"More Valuable?" Portfolio Mix: Islamic Social Responsibility Stock (Case Study On Sri-Kehati Stock Index And Indonesian Sharia Stock Index)

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Abstract *This research was conducted to analyze the optimal portfolio formation using the Single Index Model method by combining stocks included in the SRI-Kehati Index and listed on the Indonesian Sharia Stock Index (ISSI) with the aim of survival and applying sharia principles then measuring optimal portfolio performance using Sharpe Index, Treynor Index, and Jansen Alpha Index. The research object used is stocks that are consistently included in the Sri Kehati Index and ISSI for December 2018 - December 2019. This study shows that the optimal portfolio formed has a higher return than the benchmark (IHSG), which is 1.99%; meanwhile, the standard deviation of the portfolio, or it can be interpreted as portfolio risk, is 1.1%. In performance appraisal and the Jensen Index, the optimal portfolio formed has better performance than the IHSG.*

Keywords: *SRI Kehati Index, Optimal Portfolio, Single Index Model, Sharpe Index, Treynor Index, Jansen Alpha Index.*

INTRODUCTION

Socially Responsible Investing is one of the things that drive the implementation of Corporate Social Responsibility by a company. Socially Responsible Investing is an investment that allocates companies that positively contribute to the world and leaves companies that can damage the world (Dewi, 2012). The implementation of Socially Responsible Investing makes companies set aside funds for Corporate Social Responsible activities. However, on the other

hand, Corporate Social Responsible activities can increase the company's reputation, increasing the company's value. The Indonesian capital market is currently screening companies that apply Socially Responsible Investing, as evidenced by the formation of a stock price index called the SRI-Kehati Index in 2009. In Indonesia, Islamic stocks are also growing rapidly and always get a good response from Muslim investors. The Indonesian Sharia Stock Index (ISSI) was introduced on May 12, 2011, a composite index of Islamic stocks listed on the Indonesia Stock Exchange. Most of the stocks listed on the Indonesian Sharia Stock Index form the SRI - Kehati Index. If the performance of the SRI - Kehati Index is compared to the ISSI, it will show that the SRI - Kehati Index has a better performance. Even though they apply the same principle, they have different performances. Therefore, researchers are interested in forming a portfolio arrangement that applies SRI principles and applies sharia principles.

Many previous studies have discussed Socially Responsible Investing (SRI). Among other things, Diaz's (2016) research entitled Return and Volatility Performance Comparison of Ethical and Non-Ethical Publicly-listed Financial Services Companies found that financial companies that fall into the category of "ethical financial companies" generally have a greater return with higher volatility, lower than companies that are not included in the "ethical financial companies" category.

Oktaviani & Wijayanto (2016) researched the formation of optimal portfolios using the Single Index Model on LQ45 stocks and the Jakarta Islamic Index, which resulted in diversification with a single index model proving to be better and more profitable in terms of portfolio performance compared to IHSG performance. Another study conducted by Khotim (2014) analyzed the formation of optimal portfolios using a single index model and Stochastic Dominance in making investment decisions which resulted in differences in portfolio returns formed from a single index model resulting in higher returns than returns with Stochastic Dominance. Defri and Dzulkirom (2017) analyzed the formation of an optimal portfolio of company stocks using the SRI-KEHATI Index using a single index model resulting in an expected rate of return greater than the level of risk.

What distinguishes this research from previous studies is to form optimal portfolios by combining stocks listed on the SRI-Kehati Index and ISSI to become a portfolio composition. This index was chosen because, in both indices, only stocks with good governance are listed. Good fundamentals, entirely actively traded on the Indonesia Stock Exchange and diversified from a business perspective. Companies listed in the two indexes also pay attention to environmental, social, and religious norms aspects. Based on previous research, researchers conducted research using the method of determining the optimal portfolio quantitatively, namely the Single Index Model. They will compare portfolio performance with the IHSG using the Sharpe's Index, Treynor's Index, and Jansen's Alpha Index.

This study's result is five stocks that form the portfolio composition of stocks listed on the SRI-Kehati Index and ISSI during the research period, namely INDF, JSMR, WIKA, AALI, and WTON. These results are by research conducted by Mulyono (2015), Defri and Dzulkirom (2017), Oktaviani and Wijayanto (2016), Khotim (2014), Diaz (2016), and Zulkifli (2017) that the optimal portfolio can be formed using the Single Index Model. The return obtained from the portfolio with the Single Index Model has a higher value than the market's expected return.

More explanations of the results of this study will be presented in sections 3 and 4. Section 2 describes the data and methods used in this study, while section 5 presents the research conclusions. Last but not least, section 6 explains the limitations and suggestions.

METHOD

This research is a descriptive study with a quantitative approach. The population in this study were all companies listed in the SRI-Kehati index and listed on the Indonesian Sharia Stock Index on the Indonesia Stock Exchange from 2018 to 2019 totaling 454 shares. Determination of the sample in this study using purposive sampling method, the sample used is 17 stocks listed on the SRI-Kehati Index and the Indonesian Sharia Stock Index for 2018-2019. The sample in this study is active stocks and published on www.investing.com for the period 2018-2019. The type of data used in this research is secondary data. The data collection technique used in this research is documentation. Data analysis in this study used the Single Index Model, and performance comparisons used Sharpe's Index, Treynor's Index, and Jansen's Alpha Index. The formulas are as follows:

Table 1. Optimal Portfolio formation with the Single Index Model

No	Variable	Explanation	Indicator
1	Ri	The actual return on individual shares	$R_i = \dfrac{P_t - P_{t-1}}{P_{t-1}}$
2	E(Ri)	The expected return on individual stocks	$E(R_i) = \sum\limits_{i=1}^{N} \dfrac{R_i}{N}$
3	Rm	The actual market return expressed by the Composite Stock Price Index in period t	$R_m = \dfrac{IHSG_t - IHSG_{t-1}}{P_{t-1}}$
4	E(Rm)	*Return* pasar yang diharapkan dengan membagi jumlah *return* pasar dengan jumlah periode	$E(R_m) = \sum\limits_{i=1}^{N} \dfrac{R_m}{N}$
5	αi	Alpha or intercept is not influenced by market returns, so it is said to be variable Independent	$\alpha_i = E(R_{it}) - \beta_i \, E(R_{mt})$
6	βi	Beta or regression coefficient is used to calculate ERB and Cut-Off Point	$\beta_i = \dfrac{\sigma_{i,M}}{\sigma^2{}_M}$

7	ERB	ERB means measuring excess funds relative to a unit of risk that cannot be diversified as measured by beta.	$ERB = \dfrac{\overline{R}_i - R_F}{\beta_i}$
8	C*	Securities that form an optimal portfolio have an ERB value greater than or equal to the ERB value at point C*.	$C = \dfrac{\sigma_m^2 \sum\limits_{j=1}^{i} \dfrac{(\overline{R}_j - R_F)\beta_j}{\sigma_{ej}^2}}{1 + \sigma_m^2 \sum\limits_{j=1}^{i} \left(\dfrac{\beta_j^2}{\sigma_{ej}^2} \right)}$
9	Wi	The weight or proportion of the funds of each share in the portfolio	$W_i = \dfrac{Z_i}{\sum\limits_{j=1}^{N} Z_j}$

Table 2. Portfolio Performance Measurement

No	Variable	Explanation	Indicator
1	Sp	The Sharpe Index bases its calculations on the capital market line (CML) concept as a benchmark.	$\hat{S}_P = \dfrac{\overline{R}_P - \overline{RF}}{\sigma_{TR}}$
2	Tp	The goal of the Treynor Index is to find performance measures that can be applied to all investors regardless of personal risk preferences.	$\hat{T}_P = \dfrac{\overline{R}_P - \overline{RF}}{\hat{\beta}_P}$
3	αp	The Jensen index shows the difference between the actual rate of return obtained by the portfolio and the expected rate of return if the portfolio is on the capital market line.	$\hat{J}_p = \overline{R}_p - \left[\overline{RF} + \left(R_M - \overline{RF} \right)\hat{\beta}_p \right]$

RESULT

Establishment of an Optimal Portfolio with a Single Index Model

Calculating Actual Return, Expected Return, and Standard Deviation of Individual Shares

Table 3. Expected Return and Individual Standard Deviation

No.	Code	E(Ri)	σi
1.	ASII	-0,022832414	0,059578156
2.	BSDE	0,002117279	0,065085744
3.	INDF	0,007221046	0,064254367
4.	JSMR	0,018679715	0,074939287
5.	KLBF	0,007248963	0,062816814
6.	TLKM	0,005430392	0,036560801
7.	UNTR	-0,01703767	0,072431178
8.	UNVR	-0,004834715	0,058062507
9.	WIKA	0,021348281	0,109993012
10.	AALI	0,021456439	0,089594359
11.	ADHI	-0,019324611	0,102472732
12.	JPFA	-0,01725841	0,147643028
13.	PGAS	0,006003914	0,09236311
14.	PPRO	-0,029667815	0,165536774
15.	WTON	0,022975548	0,128668119
16.	PJAA	-0,018001302	0,066950765
17.	SIDO	0,040279245	0,104784945

Source: Processed data

Based on the table above, it can be concluded that out of 17 issuers, there are seven issuers with negative expected returns, namely ASII (-0.0228), UNTR (-0.0171), UNVR (-0.0048), ADHI (-0.0193), JPFA (-0.0173), PPRO (-0.0297), and PJAA (-0.018). Meanwhile, ten other issuers have a positive expected return. The issuer that provided the largest expected return during the observation period was SIDO of 0.0403. The issuer with the lowest expected return was UNVR of -0.0048.

The expected return is the return expected by investors. Therefore an issuer that provides a positive expected return deserves to be included in the optimal portfolio because it will be profitable for investors. Issuers with a positive expected return can form an optimal portfolio, namely; INDF, JSMR, KLBF, TLKM, WIKA, AALI, PGAS, WTON BSDE, and PJAA.

Calculating Actual Return, Expected Return, and Standard Market Deviation
Table 4. Expected Return and Market Deviation Standard

E(Rm)	σm
0,001919427	0,028012794

Source: Processed data

Several observations produce a market rate of return of 0.00191 and a standard deviation of 0.028. This rate of return can be profitable for investors because it is positive.

Calculating Alpha (α), Beta (β), and Variance Error (σ²) for Individual Shares

Table 5. Alpha, Beta and Variance Error of Individual Stocks

No	Code	A	B	σei
1.	INDF	0,006334	0,462331	0,004129
2.	JSMR	0,015527	1,642566	0,005616
3.	WIKA	0,015644	2,972049	0,012098
4.	AALI	0,01846	1,56092	0,008027
5.	WTON	0,019687	1,713067	0,016555
6.	PGAS	0,001201	2,502277	0,008531
7.	KLBF	0,005056	1,142457	0,003946
8.	TLKM	0,00441	0,531625	0,001337
9.	SIDO	0,041349	-0,55716	0,01098
10.	ASII	-0,01462	1,174841	0,004633
11.	BSDE	-0,00039	1,306772	0,004236
12.	UNTR	-0,01835	0,685963	0,005246
13.	UNVR	-0,00654	0,887993	0,003371
14.	ADHI	-0,0239	2,38476	0,010501
15.	JPFA	-0,02205	2,495448	0,021798
16.	PPRO	-0,03956	5,154204	0,027402
17.	PJAA	-0,01997	1,027885	0,004482

Source: Processed data

Of the 17 observed objects, issuers that gave positive Alpha were INDF, JSMR, KLBF, TLKM, WIKA, AALI, PGAS, WTON, and SIDO. Meanwhile, issuers with negative Alpha are ASII, BSDE, UNTR, UNVR, ADHI, JPFA, PPRO, and PJAA. The higher the Alpha value, the better performance for individual stocks. Of the 17 issuers included in the two highest Alpha indexes are owned by SIDO, which is 0.0413, while PPRO has the lowest Alpha at -0.0396. The issuer with the highest Beta was PPRO, namely 5,154, while the issuer with the lowest Beta was SIDO, which was -0.5572. The residual variance is a risk that can be reduced by diversifying. Of the 17 issuers, the highest residual variance was obtained by PPRO of 0.027, and the lowest was TLKM of 0.00134.

Seeking a Risk-Free Rate

Table 6. *Risk-Free Asset*

DATE	Rf	Rf Per Month
December 2018	0,06	0,005
January 2019	0,06	0,005
February 2019	0,06	0,005
March 2019	0,06	0,005

April 2019	0,06	0,005
May 2019	0,06	0,005
June 2019	0,06	0,005
July 2019	0,0575	0,004792
August 2019	0,055	0,004583
September 2019	0,0525	0,004375
October 2019	0,05	0,004167
November 2019	0,05	0,004167
December 2019	0,05	0,004167

Source: Processed data

Based on the calculation results in the table, it can be seen that the level of Risk-Free Asset for the period December 2018 to December 2019.

Calculating the Excess Return to Beta (ERB)

Table 7. Value of Excess Return to Beta (ERB)

No	Code	ERB
1.	AALI	0,01074
2.	WTON	0,01068
3.	JSMR	0,00852
4.	WIKA	0,00561
5.	INDF	0,00548
6.	KLBF	0,00224
7.	TLKM	0,00140
8.	PGAS	0,00053
9.	SIDO	-0,06519
10.	UNTR	-0,03167
11.	PJAA	-0,02207
12.	ASII	-0,01452
13.	UNVR	-0,01072
14.	ADHI	-0,01007
15.	JPFA	-0,00879
16.	PPRO	-0,00667
17.	BSDE	-0,00197

Source: Processed data

Of all issuers in the SRI-KEHATI and ISSI Index, which were the objects of observation, AALI gave the highest ERB value of 0.010743. In contrast, the lowest ERB was obtained by SIDO of -0.0652. Issuers that are eligible to be candidates for the optimal portfolio are those with a positive ERB. In contrast, those with a negative ERB are not eligible to be candidates for the optimal portfolio. Of the 17 issuers that were the objects of observation, there were eight issuers with positive ERB, namely: INDF, JSMR, KLBF, TLKM, WIKA, AALI, PGAS, and WTON so that the issuer will be used for the optimal portfolio creation process.

Calculating Cut-Off Point (C *)

Table 8. *Cut-Off Point* **(C*)**

No	Code	Ci	C*	ERB	Optimal
1.	AALI	0,002156	0,00276	0,01074	Optimal
2.	WTON	0,001356	0,00276	0,01068	Optimal
3.	JSMR	0,002454	0,00276	0,00852	Optimal
4.	WIKA	0,002131	0,00276	0,00561	Optimal
5.	INDF	0,00276	0,00276	0,00548	Optimal
6.	KLBF	0,000594	0,00276	0,00224	-
7.	TLKM	0,000394	0,00276	0,00140	-
8.	PGAS	0,000299	0,00276	0,00053	-

Source: Processed data

The table above shows that the largest Ci is owned by INDF of 0.00276, also the Cut Off Point value. The criteria for becoming an optimal portfolio have ERB> C*. Therefore, issuers meet the optimal portfolio criteria: INDF, JSMR, WIKA, AALI, and WTON. Meanwhile, other issuers do not meet the optimal portfolio criteria because ERB <C * is not included in the following optimal portfolio formation process.

Calculating the Proportion of Each Share (Wi)

Table 9. The proportion of Each Share

No	Code	Zi	Wi	Proportion (%)
1.	JSMR	1,684391	0,33291	33.3%
2.	AALI	1,552364	0,30682	30.7%
3.	WTON	0,819126	0,16190	16.2%
4.	WIKA	0,699161	0,13819	13.8%
5.	INDF	0,304563	0,06020	6.0%
	Jumlah	5,059605	1	100%

Source: Processed data

From the table above, it can be seen that the most significant proportion of funds that investors should invest from all issuers that are candidates for the optimal portfolio is JSMR shares, which is 33.3%, while the minor proportion of funds is in INDF shares, namely as much as 6.0%. Based on the data in the table above, five stocks meet the criteria to be used as a portfolio composition for the SRI-Kehati and ISSI Index, namely INDF, JSMR, WIKA, AALI, and WTON stocks.

Calculating the Expected Return and Standard Deviation of the Portfolio

Table 10. Market Expected Return, Portfolio Expected Return, Market Standard Deviation, and Portfolio Standard Deviation

	E(R)	σ^2
Portofolio	0,019905	0,011313
Market	0,001919	0,000785

Source: Processed data

The table above shows that the portfolio's Expected Return of 0.019905 is greater than the market return of 0.001919, indicating that the portfolio formed has good profit prospects for investors. Meanwhile, the standard deviation for the portfolio is 0.011313.

Portfolio and IHSG Performance Measurement

Table 11. Portfolio and IHSG Performance Measurement

Index	Portfolio
Index Sharpe's	0,143074
Index Treynor	0,008738
Index Jensen	0,015084

Source: Processed data

Assessment of portfolio performance using the Sharpe Index, Treynor Index, Jensen Index has a positive value. This means the portfolio has a good performance. The Sharpe Index assesses portfolio performance at 0.143 or 14.3%. The higher the Sharpe Index value, the better because the average return is more significant than the lower Risk-Free Rate and Standard Deviation. The Treynor Index assesses the portfolio performance of 0.0088 or 0.88%. The higher the Treynor Index value, the better the portfolio performance.

Conversely, the lower the Treynor Index value, the lower the portfolio performance is not satisfactory. The Jensen Index assesses the portfolio performance of 0.015 or 1.5%. The higher the Jensen Index value, the better. From the three indices, it can be concluded that the Sharpe Index has the best value than the other indexes.

DISCUSSION

This study's result is five stocks that form the portfolio composition of stocks listed on the SRI-Kehati Index and ISSI during the research period, namely INDF, JSMR, WIKA, AALI, and WTON.

With the formation of the optimal portfolio from the SRI-Kehati Index and the ISSI, it can be said that H*o* is rejected and accepts H_1, that is, there is an optimal portfolio on the Sri Kehati Index and ISSI using the Single Index Model method. These results are under research conducted by Mulyono (2015), Defri and Dzulkirom (2017), Oktaviani and Wijayanto (2016), Khotim (2014), Diaz (2016), and Zulkifli (2017).

These results also provide information to investors that each portfolio is sensitive to different risks. As the optimal portfolio formed has better performance on the Sharpe's Index, measurement by the Jensen's Alpha method has better performance than Treynor. At Treynor's measurement, the optimal portfolio performs lower than Sharpe's and Jensen's Alpha. The implication of the results of this study explains that stocks that apply the principles of SRI and sharia have good long-term company value and better performance than the IHSG.

CONCLUSIONS

Shares that apply the principles of SRI and sharia have good long-term value and better performance compared to the IHSG. This is a reference for investors to decide to invest in stocks that apply the principles of SRI and sharia.

LIMITATIONS AND RECOMMENDATIONS

This study only uses a sample of a slice of stocks listed on both indices. The observation period is limited to only one year. Future research is expected to use a broader sample, using other methods to analyze the formation of an optimal portfolio.

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