Performance Persistence Analysis: Emerging Capital Market Evidence

Gatot Nazir Ahmad[a*], Gusti Agung Wibawa[b], Suherman[c], Hamidah[d],
[a,b,c,d]Department of Management Faculty of Economics Universitas Negeri Jakarta, Jakarta, Indonesia, Email: [a*]ahmad72nazir@gmail.com

The aim of this article is to analyse equity mutual fund's daily performance-persistence. In addition, this research-work also provides current and previous literature on equity mutual fund analysis. This study attempts to calculate the daily performance of equity mutual fund from 2011 until 2015 using the risk-adjusted performance measures, such as Sharpe ratio, Treynor ratio and Jensen Alpha ratio. The Spearman's rho correlation is used as the parameter to evaluate the relationship between product performances on a yearly and semiannually period. The quantitative results revealed that out of the 56 equity funds studied, Indonesia equity funds are not persistent on the yearly period. Besides, it is considered as partial persistence on semiannually period but with no pattern. Therefore, it can be seen that there is no persistence occurred in Indonesia equity funds. However, negative persistence is found in Thailand equity funds for both yearly and semiannually period.

Key words: *Equity fund, performance, mutual fund, persistence, risk-adjusted, spearman's rho.*

JEL Classification: G10,B41,G41,B41

Introduction

Analysis of performance-persistence is an important article for finance academicians to deliberate over the past decades. Some researcher reported the persistence-performance of equity mutual fund to financial management literature (Brown & Goetzmann., 1995, Goetzman & Ibbotson., 1994, Hendricks et al., 1993, Wermers., 1996) but however, their findings did not explain it well. Furthermore, performance-persistence in equity mutual fund is not always to emulate stock-picking skill (Carhart, 1997).

On the investment-practioner point of view, investment strategy in choosing aggressive-growth equity mutual funds are top rank performers in one to six month period of a bullish market (Rugg, 1986). A recent study in Indonesia Stock Exchange using 43 equity mutual funds documented that no performance persistence for five years period (Dwianggoro et al., 2012). Other current research using lower samples and different measurement showed persistence performance of equity mutual fund (Elvani & Linawati, 2013). In other emerging

capital market, Suppa-Aim (2010) reported a study on equity funds in Thailand during the period 2000-2007. His finding showed that equity mutual fund experienced negative performance but persistence during the period of the study. This occurs because there is no selectivity and market timing skill of a fund manager (lack of stock-picking skill).

According to Ai Lin (2012), portfolio performance measurement not entirely based on the return itself, but should also consider the trade-off between risks that taken to achieve a level of return. The result of risk-adjusted performance measurement, can be known which equity funds that outperform or underperform against the benchmark, which is also adapted to the risk. The next step is determining whether those conditions are consistent over time (Elvani & Linawati, 2013).

The purpose of this research is to find out and analyze the consistency of performance of equity funds in Indonesia and Thailand between 2011 and 2015 With this research, investors will be well informed about equity funds in general, and performance of equity funds in particular. That result in a reference in decision making for investing in equity funds.

Literature Review and Hypotheses Development
Literature Review

A Sequence of current research has already investigated the topic of performance persistence in mutual funds. Previous research showed that performance persistence had a negative sign to size and level of the management fee (Detzel & Weigand., 1998, Grinblatt & Titman., 1992, Volkman & Wohar., 1995) found that there is no performance persistence of mutual fund by controlling expense ratio, size and investment style. Kahn & Rudd (1995) investigated that only bond experience performance persistence.

Other recent research, (Massa & Patgiri., 2009, Quigley & Sinquefield., 2000) documented that no performance persistence in a mutual fund based on past performance. On opposite Chen et al. (2000), Cohen et al. (2005), Cremers & Petajisto (2009), Kosowski et al. (2005) and Lynch & Musto (2003) showed persistence of winning funds but not for the losers. Droms (2006) makes an additional review for enriching literature that prior performance summates, i.e. persistence exists, at least in the short run.

Another study, Gottesman & Morey (2007) supposed that persistence to be caused mainly by the expense ratio. Similarly Fama & French (2010) found costs as the primary source of persistence. Bollen & Busse (2006) documented their finding that persistence excess expenses and momentum.
Wermers (2003) tested the manager's momentum and finds confirmation of persistence in superior growth funds. While Kosowski et al. (2005) using net returns after trading costs and fees and find evidence of persistence in growth-oriented funds, but no evidence for the stock picking-skills of income-oriented funds.

That is due to our research will focus on mutual funds, operating and investing in developing the market. We selected to research the Indonesian and Thailand equity exchange for two rationalities. First, Indonesian and Thailand were distinguished as the most progressed mutual fund exchange in South East Asian. Second, the Indonesian and Thailand equity fund exchange give a chance to do research a fast-growing market. During a decade, the counts of funds grew more than twenty percent per year. Stanko (2003) and Voronkova & Bohl (2005) study on the Polish mutual funds market are scant. To our knowledge, the only published study on the topic is by Swinkels & Rzezniczak (2009). Based on a sample of 38 surviving funds from January 2000 – April 2007, they conclude that Polish funds produce 1-factor CAPM alpha's that are insignificantly different from zero.

Hypotheses

Evidence on emerging market mutual funds is scarce. Based on Ferreira et al. (2006) and Khorana et al. (2005), there is a positive relation between risk-adjusted performance and variables like the strength of legal institutions and the development of the capital market. Following those arguments, it is expected that emerging market mutual funds underperform. On the other hand, several studies of emerging market mutual funds based in mature markets document an outperformance. For instance, Borensztein & Gelos (2000) have shown that managers of emerging market mutual funds are identified by better market timing. On average, they were able to rebalance their portfolios at least one month before a crisis. A more recent study by Huij & Post (2009) find that US mutual funds investing in emerging markets can generate returns that are sufficiently large to cover their expenses. Also, the authors document a steady persistence in the performance of past winners over past losers. They conclude by stating that emerging market funds generally display better performance than US funds. This is well documented by for instance (Coval & Moskowitz., 1999, Hau., 2001). Otten & Bams (2007) examine local versus foreign mutual fund performance in a developed market, the United States, and find no difference performance. Based on the literature mentioned above, we formulate hypotheses as follow as:

H₁ : Indonesia's mutual fund experience positive and unpersistence performance yearly and semiannually
H₂ : Thailand's mutual fund experience negative and persistence performance yearly and semiannually

Data and Methodology
Data

This research-work used population from Indonesia and Thailand from the years of period 2011-2015. To obtain sample data, we used purposive technique then the sample is a portion of a population where sampling is done by purposive sampling to get a representative sample

following the conditions that have been set previously. The provisions specified in the selection of the sample of the research the following:(1) Listed as equity funds of the stock exchange of Thailand and Indonesia; (2)Actively traded during the research period (2011-2015); (3) Complete daily NAV data of equity funds during the period of research that is as much as 56 stock mutual funds in Indonesia and Thailand.

Research on the equity funds performance persistence in Indonesia and Thailand using secondary data obtained from infovesta (for mutual fund shares of Indonesia) and Bloomberg (for mutual fund shares of Thailand). It used daily Net Asset Value (NAV) from equity funds in Indonesia and Thailand during the time period of research i.e. 2011-2015. Equity funds that used in this research are actively traded and have complete daily data. Based on these criteria, the following sample results obtained (see appendix A1):

Methodology and Measurements

The usefulness of a trade-off between return (risk premia) and risk shows that the correlation measurement of the investment portfolio with the ratio of risk premium to the risk of excess return. There are four kinds of risk-adjusted performance measurements, among others:

a. Sharpe ratio:

$$S = \frac{R_i}{\sigma_i} \quad \text{.....................................(1)}$$

b. Treynor Ratio

$$T = \frac{R_i}{\beta_i} \quad \text{.....................................(2)}$$

c. Excess return of equity fund i to risk free

$$R_i = r_i - r_f \quad \text{.....................................(3)}$$

d. Jensen Alpha Ratio

$$\alpha_p = R_i - \beta_i (r_m - r_f) \quad \text{..................(4)}$$

e. Return of equity funds obtained using daily NAV historical data using the formula:

$$r_i = \ln\left(\frac{NAV_{it}}{NAV_{it-1}}\right) \quad \text{.............................(5)}$$

f. The standard deviation, statistics provide a formula:

$$\sigma_i = \sqrt{\frac{\sum_{t=1}^{n}(r_{it} - \overline{r_i})}{n-1}} \quad \text{.........................(6)}$$

Where:

r_i : Return of equity fund i; r_f :Risk free rate $;\sigma_i$: Standard deviation of equity fund i

T   : Treynor rasio; β_i : Beta of equity fund i ; α_p : Jensen Alpha ratio; r_m : Market return (benchmark); NAV_{it} : NAV of equity fund day-t; NAV_{it-1} : NAV of equity fund day t-1; $\overline{r_i}$: average return of equity funds; n : number of observation

Results
Risk Adjusted Performance

Based on table 1 panel A and panel B, finding shows that risk-adjusted performance for Indonesia indicates mix (positive and negative) performance for all measurement both yearly and semiannually. Different result for Thailand that indicates negative performance for all measurement, both yearly and semiannually. Result finding indicates that Indonesia's fund manager tends to have better stock-picking skill than Thailand (Brown & Goetzmann., 1995, Carhart., 1997, Goetzmann & Ibbotson., 1994, Hendricks et al., 1993, Lynch & Musto., 2003).

In addition, according to Ferreira et al. (2006) and Khorana et al. (2005), there is a positive relation between risk-adjusted performance and legal institutions also capital market development and this relation is expected that Indonesia and Thailand as an emerging capital market are underperformed mostly. In order to capture performance persistence, we divided times windows into two categorizes: annually and semi-annually. We predicted that times windows division will provide information on whether long-run persistence or short-run persistence exists. In addition, it will also describe investing time horizon of the investor point of view. We expected research finding would give an investment decision making sight to the investor as a whole.

Performance Persistence

Table 2 (panel A and B) shows performance persistence for Indonesia's and Thailand's equity both of annually and semi-annually. According to table 2 panel A, Indonesia equity fund experiences non-persistence performance annually for all measurement. According to Hereil et al. (2010), non-persistence performance raise due to historical performance is not entirely indicated persistence. Hence, we may conclude that persistence performance, in the long run, is unpredictable. Our finding support Brown & Goetzmann (1995). Stood still to panel A, a different result is found from Thailand equity. According to table 2 panel A, Thailand's equity funds experience persistence performance but negative for all annually risk-adjustment measurement. According to Bollen & Busse (2006), Busse et al. (2017) and Carhart (1997) most of the equity funds in emerging market are growth-oriented funds and trade their funds mostly in smaller stocks and lower price. Hence, higher transaction costs incur and funds will turn-over higher than the larger one.

Refer to table 2 panel B, result finding is slightly difference to panel A. We found that Indonesia's equity fund experience persistence performance for some semi-annually period. Panel B also shows that Thailand's equity fund experience persistence-performance, but negative for all semiannually period. We could explain the finding from several perspectives. First, from active mutual funds, seasonal pattern in the asset allocation. According to Fama & French (2010) large investor i.e. active fund managers, basically, take the portfolio of market. Then, it will emulate moderate capital grasping up to some tenfold and, as such, bring a fine definition of the long-run nature of active funds. To the magnitude that these discoveries emulated too the nature of active funds at larger commonness, we could anticipate no standardized aberration in funds' portfolios from the exchange by shorter-run duration. It looks like normal to argue in case of the temporarily in the finding wrong of active funds with regard to the market tops to a same temporarily in their total performance.

The experiment by an active fund to exchange away from the market portfolio would be fitted by the exchange order and by the adverse direction (i.e., a sell order met by a buy order), of a varied active fund. This is the composure accounting altercation used by Fama & French (2010) to confront that as if there are active mutual funds with positive surplus returns. Second from investment style, most effectively managed equity mutual funds address a threshold point that they design to convulse. Specifically, these thresholds distinguish different "investment styles" such as small-cap or growth stocks. We corroborate above to mechanically emanate from funds' propensity to replace their ratio closely or "closet index" (Cremers & Petajisto, 2009). Third, from the behaviour of tournament-like at the turn of a semester, mutual funds have a large inducement to beholding intelligent in the eyes of investors at the end of the semester. The local business press and several highly-publicized rankings (e.g., Kontan or Bangkok Post) often analyse to fund manager over semiannual horizons.

Several researchers discover that large (institutional) and tiny (retail) investors provide high consideration to these orders in determining their distribution across capitals, locating discrepancy more significant abundance to capitals that order higher or that better-perform their threshold by a more considerable margin. That is due to fund managers accumulating expense on their assets under management, apprising a robust relative performance by the end of the period secures larger future flows and fees. The previous bibliography invents two kinds of quarter-end strategies to be approximately general among equity-fund managers to defraud investors about their real capability: portfolio draining, also assign to as NAV enlargement and window dressing. NAV enlargement assigns to the custom of denominating the close or increasing the prices of stocks already in a fund manager's portfolio to enhance the fund's performance at the end of semester (Ben-David et al., 2013, Bhattacharya & Nanda., 2012, Carhart et al., 2002, Duong & Meschke., 2016, Harris et al., 2014, Korteweg & Sorensen., 2017, Zweig., 1997). Window dressing comprises buying champion shares and discard loser shares close to the end of a semester to enhance the display of a portfolio to be presented to investors or stakeholders (Agarwal et al., 2015, Lakonishok et al., 1994, Lynch

& Musto., 2003, Sias & Starks., 1995). If applied on the abundant scale, or if embraced by the grater funds in the industry, either NAV swelling or window dressing could consistently brunt the intra-semester attainment of the portfolio of all funds.

Table 1: Yearly and semiannually risk adjusted performance

A. Yearly										
	INDONESIA					THAILAND				
	Year					Year				
Ratio	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Sharpe	(0,01499)	0,02647	(0,01933)	0,07111	(0,06970)	(0,59362)	(0,84050)	(0,58239)	(0,63603)	(0,55375)
Treynor	(0,00023)	0,00024	(0,00023)	0,00063	(0,00084)	(0,01018)	(0,00898)	(0,01171)	(0,00966)	(0,00592)
Jensen	(0,00016)	(0,00011)	0,01264	0,00008	(0,00007)	(0,00088)	(0,00096)	(0,00095)	(0,00085)	(0,00050)

B. Semiannually											
		INDONESIA					THAILAND				
		Year					Year				
Ratio	Semester	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Sharpe	S1	(0,01454)	0,00406	0,07042	0,07925	(0,13432)	(0,75833)	(0,74887)	(0,56775)	(0,55264)	(0,59311)
	S2	(0,02008)	0,04980	(0,08612)	0,06150	(0,04716)	(0,54866)	-103,101	(0,60249)	(0,75994)	(0,48181)
Treynor	S1	(0,00016)	0,00004	0,00098	0,00078	(0,00099)	(0,01149)	(0,00915)	(0,01032)	(0,04504)	(0,00637)
	S2	(0,00037)	0,00040	(0,00131)	0,00050	(0,00064)	(0,01034)	(0,00905)	(0,01695)	(0,00846)	(0,00533)
Jensen	S1	(0,00034)	(0,00012)	0,00023	0,00002	(0,00022)	(0,00092)	(0,00085)	(0,00110)	(0,00087)	(0,00061)
	S2	0,00002	(0,00009)	(0,00024)	0,00015	0,00011	(0,00087)	(0,00105)	(0,00074)	(0,00090)	0,00004

Table 2: Performance persistence

	A. Yearly Performance Persistence										
	Indonesia					Thailand					
Ratio	Begin	End	Corr-Value	p-value	Conclusion	Begin	End	Corr-Value	p-value	Conclusion	
Sharpe	2011	2012	0,1679	0,2160	no-persistence	2011	2012	-0,5673	0,0000	Persistence	
	2012	2013	-0,2105	0,1192	no-persistence	2012	2013	-0,5414	0,0000	Persistence	
	2013	2014	0,0613	0,6531	no-persistence	2013	2014	-0,6694	0,0000	Persistence	
	2014	2015	0,1437	0,2905	no-persistence	2014	2015	-0,5742	0,0000	Persistence	
Treynor	2011	2012	0,1841	0,1743	no-persistence	2011	2012	-0,7789	0,0000	Persistence	
	2012	2013	-0,2148	0,1118	no-persistence	2012	2013	-0,7545	0,0000	Persistence	
	2013	2014	0,0987	0,4692	no-persistence	2013	2014	-0,8439	0,0000	Persistence	
	2014	2015	0,1602	0,2384	no-persistence	2014	2015	0,8544	0,0000	Persistence	
Jensen Alpha	2011	2012	0,1864	0,1690	no-persistence	2011	2012	-0,7745	0,0000	Persistence	
	2012	2013	-0,0258	0,8505	no-persistence	2012	2013	-0,7498	0,0000	Persistence	
	2013	2014	0,2231	0,0984	no-persistence	2013	2014	-0,8402	0,0000	Persistence	
	2014	2015	0,1521	0,2632	no-persistence	2014	2015	-0,8666	0,0000	Persistence	
	B. Semianually Performance Persistence										
	Indonesia					Thailand					
Ratio	Begin	End	Corr-Value	p-Value	Conclusion	Begin	End	Corr-Value	p-Value	Conclusion	
Sharpe	2011_S1	2011_S2	0,5470	0,0000	Persistence	2011_S1	2011_S2	-0,4872	0,0001	Persistence	
	2011_S2	2012_S1	0,1560	0,2508	no-persistence	2011_S2	2012_S1	-0,4876	0,0001	Persistence	
	2012_S1	2012_S2	0,4948	0,0001	persistence	2012_S1	2012_S2	-0,3376	0,0109	Persistence	
	2012_S2	2013_S1	-0,1969	0,1458	no-persistence	2012_S2	2013_S1	-0,2673	0,0465	Persistence	

Cont... Table 2

	2013_S1	2013_S2	0,1735	0,2008	no-persistence	2013_S1	2013_S2	-0,6722	0,0000	Persistence
	2013_S2	2014_S1	0,0018	0,9892	no-persistence	2013_S2	2014_S1	-0,7175	0,0000	Persistence
	2014_S1	2014_S2	0,2609	0,0521	no-persistence	2014_S1	2014_S2	-0,3889	0,0031	Persistence
	2014_S2	2015_S1	0,0529	0,6986	no-persistence	2014_S2	2015_S1	-0,7193	0,0000	Persistence
	2015_S1	2015_S2	0,2448	0,0690	no-persistence	2015_S1	2015_S2	-0,6992	0,0000	Persistence
Treynor	2011_S1	2011_S2	0,5379	0,0000	persistence	2011_S1	2011_S2	-0,6815	0,0000	Persistence
	2011_S2	2012_S1	0,1446	0,2875	no-persistence	2011_S2	2012_S1	-0,5193	0,0000	Persistence
	2012_S1	2012_S2	0,4570	0,0000	persistence	2012_S1	2012_S2	-0,8034	0,0000	Persistence
	2012_S2	2013_S1	-0,1386	0,3085	no-persistence	2012_S2	2013_S1	-0,7166	0,0000	Persistence
	2013_S1	2013_S2	0,1018	0,4551	no-persistence	2013_S1	2013_S2	-0,7861	0,0000	Persistence
	2013_S2	2014_S1	-0,0172	0,9001	no-persistence	2013_S2	2014_S1	-0,6329	0,0000	Persistence
	2014_S1	2014_S2	0,1396	0,3047	no-persistence	2014_S1	2014_S2	-0,7364	0,0000	Persistence
	2014_S2	2015_S1	-0,1355	0,3195	no-persistence	2014_S2	2015_S1	-0,8854	0,0000	Persistence
	2015_S1	2015_S2	0,2785	0,0377	persistence	2015_S1	2015_S2	-0,4704	0,0003	Persistence
Jensen Alpha	2011_S1	2011_S2	0,5649	0,0000	persistence	2011_S1	2011_S2	-0,6736	0,0000	Persistence
	2011_S2	2012_S1	0,1769	0,1922	no-persistence	2011_S2	2012_S1	-0,5161	0,0000	Persistence
	2012_S1	2012_S2	0,4645	0,0003	persistence	2012_S1	2012_S2	-0,7963	0,0000	Persistence
	2012_S2	2013_S1	-0,1327	0,3297	no-persistence	2012_S2	2013_S1	-0,7055	0,0000	Persistence
	2013_S1	2013_S2	0,0937	0,4921	no-persistence	2013_S1	2013_S2	-0,7659	0,0000	Persistence
	2013_S2	2014_S1	-0,0180	0,8954	no-persistence	2013_S2	2014_S1	-0,7279	0,0000	Persistence
	2014_S1	2014_S2	0,1502	0,2691	no-persistence	2014_S1	2014_S2	-0,8292	0,0000	Persistence
	2014_S2	2015_S1	-0,0373	0,7852	no-persistence	2014_S2	2015_S1	-0,8669	0,0000	Persistence
	2015_S1	2015_S2	0,3118	0,0193	Persistence	2015_S1	2015_S2	-0,4794	0,0002	Persistence

Performance Persistence Comparison

The JCI movement and SET looks very volatiled. The pattern of movement of each stock market looks similar. The JCI movement most strongly influenced by global sentiment. Things that cause global sentiment significantly affect the movement of the JCI is the composition of the local and foreign investors dominated by foreign investors. While the movement of the SET is more likely to be influenced by local rather than global sentiment. In contrast to the JCI which are very vulnerable to the global economy. Foreign compositions on the SET of far less than local investors. Thus the movement of the SET not too affected by the sentiment of the global economy.

Table 3: Composition of ownership of foreign and local investors in Indonesia

Period	Instrument	Foreign	Local	Total	% Foreign	Local
Des-11	Equity (Rp mn)	1.251.885,7	839.319,4	2.091.205,1	59,9	40,1
Des-12	Equity (Rp mn)	1.484.385,5	1.040.619,4	2.525.004,9	58,8	41,2
Des-13	Equity (Rp mn)	1.475.456,7	868.717,7	2.344.174,4	62,9	37,1
Des-14	Equity (Rp mn)	1.840.758,7	1.020.370,6	2.861.129,3	64,3	35,7
Des-15	Equity (Rp tn)	1.701,9	966,0	2.667,8	63,8	36,2

Table 4: Composition of ownership of foreign and local investors in Thailand

Period	Instrument	Foreign	Local	Total	% Foreign	Local
Des-11	Equity (THB mn)	1.635.964,4	5.404.493,5	7.040.457,9	23,2%	76,8%
Des-12	Equity (THB mn)	1.913.503,6	5.702.134,3	7.615.638,0	25,1%	74,9%
Des-13	Equity (THB mn)	2.671.223,7	9.105.986,4	11.777.210,1	22,7%	77,3%
Des-14	Equity (THB mn)	2.233.682,3	7.959.496,7	10.193.179,1	21,9%	78,1%
Des-15	Equity (THB mn)	2.371.647,0	7.625.724,7	9.997.371,7	23,7%	76,3%

Based on table 3 and 4, the movement of equity funds in Indonesia will tend to be much more volatile than Thailand. It can be concluded that practically consistency of performance will be difficult to be gained. This is because of the high level of market uncertainty and are strongly influenced by local and global sentiment.

The difference results of equity funds performance persistence between Indonesia and Thailand besides the foreign and local ownership, the other thing that distinguishes is from the beta (systematic risk). According to Boddie et al. (2013) a value greater than one would indicate a stock with greater sensitivity to the economy than the average stock. These are

known as cyclical stocks. Beta less than 1 indicate below-average sensitivity and therefore are known as defensive stocks.

Table 5: Comparison of systematic risk of equity funds in Indonesia and Thailand

A. INDONESIA					
Risk	Year				
	2011	2012	2013	2014	2015
St. Dev	0,01593	0,00961	0,01495	0,00977	0,01346
Beta	1,04519	1,03129	1,02709	1,07866	1,03576
B. THAILAND					
Risk	Year				
	2011	2012	2013	2014	2015
St. Dev	0,01494	0,00892	0,01337	0,00826	0,00948
Beta	0,92452	0,90905	0,86451	0,86568	0,87044

Based on table 5, it can be seen that Indonesia equity funds, on average each year have a beta greater than 1 (one). Compared to Thailand, which has an average beta under 1 (one). It indicates that the fund manager in Indonesia tends to be more aggressive in selecting stocks on the portfolio. Indonesia's fund manager gives a more significant portion against the cyclical stock that resulted in the movement of equity funds. However, with an ownership composition of the foreign and local investors, Indonesia's equity funds will be also sensitive against the global macroeconomy.

Thailand's fund manager tend to be more conservative with the large portion of defensive stock in the portfolio. That result in the beta of Thailand's equity funds less than than 1 (one). It indicates the movement is not too sensitive to macroeconomic. With the amount of portion on defensive stock make the performance of equity funds below the average market (benchmark). With dominant local ownership, the condition of the macro global economy not to influences against Thailand stock market. According to Suppa-Aim (2010), Thailand's fund manager has no selectivity and market timing skills then resulting in the negative persistence.

Conclusions

Based on the results, we may conclude that no fully performance persistence exists in Indonesia's using all risk-adjusted measurement for both annual and semiannual like H_1 predicted in advance. But however, we found performance persistence partially. We expect that partially one is not patterned which result performance of equity funds and cannot be judged based on historical performance, it is due to market timing. Our finding also shows that beta (systematic risk) of Indonesia's equity funds is more significant than one and makes

very sensitive to global macroeconomic conditions. Besides, the portion of foreign ownership dominates to local in equity

We found different result for Thailand; performance persistence exists both annual and semi-annual but negative (underperform). Our findings indicate that the performance of equity funds in Thailand can be judged based on historical performance. We may further explain that Thailand's fund manager have lack of market timing and stock-picking skill hence gain a negative return. Based on beta, Thailand equity funds have a beta less than 1 (one). It makes the Thailand equity funds movement not too sensitive to macroeconomic conditions, and then a portfolio of equity funds tend to be defensive stock, resulting in a return under the benchmark. Also, the portion of local equity ownership dominates than foreign.

We may provide some suggestions from an investor point of view, first that investor should know in advance the risk of the investment rather than the return to be gained. Second, be better of, an investor not only focus on past-record but also market timing. We also suggest for the next research, it could be attractive to examined persistence using primary data which will result in a strong knowledge about the factors that affect fund managers in taking decisions to build a portfolio. In addition, we also suggest using advanced econometric model such as GARCH for providing robust one.

Author Contributions

Gatot Nazir Ahmad, I Gusti Agung Wibawa and Hamidah conceived the study, collected data and wrote manuscript. Suherman contributed to wrote manuscript and discussion.

Disclosure Statement

The authors declare that there are no competing financial, professional or personal interests from other parties.

REFERENCES

Agarwal, V., Mullally, K.A., Tang, Y., & Yang, B. (2015). Mandatory portfolio disclosure, stock liquidity and mutual fund performance. The Journal of Finance, 70(6), 2733-2776. https://doi.org/10.1111/jofi.12245

Ai Lin, Y.C. (2012). Risk-adjusted portfolio performance. A Final Project submitted to the Department of Mathematical and Actuarial Sciences.

Ben-David, I., Franzoni, F., Landier, A., & Moussawi, R. (2013). Do hedge funds manipulate stock prices? The Journal of Finance, 68(6), 2383-2434 https://doi.org/10.1111/jofi.12062

Bhattacharya, S., & Nanda, V. (2012). Portofolio pumping, trading activity and fund performance. Review of Finance, 17 (3), 885-919. https://doi.org/10.1093/rof/rfs017

Boddie, Z., Kane A., & Marcus, A.J.(2013). Essentials of investment (9th ed.). New York McGraw-Hill Irwin.

Bollen, N.P.B., & Busse, J.A. (2006). Tick size and institutional trading costs: Evidence from mutual fund. Journal of Financial and Quantitative Analysis, 41(4) , 915–937. https://doi.org/10.1017/S0022109000002696

Borensztein, E.R., & Gelos RG (2000) A panic-prone pack? The behavior of emerging market mutual funds. IMF Working Paper, WP/00/198.

Brown, S.J., & Goetzmann, W.N. (1995). Performance persistence. The Journal of Finance, 50(2), 679-698. https://doi.org/10.1111/j.1540-6261.1995.tb04800.x

Busse, J.A., Chordia,T., Jiang L., & Tang Y.(2017). Mutual fund trading costs and diseconomies of scale. Institutional Knowledge at Singapore Management University. http://ink.library.smu.edu.sg/lkcsb_research/4536. Accesesed 15 January 2019

Carhart, M. (1997). On persistence mutual fund. The Journal of Finance, 52(1), 57-82. https://doi.org/10.1111/j.1540-6261.1997.tb03808.x

Carhart, M., Kaniel, R., Musto, D.K.., & Reed, A.V. (2002) Learning for the tape: Evidence of gaming behavior in equity mutual funds. The Journal of Finance, 57 (2), 661–693. https://doi.org/10.1111/1540-6261.00438

Chen, H.L., Jegadeesh, N., & Wermers, R. (2000). The value of active mutual fund management: An examination of the stockholdings and trades of fund managers.

Journal of Financial and Quantitative Analyis, 35 (3), 343–368 https://doi.org/10.2307/2676208

Cohen, R.B., Coval, J.D., & Pastor. L. (2005). Judging fund managers by the company they keep. The Journal of Finance, 60 (3), 1057–1096. https://doi.org/10.1111/j.1540-6261.2005.00756.x

Coval, J.D., & Moskowitz, T.J. (1999). Home bias at home: local equity preference in domestic portofolios. The Journal of Finance, 54 (6), 2045-2074. https://doi.org/10.1111/0022-1082.00181

Cremers, K.J.M., & Petajisto, A. (2009). How active is your fund manager? A new measure that predicts performance. The Review of Financial Studies, 22 (9), 3329–3365. https://doi.org/10.1093/rfs/hhp057

Detzel, F.L., & Weigand, R.A. (1998). Explaining persistence in mutual fund performance. Financial Services Review, 7(1), 45-55. https://doi.org/10.1016/S1057-0810(99)80012-2

Droms, W.G. (2006). Hot hands, cold hands: Does past performance predict future returns? Journal of Financial Planning, 19, 60-66.

Duong, T.X., & Meschke, J.F. (2016). The rise and fall of portofolio pumping among U.S mutual funds. SSRN Working Paper. Accesesed 10 January 2019. https://doi.org/10.2139/ssrn.1344604

Dwianggoro, A., Anantadjaya, S.P.D., & Sibarani, M. (2012). Reksa dana saham di Indonesia: Analisa persistensi periode April 2006-Maret 2011. Financial Accountung Journal, 01, 1-15.

Elvani, V., & Linawati, N. (2013). Uji konsistensi kinerja reksa dana saham di bursa efek Indonesia periode 2008-2012. FINESTA, 1, 130-135.

Fama, E.F., & French, K.R. (2010). Luck versus skill in the cross-section of mutual fund returns. The Journal of Finance, 65(5), 1915–1947. https://doi.org/10.1111/j.1540-6261.2010.01598.x

Ferreira, M.A., Miguel, A.F., & Ramos, S. (2006). The Determinants of mutual fund performance: A cross-country study. Swiss Finance Institute Research Paper 06-31, Swiss Finance Institute.

Goetzmann, W.N., & Ibbotson, R.G. (1994). Do winners repeat? pattern in mutual fund performance. Journal of Portfolio Management, 20(2), 9-18.

Gottesman, A.A.., & Morey, M.R. (2007). Predicting emerging market mutual fund performance. The Journal of Investing, 16(3), 111–122. https://doi.org/10.3905/joi.2007.694780

Grinblatt, M., & Titman, S. (1992). The persistence of mutual fund performance. The Journal of Finance, 47 (5), 1977-1984. https://doi.org/10.1111/j.1540-6261.1992.tb04692.x

Harris, R.S., Jenkinson, T., & Kaplan, S.N .(2014) Private equity performance: What do we know? The Journal of Finance, 69 (5), 1851-1882. https://doi.org/10.1111/jofi.12154

Hau, H. (2001). Location matters. An examination of trading profits. The Journal of Finance, 56(5), 1959-1983. https://doi.org/10.1111/0022-1082.00396

Hendricks, D., Pate1, J., & Zeckhauser, R. (1993). Hot hands in mutual fund: Short run persistence. The Journal of Finance, 48(1), 93-130. https://doi.org/10.1111/j.1540-6261.1993.tb04703.x

Hereil, P., Mitaine, P., Moussavi, N., & Roncalli, T. (2010). Mutual fund ratings and performance persistence. http://www.icifactbook.org/. Accessed 20 January 2019

Huij, J., & Post, T. (2011). On the performance of emerging market equity mutual funds. Emerging Markets Review, 12(3), 238-249. https://doi.org/10.1016/j.ememar.2011.03.001

Korteweg, A., & Sorensen, M. (2017). Skill and luck in private equity performance. Journal of Financial Economics, 124 (3), 535-562. https://doi.org/10.1016/j.jfineco.2017.03.006

Kahn, R.N., & Rudd, A. (1995). Does historical performance predict future performance? Financial Analysts Journal, 51(6), 43-52. https://doi.org/10.2469/faj.v51.n6.1948

Khorana, A., Servaes, H., & Tufano, P. (2005). Explaining the size of the mutual fund industry around the world. Journal of Financial Economics, 78 (1), 145-185. https://doi.org/10.1016/j.jfineco.2004.08.006

Kosowski, R., Timmerman, A., Wermers, R., & White, H. (2005). Can mutual fund "stars" really pick stocks? New evidence from a bootstrap analysis. The Journal of Finance, 61(6), 2551–2595. https://doi.org/10.1111/j.1540-6261.2006.01015.x

Lakonishok, J., Shleifer, A., & Vishny, R.W. (1994). Contrarian investment, extrapolation, and risk. The Journal of Finance, 49 (5), 1541-1578. https://doi.org/10.1111/j.1540-6261.1994.tb04772.x

Lynch, A.W., & Musto, D.K.. (2003). How investors interpret past fund returns. The Journal of Finance, 58 (5), 2033–2058. https://doi.org/10.1111/1540-6261.00596

Massa, M., & Patgiri, R. (2009). Incentives and mutual fund performance: Higher performance or just higher risk taking? The Review of Financial Studies, 22 (5), 1777-1815. https://doi.org/10.1093/rfs/hhn023

Otten, R., & Bams, D. (2007). The performance of local versus foreign mutual fund managers. European Financial Management, 13(4), 702-720. https://doi.org/10.1111/j.1468-036X.2007.00379.x

Quigley, G., & Sinquefield, R.A. (2000). Performance of UK equity unit trusts. Journal of Asset Management, 1(1), 72-92.

Rugg, D.D. (1986). Dow Jones-Irwin guide to mutual funds (3rd ed.). Dow Jones-Irwin Homewood III.

Sias, R.W., & Starks, L.T. (1995). The Day-of-the-week anomaly: The role of institutional investors. Financial Analysts Journal, 51(3), 58–67. https://doi.org/10.2469/faj.v51.n3.1906

Stanko, D. (2003). Performance evaluation of public pension funds: The reformed pension system in Poland. Discussion Paper PI-0308, The Pensions Institute, Birkbeck College, University of London.

Suppa-Aim T (2003) Mutual fund performance in emerging markets: The case of Thailand. A PhD Thesis, University of Birmingham, The England.

Swinkels, L., & Rzezniczak, P. (2009). Performance evaluation of Polish mutual fund managers. International Journal of Emerging Markets, 4(1), 26-42. https://doi.org/10.1108/17468800910931652

Volkman, D.A., & Wohar, M.E. (1995). Determinants of persistence in relative performance of mutual funds. The Journal of Financial Research, 18(4), 415-430. https://doi.org/10.1111/j.1475-6803.1995.tb00575.x

Voronkova, S., & Bohl, M.T. (2005). Institutional trader's behavior in an emerging stock market: Empirical evidence on Polish pension fund investors. Journal of Business Finance & Accounting, 32(7-8), 1537-1560. https://doi.org/10.1111/j.0306-686X.2005.00639.x

Wermers, R. (1996). Momentum investment strategies of mutual funds, performance-persistence and survivorship bias. Working Paper. Graduate School of Business and Administration, University of Colorado at Boulder Colorado, The USA.

Wermers, R. (2003). Is money really smart? New evidence on the relation between mutual fund flows, manager behavior, and performance persistence. Working Paper. Available at SSRN: http://ssrn.com/abstract414420. Accessed 5 January 2019

Zweig, J. (1997). Watch out for the year-end fund flim-flam. Money Magazine. November, 130–133

Appendix

Table A.1: Equity Funds Criteria

Equity Funds Criteria	Indonesia	Thailand
Equity	147	259
Active	70	64
Complete Daily Data	**56**	**56**

According to table A.1, research-work used fifty six equity fund samples which coming from Indonesia and Thailand. Based on the table, sample for this research used as many as 56 equity funds in Indonesia and Thailand.