The Influence of Price/Earning Ratio (PER), Price to Book Ratio (PBR) and Price to Sales Ratio (PSR) on Net Asset Value (NAV) in Sharia Equity Fund

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Abstract

From many kinds of investment in Indonesian capital markets, a mutual fund is one of the instruments to be discussed. Within a short time, the mutual fund gives a significant influence to the Indonesian capital markets. A mutual fund is one of the alternatives for the investors, especially for small investors or for the investor that does not want to meet high risk. In the growing of Indonesian capital markets, the net asset value (NAV) of the mutual fund should be increasing, and the increase of the NAV proves it. The sharia equity fund is no different. As an alternative investment, the sharia mutual fund in Indonesia is growing; however, it does not seem attractive to the investor, reflected by the small weighting from the mutual fund industry. The reason why investors are reluctant to invest in sharia equity fund is the volatility, compared to the conventional equity fund. To guide investors and to attract investment in sharia equity funds, some indicators can be used, such as PER, PBR and PSR. This study will use these indicators as the independent variables: PER (X₁), PBR (X₂) and PSR (X₃) on the Net Asset Value (NAV) as the dependent variable (Y) in sharia equity fund using the Jakarta Islamic Index (JII) data. In this research, the researcher uses a quantitative method using secondary data. The results show that there is a significant influence of PER, PBR and PSR on NAV in sharia equity funds. As a consequence, PER, PBR and PSR can guide investors’ decisions to invest in sharia mutual fund.

Keywords: PER, PBR, PSR, NAV, sharia mutual fund

Introduction

From many types of investment in Indonesian capital markets, mutual funds are one of the instruments discussed in this study. Within a short time, mutual funds have a significant influence on the Indonesian capital markets. Mutual funds are one of the alternatives for investors, especially for small investors or for investors who are risk-averse. Mutual funds work by basically pooling the money from the investors who want to invest but do not have time and limited knowledge. There are some advantages for mutual funds, such as the portfolio is managed by professional investment managers, and mutual funds are usually a diversified portfolio in order to manage risk and return. However, one of the disadvantages of mutual funds is the cost that implies to the
investor, like investment management costs, custody costs, subscriptions and redemptions costs.

In Indonesia, the mutual fund is proliferating, as shown in figure 1. By June 2016, the Net Asset Value (NAV) of Indonesia’s mutual fund reached IDR 309.873 billion. By this increasing number, it indicates that mutual fund investors are increasing and they prefer mutual fund as one of their investment choices.

![Figure 1. Indonesian Mutual Fund Growth (in Net Assets Value)](source: Infovesta, 2016)

In mutual funds, the investors are also offered many choices based on the investment purpose and risk profile. The investors can choose money market funds, fixed income funds, balanced funds, or equity funds. The portfolio of the funds is just the same as the name of the fund itself, but for a balanced fund, it consists of equity and fixed income instruments. The type of mutual funds offered to the public is not only classified by their asset class, but also by the nature of the fund itself, which can be divided into sharia and conventional funds. Sharia funds are funds that invest the money in sharia securities, such as sharia time deposits, *sukuk* sharia fixed income, and sharia equity. The weighting for sharia fund is small, which is only 10.5 billion compared to 309.9 billion or only 3.39%. The government has put some concern on the sharia industry, but the lack of trust from investors eventually made the sharia fund as not the best investment choice for investors. The weighting for sharia mutual fund itself is dominated by equity fund by 46.21%, which means that the investor prefers equity funds rather than other sharia asset class funds.

Below is the table of return of five sharia equity fund based on their NAV:

<table>
<thead>
<tr>
<th>Sharia Equity Funds</th>
<th>NAV/UP</th>
<th>YTD</th>
<th>MTD</th>
<th>1D</th>
<th>1W</th>
<th>1 Mo</th>
<th>3 Mo</th>
<th>NAV (June 2016)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BNP Paribas</td>
<td>2,498.27</td>
<td>14.22</td>
<td>6.43</td>
<td>0.43</td>
<td>2.59</td>
<td>6.43</td>
<td>7.29</td>
<td>835,052,425,434.86</td>
</tr>
</tbody>
</table>
Based on table 1, the performance in the top five is not doing well, most of them are below the benchmark, in this case, the Jakarta Islamic Index (JII). The low performance of the sharia mutual fund can be one of the reasons why investors are reluctant to invest. This study is going to find out which financial indicators influence the sharia equity fund performance to attract investors.

**Theoretical Framework and Hypothesis Development**

To support the study, below is a summary of the literature review to obtain the variables required.

<table>
<thead>
<tr>
<th>No</th>
<th>Author, Title</th>
<th>Variables</th>
<th>Method</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cahyono, W. and Sutrisno. 2013. Pengaruh Rasio Profitabilitas, DER, PBV dan PER terhadap Harga Saham Perusahaan yang Terdaftar di Jakarta Islamic Index (JII)</td>
<td>Independent Variables (IV): stock price&lt;br&gt;Dependent Variable (DV): NPM, ROA, ROE, EPS, DER, PBV, PER</td>
<td>Linear regression</td>
<td>Sutrisno (2013); Influence of Profitability, DER, PBV and PER towards stock price in Jakarta Islamic Index DV: Stock price IV: NPM, ROA, ROE, EPS, DER, PBV, PER&lt;br&gt;Linear Regression NPM, ROA, ROE, EPS, DER, PBV, PER have a positive partial and significant simultaneous correlation with stock price.</td>
</tr>
<tr>
<td>2</td>
<td>Fathoni, E.M. 2014. Pengaruh Faktor-Faktor Fundamental terhadap Harga Pasar Saham Syariah Sektor</td>
<td>DV: Sharia Stock Price IV: BVS, EPS, PBV, ROA, ROE</td>
<td>Linear regression</td>
<td>ROA and ROE did not have a significant correlation with stock price. BVS, EPS, and PBV have a significant partial correlation with stock price.</td>
</tr>
<tr>
<td></td>
<td>Reference</td>
<td>Title</td>
<td>DV</td>
<td>IV</td>
</tr>
<tr>
<td>---</td>
<td>-----------</td>
<td>-------</td>
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</tr>
<tr>
<td>3</td>
<td>Herlina Wati N.K.P, and Ratnasari, M.M. 2015.</td>
<td>Rasio Pasar dan Harga Saham di Bursa Efek Indonesia Periode 2009-2013</td>
<td>Stock Price</td>
<td>EPS, DPS, DPR, DY, PER, PBV</td>
</tr>
<tr>
<td>4</td>
<td>Verawati, R. 2014.</td>
<td>Faktor-Faktor Penentu yang Mempengaruhi Return Saham Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia (BEI) Periode 2008-2013</td>
<td>Stock Return</td>
<td>EPS, PER, DER, PBV</td>
</tr>
<tr>
<td>5</td>
<td>Bajkowski, J. 2010.</td>
<td>Using Price to Sales Ratio to Screen Out of Favor Stocks</td>
<td>Price to Sales Ratio</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Asebedo, G. and Grable, J. 2004.</td>
<td>Predicting Mutual Fund Over-Performance Over Nine-Year Period</td>
<td>fund's average annualised rate of return over a period</td>
<td>Expense Ratio, Front Load, Median Market Cap, Net Assets, P/E Ratio, Percent Stock, Portfolio Risk-3yr, Portfolio Risk-3yr</td>
</tr>
</tbody>
</table>
From the summary above, the review of related literature presents the empirical studies of the relationship between stock and mutual fund return with the independent variable used. However, there are different results obtained from the literature review. It should be pointed out that none of the existing literature used the equity multiple of the market as the data to predict the return of the mutual fund. So there is a gap in the dependent variable, which is the return of sharia equity fund.

**INDEPENDENT VARIABLES (X)**

- PER
- PBV
- PSR

**DEPENDENT VARIABLE (Y)**

- NAV

**Figure 2. Theoretical Framework**

*Source: Constructed based on previous research*
Based on the theoretical review from previous research in Table 2, a model is developed as the theoretical framework of this study as in Figure 2. The theoretical framework provides the starting point to find out about the correlation of PER, PBV and PSR on the NAV of the sharia equity fund. This study emphasises more on the stock return because the nature of the equity fund is similar to stocks, under the assumption that 80% of equity funds consist of stocks. So, the return of the sharia equity fund is similar to the return of the stocks that the fund is holding during the period. From the theoretical framework and literature review, this study constructed the following hypotheses:

H1: There is a significant correlation between PER and NAV return of sharia equity fund.
H2: There is a significant correlation between PBV and NAV return of sharia equity fund.
H3: There is a significant correlation between PSR and NAV return of sharia equity fund.
H4: There is a simultaneous significant correlation between PER, PBV, PSR and NAV return of sharia equity fund.

The three financial indicators are commonly used to know the growth and the best timing to sell or buy stocks so that it will lead to the NAV of sharia equity fund. The analysis of PER (Price to Earnings Ratio), PBV (Price to Book Value), and PSR (Price to Sales Ratio) is to signal when to buy or sell the stocks. Commonly, the fund manager will buy the stocks when PER and PBV are low, and PSR is high, as opposed to selling the stocks in a constant growth when PER and PBV are high, and PSR is low. To determine when the stock value is low or high, the analyst has to compare these variables with peers, the industry, and historical data.

**Research Method**

This study uses a quantitative method for the study and using the secondary data as the type of data. Secondary data are the data that already exist and do not have to be collected by the researcher (Sekaran and Bougie, 2013). Secondary data used in this study are the data of financial ratio and the NAV of funds obtained from the Bloomberg terminal.

By using a quantitative method for this research, the result of the collected data will be analysed using the statistical software. The independent variable is presumed caused of any change in the dependent variable, and the dependent variable is a response to a change in the independent variable (Hair et al. 2010). The independent variables are used to predict and find out the value of the dependent variable. The independent variable symbolised with X and dependent variable symbolised with Y. Thus, in this study the independent variables are PER(X1), PBV(X2), and PSR(X3); the dependent variable is NAV(Y).

The data used in this study are the PER, PBV and PSR of the Jakarta Islamic Index (JII). The data that used in this research is gathered from the Bloomberg terminal. The method to obtain the data is by documentation from the sources. This study used non-probability sampling which is purposive sampling. This sampling is suitable for this
research because this method is sought sample in a strategic way instead of a random basis.

The criteria for the selected sample for this research are as follows:

1. Sharia equity fund approved by OJK (Otoritas Jasa Keuangan, or Indonesia Financial Service);
2. The funds listed based on rank from 1 until 5 of the Asset Under Management as of August 2016.

Based on all criteria above, the sample in this study took 5 out of 31 sharia equity fund approved by OJK. The population is focused on the sharia equity fund approved by OJK as of June 2016 and the financial ratio data of JII. The total sharia equity fund approved by OJK as of June 2016 was 31, but this study only uses five sharia equity fund approved by OJK and the financial data of JII with a daily basis from 30 December 2015 to 31 June 2016, which resulted in 1,000 data for observation.

This study uses the regression method in order to measure the relationship between the independent and dependent variables. In order to have a good regression, the data have to pass several tests which are the classical assumption test, such as:

1. Normality Test: measured by the Jarque-Bera test, if the probability is higher than 5%, it means the data has a normal distribution.
2. Autocorrelation Test: measure by Durbin-Watson test, the DW statistic should be between -2 to +2, then there is no autocorrelation.
3. Multicollinearity Test: measure by the Matrix Correlation, the matrix should not exceed 0.7; then there is no multicollinearity.
4. Heteroscedasticity Test: measure by the White Heteroscedasticity Test in the residual test.

The Hausman test measures the multiple regression analysis, If the probability is > 0.05 then accept $H_0$ and reject $H_A$. If the probability is < 0.05, then accept $H_A$. Besides, the T-test which measures the partial relationship between variables, F-test which measure the simultaneous relationship between variables, and coefficient of determination which measure how much the ability of the model to explain the variations of dependent variables.

**Results and Discussions**

The normality test for the classic assumption test, the result of the Jarque-Bera probability is 0.354853, so the data has a normal distribution. The Durbin-Watson statistic for autocorrelation is 0.302415, which means that the autocorrelation problem has been solved. The highest value of the matrix is 0.420489, so there is no multicollinearity problem in this regression model. The heteroscedasticity test shows the logical standards errors and covariance, so there is no heteroscedasticity problem in this research. In conclusion, from all the standard assumption tests, the data is good and reliable to use in the regression analysis.
Table 3. Jarque-Bera Test

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>-1.00e-17</td>
</tr>
<tr>
<td>Median</td>
<td>-0.000972</td>
</tr>
<tr>
<td>Maximum</td>
<td>0.016463</td>
</tr>
<tr>
<td>Minimum</td>
<td>-0.014364</td>
</tr>
<tr>
<td>Std Deviation</td>
<td>0.007343</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.213970</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>2.456579</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>2.073233</td>
</tr>
<tr>
<td>Probability</td>
<td>0.354853</td>
</tr>
</tbody>
</table>

Source: SPSS

Table 4. Multicollinearity Test Matrix

<table>
<thead>
<tr>
<th></th>
<th>PER</th>
<th>PBV</th>
<th>PSR</th>
</tr>
</thead>
<tbody>
<tr>
<td>PER</td>
<td>1.000</td>
<td>0.420489</td>
<td>-0.502677</td>
</tr>
<tr>
<td>PBV</td>
<td>0.420489</td>
<td>1.000</td>
<td>-0.530363</td>
</tr>
<tr>
<td>PSR</td>
<td>-0.502677</td>
<td>-0.530363</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Source: SPSS

For the hypothesis testing, first of all, the coefficient of determination, expressed by the adjusted R square shows the number that is 0.922534. It means that the independent variables (PER, PBV, PSR) have 92% contribution on the NAV return of sharia equity fund. For the t-test, all the independent variables show t-statistic probability is 0.000; it means that all the independent variables (PER, PBV, PSR) have a significant partial relationship on NAV return of sharia equity fund. Lastly, the f-test probability is 0.000, which shows that PER, PBV, PSR have a significant simultaneous relationship on NAV return of sharia equity fund.

The regression formula of this research will be:
\[ Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + e \]
which can be expressed using the results:
\[ Y = -0.737733 + 0.008078 \text{PER} + 0.207849 \text{PBV} - 0.026847 \text{PSR} + e \]

Table 5. Multiple Regression

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-0.737733</td>
<td>0.042038</td>
<td>-17.54931</td>
<td>0.0000</td>
</tr>
<tr>
<td>PER</td>
<td>0.008078</td>
<td>0.000999</td>
<td>8.084618</td>
<td>0.0000</td>
</tr>
<tr>
<td>PBR</td>
<td>0.207849</td>
<td>0.007108</td>
<td>29.24249</td>
<td>0.0000</td>
</tr>
<tr>
<td>PSR</td>
<td>-0.026847</td>
<td>0.004101</td>
<td>-6.546139</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

R-square 0.924791 Mean dependent var. 0.072372
Adj. R-square 0.922534 SE dependent var. 0.026775
S.E. of regression 0.007452 Akaike info criterion -6.922889
Sum squared residual 0.005554 Schwarz criterion -6.821182
Log likelihood 363.9902 Hannah-Quinn criterion -6.881685
F-statistic 409.8738 Durbin-Watson statistic 0.302415
Prob. (F-stat) 0.000000 Wald F-statistic 558.3849
Prob. (Wald F-stat) 0.000000

Source: SPSS
The regression table describes constant with the value of -0.737733. It indicates, when the PER, PBV, PSR have value at 0, the NAV return of sharia equity fund still has a value of -0.737733. The constant has significant value on the NAV return of sharia equity fund because the value of the probability statistic is lower than the confidence level (0.05). The constant has a negative correlation to the NAV return of sharia equity fund. It means regardless of the market going up or down, the investor of mutual funds still have to pay fees such as management fees, custodian fees, and audit fees.

For PER, the value of this coefficient is 0.008078, which means the increase of the value of PER at 1 point, would raise the NAV return of sharia equity fund by 0.008078 and give a significant influence on the NAV return of sharia equity fund. PER is the comparison of the market value of equity toward its earning per share. The higher PER of the equity represents that equity is more expensive compared to the earnings per share and thus become an indicator of the prospect of the firm. The higher PER of the equity will give a higher return for the investor (Indriani 2014). The higher PER of the firm represents that the firm has good growth, which means that the market expects the firm will have good growth in the future. (Herлина Wati and Ratnasari 2015). Investors usually buy the stocks at a low PER that indicates cheap stocks and sell in the high PER. The PER of the market can also be an indicator of how the market is going; up or down. PER also indicates how cheap or how expensive is the market, so it can indicate when the investment manager could buy or sell the stocks in the sharia equity funds.

For PBV, the value of this coefficient is 0.0207849, which means an increase of the value of PBV every 1 point would raise the NAV return of sharia equity fund by 0.0207849 and have a significant influence on the NAV return of sharia equity fund. PBV is a market ratio which compares the market value of the stocks and the book value of the company. This ratio shows how can the company create value on the total capital invested. The higher PBV shows a higher value for shareholders. (Putri and Sampurno 2012). The higher PBV of a company represents a higher expectation of growth to a company, which leads to a higher stock price and thus a higher return for investors. A higher return of the stock in the market will lead to a higher return of the NAV of sharia equity fund.

For PSR, the value of this coefficient is -0.026847, which means an increase of the value of PSR of 1 point will decrease the NAV return of sharia equity fund by 0.026847 and give significant influence on the NAV return of sharia equity fund, but it is negatively correlated. PSR is a signal that the market is undervalued. A high PSR represents an undervalued market, in which the market value of the stock is below the intrinsic value. It indicates an excellent timing to enter the market with higher PSR and hold the stock until the PSR is lower, which overvalues the price of the stock. Buy and hold in higher PSR and sell in lower PSR will give a high return in the stock market. A higher return of the stock market will lead to a higher return of the NAV return of sharia equity fund.

All the independent variables have significant correlation on the dependent variable, and from the f-test, the independent variables have a significant simultaneous effect on the dependent variables. So, we can conclude PER, PBV and PSR can be used to measure
and predict the NAV return of sharia equity fund. First, we can see from the PSR that represents the condition of the market which could be undervalued or overvalued. After that, we proceed to the PER to see the profitability of the market and the PBV to see how far the market can create value for shareholders. In order to have a high return of the NAV of sharia equity fund, investment managers should consider of these equity multiples to measure the condition and performance of the market.

Conclusion

This study focuses on the growth of Indonesia’s capital markets, especially in mutual fund. Within a short time, mutual funds have a significant influence on the Indonesian capital markets. Sharia equity fund as a part of mutual fund, provides an alternative investment and attractive for small investors or for investors who are risk-averse. In order to guide decision-making, investors need measurements in the form of financial ratios to assess the risks and returns. There are three financial ratios used for the assessment, namely Price/Earning Ratio (PER), Price to Book Ratio (PBR), Price to Sales Ratio (PSR), which are measured against the Net Asset Value (NAV) as the return on investment of the sharia equity fund.

From the results and discussion above, there is a significant partial effect of PER on NAV, which means that an increase in the expectation of growth from the earnings lead to a higher return of stocks, and simultaneously a higher return of the sharia equity fund. Similarly, there is a significant partial effect of PBV on NAV. If there is a higher expectation of the company to create value for shareholders, it will give a higher return of stocks, leading to a higher return of the sharia equity fund. Lastly, there is a significant partial effect of PSR on NAV. This indicates that an increase in the expectation of a company’s growth and profitability will give a higher return of the stocks, leading to a higher return of the sharia equity fund. Overall, there is a significant simultaneous effect of PER, PBV, PSR on NAV. In this case, all of the independent variables can be used to measure the performance of the market and determine the best time for investors to enter the market in order to earn a higher return in sharia mutual fund investment.

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