

**“THE PERFORMANCE ANALYSIS OF EQUITY FUNDS USING RISK ADJUSTED
RETURN, RISK RATIO, AND SNAIL TRAIL”
(SUMMARY)**

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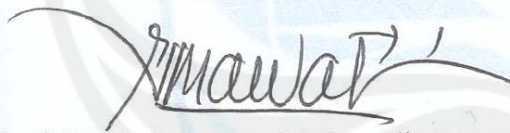
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**THE PERFORMANCE ANALYSIS OF EQUITY FUNDS USING RISK ADJUSTED
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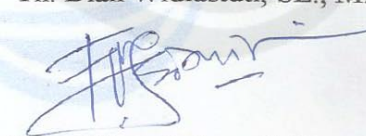


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ABSTRACT

The objective of this research is to explain the performance of equity funds by using three methods, which are risk adjusted return (RAR), risk ratio (RR), and snail trail method. The second objective is to compare equity funds performance towards market performance.

The samples of this research are equity funds actively listed in BAPEPAM for period January 2008 until December 2012. The data is taken from each company's monthly net assets value (NAV) for period January 2008 until December 2012. Mutual fund with zero NAV in the end of calculation and with foreign currency of NAV is not used as sample. The performance analysis of equity funds is calculated by using Risk Adjusted Return with Sharpe Ratio method, Risk Ratio, and Snail Trail. The benchmark is JCI or Jakarta Composite Index for period January 2008 – December 2012.

From the three methods used, most of the equity funds are adjusted well and ready to face the risk. In fact, there are still some equity funds with underperform performance compare to the benchmark in both risk and return. The calculation of risk adjusted return, risk ratio, and snail trail are connected with the result which stated that equity funds shows a high return and high risk as well.

Keywords : Equity funds, Risk Adjusted Return, Risk Ratio, Snail Trail.

Mutual Fund is one of the most growing investment nowadays. BAPEPAM data shows the amount of mutual fund year 2008 reach until Rp 73 trillion of Net Asset Value (NAV) and it keep growing for the years after. In 2009, the Net Asset Value reach Rp 109 trillion, and in the end of 2012, the Net Asset Value reach up to Rp 182 trillion. Mutual fund is a flexible investment and organized by Fund Manager. It is particularly suitable for investors who do not have much time, lack of investment knowledge and capability, and also limited fund. One of the mutual fund types is equity funds. Equity funds is a type of mutual fund which the investment must be minimum 80% of the portfolio managed in stock effect. Stock effect generally gives higher return in the form of capital gain by the growth of stocks prices. This kind of investment is promising and it also a long term investment, which is more than 5 years. With the fluctuate price of stock, equity funds may gives higher return compare to other type of mutual fund but as well as the risk.

Statement of Problem

- a. How is the performance of equity funds by using Risk Adjusted Return method, Risk Ratio method, and Snail Trail?
- b. Is the performance of each equity funds different with the market performance?

Objective of the Study

- a. To explain the performance of equity funds by using Risk Adjusted Return method, Risk Ratio method, and Snail Trail.
- b. To compare between equity funds and market performance.

Mutual Fund

According to the Law of Indonesia Capital Market year 1995, the definition of mutual fund is a form of investment used to collect funds from investors, and henceforward invested to portfolio effect by fund manager. From the definition, at least there are three main elements. The first is the availability of fund by the investors. Second, the fund is invested to portfolio effect. Third, the fund is managed by fund manager. All the funds managed are owned by the investors, while fund manager is the trusted parties to manage the fund.

This research uses secondary data from institutions which do the mutual fund management. The data uses are the data of monthly Net Asset Value (NAV) of mutual fund Company during January 2008 until December 2012 from BAPEPAM, and the data of Jakarta Composite Index for period January 2008 – December 2012. For data sampling, it begins with the population of this research which are all active equity funds companies listed in BAPEPAM amounting 22 companies for period January 2008 until January 2013.

Table 3.1.
List of Equity Funds Company Listed in BAPEPAM
Per December 2012

| No | Name of Equity Funds Company |
|----|------------------------------|
| 1 | BNI Reksadana Berkembang |
| 2 | Bahana Dana Prima |

| | |
|----|--------------------------------------|
| 3 | CIMB-PRICIPAL EQUITY AGRESSIVE |
| 4 | Danareksa Mawar |
| 5 | FIRST STATE INDOEQUITY SECTORAL FUND |
| 6 | FS INDOEQUITY DIVIDEND YIELD FUND |
| 7 | GMT DANA EKUITAS |
| 8 | GROW-2-PROSPER |
| 9 | MANULIFE SAHAM ANDALAN |
| 10 | Manulife Dana Saham |
| 11 | PRATAMA SAHAM |
| 12 | RD TRIM SYARIAH SAHAM |
| 13 | REKSA DANA DANA EKUITAS PRIMA |
| 14 | REKSA DANA MANDIRI INVESTA ATRAKTIF |
| 15 | REKSA DANA SCHRODER DANA ISTIMEWA |
| 16 | REKSA DANA SIMAS DANAMAS SAHAM |
| 17 | REKSADANA DANA EKUITAS ANDALAN |
| 18 | REKSADANA DANA PRATAMA EKUITAS |
| 19 | REKSADANA LAUTANDHANA EQUITY |
| 20 | Rencana Cerdas |
| 21 | Schroder Dana Prestasi Plus |
| 22 | TRIM Kapital |

Source: BAPEPAM LK

This research conducts three methods to measure the performance of mutual funds. The methods are stated as follows:

The first method is the calculation of Risk Adjusted Return (RAR) which stated about the ability of fund manager in managing funds. The research about Risk Adjusted Return (RAR) is developed by Sharpe (1986) and stated that the portfolio is not diversified. The formula of this method is $(R_p - R_f) / \sigma_p$. Sharpe do the research of 34 mutual funds during 1954-1963 and most of the mutual fund has lower excess return to variability compare to market return. This result also means that most of the fund manager in this period has worse performance compare to marker performance. There are three kinds of risk adjusted return measurement which are Sharpe performance index, Treynor performance index, and Jensen performance index. For this research, the formula used to calculate risk adjusted return is Sharpe performance index. This method measure the performance of a portfolio by using standard deviation as the risk measurement. The calculation based on the margin between average performance of mutual fund and risk free asset. It is also called as premium risk. This method is stated by William Sharpe and use the capital market line concept. If the Sharpe Index is higher than the Capital Market Line, it indicates that portfolio shows a good performance. Risk Adjusted Return (RAR) method also measure how far excess return made by fund manager with a risk existence. Excess return is the return minus the risk free rate. The formula of Risk Adjusted Return (RAR) is stated as (Brigham and Daves, 2003):

$$RAR = \frac{(R_p - R_f)}{\sigma_{Rp}} \quad (1)$$

Where:

R_p = Average return of mutual fund

R_f = Average return

σ_{Rp} = Risk of mutual fund

The second method is Risk Ratio which measures the ability of fund manager in facing market risk. The higher value of this risk value shows the higher ability of fund manager in facing market risk. The formula of Risk Ratio is stated as (Brigham and Daves, 2003):

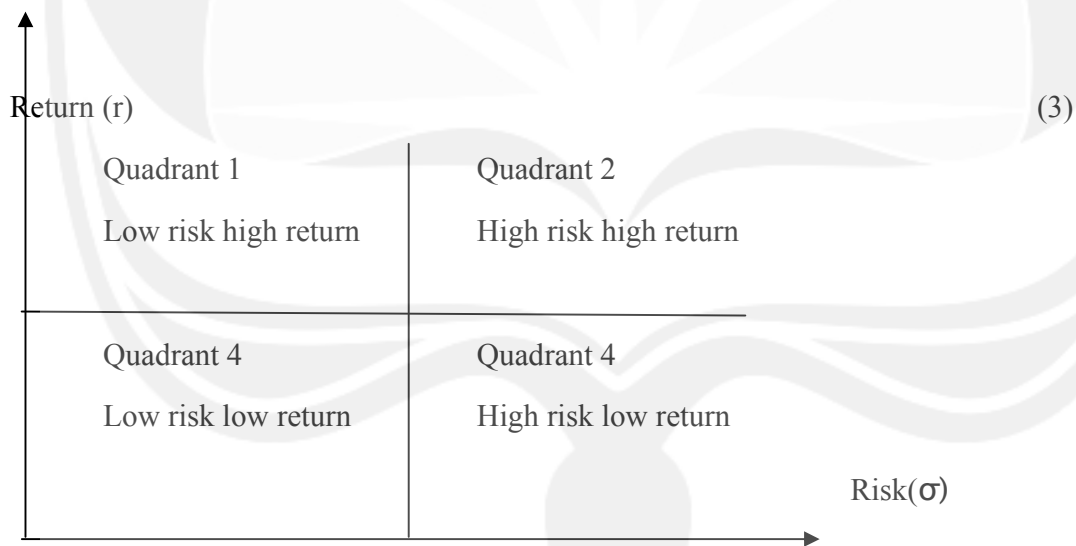
$$RR = \frac{\sigma_{Rm}}{\sigma_{Rp}} \quad (2)$$

Where:

σ_{Rm} = Market risk

σ_{Rp} = Mutual fund risk

The third method is Snail Trail method which is a new method to measure mutual fund performance for long term. This method is simple and different from the Risk Adjusted Return and Risk Ratio method. Snail trail method is the movement of mutual fund seen from the risk and return which plotted into 4 quadrants where the horizontal shows the risk and the vertical shows the return. In turn, the risk and return of a mutual fund is plotted into quadrants from time to time so it shows the movement of mutual fund itself.



Source: Reksa Dana Investasiku (Manurung, 2008)

The steps start by calculating rate of return of each equity funds company, followed by calculating the standard deviation of each company. The next step is by comparing the equity funds condition with the current market condition. The return and risk condition of each company will be plotted into a diagram which in turn will create a picture of snail trail. Based on the calculation by using Microsoft Excel, the Equity funds return is stated as follows:

Table 4.1
Equity Fund Return and Average Return (in %)
January 2008 – December 2012
(in rank from highest to lowest)

| NO | Name of Equity Fund | Total Return | Average Return |
|-----------|---|---------------------|-----------------------|
| 1 | GROW-2-PROSPER | 97.5174 | 1.6528 |
| 2 | GMT DANA EKUITAS | 90.7383 | 1.5379 |
| 3 | REKSA DANA SCHRODER DANA ISTIMEWA | 82.6721 | 1.4012 |
| 4 | PRATAMA SAHAM | 80.5892 | 1.3659 |
| 5 | TRIM Kapital | 74.0344 | 1.2548 |
| 6 | MANULIFE SAHAM ANDALAN | 72.0414 | 1.221 |
| 7 | Schroder Dana Prestasi Plus | 70.4105 | 1.1933 |
| 8 | REKSA DANA DANA EKUITAS PRIMA | 68.5367 | 1.1616 |
| 9 | Rencana Cerdas | 67.4046 | 1.1425 |
| 10 | Bahana Dana Prima | 62.4078 | 1.0578 |
| 11 | Manulife Dana Saham | 62.0955 | 1.0524 |
| 12 | REKSADANA DANA EKUITAS ANDALAN | 60.3443 | 1.0228 |
| 13 | REKSADANA DANA PRATAMA EKUITAS | 59.5199 | 1.0088 |
| 14 | FIRST STATE INDOEQUITY SECTORAL FUND | 57.9597 | 0.9823 |
| 15 | Danareksa Mawar | 56.3597 | 0.8636 |
| 16 | FS INDOEQUITY DIVIDEND YIELD FUND | 52.8837 | 0.8963 |
| 17 | REKSA DANA MANDIRI INVESTA ATRAKTIF | 50.7585 | 0.8603 |
| 18 | REKSA DANA SIMAS DANAMAS SAHAM | 41.8151 | 0.7087 |
| 19 | REKSADANA LAUTANDHANA EQUITY | 33.8798 | 0.5742 |
| 20 | RD TRIM SYARIAH SAHAM | 25.2895 | 0.4286 |
| 21 | CIMB-PRINCIPAL EQUITY AGRESSIVE | 40.3945 | 0.6846 |
| 22 | BNI Reksadana Berkembang | 19.5534 | 0.3314 |

Based on the calculation using Microsoft Excel, the Equity Funds standard deviation is stated as follows:

Table 4.2
Equity Funds Standard Deviation (in %)
January 2008 – December 2012
(in rank from highest to lowest)

| NO | Name of Equity Fund | Standard Deviation |
|-----------|----------------------------|---------------------------|
| 1 | PRATAMA SAHAM | 0.07243 |

| | | |
|----|---|---------|
| 2 | REKSADANA DANA PRATAMA EKUITAS | 0.06809 |
| 3 | TRIM Kapital | 0.06706 |
| 4 | RD TRIM SYARIAH SAHAM | 0.06291 |
| 5 | BNI Reksadana Berkembang | 0.06112 |
| 6 | REKSA DANA DANA EKUITAS PRIMA | 0.06135 |
| 7 | Bahana Dana Prima | 0.05957 |
| 8 | REKSA DANA MANDIRI INVESTA ATRAKTIF | 0.05946 |
| 9 | Rencana Cerdas | 0.05942 |
| 10 | GROW-2-PROSPER | 0.05931 |
| 11 | GMT DANA EKUITAS | 0.05909 |
| 12 | MANULIFE SAHAM ANDALAN | 0.05763 |
| 13 | REKSADANA LAUTANDHANA EQUITY | 0.05718 |
| 14 | REKSADANA DANA EKUITAS ANDALAN | 0.05664 |
| 15 | FS INDOEQUITY DIVIDEND YIELD FUND | 0.05614 |
| 16 | REKSA DANA SCHRODER DANA ISTIMEWA | 0.05611 |
| 17 | Danareksa Mawar | 0.05604 |
| 18 | FIRST STATE INDOEQUITY SECTORAL FUND | 0.05592 |
| 19 | CIMB-PRINCIPAL EQUITY AGGRESSIVE | 0.05545 |
| 20 | Schroder Dana Prestasi Plus | 0.05447 |
| 21 | Manulife Dana Saham | 0.05294 |
| 22 | REKSA DANA SIMAS DANAMAS SAHAM | 0.05261 |
| 23 | Jakarta Composite Index | 0.05216 |

The RAR of equity funds from January 2008 until December 2012 is stated as follows:

Table 4.3
Equity Funds Risk Adjusted Return (RAR) (in %)
January 2008 – December 2012
(in rank from highest to lowest)

| NO | Name of Equity Fund | RAR |
|-----------|--------------------------------------|------------|
| 1 | GROW-2-PROSPER | 0.16190 |
| 2 | GMT DANA EKUITAS | 0.14304 |
| 3 | REKSA DANA SCHRODER DANA ISTIMEWA | 0.12627 |
| 4 | PRATAMA SAHAM | 0.09295 |
| 5 | Schroder Dana Prestasi Plus | 0.09193 |
| 6 | MANULIFE SAHAM ANDALAN | 0.09169 |
| 7 | Jakarta Composite Index | 0.08861 |
| 8 | TRIM Kapital | 0.08383 |
| 9 | REKSA DANA DANA EKUITAS PRIMA | 0.07645 |
| 10 | Rencana Cerdas | 0.07571 |
| 11 | Bahana Dana Prima | 0.06129 |
| 12 | Manulife Dana Saham | 0.06796 |

| | | |
|----|--------------------------------------|---------|
| 13 | REKSADANA DANA EKUITAS ANDALAN | 0.05829 |
| 14 | FIRST STATE INDOEQUITY SECTORAL FUND | 0.05181 |
| 15 | REKSADANA DANA PRATAMA EKUITAS | 0.04644 |
| 16 | FS INDOEQUITY DIVIDEND YIELD FUND | 0.03628 |
| 17 | Danareksa Mawar | 0.03052 |
| 18 | REKSA DANA MANDIRI INVESTA ATRAKTIF | 0.02820 |
| 19 | REKSA DANA SIMAS DANAMAS SAHAM | 0.00306 |
| 20 | CIMB-PRICIPAL EQUITY AGRESSIVE | -0.0014 |
| 21 | REKSADANA LAUTANDHANA EQUITY | -0.0207 |
| 22 | RD TRIM SYARIAH SAHAM | -0.0419 |
| 23 | BNI Reksadana Berkembang | -0.0591 |

There are 6 mutual funds show positive result with higher value compares to the benchmark. It means that the investment manager is able to adjust the funds even with the risk involvement of the risk. The higher Risk Adjusted Return (RAR) value means higher result done by investment manager for each risk taken. The other 12 equity funds still show positive result but with lower value of risk adjusted return compare to the benchmark. It means that investment managers are still unable to execute a right adjustment to get the return and they still have a good performance but they show an underperform performance because the value is lower than the benchmark. There are 4 equity funds with negative result and below the benchmark. It means that these equity funds are really risky because the investment manager unable to adjust the funds they manage. The equity funds with lower value of RAR compare to the benchmark still own an opportunity cost in managing their investment. If they do better performance, it is possible to create higher value compare to the benchmark, because in fact, there are several equity funds with higher value of benchmark.

Risk ratio is the comparison between risk ratio and mutual fund risk. This calculation measures the ability of investment manager managing their fund facing the market risk.

Table 4.4
Equity Funds Risk Ratio (RR) (in %)
January 2008 – December 2012
(in rank from highest to lowest)

| NO | Name of Equity Fund | RR |
|----|--------------------------------------|--------|
| 1 | REKSA DANA SIMAS DANAMAS SAHAM | 0.9914 |
| 2 | Manulife Dana Saham | 0.9851 |
| 3 | Schroder Dana Prestasi Plus | 0.9575 |
| 4 | CIMB-PRICIPAL EQUITY AGRESSIVE | 0.9405 |
| 5 | FIRST STATE INDOEQUITY SECTORAL FUND | 0.9326 |
| 6 | Danareksa Mawar | 0.9307 |
| 7 | FS INDOEQUITY DIVIDEND YIELD FUND | 0.9289 |
| 8 | REKSA DANA SCHRODER DANA ISTIMEWA | 0.9295 |
| 9 | REKSADANA LAUTANDHANA EQUITY | 0.9122 |
| 10 | REKSADANA DANA EKUITAS ANDALAN | 0.9208 |

| | | |
|----|--|--------|
| 11 | MANULIFE SAHAM ANDALAN | 0.9051 |
| 12 | GMT DANA EKUITAS | 0.8826 |
| 13 | Jakarta Composite Index | 0.8822 |
| 14 | GROW-2-PROSPER | 0.8794 |
| 15 | Rencana Cerdas | 0.8778 |
| 16 | REKSA DANA MANDIRI INVESTA ATRAKTIF | 0.8771 |
| 17 | Bahana Dana Prima | 0.8755 |
| 18 | BNI Reksadana Berkembang | 0.8535 |
| 19 | REKSA DANA DANA EKUITAS PRIMA | 0.8502 |
| 20 | RD TRIM SYARIAH SAHAM | 0.8291 |
| 21 | REKSADANA DANA PRATAMA EKUITAS | 0.7661 |
| 22 | PRATAMA SAHAM | 0.7201 |
| 23 | TRIM Kapital | 0.7778 |

Higher value of risk ratio is better because it shows the better ability of investment manager facing the market risk. . The equity funds with lower value of RR compare to the benchmark still own an opportunity cost in managing their investment. If they do better performance, it is possible to create higher value compare to the benchmark, because in fact, there are several equity funds with higher value of benchmark.

Snail trail is formed by several dots connected to a risk-return diagram. After calculating return and risk of each mutual fund for the certain period, the next step is by determining a benchmark for equity funds, followed by calculating the return and risk of the benchmark and calculating the return and risk margin between mutual funds and the benchmark. Those margins will create dots and in turn will create snail trail pattern. In outline, most of the equity funds are in the second quadrant of snail trail diagram. It shows that most of the equity funds give high return to the investor and high risk as well.

CONCLUSION

This research analyzes equity funds from the result of monthly Net Asset Value for period January 2008 – December 2012. The objective of the study is to explain the equity fund performance by using risk adjusted return method, risk ratio method, and snail trail method. The other objective is to compare between equity funds performance and market performance. The data analysis of this research ends up with some conclusions which are stated as follows:

1. Performance analysis of equity funds by using Risk Adjusted Return (RAR) in Sharpe Ratio method shows There are 18 equity funds with positive result and there 4 equity funds shows negative result of RAR. Equity funds show a good performance because they have higher value of risk adjusted return value compare to Jakarta Composite Index (JCI) as the benchmark with 0.08861%. It means that the investment manager is able to adjust the funds even with the risk involvement of the risk. The higher Risk Adjusted Return (RAR) value means higher result done by investment manager for each risk taken. The other 12 equity funds still show positive result but with lower

- value of risk adjusted return compare to the benchmark. It means that investment managers are still unable to execute a right adjustment to get the return and they still have a good performance but they show an underperform performance because the value is lower than the benchmark. The other 4 equity funds show negative result, means that these equity funds are really risky because the investment manager unable to adjust the funds they manage. The equity funds with lower value of RAR compare to the benchmark still own an opportunity cost in managing their investment. If they do better performance, it is possible to create higher value compare to the benchmark, because in fact, there are several equity funds with higher value of benchmark. In outline, most of the equity funds show positive result but with lower value than the benchmark.
2. Higher value of risk ratio is better because it shows the better ability of investment manager facing the market risk. There are 12 equity funds are above the JCI as benchmark with 0.8822%, while the other 10 equity funds are below the benchmark. The equity funds with outperform performance means that the investment managers are ready to face the market risk, while the equity funds with underperform performance means that the investment managers are less ready to face the market risk. The equity funds with lower value of RR compare to the benchmark still own an opportunity cost in managing their investment. If they do better performance, it is possible to create higher value compare to the benchmark, because in fact, there are several equity funds with higher value of benchmark. In outline, all of the equity funds show positive value of risk ratio and most of them are above the benchmark.
 3. Performance analysis of equity funds by using Snail Trail method mostly in quadrant 2 which means high risk and high return. There are some of equity funds in quadrant 3 which means high risk low return such as GMT Dana Ekuitas, Grow-2-Prosper, Reksadana Dana Ekuitas Andalan, and Trim Kapital. This condition is avoided by the investors. The best performance based on snail trail method is owned by Reksadana Dana Simas Danamas Saham with most of its dots in quadrant 1 while the lowest performance is owned by Trim Kapital with most of its dots in quadrant 3. In outline, most of equity funds appear on the second quadrant, which means high risk and high return. This is considerable because equity funds is the type of mutual fund which give high return and high risk as well, if it is compared to other type of mutual fund. In outline, most of the equity funds are in the third quadrant which means high risk and high return.

From the three methods used we can see that most of the equity funds are adjusted well and ready to face the risk. In fact, there are still some equity funds with underperform performance compare to the benchmark in both risk and return. The calculation of risk adjusted return, risk ratio, and snail trail are connected with the result which stated that equity funds shows a high return and high risk as well.

SUGGESTION

This research is only limited to performance analysis of equity funds using three methods, which are risk adjusted return, risk ratio, and snail trail method. The next research is expected to expand the method by using other methods such as expected rates of return, sub period rate of return, Treynor's performance index, and Jensen index.

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