

Developing an Integrated Model of Equity Mutual Funds Performance: Evidence from the Indonesian Mutual Funds Market

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Abstract—This study aims to determine the factors that affect the performance of mutual funds, especially equity mutual funds. There are several factors that considered affect the performance of mutual funds such as: Asset Under Management (AUM), fund age, past performance, asset allocation, Turn of the Year effect, equity funds with blue chip or non-blue chip stocks, equity funds owned by insurance or non-insurance, external factors such as the rupiah against the US dollar (exchange rate), and investors behavior factor. In this study the researchers have collected data from January 2008 to December 2014. For the purpose of the study the researchers have selected 30 sample of equity mutual funds are still active from 2008-2014. The results are processed using Sharpe ratio to measure the magnitude of risk premium for each unit of risk taken. The result shows that all variables has significant influence on the performance of equity mutual funds. Partially, Asset Under Management (AUM), fund age, asset allocation, Turn of the Year Effect, exchange rate, and investor behavior have significant influence on the performance of equity mutual funds. While another variables such as past performance, Blue Chip and Non-Blue Chip Mutual Funds and insurance and non-insurance company don't have significant influence on the performance of equity mutual funds in Indonesia. All of variables studied have great contribution on the performance of equity mutual funds. This finding can guide the investment managers in formulating an appropriate investment strategy for investors who want to put their funds into equity funds. This finding can guide the investment managers in formulating an appropriate strategy for investors who want to put their funds into equity funds. Through this study also the authors give a recommendation about the optimal portfolio strategy for the investors. The research result also shows that strategic asset allocation with rebalancing strategy is considered best done by an investor. This finding can be used by the investors as a reference to invest in equity mutual funds to improve the profit to develop their business. (Abstract)

Keywords—*Equity Mutual Funds; Performance; Determinants of Mutual Funds; Sharpe (key words)*

I. INTRODUCTION

As a developing country, Indonesia needs the support of substantial funds. These funds support a potential derived from investment activities through the role of the capital market as a source of financing long-term development. Mutual funds are one of the investment instruments that are growing in the past few years. Mutual funds are one of the investment instruments used to collect funds from the

community of investors who have the same investment objectives. Based on data from the Capital Market Supervisory Agency and Financial Institution (BAPEPAM-LK) which is currently the *Otoritas Jasa Keuangan* (OJK) to the month of December 2014 there were 794 types of mutual funds.

Based on the record of the OJK during the year 2014, in March, recorded Net Asset Value (NAV) of mutual funds by Rp 188 trillion. Where in 2014, was Rp 182.8 trillion, increase 9.3% compared to the NAV 2012 which amounted to Rp 163.15 trillion. Based on data taken from the OJK, the performance of mutual funds in 2013 had decreased, but increase again in the early 2014's. The return of the month January 2014 shows that mutual funds give a return by 3.97%, where it is able to transcend the return of Jakarta Composite Index (JCI) by 3.38%. Mutual funds recorded able to exceed the return of JCI is an equity fund and could not be separated from a change in strategy in the investment manager in making the portfolio of mutual funds.

The phenomenon of increasingly diverse number of mutual funds from year to year and mutual fund's ability to provide returns that exceed JCI provides initial questions for research that is, factors that influence the performance of mutual funds. According to Peterson et al. (2001) study of factors mutual funds can give direction to the investor to make a selection of various mutual funds, by looking at how the influence of these characteristics on the performance of mutual funds. So, the researchers interesting to analyse the factors that influences the performance of mutual funds, such as: Asset Under Management, fund age, previous performance, asset allocation, Turn of the Year effect, external factors such as the value rupiah against the US dollar, the effect of equity funds whose portfolio containing blue chip stocks or non-blue chips, the influence of mutual fund shares held by insurance companies or non-insurance, or whether there are other factors that play a role that is the behavior of investors.

II. REVIEW OF LITERATURE

A. *Portfolio Theory*

Portfolio is a collection of investment which is a combination of various assets, can include financial assets,

securities and real assets. In other words, the portfolio is part of a money investment and risk strategy by diversifying investments by selecting multiple assets with a certain risk level desired. Portfolio theory places great emphasis on the search for the optimal combination of investments that provide a level of profit or maximum rates of return at particular level of risk. Below will be also described several theories related to portfolio theory with regard to the level of the desired benefits and risks.

In the real world almost all investments contain elements of uncertainty or risk. Investors do not know with certainty that the results will be obtained from its investments. In this situation, it is said that the investors at risk in any investment is doing. However, the thing that can be done is to estimate how the expected profit from the investment, and how far the possibility of future actual results may deviate from the expected results. If an investor expects a high return then he should be willing to bear higher risks (high risk-high return). Various methods are used to avoid losses, and at least the maximum profit with minimal risk. To anticipate this condition, then made an alternative to minimize losses through the investments portfolio (Anoraga, 2003). That is, investors can easily spread (diversify) investments in various investment opportunities. Because that is necessary to understand the investment process, which starts from the formulation of investment policy until the evaluation of the performance of these investments.

B. Optimal Portfolio Selection

The efficient portfolio is a portfolio that generates a certain profit level with the lowest risk, or certain risks with the highest profit level. Each portfolio that located on the efficient frontier is an efficient portfolio, but we can not tell which one is the best portfolio. The problem is, however, the investors ultimately have to choose one of the various portfolios. Thus, the question arises, where the portfolio will be selected?

The expected utility model states that investors will choose an investment opportunity that gives the highest expected utility. The highest expected utility is not always the same as the level of the highest expected profit.

C. Performance of Mutual Funds

As we know that the fund performance appraisal will always be a benchmark in making the decision to invest on a mutual fund. Research on the performance of mutual funds, many done in various countries such as the United States by Patro (2005), Otten and Bams (2003), Hamidari (2004), Father and Stambough (2001), Wermers (2000), Howe and Pope (1996). Research on the performance of mutual funds in India conducted by Jayadev (1996), while in the UK, the researches was conducted by Christensen (2003), Denmark by Deaves (2004) and many others.

From the results obtained it can be concluded that the majority of mutual fund performance is no better than benchmark are used at the time offered to investors. This performance level is reflected by the rate of return earned by the investor if the conduct of an investment. Rate of return according to Van Horne (1988: 26) is the investment income plus the change in market price. The rate of return also is the change in price plus dividends then divided by the original

price (Elton Et al., 2003: 270). Based on the previous research, there are some mutual funds characteristics that can affect its performance, as below.

1) *The Influence of Asset Under Management (AUM) on the Sharpe Index*

Asset Under Management (AUM) refers to the market value of the total funds managed by the portfolio managers or other financial services firms. AUM related to the placement policy funds by investment managers, both in the capital market and money market. Gregorio and Fabrice (2001) found that there is a varied relationship between Asset Under Management with the fund performance. They suggested that small mutual fund will not be able to meet the fees paid to obtain trading information and cost, so that the results obtained by investors in small mutual funds to be small too. In addition, if the funds are managed is too big then it will also result in poor performance, because management will have problems.

Other research conducted by Indro Jiang, Hu and Lee (1999) and Wagner and Edwards (1993) found that there is a negative relationship between Asset Under Management with the fund performance. This happens because the mutual fund that exceeds the optimal limit will provide decreasing results are known with diminishing returns to scale. This opinion is supported by Grinblatt and Titman (1989), which examines the relationship fund size and the performance by using a sample of 274 funds are divided into five categories over the period 1975-1984. The results of the study explained that mutual funds are smaller give greater returns (2.5%) compared with the larger mutual funds.

2) *The Influence of Fund Age (AGE) on the Sharpe Index*

Fund age indicate when a mutual fund began trading in the stock market. Many investors are more like mutual funds have longer life. Mutual funds have a longer life will have a longer track record and therefore will be able to give a better picture of performance to its investors (Rao, 2000). Fund age reflects the experience of the investment manager in managing the fund, the longer the life of a mutual fund, the investment manager of the more experienced in managing its portfolio when compared to mutual funds that are generally younger.

3) *The Influence of Past Performance (SHARPE t-1) on the Sharpe Index*

Past performance can have a positive or negative effect on the performance of mutual funds. The discovery made by Ginbaltte et al (1992), Hendricks et al (1993), Cahart (1997) shows that mutual funds are not better (under performed) compared with the benchmark of past performance. It is in line with the study made by Stambough Father (2001) who found that many mutual funds that do not produce a better performance based on CAPM and Fama - French. This is based on the performance of mutual funds that follow the laws of gravity in the financial market which is known as "reversion to the mean", where mutual funds above will come down and under will rise.

Other researchers found that past performance and ranks very useful to predict the future performance and the presence of persistent performance (Goetzmann and Ibbotson, 1994;

Brown and Goetzmann, 1995; Malkee, 1995). This happens because an investor will give a positive signal to the market when buying a mutual fund subsequent to the increase in net asset value (NAV) and also due to the high volume of purchases in the market due to the development of improved performance from time to time. This result is in line with the study made by Richard Heaney (2007) who identify a positive correlation between previous period returns and asset growth.

4) *The Influence of Asset Allocation (PORTO) on the Sharpe Index*

Selection of securities had a positive influence on the performance of mutual funds. This is supported by the discovery Kritzman and Page (2002), Surz, Steven and Wimer (1999) and Sharpe (1992) which concluded that the selection of securities (portfolio) more dominant than the return of asset allocation, global sector and country allocation and sector allocation. It also can be concluded that the allocation of portfolios that focused on security selection aims to maximize returns and minimize risk that investors are seeing for the return must also consider the level of risk in an investment in doing consideration on a mutual fund. In other words, the selection of securities (portfolio) has a positive effect on the performance of mutual funds because the purpose of portfolio selection is to maximize profits and minimize risk. The portfolio selection process is done through a comprehensive selection by considering the level of risk faced. The final outcome of the election is to optimize the performance of the investment portfolio.

5) *The Influence of Turn of The Year (TOY) on the Sharpe Index*

Turn of the year effect (TOY) is a situation where stocks return December and January are usually better than the return in previous months. Observations on the turn of the year effect stems from the observation in the US capital markets. In that research obtained results show that stock returns in December and January showed better results. In the literature of efficient market theory popularized by Prof. Eugene Fama, 2013 Economics Nobel prize winner, a turn of the year effect is part of a set of anomalies (strangeness) in the stock market, known as the "calender effect. This calender effect refers to the situation where there are good and bad periods for investing. This is determined based on monthly stock returns are different, as well as the return in December and January.

Based on the research conducted by Louis Ederington (2009) mentions that the aggregate inflows and outflows tend to be higher in December and January than in other months. This suggests that the high inflows and outflows in January due to the minimization of tax by mutual fund investors. Ritter (1988) assumes that the effect of the return in January or so-called January effect is derived from the activity of "small investor". Based on studies conducted by Gloria Ramirez (2011) found that mutual funds actively participate in the January effect through the purchase of small stocks at the beginning of the year. According Rompotis Gerasimos G. (2009), the January effect does not apply the mutual fund in Greece while its performance is not affected by the impact of the other months.

6) *The Influence of Exchange Rate on the Sharpe Index*

The exchange rate is one of the most important variables in an open economy because this variable effect on other economic variables such as product prices, interest rates, export, import and other variables. Appreciation of the rupiah will have a positive impact on the domestic market-based companies with imports raw materials because it will reduce the cost of production inputs companies that enhance the ability of the company to make a profit, as a result of the company's shares will be more attractive in the investment that affect the increase in demand for stocks of the company. While depreciation is positive for export-oriented industries by using domestic raw materials, otherwise would hamper domestic market-based industries that use imported raw materials (Tandelilin, 2001).

7) *The Influence of Blue Chip Stocks (BLUE) on the Sharpe Index*

Blue chip stock is the common stock of a company that has a high reputation as a leader in similar industries, have a stable income and consistent in paying dividends. Blue Chip mutual fund is a mutual fund which consists of investments in blue-chip stocks. Blue chip mutual funds are considered a low-risk mutual funds. It is because blue chip stocks are usually owned by companies with high liquidity and is able to maintain its value despite market fluctuations. So, blue chip mutual funds can be selected blue chips as part of a conservative investment strategy. The Blue Chip Growth Fund has higher return than the Standard & Poor's 500 stock index (Campbell, 1997). In addition, Zulfi Skendra (2008) that states blue chip mutual fund has a positive influence on the performance of mutual funds although not all blue chips provide greater returns than non-blue chips.

8) *The Influence of Insurance Company (INSURE) on the Sharpe Index*

The group of insurance corporations is clearly underrepresented in the top performing funds, even though there is some evidence of performance chasing for this investor group. Insurance companies do not hold any shares in many of the better performing funds, which results in the large difference in means between the top two and the bottom three quintiles. Insurance companies show signs of being institutionally disadvantaged. There is some evidence that this investor group chases past performance, but they are underrepresented in the best performing funds, probably due to investment restrictions.

Based on the study made by Stephan Jank (2010) found that there is no significant difference between the investor composition of the worst performing funds and those with average performance. These results provide new insights into the investment decisions of different mutual fund investors and the different flow-performance relationships of investor groups.

9) *The Influence of Investors Behavior (OPTIMIST) on the Sharpe Index*

Investor behavior can have a positive or negative effect on the performance of mutual funds. This is due to the behavior of investors who are destined to the attitude of investors who are not proportional to the profit than loss or in other words the attitude of investors are more reluctant to cut losses at the

time of loss (loss retainer) and easy to carry out profit-taking at profit situation (Kahneman and Tversky, 1979; Shefrin and Statman, 1985).

Based on the study made by Brad M. Barber, Terrance Odean (2000), found that investor behavior affect fund performance. Investors are unrealistically optimistic about the odds that fund performance will persist than it is that they have rationally interpreted the empirical evidence regarding performance persistence.

D. Investment Strategy

There are three investment strategy used in this study, as follow.

1) Buy and Hold Strategy

Buy and hold strategy is the investor putting a large amount of funds in the initial investment and let the money to move up and down follows the market developments, without additional investment (top up) until the investor decides to withdraw. This strategy provides a good investment results if done with the right timing, i.e when the price of the NAV (net asset value) of mutual funds were down at the lowest position (bottom) so the investors will gain more investment units at a cheaper price. The weaknesses of this strategy is investors cannot predict exactly when the NAV of mutual funds were at their lowest point. Besides, this strategy requires substantial capital so it will be difficult for investors who have limited funds.

2) Installment Plan Strategy

The second strategy is the installment plan or investment strategy regularly and often also called Dollar Cost Averaging (DCA), the strategy of the investment made by purchasing investment products regularly (periodically), and preferably in the long term. Because it is done on a regular basis, regardless of the timing of whether the market is up or down, then the investor has the opportunity to acquire the average price (average).

The advantages of this periodic investment strategy is:

- More practical. Investors do not need to analyze timing, risks, potential benefits and so on.
- Invest more affordable because it can be done with a small nominal, so it can be an option for novice investors, or those who limited money for investment.
- The investment value is not too volatile because of the risk has been mitigated become better controlled through the purchase of product strategy at regular intervals.

3) Rebalancing Strategy

Rebalancing is the act of restoring the portfolio composition as defined in the basic asset allocation. By doing rebalancing, investors can ensure that the portfolio is not overly focused on certain asset categories and that the overall yield of the portfolio will be achieved at the level of acceptable risk. For example, suppose the basic asset allocation set a portion of shares equal to 60% of the total portfolio, while the rest (40%) in the form of money market instruments. After the stock market rise, the stock portion

turns rise to 80% of the total portfolio while the portion of the money market fell to 20%.

In principle, there are three ways to do rebalancing towards portfolio:

- Investors can sell the instrument of asset with over-weighted and use the proceeds to buy the instrument with underweighted.
- Investors can buy a new instrument that has under-weighted.
- If investors increase investment periodically then it can allocate the investment installment that has under-weighted to create back the original asset allocation.

Investors should hold the principle of "Buy Low Sell High", which is to buy a mutual fund when prices are low and sell when the price is high.

III. METHOD

A. Data and Sample

Mutual funds that will be examined to make optimal portfolio are equity mutual funds that have been approved effective from the FSA and has conducted emissions in the period 2008-2014, and has been issued an Asset Under Management (AUM) for 7 years until December 2014, and is widely traded in society. Therefore, the sample consist of 30 equity mutual funds. Type of data is secondary data that has undergone the processing of monthly data for 7 (seven) years that have been issued by PT. Indonesia Stock Exchange, *Otoritas Jasa Keuangan (OJK)*, and Bank Indonesia.

B. The Variables

The study analyse the determinants the performance of equity mutual funds in Indonesia. To measure the determinants the performance of equity mutual funds, nine measures are used as independent variables. Namely, Asset Under Management (AUM), fund age, past performance, asset allocation, Turn of the Year, equity funds with blue chip or non-blue chip stocks in its portfolio, equity funds owned by insurance or non-insurance, external factors such as the rupiah against the US dollar, and investors behavior factor. Moreover, to determine the variable to measure performance of equity mutual funds, one measure is used as dependent variable, namely, performance of equity mutual funds.

C. Model of the Study

Taking into account the purpose of research, the limited number of stocks and mutual funds are not the same observation period (unbalanced observations) will be used regression with panel data. Below is an empirical model that will be used in research.

$$\begin{aligned} SHARPE_{it} = & \alpha_{it} + \beta_1 AUM_{it} + \beta_2 AGE_{it} + \\ & \beta_3 SHARPE_{it-1} + \beta_4 POR_{it} + \beta_5 TOY_{it} + \beta_6 ER_{it} + \\ & \beta_7 BLUE_{it} + \beta_8 INSURANCE_{it} + \\ & \beta_9 OPTIMIS_{it} + \varepsilon_{it} \end{aligned} \quad (1)$$

D. Operationalization of Variables

The following definitions of operational variables are given in the following table.

TABLE I. OPERATIONALIZATION OF VARIABLES

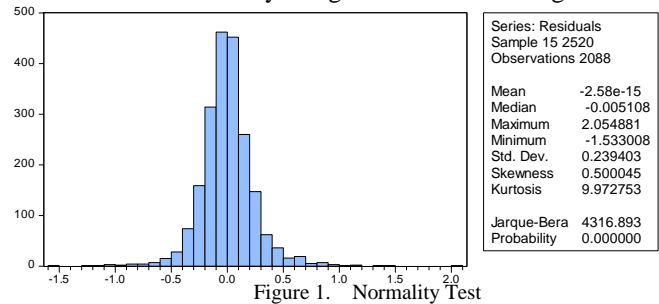
Variable	Notation	Indicator	Measurement
Dependent Variable			
Performance of Mutual Funds	SHARPE	Performance of Mutual Funds using SHARPE	The amount of risk premium for each unit of risk taken.
Independent Variable			
Asset Under Management	AUM	How large is the value of assets managed under the management of the investment manager.	The amount of dollars the value of assets managed under the management of the investment manager.
Fund Age	AGE	The duration of the life fund.	The duration of the age in years.
Past Performance	SHARPE _{t-1}	The previous month return with the Sharpe ratio.	The amount of risk premium for each unit of risk taken.
Asset Allocation	POR	The proportion of mutual funds.	The proportion of funds mutual fund - i to be allocated to specific asset classes (bonds) multiplied by the return obtained from the asset in period t.
Turn of The Year	TOY	Return equity mutual fund in December and January.	The addition of the results obtained (risk premium) for each unit of risk taken in December and January.
Exchange Rate	ER	The amount of foreign funds.	The amount of dollars of foreign funds to invest into mutual funds.
Blue Chip and Non-Blue Chip Equity Mutual Funds	BLUE		1 if blue chip 0 if non blue chip
Insurance and Non-Insurance of Investment Manager	INSURANCE		1 if insurance company. 0 if non-insurance company
Investors Behavior	OPTIMIST	The behavior of decision makers to optimistic or pessimistic classified.	1 if tend to optimistic 0 if tend to pessimistic

IV. ANALYSIS AND DISCUSSION OF FINDING

A. Classical Assumption Regression Testing

1) Normality Test

The result of normality test given in the following table.



Based on the results of the output above, the probability value of 0.000. Because the probability value (0,000) < 0.05, it can be concluded that the residuals are not normally distributed.

2) Multicollinearity Test

Multicollinearity is something in which some or all highly correlated independent variables. By using Eviews software, the result obtained given in the following table:

TABLE II. MULTICOLLINEARITY TEST T-12

	X1	X2	X3	X4	X5	X6	X7	X8	X9
X1	1	0,117	0,036	-0,07	0,044	0,06	-0,02	-0,03	-0,03
X2	0,117	1	0,033	-0,14	0,034	0,211	0,022	-0,01	-0,02
X3	0,036	0,033	1	0,047	-0,19	-0,02	0,007	-0	0,053
X4	-0,07	-0,14	0,047	1	-0	-0,07	-0	-0,03	0,371
X5	0,044	0,034	-0,19	-0	1	0,168	-0,01	-0,02	0,039
X6	0,06	0,211	-0,02	-0,07	0,168	1	0,003	-0,02	0,041
X7	-0,02	0,022	0,007	-0	-0,01	0,003	1	-0,01	-0,01
X8	-0,03	-0,01	-0	-0,03	-0,02	-0,02	-0,01	1	-0,01
X9	-0,03	-0,02	0,053	0,371	0,039	0,041	-0,01	-0,01	1

From the output of the above it can be seen that the variable AUM (X1), AGE (X2), SHARPE (X3), PORTO (X4), TOY (X5), ER (X6), BLUE (X7), INSURE (X8) and OPTIMISTIC (X9) has no multicollinearity because the correlation < 0.8.

3) Autocorrelation Test

Autocorrelation test is used to determine whether or not the deviation of classical autocorrelation assumption that the correlation between the residuals on the observations with other observations in the regression model.

Autocorrelation test performed using a statistical test Durbin Watson, i.e. by comparing the count Durbin-Watson (DW) with the critical value (dL and dU).

Criteria:

- If $DW < dL$ or $DW > 4 - dL$, then there is autocorrelation.
- If $dU < DW < 4 - dU$, then there is no autocorrelation.
- If $dL \leq DW \leq dU$ or $4 - dU \leq DW \leq 4 - dL$, Durbin Watson test does not produce definitive conclusions (inconclusive).

With a sample size of $n = 2520$, $\alpha = 0.05$ and the number of independent variables $k = 9$, obtained the critical value $dL = 1.6754$ and $dU = 1.8632$

TABLE III. AUTOCORRELATION TEST T-12

R-squared	0,847463	Mean dependent var	0,158015
Adjusted R-squared	0,844634	S.D. dependent var	0,581403
S.E. of regression	0,229169	Akaike info criterion	-0,090212
Sum squared resid	107,6103	Schwarz criterion	0,015207
Log likelihood	133,1816	Hannan-Quinn criter.	-0,051589
F-statistic	299,5730	Durbin-Watson stat	1,701519
Prob(F-statistic)	0,000000		

Based on the above table, Durbin-Watson values obtained by 1.701519. Because the DW value is in between $dL (1.6754) \leq DW (1.701519) < dU (1,8632)$, it can be concluded that Durbin Watson test does not produce definitive conclusions (inconclusive).

4) *Heteroscedasticity Test*

Heteroscedasticity test aims to test whether the regression model occurs inequality variance of residuals of the observations to other observations. If the variances of the residuals of one observation to other observations remain so it is called homoscedasticity. By using Eviews software, the result obtained given by the following table:

TABLE IV. HETEROSCEDASTICITY TEST T-12

F-statistic	8,660694	Prob. F(9,2078)	0,0000
Obs*R-squared	75,48971	Prob. Chi-Square(9)	0,0000
Scaled explained SS	108,8271	Prob. Chi-Square(9)	0,0000

Based on the output table above, it appears that the value of prob. chi-square test for the estimation Glejser amounted by 0.0000. Because the value of prob. chi-square < 0.05 , it can be concluded that there are violations of the assumption of heteroscedasticity.

5) *Chow Test*

Chow test or commonly called the F-test statistic is a statistical test that aims to choose whether it is better to use the Pooled Least Square or Fixed Effect Model. This test is done with the following hypothesis:

H0: pooled square models

H1: fixed effect models

Chow test result are presented in the following table:

TABLE V. CHOW TEST T-12

Redundant Fixed Effects Tests			
Pool: POOL12			
Test cross-section fixed effects			
Effects Test	Statistic	d.f.	Prob.
Cross-section F	7,881409	(29,2049)	0,0000
Cross-section Chi-square	220,812677	29	0,0000

Based on the output table above, it appears that the value of prob. chi-square test for the estimation Chow is 0,000. Because the value prob. chi-square < 0.05 , it can be concluded that the model used is the fixed effect model.

6) *Hausman Test*

Hausman test is used to determine the Random Effect or Fixed Effect approach. By using Eviews software, the result obtained given by the following table:

TABLE VI. HAUSMAN TEST T-12

Correlated Random Effects – Hausman Test			
Pool: POOL12			
Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	224,794250	9	0,0000

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

Based on the output table above, it can be seen that the value of prob. chi-square for the estimation of Hausman test is equal to 0.0000. Because the value of prob. chi-square < 0.05 , it can be concluded that the approach used is fixed effect.

B. *Effect of AUM (X1), AGE (X2), SHARPE (X3), PORTO (X4), TOY (X5), ER (X6), BLUE (X7), INSURE (X8) and OPTIMISTIC (X9) to Sharpe Index (Y)*

To see the effect of AUM (X1), AGE (X2), SHARPE (X3), PORTO (X4), TOY (X5), ER (X6), BLUE (X7), INSURE (X8) and OPTIMISTIC (X9) to Sharpe Index (Y), then used regression analysis with the following equation:

$$\hat{Y} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \epsilon \tag{2}$$

Where :

\hat{Y} = Sharpe Index

X_1 = AUM

X_2 = AGE

X_3 = SHARPE

X_4 = PORTO

X_5 = TOY

X_6 = ER

X_7 = BLUE

X_8 = INSURE

X_9 = OPTIMIST

β_0 = Constanta

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8, \beta_9$ = Regression of Coefficient

The result of Eviews processing for multiple regression analysis given by the following table:

TABLE VII. MULTIPLE REGRESSION T-12

Dependent Variable: Y?
Method: Pooled Least Squares
Date: 02/23/15 Time: 11:32
Sample (adjusted): 2009M03 2014M12
Included observations: 70 after adjustments
Cross-sections included: 30

Total pool (unbalanced) observations: 2088

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1,378191	0,566161	2,434275	0,0150
X1?	-0,028884	0,009179	-3,146887	0,0017
X2?	0,004183	0,000351	11,90981	0,0000
X3?	0,002439	0,006803	0,358501	0,7200
X4?	11,40195	0,125613	90,77055	0,0000
X5?	0,053908	0,012895	4,180359	0,0000
X6?	-0,127070	0,056691	-2,241468	0,0251
X7?	0,011793	0,010114	1,166049	0,2437
X8?	-0,006935	0,010115	-0,685590	0,4930
X9?	0,112622	0,011097	10,14898	0,0000

Based on the calculation in the table above, obtained by multiple linear regression equation is as follows:

$$Y = 1,378191 - 0,028884 X_1 + 0,004183 X_2 + 0,002439 X_3 + 11,40195 X_4 + 0,053908 X_5 - 0,127070 X_6 + 0,011793 X_7 - 0,006935 X_8 + 0,112622 X_9 \quad (3)$$

$$Y1 = 1,378191 - 0,028884 X_1 + 0,004183 X_2 + 0,002439 X_3 + 11,40195 X_4 + 0,053908 X_5 - 0,127070 X_6 + 0,011793 (1) - 0,006935 (1) + 0,112622 (1) \quad (4)$$

$$Y1 = 1,495671 - 0,028884 X_1 + 0,004183 X_2 + 0,002439 X_3 + 11,40195 X_4 + 0,053908 X_5 - 0,127070 X_6 \quad (5)$$

$$Y0 = 1,378191 - 0,028884 X_1 + 0,004183 X_2 + 0,002439 X_3 + 11,40195 X_4 + 0,053908 X_5 - 0,127070 X_6 + 0,011793 (0) - 0,006935 (0) + 0,112622 (0) \quad (6)$$

$$Y0 = 1,378191 - 0,028884 X_1 + 0,004183 X_2 + 0,002439 X_3 + 11,40195 X_4 + 0,053908 X_5 - 0,127070 X_6 \quad (7)$$

Note :

Y1 = BLUE, INSURE and OPTIMIST Company

Y0 = Non BLUE, Non INSURE and Non OPTIMIST Company

Regression coefficient on the independent variables describe when the independent variable is expected to rise by one unit and the other independent variables is expected to be constant or equal to zero, then the value of the dependent variable can be expected to rise or fall according to the sign of the regression coefficient of independent variable.

From the above regression equation obtained a constant value for the BLUE, INSURE and OPTIMISTIC company by 1.495671. It means if the Sharpe Index (Y) variable is not affected by the six independent variables AUM (X1), AGE (X2), SHARPE (X3), PORTO (X4), TOY (X5) and ER (X6) (zero), the magnitude of the average Sharpe Index (Y) will be worth 1.495671. While the constant value for the Non-BLUE, Non INSURE and Non OPTIMIST Company by 1.378191. It means if the Sharpe Index (Y) variable is not affected by the six independent variables AUM (X1), AGE (X2), SHARPE (X3), PORTO (X4), TOY (X5) and ER (X6) (zero), the magnitude of the average of Sharpe Index (Y) will be worth 1.378191. This shows that the Sharpe Index (Y) for the BLUE, INSURE and OPTIMIST company higher than the Non-BLUE, Non INSURE and Non OPTIMIST company.

The signs of regression coefficient of independent variable indicates the direction of the relationship of the variables with the Sharpe Index (Y). Regression coefficients for the independent variables X1 are negative, indicating the existence of an indirect relationship between the AUM (X1) with Sharpe Index (Y). The regression coefficient of X1 by -0.028884 implies for each increment of AUM (X1) by one unit will cause decreased Sharpe Index (Y) by 0.028884.

Regression coefficient for the independent variable X2 is positive, indicating the existence of a direct relationship between AGE (X2) with Sharpe Index (Y). Regression coefficient of X2 by 0.004183 implies for each increment of AGE (X2) by one unit will cause increased Sharpe Index (Y) by 0.004183.

Regression coefficient for the independent variable X3 is positive, indicating the existence of a direct relationship between SHARPE (X3) with Sharpe Index (Y). Regression coefficient of X3 by 0.002439 X3 implies for each increment of SHARPE (X3) by one unit will cause increased Sharpe Index (Y) by 0.002439.

Regression coefficient for the independent variable X4 is positive, indicating the existence of a direct relationship between PORTO (X4) with Sharpe Index (Y). Regression coefficient of X4 by 11.40195 implies for each increment of PORTO (X4) by one unit will cause increased Sharpe Index (Y) by 11.40195.

Regression coefficient for the independent variable X5 is positive, indicating the existence of a direct relationship between TOY (X5) with Sharpe Index (Y). Regression coefficient of X5 by 0.053908 implies for each increment of TOY (X5) by one unit will cause increased Sharpe Index (Y) by 0.053908.

Regression coefficient for the independent variable X6 is negative, indicating the existence of an indirect relationship between ER (X6) with Sharpe Index (Y). Regression coefficient of ER (X6) by -0.127070 implies for each increment of ER (X6) by one unit will cause decreased Sharpe Index (Y) by 0.127070.

Regression coefficient for the independent variable X7 is positive, indicating the existence of a direct relationship between the BLUE (X7) with Sharpe Index (Y). Regression coefficient of X7 by 0.011793 implies for each increment of BLUE (X7) by one unit will cause increased Sharpe Index (Y) by 0.011793. Regression coefficient for the independent variable X8 is negative, indicating an indirect relationship between INSURE (X8) with Sharpe Index (Y). Regression coefficient of X8 by -0.006935 implies for each increment of INSURE (X8) by one unit will cause decreased Sharpe Index (Y) by 0.006935.

Regression coefficient for the independent variable X9 is positive, indicating the existence of a direct relationship between OPTIMIST (X9) by Sharpe Index (Y). Regression coefficient of X9 by 0.112622 implies for each increment of OPTIMIST (X9) by one unit will cause increased Sharpe Index (Y) by 0.112622.

C. Mean Regression Coefficient Testing

1) Hypothesis Testing in Overall (F- Test)

To determine the significance of the influence of the independent variables simultaneously on a dependent variable used F test

Ho: AUM (X1), AGE (X2), SHARPE (X3), PORTO (X4), TOY (X5), ER (X6), BLUE (X7), INSURE (X8) and OPTIMISTIC (X9) collectively same no significant effect on the Sharpe Index (Y).

Ha: AUM (X1), AGE (X2), SHARPE (X3), PORTO (X4), TOY (X5), ER (X6), BLUE (X7), INSURE (X8) and OPTIMISTIC (X9) collectively the same effect on the Sharpe Index (Y).

$\alpha = 5\%$

F-test based Eviews software processing is presented in the following table:

TABLE VIII. F- TEST T-12

R-squared	0,847463	Mean dependent var	0,158015
Adjusted R-squared	0,844634	S.D. dependent var	0,581403
S.E. of regression	0,229169	Akaike info criterion	0,090212
Sum squared resid	107,6103	Schwarz criterion	0,015207
Log likelihood	133,1816	Hannan-Quinn criter.	0,051589
F-statistic	299,5730	Durbin-Watson stat	1,701519
Prob(F-statistic)	0,000000		

From the table above, the value of Prob. F count equal to 0.000000. Because the value of Prob. F count (0.000000) <0.05, then Ho is rejected. It can be concluded that simultaneously, there is a significant influence of the variable AUM (X1), AGE (X2), SHARPE (X3), PORTO (X4), TOY (X5), ER (X6), BLUE (X7), INSURE (X8) and OPTIMIST (X9) to the Sharpe Index (Y).

2) Hypothesis Partial Testing (t-test)

To determine the significance of the influence of the independent variables partially on a dependent variable t test was used. Hypothesis:

- H01: $b_1 = 0$ AUM does not affect the Sharpe Index.
H11: $b_1 \neq 0$ AUM affect the Sharpe Index.
- H02: $b_2 = 0$ AGE does not affect the Sharpe Index.
H12: $b_2 \neq 0$ AGE affect the Sharpe Index.
- H03: $b_3 = 0$ SHARPE not affect the Sharpe Index.
H13: $b_3 \neq 0$ SHARPE affect the Sharpe Index.
- H04: $b_4 = 0$ PORTO not affect the Sharpe Index.
H14: $b_4 \neq 0$ PORTO affect the Sharpe Index.
- H05: $b_5 = 0$ TOY not affect the Sharpe Index.
H15: $b_5 \neq 0$ TOY affect the Sharpe Index.
- H06: $b_6 = 0$ ER does not affect the Sharpe Index.
H16: $b_6 \neq 0$ ER affect the Sharpe Index.
- H07: $b_7 = 0$ BLUE does not affect the Sharpe Index.
H17: $b_7 \neq 0$ BLUE affect the Sharpe Index.

- H08: $b_8 = 0$ INSURE not affect the Sharpe Index.
H18: $b_8 \neq 0$ INSURE affect the Sharpe Index.
- H09: $b_9 = 0$ OPTIMISTIC not affect the Sharpe Index.
H19: $b_9 \neq 0$ OPTIMISTIC affect the Sharpe Index.

$$\alpha = 5\% \quad \text{Test statistics: } T_{hit} = \frac{b}{Se(b)} \quad (8)$$

t- test Degrees of freedom = n-k-1, t table n = 80 of 1,990 Test criteria is accept H0 if Sig> 0.05 and reject H0 if Sig <0.05

The results of the t test by Eviews software processing is presented in the following table:

TABLE IX. T-12

Dependent Variable: Y?
Method: Pooled Least Squares
Date: 02/23/15 Time: 11:32
Sample (adjusted): 2009M03 2014M12
Included observations: 70 after adjustments
Cross-sections included: 30
Total pool (unbalanced) observations: 2088

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.378191	0.566161	2.434275	0.0150
X1?	-0.028884	0.009179	-3.146887	0.0017
X2?	0.004183	0.000351	11.90981	0.0000
X3?	0.002439	0.006803	0.358501	0.7200
X4?	11.40195	0.125613	90.77055	0.0000
X5?	0.053908	0.012895	4.180359	0.0000
X6?	-0.127070	0.056691	-2.241468	0.0251
X7?	0.011793	0.010114	1.166049	0.2437
X8?	-0.006935	0.010115	-0.685590	0.4930
X9?	0.112622	0.011097	10.14898	0.0000

Based on the above table the results are as follows:

1. For X1, X2, X4, X5, X6 and X9 obtained the prob. value less than 0.05, and then H0 is rejected. Therefore, it can be concluded that each variable AUM (X1), AGE (X2), PORTO (X4), TOY (X5), ER (X6) and OPTIMIST (X9) partially have a significant influence on the Sharpe Index (Y).
2. For the variables X3, X7, X8 obtained prob. value greater than 0.05, then H0 is accepted. Therefore, it can be concluded that each variable SHARPE (X3), BLUE (X7) and INSURE (X8) partially not have significant influence to the Sharpe Index (Y).

3) Analysis of Coefficient of Determination

To determine the influence of the independent variables to the Sharpe Index, it is used the coefficient of determination.

TABLE X. COEFFICIENT OF DETERMINATION T-12

R-squared	0,847463	Mean dependent var	0,158015
Adjusted R-squared	0,844634	S.D. dependent var	0,581403
S.E. of regression	0,229169	Akaike info criterion	-0,090212
Sum squared resid	107,6103	Schwarz criterion	0,015207
Log likelihood	133,1816	Hannan-Quinn criter.	-0,051589
F-statistic	299,5730	Durbin-Watson stat	1,701519

Prob (F-statistic) 0,000000

TABLE XII. BUY AND HOLD STRATEGY SIMULATION

Types of Mutual Funds	Proportion	Investment 100,000,000	January 2008		31 Dec 2014	Value
			NAV	Unit	NAV	
Panin Dana Maksima	38.68%	38,680,000	15,571.43	2,484.04	73,705.76	183,087,837.78
Pratama Saham	22.28%	22,280,000	2,362.51	9,430.66	5,981.33	56,407,864.05
Reksa Dana Dana Pratama Ekuitas	20.06%	20,060,000	4,104.43	4,887.40	9,023.26	44,100,254.50
Schroder Dana Prestasi Plus	18.98%	18,980,000	12,939.00	1,466.88	27,155.51	39,833,950.87
Total	100.00%	100,000,000				323,429,907.20
RETURN						223%

Based on the results above, the value of Adjusted R-squared by 0.845. This suggests that the contribution of total AUM (X1), AGE (X2), SHARPE (X3), PORTO (X4), TOY (X5), ER (X6), BLUE (X7), INSURE (X8) and OPTIMIST (X9) against Sharpe Index (Y) is 84.5%, while the remaining by 15.5% is contributed by other variables besides independent variables studied

D. Optimal Portfolio and Simulation Analysis

To create a winning investment strategy, the first step should be done is create an optimal portfolio. Here are the calculation to create an optimal portfolio using solver in Microsoft Excel.

TABLE XI. OPTIMAL PORTFOLIO CALCULATION

Mutual Funds	Average	Weight	$\mu_p = \text{Portfolio Return}$	Σp	$\Sigma p'$
Reksadana Lathandana Equity	0.0032527	0,00%	0,010279239	0,012903148	0,113592
Danareksa Mawar	0.0040376	0,00%			
Bni Reksadana Berkembang	0.0040922	0,00%			
Reksa Dana Mandiri Investa Atraktif	0.0040922	0,00%			
CIMB-Principal Equity Aggressive	0.0048075	0,00%			
Reksa Dana Axa Citradumamis	0.0054908	0,00%			
Reksa Dana Simas Danamas Saham	0.0061796	0,00%			
First State Indoequity Sectoral Fund	0.0061796	0,00%			
Bahana Dana Prima	0.0062912	0,00%			
FS Indoequity Dividend Yield Fund	0.0064695	0,00%			
Batavia Dana Saham Optimal	0.0066031	0,00%			
Manulife Dana Saham	0.0071530	0,00%			
Reksadana Dana Ekuitas Andalan	0.0072600	0,00%			
BNP Paribas Ekuitas	0.0073788	0,00%			
Reksa Dana BNP Paribas Infrastruktur Plus	0.0074340	0,00%			
Reksa Dana Dana Ekuitas Prima	0.0075980	0,00%			
Trum Kapital	0.0094908	0,00%			
Rencana Cerdas	0.0076748	0,00%			
Reksa Dana NISP Indeks Saham Progresif	0.0079553	0,00%			
Manulife Saham Andalan	0.0079787	0,00%			
BNP Paribas Persona	0.0080946	0,00%			
Schroder Dana Prestasi Plus	0.0089317	18,98%			
Reksadana Dana Pratama Ekuitas	0.0089317	20,06%			
Syalendra Equity Opportunity Fund	0.0075980	0,00%			
GMT Dana Ekuitas	0.0097285	0,00%			
Batavia Dana Saham	0.0106668	0,00%			
Reksa Dana Schroder Dana Istimewa	0.0103534	0,00%			
Pratama Saham	0.0105935	22,28%			
Grow-2-Prosper	0.0111918	0,00%			
Panin Dana Maksima	0.0114584	38,68%			
Total		100,00%			

Based on the Solver's result, there are 4 equity mutual funds from 30 equity mutual funds that still ctive from 2008-2014 that can be the best portfolio strategy with their respective weights as below:

- Panin Dana Maksima: 38.68%
- Pratama Saham: 22.28%
- Reksa Dana Dana Pratama Ekuitas: 20.06%
- Schroder Dana Prestasi Plus: 18.98%

Here is three simulation of investment starteg held by the authors.

1) Buy and Hold Strategy

Based on the simulation above, the portfolio mutual funds has total value at the end of December 2014 is IDR 323,429,907.20. Using this value, can be found the total return can be reached if the investor choose the buy and hold strategy by 223%.

2) Installment Plan Strategy

TABLE XIII. INSTALLMENT PLAN STRATEGY SIMULATION

Portfolio Mutual Funds	Proportion	Investment Value Per Year	Total Unit of Mutual Funds								Ending Value Portfolio
			Jan 2008	Jan 2009	Jan 2010	Jani 2011	Jan 2012	Jan 2013	Jan 2014	Dec 2014	
Panin Dana Maksima	38.68%	6,625,557.03	425.49	613.73	252.29	143.24	120.84	108.28	108.01	1771.89	130,598,243.47
Pratama Saham	22.28%	3,816,375.66	1615.39	3550.60	1299.91	1050.69	1052.49	956.07	833.86	10359.02	61,960,659.43
RD Dana Pratama Ekuitas	20.06%	3,436,108.43	837.17	1768.05	743.62	616.01	617.70	583.59	517.49	5683.62	51,284,814.20
Schroder Dana Prestasi Plus	18.98%	3,251,113.56	251.26	416.38	204.22	171.55	150.00	143.81	145.23	1482.46	40,257,021.89
TOTAL	100.00%	17,129,154.67									284,100,739.00
RETURN											184.10%

Based on the simulation above, the portfolio mutual funds has total value at the end of December 2014 is IDR 284,100,739.00. This value is lower than the value reached by using buy and hold strategy. The return obtained by this simulation is 184.10% still lower than the return obtained by the buy and hold strategy by 223%.

3) Asset Allocation with Rebalancing Strategy

In this strategy, the authors using 3 simulation of rebalancing strategy, as follow.

a) Annual Rebalancing Strategy

TABLE XIV. ANNUAL REBALANCING STRATEGY SIMULATION

Mutual Funds	Proportion	100.000.000	Jan 2008	Jan 2009	Jan 2010	Jan 2011	Jan 2012	Rebalancing
			NAV	Unit				
Panin Dana Maksima	38.68%	38,680,000	15,571.43	2,484.04	26,045,475.30	55,219,349.39	78,690,036.62	86,402,833.12
Pratama Saham	22.28%	22,280,000	2,362.51	9,430.66	15,002,409.24	31,806,802.08	45,326,112.10	49,768,746.69
RD Pratama Ekuitas	20.06%	20,060,000	4,104.43	4,887.40	13,507,555.18	28,637,542.63	40,809,775.97	44,809,742.30
Schroder Dana Prestasi Plus	18.98%	18,980,000	12,939.00	1,466.88	12,780,328.88	27,095,740.73	38,612,639.48	42,397,253.69
Total	100.00%	100,000,000			67,335,768.60	142,759,434.83	203,438,564.17	223,378,575.79

Mutual Funds	Jan 2013	Jan 2014	31 Dec 2014		
	Rebalancing		NAV	Value	Rebalancing
Panin Dana Maksima	93,942,031.61	104,575,012.68	73,705.76	125,656,975.69	126,177,689.76
Pratama Saham	54,111,387.39	60,236,072.46	5,981.33	64,605,807.56	72,679,393.17
RD Pratama Ekuitas	48,719,678.24	54,234,093.96	9,023.26	73,700,149.25	65,437,550.58
Schroder Dana Prestasi Plus	46,096,684.59	51,314,212.53	27,155.51	62,246,193.04	61,914,492.03
Total	242,869,781.84	270,359,391.63		326,209,125.55	326,209,125.55

Based on the result of Annual Rebalancing Simulation above, the total value of portfolio mutual fund at the end of December 2014 is IDR 326,209,125.55. This value is higher than the the value obtained from installment plan simulation by IDR 284,100,739.00. The return obtained by this simulation is 226% is higher than the return obtained from installment plan strategy by 184.10% and buy and hold strategy by 223%.

b) Semi - Annual Rebalancing Strategy

TABLE XV. SEMI- ANNUAL REBALANCING STRATEGY SIMULATION

Mutual Funds	Proportion	100.000.000	Jan 2008		Jul 2008		Jan 2009		Jul 2009		Jan 2010		Jul 2010	
			NAV	Unit	Rebalancing									
Panin Dana Maksima	38.68%	38,680,000	15,571.43	2,484.04	35,821,157.21	23,245,582.27	50,213,417.78	56,451,577.93	68,365,813.28					
Pratama Saham	22.28%	22,280,000	2,362.51	9,430.66	20,633,282.90	13,389,647.70	28,923,344.06	32,516,575.91	39,379,274.04					
RD Pratama Ekuitas	20.06%	20,060,000	4,104.43	4,887.40	18,577,363.33	12,055,490.70	26,041,395.05	29,276,593.93	35,455,486.41					
Schroder Dana Prestasi Plus	18.98%	18,980,000	12,939.00	1,466.88	17,577,186.24	11,406,441.35	24,639,365.81	27,700,386.48	33,546,616.75					
Total	100.00%	100,000,000			92,608,989.69	60,097,162.03	129,817,522.70	145,945,134.25	176,747,190.48					

Mutual Funds	Proportion	100.000.000	Jan 2011		Jul 2011		Jan 2012		Jul 2012		Jan 2013		Jul 2013	
			Rebalancing											
Panin Dana Maksima	38.68%	38,680,000	15,571.43	2,484.04	35,821,157.21	23,245,582.27	50,213,417.78	56,451,577.93	68,365,813.28					
Pratama Saham	22.28%	22,280,000	2,362.51	9,430.66	20,633,282.90	13,389,647.70	28,923,344.06	32,516,575.91	39,379,274.04					
RD Pratama Ekuitas	20.06%	20,060,000	4,104.43	4,887.40	18,577,363.33	12,055,490.70	26,041,395.05	29,276,593.93	35,455,486.41					
Schroder Dana Prestasi Plus	18.98%	18,980,000	12,939.00	1,466.88	17,577,186.24	11,406,441.35	24,639,365.81	27,700,386.48	33,546,616.75					
Total	100.00%	100,000,000			92,608,989.69	60,097,162.03	129,817,522.70	145,945,134.25	176,747,190.48					

Mutual Funds	Proportion	100.000.000	Jan 2014		Jul 2014		31 Dec 2014		
			NAV	Unit	NAV	Value	Rebalancing		
Panin Dana Maksima	38.68%	38,680,000	15,571.43	2,484.04	35,821,157.21	23,245,582.27	50,213,417.78	56,451,577.93	68,365,813.28
Pratama Saham	22.28%	22,280,000	2,362.51	9,430.66	20,633,282.90	13,389,647.70	28,923,344.06	32,516,575.91	39,379,274.04
RD Pratama Ekuitas	20.06%	20,060,000	4,104.43	4,887.40	18,577,363.33	12,055,490.70	26,041,395.05	29,276,593.93	35,455,486.41
Schroder Dana Prestasi Plus	18.98%	18,980,000	12,939.00	1,466.88	17,577,186.24	11,406,441.35	24,639,365.81	27,700,386.48	33,546,616.75
Total	100.00%	100,000,000			92,608,989.69	60,097,162.03	129,817,522.70	145,945,134.25	176,747,190.48

Based on the result of Semi-Annual Rebalancing Simulation above, the total value of portfolio mutual fund at the end of December 2014 is IDR 327,666,896.20. This value is higher than the value obtained from annual rebalancing simulation by IDR 326.209.492,55 The return obtained by this simulation is 228 % is higher than the return obtained by the annual rebalancing strategy by 226%.

c) Quarterly Rebalancing Strategy

TABLE XVI. QUARTERLY REBALANCING STRATEGY SIMULATION

Mutual Funds	Proportion	100.000.000	Jan 2008		Apr 2008		Jul 2008		Oct 2008	
			NAV	Unit	Rebalancing					
Panin Dana Maksima	38.68%	38,680,000	15,571.43	2,484.04	33,589,103.58	35,757,856.01	20,862,618.62			
Pratama Saham	22.28%	22,280,000	2,362.51	9,430.66	19,347,601.54	20,596,820.89	12,017,040.92			
RD Pratama Ekuitas	20.06%	20,060,000	4,104.43	4,887.40	17,419,788.46	18,544,534.43	10,819,651.75			
Schroder Dana Prestasi Plus	18.98%	18,980,000	12,939.00	1,466.88	16,481,933.45	17,546,124.80	10,237,138.09			
Total	100.00%	100,000,000			86,838,427.04	92,445,336.13	53,936,449.39			

Jan 2009	Apr 2009	Jul 2009	Oct 2009	Jan 2010			
				Apr 2010	Jul 2010	Oct 2010	
Rebalancing							
28.128.730,05	35.446.786,90	53.289.409,52	54.131.170,01	59.850.076,02	70.421.377,71	72.267.788,43	88.905.440,96
16.202.381,22	20.417.642,51	30.695.140,75	31.180.001,75	34.474.138,93	40.563.296,16	41.626.844,01	51.210.269,51
14.587.960,83	18.383.209,55	27.636.648,27	28.073.197,27	31.039.103,54	36.521.531,46	37.479.106,41	46.107.630,44
13.802.567,12	17.393.485,40	26.148.733,01	26.561.778,87	29.368.005,24	34.555.267,55	35.461.288,12	43.625.265,50
72.721.639,22	91.641.124,35	137.769.931,55	139.946.147,90	154.731.323,74	182.061.472,88	186.835.026,98	229.848.606,40

Jan 2011	Apr 2011	Jul 2011	Oct 2011	Jan 2012			
				Apr 2012	Jul 2012	Oct 2012	
Rebalancing							
84.356.013,91	94.613.623,72	101.528.942,02	90.336.710,79	92.488.551,80	98.428.166,46	92.932.313,04	95.427.192,81
48.589.761,89	54.498.230,00	58.481.510,56	52.034.692,77	53.274.170,99	56.695.438,18	53.529.781,14	54.966.852,53
43.748.232,65	49.067.975,49	52.654.358,25	46.849.907,41	47.965.882,86	51.046.251,79	48.196.023,77	49.489.904,03
41.392.894,10	46.426.230,05	49.819.527,39	44.327.579,39	45.383.472,42	48.297.998,95	45.601.222,89	46.825.442,59
218.086.902,55	244.606.059,26	262.484.338,22	233.548.890,37	239.112.078,07	254.467.855,39	240.259.340,83	246.709.391,96

Jan 2013	Apr 2013	Jul 2013	Oct 2013	Jan 2014			
				Apr 2014	Jul 2014	Oct 2014	
Rebalancing							
100.676.658,89	122.271.638,24	110.379.352,28	109.088.924,59	106.343.140,33	120.783.060,28	128.610.198,35	128.303.280,13
57.990.588,42	70.429.475,18	63.579.420,08	62.836.123,06	61.254.528,61	69.572.041,96	74.080.538,25	73.903.750,81
52.212.352,05	63.411.816,52	57.244.307,31	56.575.073,10	55.151.070,19	62.639.818,75	66.699.084,26	66.539.912,09
49.401.318,14	59.997.820,42	54.162.360,55	53.529.156,90	52.181.820,15	59.267.385,84	63.108.106,64	62.957.504,06
260.280.917,50	316.110.750,35	285.365.440,22	282.029.277,65	274.930.559,29	312.262.306,83	332.497.927,49	331.704.447,09

Mutual Funds	Proportion	100.000.000	31 Dec 2014		
			NAV	Value	Rebalancing
Panin Dana Maksima	38.68%	38,680,000	73.705.76	134,181,076.67	133,810,258.27
Pratama Saham	22.28%	22,280,000	5,981.33	76,469,053.08	77,075,815.78
RD Pratama Ekuitas	20.06%	20,060,000	9,023.26	69,225,043.84	69,395,909.54
Schroder Dana Prestasi Plus	18.98%	18,980,000	27,155.51	66,066,548.94	65,659,738.93
Total	100.00%	100,000,000		345,941,722.52	345,941,722.52

Based on the result of Quarterly Rebalancing Simulation above, the total value of portfolio mutual fund at the end of December 2014 is IDR 345,941,722.52. This value is higher than the value obtained from semi-annual rebalancing simulation by IDR 327,666,896.20. The return obtained by this simulation is 246 % is higher than the return obtained by the annual rebalancing strategy by 226%.

Here is the conclusion of three simulation of Rebalancing Strategy.

TABLE XVII. CONCLUSION OF REBALANCING STRATEGY SIMULATION

Type	Investment	Value	Return
Annual	100,000,000.00	326,209,125.55	226%
Semi-annual	100,000,000.00	327,666,896.20	228%
Quarterly	100,000,000.00	345,941,722.52	246%

Based on the three simulation results above showed that Quarterly rebalancing strategy gives the best return result among all portfolios than annually and semi-annually. It means that the higher frequency of rebalancing, the return will be generated also will be higher.

E. The Comparison Between Three Strategies

If we compare between three simulation of three investment strategy, can be found that allocation strategy with rebalancing strategy gives a better return than the buy and hold strategy and the installment plan strategy. The return of quarterly rebalancing strategy has the highest return by 246% than buy and hold strategy's return by 223% and installment plan's return by 184.10%

V. CONCLUSION

This study investigates the determinants of equity mutual funds in Indonesia using 30 samples of equity mutual funds that still active from 2008 until 2014. We consider several fund attributes are potential determinants of equity mutual funds performance: Asset Under Management (AUM), fund age, past performance, asset allocation, Turn of the Year Effect, exchange rate, blue chip and non-blue chip equity mutual funds, insurance and non-insurance company, and investors behavior.

The result of this study shows that simultaneously, there is a significant influence of the variable AUM (X1), AGE (X2), SHARPE (X3), PORTO (X4), TOY (X5), ER (X6), BLUE (X7), INSURE (X8) and OPTIMIST (X9) to the Sharpe Index (Y). The finding shows that as simultaneously, all variables studied have significant influence on the performance of equity mutual funds in Indonesia.

Partially, each variables has different influence on the performance of equity mutual funds. The result shows that variable AUM (X1), AGE (X2), PORTO (X4), TOY (X5), ER (X6) and OPTIMIST (X9) partially have a significant influence on the Sharpe Index (Y). It means that Asset Under Management (AUM), fund age, asset allocation, Turn of the Year Effect, Exchange Rate, and investor behavior have influence on the performance of equity mutual funds. This finding support the hypothesis that each variables studied has positive influence on the performance of equity mutual funds. While, each variable SHARPE (X3), BLUE (X7) and INSURANCE (X8) partially not have significant influence to the Sharpe Index (Y). From this result, we found that variable past performance, blue chip and non-blue chip mutual funds, insurance and non-insurance company doesn't have influence on the performance of equity mutual funds.

The magnitude of the effect of each variable is different from one variable to another variable. The result shows the contribution of AUM (X1), AGE (X2), SHARPE (X3), PORTO (X4), TOY (X5), ER (X6), BLUE (X7), INSURE (X8) and OPTIMIST (X9) against Sharpe Index (Y) is 84.5%, while the remaining 15.5% is contributed by other variables besides independent variables studied. It means that all of variable has great contribution to the performance of equity mutual funds in Indonesia compared with other variables.

Based on the calculation, authors give a recommendation about portfolio strategy for investors, especially for SMEs. The portfolio strategy recommended to enhance SMEs's return in mutual funds are: Schroder Dana Prestasi Plus: 18.98%, Reksadana Dana Pratama Ekuitas: 20.06%, Pratama Saham: 22.28%, and Panin Dana Maksima: 38.68%. This

investment strategy can be applied to enhance return SMEs to increase the business profit.

Then, based on the result of simulation of the three investment strategy: Buy and Hold Strategy, Installment Plan Strategy, and Asset Allocation with Rebalancing Strategy (Annually, Semi-Annually, and Quarterly) can be found that asset allocation with rebalancing strategy give the highest return. Asset allocation strategy can improve return of investment portfolio. It can be concluded that the asset allocation investment strategy with regular rebalancing process can apply effectively the "buy low and sell high" principle.

So, the authors give recommendation for the investors to choose the asset allocation with rebalancing strategy in invest their funds to enhance the highest profit for their business to reach venture development in facing ASEAN Economic Community (AEC) 2015.

ACKNOWLEDGMENT

This research project would not have been possible without the support of many people. The authors wishes to express their gratitude to their supervisor, Ir. Subiakto Soekarno, MBA, RFA, QWP™, CFP® who was helpful and offered invaluable assistance, support and guidance. Special thanks to all people who has helpful and support this research. The author would also like to convey thanks to School of Business and Management Bandung Institute of Technology. The authors would thanks to all sources data and website to support this research such as *Otoritas Jasa Keuangan (OJK)*, Indonesia Stock Exchange (IDX), Jakarta Composite Index (JCI), Yahoo Finance, etc.

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