2 Factors Affecting Outperform Return Remodeling Performance Model

There are 26 equity funds which are randomly selected from 3 (three) ASEAN countries (Indonesia, Malaysia, Singapore) and operated by using Model 2. As the data is time series data, the data stationary is conducted by differenced some of variables (RP, RF) and independent variables (GFS, RM, RF) and conducted DWH test. The DWH test resulting DWH score of 2 for 95.23% of the selected funds. Therefore, the researcher conclude the data is stationary.

Table 5. Goodness Fit of Test Indonesia

Country	equity_funding	R2	Adj. R2	R2 Model.1 -Treynor & Mazuy	Adj. R2 Model 1 - Treynor & Mazuy
Indonesia	equity_funding_4	0.353	0.294	0.042	0.041
	equity_funding_27	0.479	0.431	0.060	0.059
	equity_funding_45	0.626	0.592	0.067	0.066
	equity_funding_56	0.496	0.449	0.047	0.046
	equity_funding_94	0.492	0.445	0.069	0.068
	equity_funding_103	0.389	0.333	0.008	0.008
	equity_funding_104	0.351	0.292	0.042	0.041
	equity_funding_116	0.317	0.236	0.021	0.020
	equity_funding_201	0.464	0.414	0.021	0.020

	equity_funding_202	0.517	0.472	0.026	0.025
	equity_funding_206	0.967	0.964	0.059	0.058
	equity_funding_210	0.556	0.408	0.056	0.056

- ## Malaysia

Country	equity_funding	R2	Adj. R2	R2 Model1	Adj. R2 Model 1
Malaysia	equity_funding_9	0.644	0.611	0.062	0.061
	equity_funding_87	0.194	0.120	0.020	0.019
	equity_funding_98	0.746	0.722	0.028	0.027
	equity_funding_100	0.480	0.432	0.002	0.002
	equity_funding_112	0.964	0.960	0.046	0.046
	equity_funding_129	0.339	0.278	0.047	0.046
	equity_funding_130	0.392	0.336	0.053	0.052
	equity_funding_139	0.349	0.289	0.027	0.026
	equity_funding_181	0.207	0.134	0.035	0.034
	equity_funding_188	0.216	0.143	0.026	0.025

- ## Singapore

Country	equity_funding	R2	Adj. R2	R2 Model1	Adj. R2 Model 1
Singapore	equity_funding_2	0.576	0.537	0.067	0.066
	equity_funding_8	0.254	0.185	0.075	0.074
	equity_funding_12	0.677	0.648	0.039	0.039
	equity_funding_34	0.325	0.263	0.072	0.071

Table 6. Result of Regression Model

- ## Indonesia

Country	Equity Fund	Stock Selection Ability (α)	Market Timing Ability (γ)	Coef GFS	Coef GYLD	Coef P/E	Coef DY	t-val RMRF	t-val2 RMRF	t-val GFS	t-val GYLD	t-val P/E	t-val DY	p-val RMRF	p-val2 RMRF	p-val GFS	p-val GYLD	p-val P/E	p-val DY	R2	Adj. R2	RMSE	F-Stat	df_1	df_2	p_val_f	DW test
Indonesia	A	0.024	(1.293)	(0.025)	(0.448)	0.000	(0.023)	1.709	(0.803)	(0.641)	(4.543)	1.458	(2.941)	0.092	0.425	0.524	0.000	0.150	0.005	0.353	0.294	0.036	5.922	6	65	3.43E-05	2
	B	0.015	(1.671)	0.176	(0.481)	0.000	(0.011)	1.487	(1.174)	2.569	(5.825)	0.094	(1.609)	0.142	0.245	0.013	0.000	0.925	0.112	0.479	0.431	0.030	9.970	6	65	2.61E-05	2
	C	(0.088)	(3.731)	0.606	(0.338)	0.004	0.000	2.221	(2.907)	4.763	(4.003)	1.705	0.018	0.030	0.005	0.000	0.000	0.093	0.986	0.626	0.592	0.028	18.140	6	65	2.12E-05	2
	D	(0.101)	(2.272)	0.121	(0.511)	0.007	(0.003)	1.365	(1.458)	2.825	(5.306)	2.383	(0.398)	0.177	0.150	0.006	0.000	0.020	0.692	0.496	0.449	0.034	10.648	6	65	2.54E-05	2
	E	(0.066)	(5.881)	0.093	(0.901)	0.003	(0.003)	2.597	(2.257)	1.503	(5.994)	1.060	(0.304)	0.012	0.027	0.138	0.000	0.293	0.762	0.492	0.445	0.054	10.478	6	65	2.55E-05	2
	F	(0.139)	(3.656)	0.047	(0.604)	0.006	0.006	1.889	(1.886)	1.270	(5.125)	1.151	0.343	0.063	0.064	0.209	0.000	0.254	0.733	0.389	0.333	0.043	6.895	6	65	3.45E-05	2
	G	0.056	(2.537)	0.016	(0.503)	(0.001)	(0.015)	1.752	(1.488)	0.272	(4.779)	(0.637)	(1.576)	0.084	0.141	0.786	0.000	0.526	0.120	0.351	0.292	0.037	5.869	6	65	3.45E-05	2
	H	0.005	(4.774)	0.003	(0.621)	0.000	(0.009)	1.792	(1.724)	0.602	(3.489)	1.158	(1.214)	0.079	0.091	0.550	0.001	0.252	0.230	0.317	0.236	0.057	3.943	6	51	9.23E-05	2
	I	0.013	(2.735)	0.473	(0.452)	(0.000)	(0.010)	1.813	(1.830)	3.725	(4.817)	(1.085)	(0.892)	0.074	0.072	0.000	0.000	0.282	0.376	0.464	0.414	0.033	9.369	6	65	2.68E-05	2
	J	(0.045)	(3.805)	0.474	(0.479)	0.003	(0.003)	1.840	(2.446)	3.167	(5.005)	0.967	(0.496)	0.070	0.017	0.002	0.000	0.337	0.622	0.517	0.472	0.034	11.593	6	65	2.45E-05	2
	K	0.002	0.105	0.924	(0.047)	0.000	(0.003)	0.134	0.269	32.734	(1.759)	0.234	(1.402)	0.894	0.789	0.000	0.083	0.816	0.166	0.967	0.964	0.008	317.927	6	65	1.61E-05	2
	L	(0.186)	(0.141)	0.372	(0.918)	0.007	0.005	0.134	(0.044)	0.437	(3.326)	0.712	0.228	0.895	0.966	0.667	0.004	0.486	0.822	0.556	0.408	0.042	3.761	6	18	0.001789	2

- ## Malaysia

Country	Equity Fund	Stock Selection Ability (α)	Market Timing Ability (γ)	Coef GFS	Coef GYLD	Coef P/E	Coef DY	t-val RMRF	t-val2 RMRF	t-val GFS	t-val GYLD	t-val P/E	t-val DY	p-val RMRF	p-val2 RMRF	p-val GFS	p-val GYLD	p-val P/E	p-val DY	R2	Adj. R2	RMSE	F-Stat	df_1	df_2	p_val_f	DW test
Malaysia	A	(0.021)	0.926	0.806	(0.109)	0.000	0.010	0.909	(0.956)	8.419	(1.870)	0.301	1.935	0.367	0.343	0.000	0.066	0.765	0.057	0.644	0.611	0.021	19.597	6	62	2.08E-05	2
	B	(0.025)	(0.400)	(0.083)	(0.219)	0.003	(0.007)	0.415	(0.278)	(1.000)	(2.482)	1.096	(1.230)	0.679	0.782	0.321	0.016	0.277	0.223	0.194	0.120	0.029	2.608	6	65	6.56E-05	2
	C	0.021	(0.197)	0.807	(0.074)	(0.000)	(0.004)	0.423	(0.299)	11.222	(1.797)	(0.361)	(1.335)	0.674	0.766	0.000	0.077	0.720	0.187	0.746	0.722	0.014	31.804	6	61	1.88E-05	2
	D	(0.072)	0.146	0.685	(0.149)	0.005	0.003	(0.160)	0.106	5.970	(1.754)	1.248	0.467	0.874	0.916	0.000	0.084	0.217	0.642	0.480	0.432	0.029	10.002	6	62	2.61E-05	2
	E	(0.005)	0.126	0.937	(0.006)	(0.000)	0.003	(0.199)	(0.318)	32.891	(0.244)	(1.029)	0.726	0.843	0.751	0.000	0.808	0.307	0.471	0.964	0.960	0.008	286.652	6	61	1.62E-05	2
	F	0.033	1.526	0.557	(0.240)	0.000	0.020	0.950	(1.209)	2.325	(3.381)	1.470	(1.814)	0.346	0.231	0.023	0.001	0.146	0.074	0.339	0.278	0.026	5.560	6	63	3.57E-05	2
	G	0.030	(1.035)	0.587	(0.192)	0.001	(0.023)	0.472	(0.873)	2.682	(2.784)	1.478	(2.401)	0.638	0.386	0.009	0.007	0.144	0.019	0.392	0.336	0.025	6.985	6	63	3.11E-05	2
	H	(0.040)	0.977	0.758	(0.237)	0.005	0.010	1.123	(0.845)	3.139	(3.480)	2.270	(1.969)	0.265	0.401	0.003	0.001	0.027	0.053	0.349	0.289	0.024	5.812	6	63	3.47E-05	2
	I	0.062	(0.618)	(0.013)	(0.334)	(0.000)	0.022	0.124	(0.349)	(0.129)	(3.333)	(0.433)	(1.117)	0.902	0.728	0.898	0.001	0.666	0.268	0.207	0.134	0.037	2.824	6	66	6.08E-05	2
	J	0.027	(0.535)	0.159	(0.232)	0.002	0.018	0.688	(0.419)	0.474	(3.043)	1.447	(2.089)	0.494	0.676	0.637	0.003	0.153	0.041	0.216	0.143	0.027	2.978	6	65	5.79E-05	2

• **Singapore**

Country	Equity Fund	Stock Selection Ability(α)	Market Timing Ability(γ)	Coef GFS	Coef GYLD	Coef P/E	Coef DY	t-val RMRF	t-val2 RMRF	t-val GFS	t-val GYLD	t-val P/E	t-val DY	p-val RMRF	p-val2 RMRF	p-val GFS	p-val GYLD	p-val P/E	p-val DY	R2	Adj. R2	RMSE	F-Stat	df_1	df_2	p_val_f	DW test
Singapore	A	(0.048)	(4.719)	0.856	0.056	0.009	(0.018)	2.971	(3.490)	7.554	1.330	2.512	(2.532)	0.004	0.001	0.000	0.188	0.015	0.014	0.576	0.537	0.030	14.724	6	65	2.25E-08	2
	B	(0.008)	(5.836)	1.336	0.052	0.006	(0.020)	2.758	(3.289)	1.617	0.964	2.137	(2.342)	0.008	0.002	0.111	0.339	0.036	0.022	0.254	0.185	0.039	3.688	6	65	4.82E-04	2
	C	0.002	0.392	0.951	0.038	(0.000)	(0.000)	0.580	0.367	11.081	1.160	(0.054)	(0.074)	0.564	0.715	0.000	0.250	0.957	0.942	0.677	0.648	0.023	22.738	6	65	2.01E-08	2
	D	0.026	(3.066)	0.869	0.034	(0.000)	(0.008)	1.667	(2.199)	3.618	0.749	(0.439)	(1.089)	0.100	0.031	0.001	0.456	0.662	0.294	0.325	0.263	0.032	5.219	6	65	3.72E-08	2

Coefficient regressions of all independent variables show that all independent variables affecting outperform return of equity mutual funds. From the goodness fit of test, the R2 is significantly improved from the result of Model 1. (Refer to Table 5). In addition, the robustness test result shows that the group of variables are jointly significant. (Refer to Table 6). This means, having the additional independent variables such as growth of fund size, indicator of macroeconomics (government bond yield) and indicator performance of equities (price to earnings ratio, dividend yield) improving the Treynor and Mazuy model (1966) and as the coefficient of error is also very small which is below 0.005, this model can be used as a better model to evaluate performance of equity mutual funds, to predict whether the equity mutual funds will be resulting outperform return based on the implemented investments strategy.

Furthermore, the regression result, growth of the fund size, price to earnings ratio, macroeconomics indicators and indicators performance of the equities affect outperform return of the equity mutual funds. This result is quite similar with several of previous researches which found that the size of funds and its growth affect the performance of mutual funds. (Otten & Bams, 2002; Mahmood & Rubbaniy, 2016; Tangjitprom, 2014 and performance indicators of equities influence performance of equity mutual funds as these two variables could be used as a predictor to the stock return and has significant impact to the stock price. (Doblas et al., 2020; Safitri et al., 2020).

V. Conclusion

The lack of stock selection ability as identified by this research is a question mark as there have been many theories suggested criteria of stock selection for establishment a portfolio and supposedly an investment fund manager determine certain criteria of assets being included in their portfolio. The lack of significant market timing ability as identified by this research has been occurred for years and had been proven by many researchers. For those who use active investment strategy, the lack of significant market timing ability probably due to cost associated with this strategy which probably higher than passive investment strategy (Anadu et al., 2018). The effort of identifying the right equity to be included in a portfolio such as portfolio which mispriced but with potential of high return is costly whilst no guarantee that the benefit will outweigh the cost. (Beslin, 2019)

Those who implemented the passive investment strategy might have never taken any action during their period in managing the equity mutual funds. This based on the existing theory of passive investment strategy that this strategy much relies on movement of the stock index that once the fund is established, the investors do not require managing it because the risk of an index fund is eliminated from asset diversification in the portfolio. This is why even passive investment strategist needs to have a strong market timing ability to take proper action at the right time, not only to manage the investment risk, but more importantly is to maximize the investment return by outperforming the market return.

This research concluded that in order to outperform market return, an effective investment strategy shall be implemented by implementing the determined strategy with significant stock selection and market timing ability. Monitoring market condition by evaluating macroeconomic indicators such as market return, government bond performance, is also important hence proper action can be taken at the right time which is not only to manage investment risk but also to outperform market return. Furthermore, solid criteria of asset selection such as performance indicator of equity through its price-to-earnings ratio and historical dividend yield must also be established in order to select effective underlying assets to be included in the portfolio hence the portfolio can outperform the market return.

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