Ethical Stock Portfolios : Does It Have High Risk and Low Return

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Abstract
This study examines the comparison of stock performance as measured using the return and risk of stock portfolios of ethical and non-ethical companies on the Indonesia Stock Exchange. Portfolio formation using a single index model during 2016-2019. The data analysis technique uses an independent sample t-test with a significance level of 5%. The results showed that there were no differences in portfolio return and risk. The average portfolio return is 0.22% for ethical stocks and 0.27% for non-ethical stocks. There is also no significant difference in portfolio risk, 0.87% for ethical stock portfolios and 0.99% for non-ethical stocks. This research has implications for investors who are interested in ethical stocks where they don't have to worry about high portfolio risk and low returns because the results show that the SRI KEHATI index stock portfolio provides the same level of risk and return as the LQ45 index stock portfolio.

Keywords: Ethical; Non-ethical; SRI; LQ45; Stock Portfolio

Portofolio Saham Etis : Apakah Berisiko Tinggi dan Pengembalian Rendah

Abstrak
Penelitian ini menguji perbandingan kinerja saham yang diukur menggunakan return dan risiko portofolio saham perusahaan etis dan non-etis di Bursa Efek Indonesia. Pembentukan portofolio menggunakan model indeks tunggal selama tahun 2016-2019. Teknik analisa data menggunakan pengujian independen sample t-test dengan tingkat signifikansi sebesar 5%. Hasil penelitian menunjukkan tidak terdapat perbedaan return dan risiko portofolio. Rata-rata return portofolio yaitu sebesar 0,22% untuk saham etis dan 0,27% untuk saham non-etis. Risiko portofolio juga tidak terdapat perbedaan yang berarti yaitu 0,87% untuk portofolio saham etis dan 0,99% untuk saham non-etis. Penelitian ini berimplikasi pada investor yang tertarik pada saham etis dimana mereka tidak perlu khawatir dengan risiko portofolio yang tinggi dan pengembalian yang rendah karena hasil penelitian menunjukkan bahwa portofolio saham indeks SRI KEHATI memberikan tingkat risiko dan return yang sama dengan portofolio saham indeks LQ45.

Kata kunci: Etis; Non-etis; SRI; LQ45; Portofolio Saham.

INTRODUCTION

Investment has two types of risk, namely systematic risk and unsystematic risk. An investor can minimize investment risk by managing unsystematic risk, while systematic risk cannot be avoided by an investor. The most effective way to minimize unsystematic risk is diversification. The main problem faced by investors is determining which risky securities to buy because almost all securities available for investment have uncertain returns or in other words, these securities contain risk. One portfolio is a collection of securities, so

investors must be able to choose the optimal portfolio from a collection of existing portfolios (Sharp, Alexander, & Bailey, 2005).

Determining the optimal portfolio for an investor begins with forming an efficient portfolio. An efficient portfolio contains a portfolio that offers the highest return with a certain risk and vice versa the portfolio has the lowest risk with a certain return. Although the basis for investor decision making in investing is return and risk, the issues that arise today show that world business people have the awareness to implement practices that are more supportive of environmental sustainability. Companies start to try carrying out production activities that not only bring financial benefits, but are also environmentally friendly and have a positive impact on social activities. The same movement has emerged in the investment world. Investors who are aware of their role as "change agents" are increasingly interested in investing in companies that fall into the "green" or environmentally friendly category (Valbury, 2019).

Results from the Schroders Global Investor Study suggests investors in Asia are much more likely to consider environmental concerns, particularly in Indonesia and Thailand. These findings are seen throughout the answers to a series of questions about responsible investing, spanning governance and social issues. Overall, Asian investors expressed the greatest concern (PT Schroder Investment Management Indonesia, 2016). Musfialdy (2019) conducted research on companies on the Indonesia Stock Exchange looking for the influence of investment decisions, environmental concerns and environmental performance on corporate social responsibility, and found that investment decisions, environmental concerns and environmental performance have a positive effect on corporate social responsibility. The results of the study also states that investors tend to prefer companies that report on their corporate social activities and the risk management that the company can do.
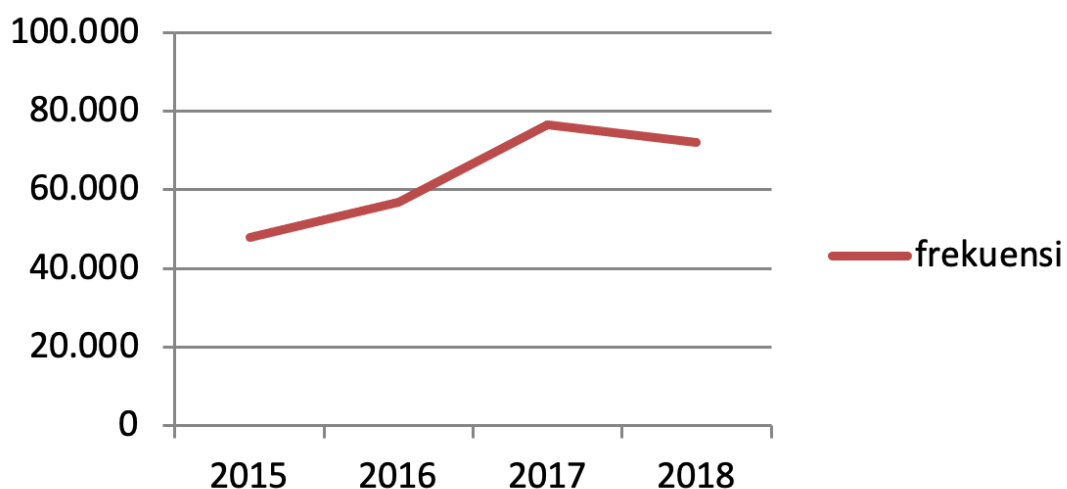

Figure 1. SRIKEHATI Index Trading Frequency 2015-2018

The majority of the indexes on the Indonesia Stock Exchange measure company performance in terms of finance, high liquidity, and large market capitalization. The SRI KEHATI Index is the only index on the IDX that contains stocks focused on Sustainable

and Responsible Investment (SRI) procedures, namely focusing on environmental, social, and good governance in Indonesia until early 2020. The SRI KEHATI Index provides information openly from companies that are considered to have environmental concerns, good corporate governance, and good business ethics. In addition in focusing on environmental concerns, good corporate governance, and good business ethics, the SRI KEHATI index also considers financial indicators, one of which is a company must have a positive PER value for the last 6 months prior to the assessment, although the index does not really emphasize the company valuation aspect.

Figure 1 shows the trading frequency of the SRIKEHATI Index in 2015-2018. The frequency of trading in the observation period seems to show an increasing trend. The

Table 1. *Return on SRI KEHATI Index, JCI, and LQ45 Index*

Year	SRI KEHATI Return	IHSG Return	LQ45 Return
2014	28,42%	22,29%	26,36%
2015	-11,48%	-12,13%	-11,86%
2016	16,98%	15,32%	11,69%
2017	27,52%	19,99%	22,02%
2018	-4,27%	-2,54%	-8,95%
Average return	11,44%	8,59%	7,85%
Risk	18,37%	15,13%	17,53%
Coefficient Variation	1.606	1.762	2.233

biggest increasing in 2017 was an increasing of 34.51% from 2016. This indicates that investors are increasingly interested in investing in companies that run SRI.

Table 1 shows the return and risk of the SRI KEHATI index, the JCI index, and the LQ45 index for the observation period from 2014 to 2018. The highest return was obtained by the SRI KEHATI index, which was 11.44%. This shows that indeed stocks in the SRI KEHATI index, which are stocks that carry out Sustainable and Responsible Investment, provide returns above other indices. The highest risk also occurs in the SRI KEHATI index, which is 18.37% in accordance with the trade off between return and risk where the SRI KEHATI index also has the highest return of the three indices, but if viewed from the coefficient of variation, it can be seen that the SRI KEHATI index is an index that has the lowest coefficient of variation among the three indices and the LQ45 index has the highest coefficient of variation, so it can be concluded that the risk born when investors get stock returns on the SRI KEHATI index is the smallest among the three indices.

Diaz (2016) conducted a comparative study of the return performance and volatility of companies that fall into the "ethical companies" and "nonethical companies" categories in financial services companies, finding that companies that fall into the "ethical companies" category have higher returns than companies that fall into the "ethical companies" category. nonethical companies". Tas, Tokmakcioglu, Urgulu, & Isiker (2016) conducted a study entitled: "Comparison of ethical and conventional portfolios with second-order stochastic dominance efficiency test", by comparing 12 ethical stocks and 12 conventional stocks, the

results obtained are 7 of 12 ethical stocks were able to form an efficient 50.82% stock portfolio while 6 out of 12 conventional stocks were only able to form an efficient 45.16% stock portfolio (it was concluded that the ethical stock group was able to form a more efficient portfolio). Simister & Whittle (2013) examined Ethical Investment and Portfolio Theory using factor analysis in portfolio selection and found that "ethical" companies have higher average returns than less "ethical" companies. Robiyanto et al. (2020) stated that the optimal portfolio formed from ethical investments in this case the companies included in the Sri Kehati index and the Jakarta Islamic Index (JII) is a portfolio that outperforms the market index. Ortas et al. (2014) stated that from the comparison of returns obtained by companies that were included in Sri Kehati, it was no different from the market portfolio, but from the risk side it was seen that the shares included in Sri Kehati had a higher risk, the results of the study also found that the index Sri Kehati is very sensitive to changes in the market.

Humphrey & Lee (2011) stated that some researchers found that ethical investment yields lower returns at certain risks when compared to the overall market movement because the portfolio on ethical investment is less diversified. Ballestero et all (2012) also found that investing in ethical portfolios that focus on "strong green" tend to have lower returns than portfolio portfolios obtained from the application of conventional portfolio theory (expected value - variance), but this result does not statistically significant in the case of "weak green" ethical investments. Pertiwi & Meirinaldi (2016) conducted an analysis of differences in the optimal portfolio performance of the Sri Kehati and LQ45 indexes for the 2010-2014 period found that the portfolio return of the Sri-Kehati Index was 0.094%, lower than the LQ45 index of 0.103%. In terms of portfolio risk, the risk result for the Sri-Kehati index is 0.79%, lower than the LQ45 index of 0.82%. Judging from the portfolio performance using the Sharp, Treynor, and Jensen indexes, the results show that from the three calculations the LQ45 portfolio index is better than the Sri-Kehati index portfolio.

A rational investor always wants maximum profit in his investment, of course, by facing certain risks. Empirical research finds that a person is not always motivated by his own self-interest. The emergence of "ethical investment" implies that at least some investors think that risk and rate of return are not the only considerations in choosing an investment portfolio (Simister & Whittle, 2013).

Shepherd dalam Simister & Whittle (2013) states that in the UK, "green and ethical investment" is the main focus for the recovery of state finances. 53% of retail investors believe that social and environmental issues are the most important part of improving finances in the UK. Wang (2011) conducted research on the effect of Corporate Social Responsibility (CSR) on stock performance on the Taiwan Stock Exchange and found that CSR had a positive effect on stock performance.

Derwall, Koedijk, & Horst (2011) state that there are two hypotheses regarding the difference in returns from companies that run SRI with conventional companies. The "Shunned-stock hypothesis" states that companies that do not have social characteristics have higher returns because value-driven investors push stock prices to below socially responsible share prices. Social norms such as SRI directly affect non-SRI stocks traded at

a discount, resulting in higher returns (Bourgias & Spanos, 2019). On the other hand, the "errors-in-expectation hypothesis" predicts that the shares of companies that are socially responsible have higher risk-adjusted returns because the market reacts slowly to the positive impact of CSR. There are two assumptions in the errors-in-expectation hypothesis. First, CSR activities must be related to future cash flows. And second, the superior profit generated by the company through CSR practices is the result of abnormal stock returns, this is the impact of stock prices that do not reflect all the value relevance of CSR information. The multidimensional and subjective concept of CSR cannot be evaluated accurately by financial markets because investors do not have the adequate tools they need to measure CSR practices (Derwall et al., 2011).

The expected return from an ethical portfolio will provide a lower return because the limited scope of investment from ethical companies causes the investor's portfolio to be less diversified, thereby increasing portfolio risk (Humphrey & Lee, 2011). On the other hand, the scope of investment in ethical companies is still wide enough so that it does not result in the possibility of less diversification of investor portfolios and the additional screening of "ethical companies" does not affect the rate of return. Companies that run socially and environmentally responsible can provide a higher rate of return due to lower company operating costs, for example: low employee turnover and costs related to law violations (Goldeyer et al.,1999 dalam Mattsson & Sandström, 2014).

The "Shunned-stock hypothesis" also states that the shares of non-ethical companies use external debt funding more than equity because investors tend to be aware of social norms investing in the capital market so that the shares of non-ethical companies are associated with economic uncertainty. Therefore, shares of non-ethical companies are required to have high performance accompanied by high risk due to the economic uncertainty (Han, Li, & Onishchenko, 2021).

H_1 : There is a difference between the stock portfolio returns of ethical and non-ethical companies in terms of LQ45 indeks index.

H_2 : There is a difference between the stock portfolio risk of ethical and non-ethical companies in LQ45 index.

The emergence of ethical investment issues has attracted the attention of researchers to find out more about whether an investor who is concerned about a company that carries out Sustainable and Responsible Investment can get higher profits with higher risk from the formation of a portfolio that does SRI screening, namely stocks that are included in the index. SRI KEHATI. Tests related to the theory of "shunned-stock hypothesis" and "errors-in-expectation hypothesis" are also rarely found on the Indonesia Stock Exchange, so it is interesting to examine whether they are relevant to conditions in the Indonesian capital market. The results of this study can contribute to investors in choosing ethical and non-ethical (conventional) portfolios that are included in the LQ45 index. Based on this background, the researchers are interested in knowing whether there are differences in return and portfolio risk from ethical companies that carry out Sustainable and Responsible Investment, namely stocks that are included in the SRI KEHATI index with returns and

portfolio risks of non-ethical (conventional) companies, namely stocks- stocks included in the LQ45 index.

METHOD

This type of research is comparative research. This study aims to compare the portfolio performance of ethical and non-ethical companies in the LQ45 index. The population in this study are companies listed on the Indonesia Stock Exchange. The sample for this study is stocks in the LQ45 index where there are ethical companies (companies included in the SRI Kehati index) and non-ethical companies (companies outside the SRI Kehati index) in the study period. The sampling technique used is purposive sampling, with the following criteria:

1. Companies that are included in the LQ45 index consisting of ethical companies (companies included in the SRI Kehati index) and non-ethical companies (companies outside the SRI Kehati index) in the 2016 – 2019 period.
2. Company shares may not take corporate action during the observation period.
3. Companies that have just listed in the observation period are not included in the sample.

This type of research data is included in secondary data. The data used in this study are SRI-KEHATI and LQ45 stock price data obtained from yahoo finance during the period 2016 to 2019. In addition, researchers also used JCI data from Bank Indonesia Certificates for that period. Methods of data collection using documentation techniques. These sources can be in the form of information or reports from the Indonesia Stock Exchange or from the website www.idx.co.id, www.kehati.or.id, www, https://finance.yahoo.com, www.bi.go.id.

The variables used in this study are return and portfolio risk. A summary of operational definitions and research variables in this study can be seen in Table 2.

The data analysis used to determine the efficient portfolio set is using a single index model. The steps to be taken are as follows:

1. Describe the development of stock prices, JCI, and SBI interest rates.
2. Calculate the realized return, expected return, standard deviation and variance of each individual stock, JCI, and SBI interest rate.
3. Calculating beta, alpha, and variance error of each individual stock.
4. Calculate the value of Excess Return to Beta (ERB) of each stock.
5. Calculating the value of C_i.
6. Find the value of C^* (the largest C_i value).
7. Determine the proportion of funds to be invested in an efficient portfolio.
8. Calculate the expected return, standard deviation, and variance of the portfolio.

To test the hypothesis used t test (independent t-test). Before performing the t test, the normality test was carried out first using the Kolmogorov-Smirnov Test. The normality test was conducted to determine the normality of the distribution of the data used in the study. Hypothesis testing is done with a significance level of 5%.

Table 2. Summary of Operational Definitions and Research Variables

No	Variable	Description	Indicator
1	Ri	Calculating returns from individual shares (issuers).	$R_{t(A)} = \dfrac{P_{t(A)} - P_{t-1(A)}}{P_{t-1(A)}}$
2	E (Ri)	Expected return for each individual stock is calculated by using the Excel program using the Average formula, which is the average percentage of return realized for the I-th share divided by the number of realized returns for the i-th stock.	$E(Ri) = \alpha + \beta.\,E(Rm)$
3	δei²	The variance is used to measure the risk of the expected return, which is the square of the standard deviation.	$\sigma^2_{ei} = \dfrac{1}{t} \sum_{t=1}^{t} \left[R_{it} - (\alpha_i + \beta_i R_{mt}) \right]^2$
4	Ki	Calculating abnormal return performance relative to (Ki).	$Ki = \dfrac{R_i - R_F}{\beta_i}$
5	βi	Beta is used to calculate the Excess Return to Beta (ERB) and j is needed to calculate the Cut-off Point (Ci).	$Ri = \alpha + \beta.\,Rm + e$
6	ERB	Excess Return to Beta (ERB) is used to measure the excess return relative to one unit of risk that cannot be diversified as measured by beta.	$ERB_i = \dfrac{E(R_i) - R_f}{\beta_i}$
7	Ai dan Bi	The value of Ai is calculated to obtain the value of Aj and Bi is calculated to obtain the value of Bj, both of which are needed to calculate Ci. Determination of the value of Ai and Bi for each of the i-th shares.	$A_i = \dfrac{(\overline{R_i} - R_F)\beta_i}{\sigma^2_{ei}}$ $B_i = \dfrac{\beta_i^{\,2}}{\sigma^2_{ei}}$
8	Ci	The value of Ci is the quotient of market variance on excess returns greater than Rf on stock variance error with market variance on individual stock sensitivity to stock variance error.	$C = \dfrac{\delta_m^{\,2} \sum_{j=i}^{i} \dfrac{\left[E(Ri) - (Rf) \right]\beta i}{\sigma ei^2}}{1 + \delta_m^{\,2} \sum_{j=1}^{i} \dfrac{\beta i^2}{\sigma ei^2}}$
9	Wi (A)	The proportion of funds (Xi) of each share is calculated using the Excel program using the formula IF.	$Wi\,\dfrac{Xi}{\sum_{j=I}^{K} Xj}$
10	r (AB)	The correlation coefficient between stocks is a comparison of the calculation of the realized return of a stock A with the calculation of the realized return of stock B in a certain period.	$r_{(AB)} = \dfrac{\sigma_{(AB)}}{\sigma_A \, \sigma_B}$

Source : Tandelilin, 2011

FINDING AND DISCUSSION

This study calculates portfolio return and risk by dividing the time period into 5 time periods (the same period of stock turnover in each index each period) from 2016 to 2019.

Table 3. *Company Sample*

Period	Number of Candidate Companies Portfolio	
	SRI KEHATI	LQ 45
August - October 2016	15	19
February - April 2017	8	22
August - October 2017	14	24
August – October 2018	13	24
February - April 2019	15	27

Table 3 shows the number of companies that are sampled as candidate portfolios in each observation period from 2016 to 2019 for companies that are included in the SRI Kehati and LQ45 index. The number of companies that become portfolio candidates on average shows that there are more companies on the LQ45 index than SRI Kehati.

Table 4. *Return and Risk of the Company's Stock Portfolio*

Period	Portfolio Return		Portfolio Risk	
	SRI KEHATI	LQ 45	SRI KEHATI	LQ 45
August - October 2016	0,20%	0,40%	0,81%	1,43%
February - April 2017	0,15%	0,18%	0,56%	0,63%
August - October 2017	0,13%	0,25%	0,44%	0,57%
August - October 2018	0,33%	0,14%	1,79%	1,25%
February - April 2019	0,27%	0,35%	0,76%	1,07%
Average	**0,22%**	**0,27%**	**0,87%**	**0,99%**

In Table 4 it can be seen that the highest return on the portfolio formed from the SRI Kehati index is 0.33% (period August – October 2018) and the highest return on the portfolio formed from the LQ45 index is 0.40% (August – October 2016). The highest risk from the portfolio formed from the SRI Kehati index is 1.79% (August - October 2018) and the highest risk from the portfolio formed from the LQ45 index is 1.43% (August - October 2016). In average, the portfolio returns of the SRI Kehati and LQ45 indexes are not much different, namely 0.22% and 0.27%, respectively. In terms of portfolio risk, the difference is not much different, namely 0.87% for the SRI Kehati index portfolio and 0.99% for the LQ45 index portfolio.

Table 5. *Descriptive Statistics of Research Variables*

Research Variable	Index	N	Min	Max	Mean	Std. Deviation	Coefficient of Variation
Portfolio Return	SRI Kehati	5	0,001452	0,003246	0,002169	0,000768	4,018
	LQ45	5	0,001448	0,004043	0,002660	0,001085	3,715
Portfolio Risk	SRI Kehati	5	0,003495	0,011611	0,008716	0,003013	
	LQ45	5	0,005709	0,014276	0,009882	0,003785	

Based on the descriptive statistical values in Table 5, the results show that the average portfolio return formed by companies in the LQ45 index is higher than portfolio returns formed from companies in the SRI Kehati index with a difference of 0.000491 (22.64%). The average risk of the company's portfolio in the LQ45 index also shows a higher risk of the company's portfolio in the SRI Kehati index with a difference of 0.001166 (13.38%). The results of the coefficient of variation indicate that the portfolio formed from the SRI Kehati index is more risky than the portfolio formed from the LQ45 index. Hypothesis testing uses an independent sample t test by first testing the normality of the data.

Table 6. *Data Normality Test Results*

	Portfolio Return	Portfolio Risk
Kolmogorov-Smirnov significance	0,866	0,779

The Kolmogorov-Smirnov significance value in Table 6 shows a significant value > 5% for portfolio return and portfolio risk with values of 0.866 and 0.779, respectively, so it can be concluded that the data are normally distributed.

Table 7. *Test Results of Different Returns and Portfolio Risk*

		Levene's Test Significance	t-test significance
Portfolio Return	Equal variances assumed		0,442
	Equal variances not assumed	0,474	0,444
Portfolio Risk	Equal variances assumed		0,701
	Equal variances not assumed	0,749	0,702

Table 7 shows the results of the different test returns and portfolio risks formed from companies included in the SRI Kehati and LQ45 indexes. Before conducting a different test to answer the hypothesis, it must first be tested for the similarity of the value of the return and portfolio risk variations with Levene's Test. The significant results of Levene's Test on

the return and portfolio risk variables show a value greater than 5%, which is 0.474 and 0.749 respectively, so it can be concluded that the variation of the return and portfolio risk variables of the SRI Kehati index company with LQ45 is the same. The t-count significance value in the H1 test is 0.442 (greater than 5%) so that H1 is not supported and the t-count significance value in the H2 test is 0.701 (greater than 5%) so that H2 is not supported.

The first hypothesis in this study is not supported, which means that there is no difference between the company's stock portfolio returns in the SRI Kehati index and LQ45. The results of this study support the research conducted by Kreander, Gray, Power, & Sinclair (2005) and Brzeszczyński & McIntosh (2014) which found that there was no significant difference in performance between SRI or ethical portfolios and non SRI or non ethical portfolios. In other words, this finding refutes that the portfolio performance of companies that are non ethical or not SRI will be higher than companies that are non ethical or SRI as many people believe.

The second hypothesis in this study is also not supported, which means that there is no difference between the risk of the company's stock portfolio in the SRI Kehati index and LQ45. The results of this study contradict the results of research by Humphrey & Lee (2011) and support the results of research by Ballestero et al. (2012). In other words, this study finds that the portfolio risk of SRI or ethical companies is not greater than the portfolio risk of non-SRI or non-ethical companies.

Furthermore, if we look at descriptive statistical data which shows that the number of companies that are included in the SRI Kehati index is relatively less than companies that are included in LQ45 but shows relatively the same returns and risks as LQ45 companies. This finding contradicts previous studies by Humphrey & Lee (2011) which argue that the expected return from an ethical portfolio will provide a lower return because the limited investment scope of ethical companies causes the investor's portfolio to be less diversified, thereby increasing portfolio risk.

The results of the study which stated that there was no difference in the performance of portfolio stocks formed from the SRI Kehati and LQ45 indexes were in accordance with the findings of Hamilton et al (1993) dalam Wallis & Klein (2015) which stated that social responsibility was not valued in the capital market, such as an investor who having social responsibility wants to sell their shares, then these investors can be sold to conventional investors so that the company's stock price is not affected by the existence of social responsibility. Hamilton et al (1993) dalam Wallis & Klein (2015) argue that SRI is not valued in the capital market because shareholders in SRI and conventional portfolios are not different (the same investors) so that these investors have no different expected returns. Guerard (1997) dalam Wallis & Klein (2015) also states that being an investor who is aware of social responsibility is not a "stupid" investor, meaning that even though the investor is aware of social responsibility, he still wants high return expectations, causing companies that carry out SRI do not get additional benefits because the company's cost of capital is not lower than conventional companies.

CONCLUSION

Based on the results of the study, it can be concluded that there is no significant difference between the return and risk of the stock portfolio of ethical and non-ethical companies in the LQ45 index. The data processing shows that the average portfolio return formed by companies in the LQ45 index is higher than the portfolio returns formed from companies in the SRI Kehati index with a difference of 0.000491 (22.64%). The average risk of the company's portfolio in the LQ45 index also shows a higher risk of the company's portfolio in the SRI Kehati index with a difference of 0.001166 (13.38%). The implications of the results of this study are aimed at investors who are concerned with ethical stocks that there is no need to worry about high portfolio risks and low returns because the results of the study show that the portfolio of stocks included in the SRI KEHATI index provides the same level of risk and return as the stock portfolio. -stocks in the LQ45 index. This study uses the general method used, namely discrete returns in measuring company stock returns, further research is expected to be able to measure returns using the continuously compounded returns method because it can reduce outlier effects so that returns tend to be normally distributed (Tandelilin, 2011). In this study, only the SRI KEHATI index was used as a proxy for ethical stocks. Further researchers can use the IDX KEHATI ESG Sector Leaders index and the IDX KEHATI ESG Quality 45 index.

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