# SHARIA EQUITY FUNDS PERFORMANCE THROUGHOUT BULLISH AND BEARISH MARKET IN INDONESIA STOCK EXCHANGE

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### ABSTRACT

The purpose of this study is to examine the performance of sharia equity funds in bullish and bearish market conditions. The sample consists of eight sharia equity funds already existed in the market for more than five years. Data was taken from the period 2012-2016. Market condition was evaluated by a moving average model, and the sharia equity funds performance in each market condition was evaluated by the Treynor index model. The result shows that the sharia equity funds performance can beat the market in bearish market condition, but not in bullish and combined market conditions. However, each sharia equity fund exhibits different performance. Knowing the performance of sharia equity funds in various market conditions will benefit the investors, as they can set up new strategies in managing their portfolio to generate more profits in the future.

Keywords: Sharia equity funds, treynor index, bullish, bearish

### INTRODUCTION

In recent years, the sharia mutual funds in Indonesia experience significant growth. In 2011, there were 50 mutual funds valued at IDR 5.6 trillion. In 2012, the number of mutual funds had increased by 16% and the Net Asset Value (NAV) also increased by 44.6%. In 2013 the number of mutual funds increased by 12% and the NAV increased by 17%. In 2014 the number of mutual funds increased by 13.8% and the NAV increased by 18%. In 2015 the number of mutual

funds increased by 25.5% but the NAV decreased by 1.2%. Towards the end of 2016 it was noted that the number of sharia mutual fund products increased to 136 brands. The net asset value of sharia mutual fund increased as well in 2016 with the NAV reaching nearly IDR15 trillion. However, if we compare the NAV with the total number of mutual fund issued (136 brands), the NAV is just around 10% and the market value also just 10%, based on the statistics published by the Financial Services Authority of Indonesia.

The slow pace of growth reflects the low investors' interest in sharia mutual funds as they have doubts about the returns on these funds. This doubt is reflected in the results of the research by Marsono et al. (2014) who found that the sharia capital market in Indonesia has a higher volatility of returns than the conventional capital market. This condition can affect the performance of the sharia mutual funds as a whole, which will ultimately affect the expected returns. Therefore, investors are required to be able to self-assess the performance of mutual funds to fit their investment objectives.

Investment decisions can be divided into two: first, maximizing returns on existing risks; second, the allocation of funds between risky assets and less risky assets. The risk is related to changing market conditions. There are times when the market moves up or bullish, but sometimes the market moves down or is in a bearish state. At the bullish period, almost all stocks will produce a profit while on the contrary, at the bearish period, almost all shares will produce a loss.

Therefore, investors need to pay attention to the performance of the mutual funds relative to the market conditions. This is important because it could happen that a good stock in a bullish market will lose money when the market is bearish and vice versa. There are a lot of factors affecting mutual funds' performance such as assets performance, market conditions, and fund managers' strategies. Since those factors are dynamic over time, it is important for investors to assess the performance of the mutual funds periodically.

Previous studies that measure factors affecting the performance of equity funds show inconsistent results. Moreover, there are scant research on the performance of the sharia equity funds associated with Indonesia's capital market conditions. Based on the statistics published by the Financial Services Authority of Indonesia, the number of sharia equity funds increased from year to year although the market share of sharia mutual funds is not greater than 12%. The growth in the number of sharia mutual funds indicates that investors see the potential profit of sharia funds especially equity funds in the future. Those facts encourage the authors to examine how the sharia equity funds performed in any market conditions.

This paper attempts to identify the performance of sharia equity funds in three different market conditions namely bullish, bearish and mixed. Investors' knowledge of sharia equity fund performance in different market conditions will potentially increase their profits in the future.

# LITERATURE REVIEW

Sharia mutual funds were first introduced in 1995 by the National Commercial Bank in Saudi Arabia under the name Global Trade Equity with a capitalization of USD150 million. Meanwhile, in Indonesia, sharia mutual funds were first introduced in 1998 by PT Dana Reksa Investment Management, with a sharia-compliant mutual fund product of a mixed mutual fund called the Sharia-balanced Mutual Fund.

Jones (1998) in Tendelilin (2001) stated that the analysis of capital market performance will yield more accurate information when market conditions are considered, for which Jones defines two conditions of capital market, firstly, a bullish condition if there is a tendency for the movement of the market index to rise above the average of the previous market index, if there is a decrease then the decline does not break the lower limit of the previous period index. Secondly, the market is said to be bearish, if there is a tendency for the movement of the market index to fall below the previous index's lower limit, if there is an increase then the increase does not break the upper limit of the previous market index.

Conover et al. (2000) find that in the event of a bullish market 66

condition, beta performs very well in explaining the relationship between returns and constant beta. Lubatkin and Chatterjee (1994) find that investors tend to be aggressive when the market is in bullish conditions, but otherwise in bearish market condition where investors will refrain from making additional investment or will dilute their investment.

Clinebell et al (1993) find that alpha is stable throughout bullish and bearish market conditions, but not beta. Also, portfolio beta is not uniform over different market conditions and different samples. Meanwhile, Tendelilin (2001) find that beta estimates from dual beta models show a significant relationship between beta and returns compared to single index model (SIM). Pasaribu and Kowanda (2014) find that alpha of equity funds in their samples are negative and are outperformed by the market returns.

Many research have been conducted to answer the investors common question of 'what are the factors that influence equity mutual fund performance' Yong and Jusoh (2012) find that risk positively and significantly influences fund performance but fund size does not impact fund performance. They also discovers that management expenses positively influence fund performance but turnover ratio is not related to fund performance.

Agung and Wirasedana (2014) and Hermawan and Wiagustini (2016) find that asset allocation policy has a negative and significant effect on the performance of equity fund. In addition, investment manager performance has a positive and significant effect on the performance of equity fund. The size of mutual funds also has a positive and significant impact on the performance of equity funds. Other researchers - Gallaghar and Martin (2005) find that small equity retail funds do not outperform larger retail funds, and portfolio size is also shown to be unrelated to portfolio performance.

Trisnopati and Titik (2015) find that stock selection has a significant positive effect on the performance of equity funds, while market timing has a significant negative effect on the performance of equity funds. However, the size of mutual funds does not significantly affect the performance of equity funds. Interestingly, as a group, stock 67

selection, market timing and mutual fund size simultaneously have a significant positive effect on the performance of equity funds.

Sholihat et al. (2015) find that the performance of equity mutual funds is influenced by inflation, SBI rate, and stock exchange rate. On the contrary, Rahman and Mawardi (2015) in their research observe that inflation and BI (Bank Indonesia) rate are not significantly influence sharia equity fund performance.

Using Sharpe Index, Treynor Index and Jensen Alpha performance measure, Ahmad and Ibrahim (2002) compare the KLSE Syariah Index and the Composite Index performances in Malavsia's stock exchange market. They conclude that sharia approved stocks were not more favorable than the other stocks in the stock exchange market. Dewi and Ferdian (2012) explore and compare sharia mutual funds' performance in Indonesia and Malaysia. Usina five measurement models, they find that Malaysian sharia mutual funds outperformed the Indonesian mutual funds in any global economic conditions. They also find that fund managers' ability in terms of market timing skill in both countries cannot leverage total fund returns.

In this paper, the Treynor index is considered as the best model to measure equity funds performance with respect to bullish and bearish market conditions. The concept of measurement used by Jack Treynor is often called the reward to volatility ratio. This concept links the rate of return to the magnitude of the risk of the mutual funds. According to Treynor there are two causes of the inherent risk to a portfolio: risk due to general market fluctuations (systematic risk), and fluctuations of individual stocks (unsystematic risk). To identify market risk, Treynor uses the concept of security market line (SML), while the unsvstematic risk minimized through optimal portfolio is diversification.

The assumption used by Treynor is that the portfolio is well diversified so that the risk considered relevant is systematic risk as measured by beta. Thus, this index indicates the risk premium per systematic risk. Treynor's measurement is a relative measurement, the higher the index, the better the performance of the mutual funds. Based on that 68 arguments, this paper uses Treynor index to measure the performance of sharia equity funds relative to every market condition. The proxy of market condition is beta or portfolio risk. The formula used to calculate performance with the Treynor model is:

$$T_{RD} = \frac{\overline{R_p} - \overline{R_f}}{\beta_p}$$

Where:

 $T_{RD} = \text{Treynor index}$   $\overline{Rp} = \text{average return of mutual fund in period t}$  $\overline{Rf} = \text{average return of risk free in period t}$ 

 $\beta p = portfolio risk$ 

# DATA AND METHODOLOGY

The data used in this study are secondary data from Indonesia's Stock Exchange in the period 2012 to 2016. These data include: monthly JKSE index (market index), monthly ISSI (Indonesia Sharia Stock Index), monthly NAV of sharia equity funds, and data from the Central Bank – Bank Indonesia – SBI rate (Certificate of Deposit of Indonesia's Central Bank) as a proxy of risk free asset return.

The period 2012 to 2016 was chosen because based on the data from the Financial Services Authority of Indonesia (OJK), during this period mutual funds grew at an average of 15.5% per year. This is a remarkable growth figure for an investment asset, and it also reflects investors' interest to invest in mutual funds

In order to ensure a good estimation, several steps were followed and certain tests were conducted. First, determine the market condition (bullish or bearish) using the Fabosi and Francis method (Tendelilin, 2001). The JKSE index is the market index used as a proxy of capital market. The market index is analyzed using a six months moving average (MVA-6). An MVA-6 would average out the closing prices for the first six months to become the first data point. The next data point would drop the earliest price, add the price on month seven and take the average, and so on. In this study three market conditions are established: bullish, bearish, and mixed (market conditions observed)

during the study period)

Second, determine the market returns by,

 $Rm = \frac{JKSE_{t} - JKSE_{t-1}}{JKSE_{t-1}}$ where,

where, Rm = market returns JKSE = market index

and determine the equity funds returns by  $Rp = \frac{NAV_{t} - NAV_{t-1}}{NAV_{t-1}}$ where, Rp = equity funds returns NAV = Net Asset Value

In this study, both types of returns are calculated based on monthly data, as per market condition, and are annual returns. Third, determine the relationship between market returns and sharia equity funds by:

 $\begin{array}{ll} Y_{it} = & \alpha + \beta_1 X_{1it} + \varepsilon \\ & \text{where,} \end{array} \qquad \begin{array}{l} Y_{it} = \text{equity funds returns} \\ & \alpha = \text{intercept} \\ & \beta_1 = \text{beta of equity funds} \\ & X_{it} = \text{market returns} \end{array}$ 

Fourth, assess the performance of sharia equity fund shares using the Treynor Index model. Performance is assessed per year and per market condition. Lastly, hypothesis testing is conducted using the paired sample t-test method.

$$T = \frac{\bar{d}}{SE(\bar{d})}$$
  
where,  $\bar{d}$  = mean difference  
SE = standard error of the mean difference

There are three hypotheses to be tested: (1) Sharia equity funds performance is better than market performance when the market is in

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bullish condition, (2) Sharia equity funds performance is better than market performance when the market is in bearish condition, (3) The performance of sharia equity funds when the market is in bullish condition is better than the performance of sharia equity funds when the market is in bearish condition.

# ANALYSIS AND FINDING

The results of the test of market conditions show that during the observation period, the Indonesian capital market experienced three bullish and two bearish markets as seen in Graph 1. In the first 25 months of the period, the market experienced bullish condition for about 18 months and bearish condition for about seven months. In the second 25 month period, the market experienced bullish period for about 17 months and the other eight months were bearish period. The bullish period was longer than the bearish period, and the turning points from either bullish to bearish and vice versa were always higher than the previous level. These indicate that investors in the market were optimistic about the economy.

From 136 syaria equity funds, only eight meet the main criteria to be included in the sample, which is they must have at least five years of trading in the IDX. The results of the calculation of returns are shown in Table 1. Based on the results, the study finds that all sharia equity funds returns cannot beat the market, except for Cipta (Cipta Equity Syariah) where its returns always beat the market. On the contrary, PNM (PNM Equity Syariah) shows that its returns during the observation period are beaten by the market returns.

			Return		
Mutual					
Fund	2012	2013	2014	2015	2016
BNP	13.06%	8.49%	-1.84%	-2.71%	-5.29%
Batavia	17.81%	1.41%	-1.94%	-0.87%	0.72%
CIMB	-0.55%	12.83%	6.34%	-1.20%	1.63%
Cipta	9.76%	1.78%	2.37%	0.40%	0.23%

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Mandiri	1.82%	-2.41%	2.04%	3.06%	-5.18%
Manulife	9.08%	-0.09%	0.38%	-1.82%	-0.09%
PNM	0.13%	-2.73%	-0.43%	-4.74%	0.00%
Trim	5.58%	0.43%	15.41%	-0.67%	-4.36%
Market	1.09%	0.05%	1.52%	-1.04%	1.18%

Based on the table, sharia equity funds returns during the observation period are dynamics as they move along with the market movement. In 2012, only two sharia equity funds, CIMB and PNM were beaten by the market. But if we extend the time horizon, we find that both equity funds display different performance. CIMB experienced two times of negative returns and three times of positive returns. Meanwhile, PNM experienced declining and negative returns during the observation period.



Figure 1: Market Condition in Indonesia's Stock Exchange

As depicted in figure 1, returns from five equity funds fall sharply from 2012 to 2013 and continuously decline until 2016 but smoothly. During the observation period, all equity funds experience a decrease in performance but at varying degrees.

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		Treynor Index				
Mutual						
Fund	2012	2013	2014	2015	2016	5-years
BNP	10.589	0.105	0.262	-0.101	-1.609	-1.001
Batavia	-0.157	-0.076	0.027	-0.101	-0.078	-2.233
CIMB	-0.036	0.340	0.003	-0.305	-0.026	-0.959
Cipta	-0.152	-0.469	0.025	-0.149	0.029	1.067
Mandiri	-0.040	-0.055	-0.040	-0.029	0.142	-0.205
Manulife	-0.087	-0.082	0.030	-0.088	0.073	0.120
PNM	0.077	0.134	-0.075	-0.131	-0.084	-1.678
Trim	0.012	-0.380	-0.013	-0.108	0.051	29.976
Market						-0.055

Table 2: Treynor Index per Year, and 5 years

Based on Table 2, we can see that the performance of BNP mutual fund - BNP Paribas Pesona Syariah is the highest amongst the sample. In 2012 its Treynor Index is 10.6 but afterward its performance slide deeply like riding a jet coaster. Meanwhile, Trim Syariah Saham shows remarkable performance during the observation period, with a Treynor Index of 29.98. It can be seen that in the long run sharia equity funds performances are better than in the short run.

During the observation period there are three Bullish market conditions (Bullish1, Bullish2, Bullish3), and two Bearish market conditions (Bearish1, Bearish2) as can be seen in Table 3. The Treynor index of each sharia equity funds moves up and down along with the market conditions.

	Treynor Index					
Mutual						5-
Fund	Bullish1	Bearish1	Bullish2	Bearish2	Bullish3	years
BNP	-0.321	-0.130	-0.155	-0.104	2.074	-1.001
Batavia	-0.505	-0.139	0.059	-0.078	-0.075	-2.233
CIMB	0.026	-0.543	-0.001	-0.118	-0.025	-0.959
Cipta	-0.446	0.197	0.033	-0.083	0.028	1.067

Table 3: Treynor Index in Bullish and Bearish Market

Mandiri	-0.074	-0.059	-0.018	-0.115	0.106	-0.205
Manulife	-0.357	-0.074	0.242	-0.079	0.067	0.120
PNM	0.056	-0.058	-0.105	-0.105	-0.081	-1.678
Trim	-0.016	-0.128	-0.039	-0.214	0.044	29.976

Table 3 illustrates that sharia equity funds performance show positive change from period to period. In Bullish1 period, only two mutual funds are able to generate a positive Treynor index. In Bullish2 period, three mutual funds manage to show positive performance, and in Bullish3 period, five mutual funds show positive performance.

The performances are different when the market enters the Bearish period. At the time of Bearish1 period, only one equity fund manages to show remarkable performance - its Treynor index is positive. In Bearish2 period, there is no outstanding performance with all equity funds showing a negative Treynor index. When comparing the performance of equity funds in both Bearish periods, it appears that equity funds managers are struggling to improve their fund performance. Only four equity funds manage to keep or improve their performance even though the Treynor indices remain negative, but higher compared to the previous Bearish period.

BNP mutual fund shows outstanding performance, especially in 2013 where its Treynor index is 2.07 which is the highest in this period compared to the others. If we compare the Treynor index in Tables 2 and 3, it appears that the performance of BNP is very much different. This is due to the data being classified according to market conditions. This classification may provide benefits to fund managers in getting a true picture of the performance of the funds in different market conditions.

# HYPOTHESIS TESTING

The differences in the performance of sharia equity funds in the sample are not large in every market condition. The average Treynor Index in bullish markets is much greater than the market index, but in terms of variance we can see that the market performance is more stable than that of the sharia equity funds. Those data might explain why the correlations are negative and small (Table 4). This result reinforces the results of a previous study (Conover et al., 2000) which finds that at the time of a Bullish market, the relationship between market risk and asset returns can be measured well.

	Bullish	IHSG-BL
		-
Mean	0.021589004	0.053487473
Variance	0.222311354	9.0178E-05
Observations	24	24
	-	
Pearson Correlation	0.175780217	
Hypothesized Mean		
Difference	0	
Df	23	
t Stat	0.777157642	
P(T<=t) one-tail	0.222493025	
t Critical one-tail	1.713871528	
P(T<=t) two-tail	0.44498605	
t Critical two-tail	2.06865761	

Table 4: Treynor Index Bullish vs Market

Table 4 shows the results of the analysis of the 1<sup>st</sup> hypothesis: Sharia equity fund performance is better than market performance when the market is in bullish conditions. Based on Table 4, the t-Stat < t-Critical and p-value > 0.05, then Ho is not rejected at the 5% significance level. This means the difference in performance is significant. The performance of sharia equity funds is different compared to the market's performance.

If we compare the result with Table 1, we might see that sharia equity funds returns on average are much better than the market returns. These comparisons open a new horizon for further research in the future, such as investigating what factors influence the beta of sharia equity funds or what factors determine the performance of sharia fund managers in managing their funds?. Meanwhile, Table 5 shows that the average Treynor Index in bearish markets is much smaller than the market's returns. However, in terms of variance we can see that the market's performance is more stable than the sharia equity funds performance.

	Bearish	IHSG-BL			
	-	-			
Mean	0.304860592	0.061821302			
Variance	0.166266709	0.000103948			
Observations	16	16			
	-				
Pearson Correlation Hypothesized Mean	0.057003201				
Difference	0				
Df	15				
	-				
t Stat	2.380018763				
P(T<=t) one-tail	0.015505733				
t Critical one-tail	1.753050356				
P(T<=t) two-tail	0.031011466				
t Critical two-tail	2.131449546				

Table 5: Treynor Index Bearish vs Market

The analysis of the  $2^{nd}$  hypothesis: Sharia equity fund performance is better than market performance when the market is in bearish condition. The t-Stat is smaller than the t-Critical, therefore the Ho is rejected and the p-value < 5% is significant. There is no difference performance between sharia equity funds and the market's performance in the bearish condition.

The results of those analyses (Table 4 and Table 5) indicate that there are negative significant relationships between the performance of sharia equity funds and the performance of the market in bearish markets as well as in bullish markets. May be these relationships are the main reason why the bearish period is shorter than the bullish period and the turning points are higher than the previous level. This indicates that fund managers' behavior in managing their funds is not different in any market conditions. This result is a contradiction to previous studies (Lubatkin & Chatterjee, 1994; Conover et al., 2000; Yong and Jusoh, 2012), which found that fund managers or investors to be aggressive in Bullish market condition than in Bearish market condition. Fund managers notice that in Bullish market condition the relationship between the market and mutual funds can be significantly explained by the market risk.

Based on Table 6, the result shows the average Treynor Index in bullish market is much better than the Treynor Index in bearish market. The variance in bullish market is higher than in bearish market, thus we can see that the performance of sharia equity funds is much more stable in bearish market. In bearish market, investors will usually abstain from transacting and they tend to apply the wait and see strategy.

Table 6. Treyner maex Ballen ve Beanen Market				
	Bullish	Bearish		
Mean	0.021589004	-0.07629348		
Variance	0.222311354	0.016228339		
Observations	24	24		
Pearson Correlation Hypothesized Mean	0.065115621			
Difference	0			
df	23			
t Stat	0.998321465			
P(T<=t) one-tail	0.164255721			
t Critical one-tail	1.713871528			
P(T<=t) two-tail	0.328511443			
t Critical two-tail	2.06865761			

Table 6: Treynor Index Bullish vs Bearish Market

Table 6 also shows the results of the analysis of the  $3r^d$  hypothesis: The performance of sharia equity funds in bullish market is better than the performance of sharia equity funds in bearish market. The t-Stat is smaller than t-Critical, therefore the Ho is not rejected at the 5% significance level (the p-value > 5%) The result shows that the difference is not significant. The performances of sharia equity funds in both market conditions are not different. The result is consistent 77 with previous studies (Clinebell et al, 1993; Agung and Wirasadena, 2014; Pasaribu and Kowandi, 2014; Rachman and Mawardi, 2015, Trisnopati and Titik, 2015), which found that the ability of investment managers to manage funds in various market conditions affect the performance of equity funds.

# CONCLUSION

During the period 2012 – 2016, there have been three Bullish market periods and two Bearish market periods in the Indonesian capital market. In that period, sharia equity funds are able to provide higher returns than the market returns.

The performance of sharia equity funds as measured by the Treynor index moves up and down following the changing market conditions, but the value of the index tends to rise. When the market enters a Bullish period the performance of sharia equity funds is better than the previous Bullish period, similar to when the market enters a Bearish period. Fund managers strive to maintain the performance of mutual funds. In the long run, syariah equity funds are capable of performing better than in the short term.

Sharia equity funds performances outperform the market performance. Sharia equity funds performance in Bearish market condition beat the market performance, but in Bullish market condition the performance of sharia equity funds is not different than the market.

The results of this study are not representative of all sharia equity funds performance in the Indonesian capital market as this study focuses only on the Islamic mutual funds aged five years or higher. Hence, any future research may extend the sample size, for example, by including all types of sharia mutual funds. It is also possible to conduct a subsequent research: analyzing the factors affecting the performance of equity funds. By doing so, the research outcome can benefit the fund managers or investors in terms of profitable mutual funds management.

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