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Risk and Return of Islamic and Conventional Indices on the Indonesia Stock Exchange

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Abstract

The purpose of this study is to compare the level of risk and return of Islamic stocks in the Jakarta Islamic Index (JII) with conventional stocks on the IDX30 in the period from January 2017 to July 2019. The Sharpe ratio method is used to calculate risk and stock returns. The performance of the stock portfolio is measured by comparing the risk premium portfolio with the portfolio risk that is expressed as a standard deviation of the total risk. This study uses secondary data collected by the Indonesia Stock Exchange (IDX), which provides the names of stock issuers included in the JII and IDX30 indices along with their montly closing price. The results of the descriptive analysis show that the JII Sharpe ratio index from January 2017 to July 2019 is from the minimum range of –0.28820 to a maximum range of 0.05622, while the IDX30 Sharpe ratio index from January 2017 to July 2019 is from the minimum range of –0.09290 to the maximum range of 0.17436. The results of inferential analysis using a different test show that there is a significant difference between the Sharpe ratio JII and IDX30 in measuring the performance of the stock portfolio.

Keywords: Islamic Stocks, Conventional Stocks, Risk, Return, Sharpe Ratio

JEL Classification Code: G11, G12, G32

1. Introduction

Placement of funds is expected to maintain, increase the value, or provide a positive return (Endri, 2019). In theory, a riskier investment will encourage investors to expect a higher return. Apart from that, there are also investors who, in their investment activities, do not only consider the financial aspects, but also values such as religious values. Such investors will refuse to invest in companies that manufacture products or engaged in business activities that are against religious principles. In Indonesia, where the majority of the population is Muslim, Islamic-based investment has begun to be developed, where the investment integrates religious values adhered to in investment activities by conducting a selection process (screening) in selecting investment instruments. One of the means of investing according to Islamic principles is through the Islamic capital market (Pranata & Nurjanah, 2015).

There are differences between Islamic and conventional stocks, one of which is that Islamic stocks listed in the Islamic Securities List (DES) are issued every six months by the Financial Services Authority (OJK). On January 1, 2017, the list of DES shares totaled 345 stocks (OJK Board of Commissioners Decree no. 056 / D.04 / 2016). Meanwhile, on June 1, 2019, the list of DES amounted to 408 stocks (Decree of the OJK Board of Commissioners no. 029 / D.04 / 2019). From 2017 to June 2019, the list of stocks in DES increased by 63, a growth of 18.27%. This Islamic Securities List can be used by investors, individuals, and companies, even by investment managers, to determine investment options for stock on the Indonesia Stock Exchange that does not conflict with Islamic principles.

The Indonesia Stock Exchange (IDX) is actively making innovations in the development and provision of stock indices that can be used by all capital market players,

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whether working with other parties or not. According to the official IDX website, currently, the IDX has 35 stock indices. In this research, the index used is the Jakarta Islamic Index or commonly called JII for Islamic stocks, and for conventional stock, it is IDX30. On July 3, 2000, JII was developing as one of the stock indices in Indonesia that calculates the average stock price index for types of stocks that meet the criteria of Islamic regulations. The form of this Islamic instrument is to support the formation of the Islamic Capital Market launched in Jakarta on March 14, 2003. There are 30 stocks that meet the Islamic criteria in each period.

Indonesia Stock Exchange 30 (IDX30) is a market index with 30 leading stocks whose constituents are select from LQ45, launched by the Indonesia Stock Exchange on April 23, 2012. The quantitative criteria considered in the selection of IDX30 stock are transaction activities, including transaction value, frequency of transactions, day's transactions, and market capitalization (Endri et al., 2020a). Data from the Financial Services Authority (OJK) show that, during the period from January 1, 2017, to July 31, 2019, IDX30's share value (asset) grew by 312.4% – from IDR1,718,028.73 (million) in 31 January 2017 to IDR5,367,040.09 (million) on 31 July 2019, while JII's assets in the same period grew by 78.31%, from IDR112,602.86 (million) to IDR3,540,782.41 (million). Based on these data, it appears that the growth in the value of Islamic stock (assets) is still below the growth of conventional stocks, with a difference of 74.93%.

In their investment decisions, investors always consider the risks and returns they will get (Endri et al., 2020b). Risks and returns are a condition experienced by companies, institutions and individuals in investment decisions, both losses and gains in an accounting period. The relationship between the level of risk and the rate of return is: (1) linear or unidirectional; (2) the higher the rate of return, the higher the risk; (3) the greater the assets placed in investment decisions, the greater the risk arising from the investment; and (4) only linear conditions may occur in markets of a normal nature.

Previous studies by Pranata and Nurjanah (2015) and Abbes (2012), regarding the difference in risk and return on Islamic stocks and conventional stock in different periods and countries, proved that there is no significant difference between risk and return on Islamic stocks and conventional stocks. Meanwhile, according to Hersugondo et al. (2020), Tas et al. (2016), and Jawadi et al. (2014), Islamic stocks are more efficient than conventional stocks. Based on these above considerations, the author formulates the following questions: (1) Is there a difference between risk and return on Islamic stocks and conventional stocks in the period from January 2017 to July 2019? (2) Is there a significant difference in risk and return levels between Islamic stocks and conventional stocks in the period from January 2017 to July 2019?

2. Literature Review

Razak et al. (2020) stated that investment is to place assets in the form of assets or funds in something that is expected to provide income or will increase its value in the future. Widodo et al. (2020) stated the importance of corporate financial performance to increase the value of investors' wealth in the future. According to Hersugondo et al. (2020), investors buy or invest in companies that make emissions in the capital market. The capital market is a market that trades various long-term financial instruments both in the form of debt and in the form of own capital. One of the most popular capital market instruments is stocks. Stocks are part of the company's capital, which can also be classified as financial assets. Stocks are proof of someone's ownership in a company (Amiri et al., 2016). Meanwhile, sharia stock is proof of ownership of the public company (issuer) that issues the sharia stocks, meets the sharia principles, has obtained a sharia conformity statement, and exclude stocks with special rights (Boudt et al., 2019). The fundamental difference between the Islamic capital market and the conventional capital market is that capital market activities are carried out with practices that meet Islamic principles. Sharia stock investment is based on five main principles, which include prohibition of interest (riba), prohibition of excessive uncertainty (gharar), prohibition of speculation (maysir) risk and profit sharing, and prohibition of investing in 'unethical' (haram) industries (Abdul-Rahim et al., 2019; Abbes & Trichilli, 2015).

According to Partomo et al. (2017), the set of investments owned by individual and institutional investors is called a portfolio. In addition, Kabir et al. (2017) said that in forming a portfolio, investors can choose an efficient portfolio that offers the maximum expected return for various levels of risk, or an optimal portfolio that offers minimum risk for various rates of return. Kabir et al. (2017) also stated that Islamic equity portfolios provide relatively higher diversification benefits compared to conventional equity portfolios. Risk is the amount of deviation between the expected rate of return and the level that is actually achieved. This method is used to calculate risk, which is the most widely used standard deviation (Nurhayati & Endri, 2020). The expected value used in the standard deviation formula can be the expected value based on historical averages or trends or random walks. The formula for calculating the standard deviation using historical data is as follows:

$$SD = \frac{\sqrt{\sum_{i=1}^{n}\left[X_i - E\left(X_i\right)\right]}}{N-1}$$

Notes:
SD = Standard deviation
X_i = Value to i

$E(X_i)$ = Expected value
N = The sum of historical data observations for large samples with n
(at least 30 observations) and for small samples is used $(n - 1)$

Return is the reward earned from investments. Return is devided into Realized return and Expected return:

a. *Realized return* is the returns that have occurred and are calculated using historical data.
b. *Expected return* is the returns that have not occurred and are expected to be obtained by investors in the future.

The return's formula is as follows:

$$\text{Stock Return} = \frac{P_t - P_t - 1}{P_t - 1} + D_t$$

Notes:
P_t = Stcok price i in month to $-t$
P_{t-1} = Stock price i at one month prior to the month to $-t$
D_t = *Yield* or dividend

Risk and return is a trade off that is considered in an investment. The higher return of invesment, the higher the risk – low risk, low return; high risk, high return (Nguyen & Nguyen, 2019). The pioneering development of the concept of portfolio performance measurement occurred in the late 1960s. Based on Capital Market theory, Sharpe, Treynor and Michael created a concept known as Composite Measure of portfolio performance because it combines risk and return in one calculation (Poornima & Remesh, 2016). The measurement results of the Sharpe method states that, the greater the risk and returns, the better result for investors (especially above zero); on the other hand, if the measurement results are smaller (especially negative), the risk and return levels are bad for investors. According to Nandan and Srivastava (2017), in calculating Sharpe's performance, the portfolio performance series is the net result of the portfolio with a risk-free interest rate per unit risk, which is given the SP symbol. The formula for calculating the Sharpe performance index is as follows:

$$S_p = \frac{R_p - R_f}{\sigma_p}$$

Notes:
S_p = Sharpe performance index
R_p = Return portfolio
R_f = Return risk-free (risk-free interest rate)
σ_p = The number of systematic risk and non-systematic risk

Jawadi et al. (2014) conducted research related to the financial performance of Islamic and conventional indices in Europe, the United States and the world. Their study aims to reveal the impact of the global financial crisis during the period 2000–2011. All empirical findings reveal that Islamic mutual funds outperformed conventional mutual funds in difficult times and that the impact of the 2008–2009 global financial crisis on the Islamic market was less significant than on the conventional market. Abbes (2012) examined the risk-adjusted performance of Islamic stock market indices versus those of conventional counterparts using the difference-in-Sharpe ratio test and the CAPM model. The results show that, in all periods and during the crisis, there is no difference between performance and the type of index on the basis of risk-adjusted returns. From the influencing factors, Majid (2018) findings prove that the volatility of the Islamic and conventional stock markets has the same determining factors.

Research by Ling et al. (2020), using the Jensen alpha approach to measure portfolio performance, shows that 8 out of 10 strategies are effective in generating abnormal returns in the sharia-compliant sample, while only 3 out of 10 strategies are effective in conventional samples. The salient effectiveness of the technical trading strategy in sharia-compliant stocks implies clear inefficiencies in that segment of the stock market compared to conventional stocks. Based on risk, the sharia and conventional stock market segments show different performance due to the screening process based on sharia principles, which can reduce the number of securities that comply with sharia principles to form an investment portfolio. Study by Dewandaru et al. (2015), Pranata and Nurzanah (2016), Mwamba et al. (2017), Rizvi and Arshad (2017), Abu-Alkheil et al. (2020) and Yildiz (2020) prove that Islamic stocks face a lower risk compared to conventional stocks. In addition, sharia-compliant companies typically have low leverage with less exposure to the credit market and with less leeway. In fact, the Islamic index usually consists of stocks with high asset backing and growth-oriented and small cap stocks. This finding contradicts the results by Albaity and Ahmad (2008), Hayat and Kraeussl (2011) and Charles et al. (2015) that claim that Islamic stocks are more risky compared to conventional stocks because they are less diversified.

3. Research Methodology

This research was conducted with a quantitative method using descriptive and inferential statistics. The researcher obtained the data from the Indonesia Stock Exchange, which are taken from Infovesta by using the calculation of return and risk for a single asset. This research used a purposive sampling method with the following criteria: 1) stocks are listed on the JII index for the period from January 1, 2017,

to July 31, 2019, and 2) stocks are listed on the IDX30 index for the period from January 1, 2017, to July 31, 2019. The type of data in this research is secondary data taken from the Indonesia Stock Exchange website.

4. Research Results

4.1. Descriptive Statistics

4.1.1. The Calculation of Return

The return data used is the average return data each month in the January 2017–July 2019 period. Figure 1 shows that the highest return for JII was in April 2018 (0.77%) and the lowest was in May 2019 (–0.31%). For IDX30, the highest return was 1.22% in February 2018 and April 2018 and the lowest return was in May 2019 (0.32%).

4.1.2. The Calculation of Risk

The calculation of risk is based on the calculation of the standard deviation of JII and IDX30 for the period January 2017 to July 2019. Figure 2 shows the standard deviation of JII in the range 0.04097 to 0.03120 and the standard deviation of IDX30 in the range 0.04445 to 0.03377. From the standard deviation figure, it means that fluctuations tend to be smooth, making the returns obtained relatively stable and have good growth prospects and financial conditions.

4.1.3. The Calculation of Risk Free Rate

The risk-free rate data used by the author is SBN (national securities) Yield. Monthly data on SBN Yield as a reference for risk-free rate is presented in Table 1.

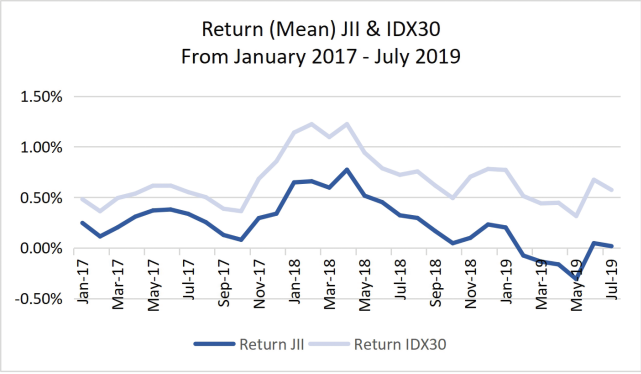

Figure 1: Return JII and IDX30 from January 2017–July 2019

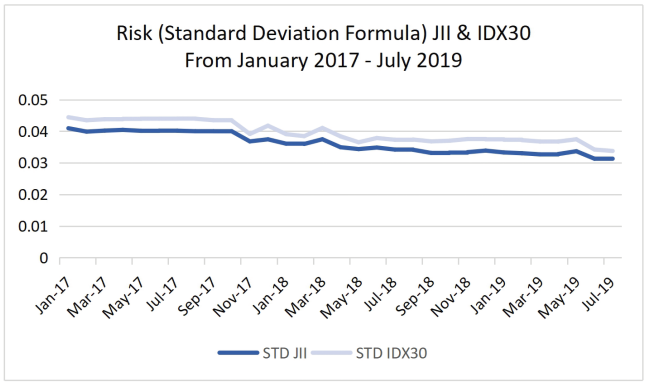

Figure 2: JII Risk and IDX30 from January 2017–July 2019

4.1.4. The Calculation of Sharpe Ratio

Having obtained the data average return, standard deviation and risk-free rate, then Sharpe ratio can be calculated by using the following formula:

$$\text{Sharpe Ratio} = \frac{(\text{Average Return} - \text{Risk Free Rate})}{\text{Standard Deviasi}}$$

The calculation of Sharpe ratio JII and IDX30 for the period January 2017 to July 2019 is presented in Table 2.

Data on Table 2can be described as a graph in Figure 3.

Figure 3 shows that the Sharpe ratio JII index from January 2017 to July 2019 is from the minimum range of –0.28820 to the maximum range of 0.05622. The IDX30 Sharpe ratio index from January 2017 to July 2019 is from the minimum range of –0.09290 to a maximum range of 0.17436. If the Sharpe/RVAR performance index value is positive, the portfolio performance is getting better. The best performance for JII during the period January 2017 to July 2019 was April 2018, which was 0.05622, and for IDX30 in February 2018, which was 0.17436. Meanwhile, JII's worst performance during the period January 2017 to July 2019 was in May 2019, which was –0.2882, and for IDX30 it was in May 2019, which was –0.09290.

4.2. Inferential Statistics

4.2.1. Normality Test

The amount of data processed in the normality test is 29 out of 31. This is because when the author processed a total of 31 data, the significance results of the Sharpe ratio JII were normally distributed and the Sharpe ratio IDX30 was

Table 1: Risk Free Rate JII and IDX30 from January 2017–July 2019

No.	Period	Risk Free Rate JII	Risk Free Rate IDX30
1.	Jan−17	7.650	7.650
2.	Feb−17	7.540	7.540
3.	Mar−17	7.043	7.043
4.	Apr−17	7.048	7.048
5.	May−17	6.953	6.953
6.	Jun−17	6.829	6.829
7.	Jul−17	6.951	6.951
8.	Aug−17	6.695	6.695
9.	Sep−17	6.497	6.497
10.	Oct−17	6.797	6.797
11.	Nov−17	6.517	6.517
12.	Dec−17	6.319	6.319
13.	Jan−18	6.267	6.267
14.	Feb−18	6.632	6.632
15.	Mar−18	6.675	6.675
16.	Apr−18	6.921	6.921
17.	May−18	6.992	6.992
18.	Jun−18	7.797	7.797
19.	Jul−18	7.766	7.766
20.	Aug−18	8.202	8.202
21.	Sep−18	8.115	8.115
22.	Oct−18	8.543	8.543
23.	Nov−18	7.867	7.867
24.	Dec−18	8.025	8.025
25.	Jan−19	8.010	8.010
26.	Feb−19	7.815	7.815
27.	Mar−19	7.633	7.633
28.	Apr−19	7.828	7.828
29.	May−19	7.962	7.962
30.	Jun−19	7.368	7.368
31.	Jul−19	7.376	7.376

Source: processed data.

Table 2: Sharpe Ratio JII and IDX30 from January 2017–July 2019

No.	Period	Sharpe Ratio JII	Sharpe Ratio IDX30
1.	Jan−17	−0.09520	−0.03507
2.	Feb−17	−0.12889	−0.06097
3.	Mar−17	−0.09515	−0.02128
4.	Apr−17	−0.06861	−0.01137
5.	May−17	−0.05198	0.00817
6.	Jun−17	−0.04700	0.01090
7.	Jul−17	−0.06030	−0.00615
8.	Aug−17	−0.07570	−0.01276
9.	Sep−17	−0.10319	−0.03533
10.	Oct−17	−0.12132	−0.04663
11.	Nov−17	−0.06734	0.03585
12.	Dec−17	−0.05005	0.07888
13.	Jan−18	0.03488	0.15812
14.	Feb−18	0.02962	0.17436
15.	Mar−18	0.01071	0.13141
16.	Apr−18	0.05622	0.16852
17.	May−18	−0.01922	0.09832
18.	Jun−18	−0.05662	0.03634
19.	Jul−18	−0.09485	0.02029
20.	Aug−18	−0.11337	0.01951
21.	Sep−18	−0.15346	−0.01594
22.	Oct−18	−0.19996	−0.05905
23.	Nov−18	−0.16632	0.01286
24.	Dec−18	−0.12885	0.02995
25.	Jan−19	−0.13954	0.02774
26.	Feb−19	−0.21952	−0.03707
27.	Mar−19	−0.23590	−0.05315
28.	Apr−19	−0.24846	−0.05604
29.	May−19	−0.28820	−0.09290
30.	Jun−19	−0.18090	0.01766
31.	Jul−19	−0.19127	−0.01211

Source: processed data.

not normally distributed. There are three outlier data. One way to overcome abnormal data distribution is to eliminate outliers, wholly or partly as needed until the data is normally distributed. The author reprocesses a total of 28 data with the result that the data is not homogeneous. Therefore, the authors returned to processing a total of 29 data. The results of the Sharpe ratio JII normality test showed that the Sig. > α value has a significance value of 0.200 > 0.05 (Kolmogorov-Smirnova) and 0.868 > 0.05 (Shapiro-Wilk). Likewise, the results of the normality test for the Sharpe ratio IDX30 shows that the Sig. > α value has a significance value of 0.087 > 0.05 (Kolmogorov-Smirnova) and 0.064 > 0.05 (Shapiro-Wilk). Because the Sharpe ratio JII and IDX30 significance results show a significance value greater than the significance level α = 5% (0.05), it can be concluded that the Sharpe ratio JII and IDX30 data are normally distributed.

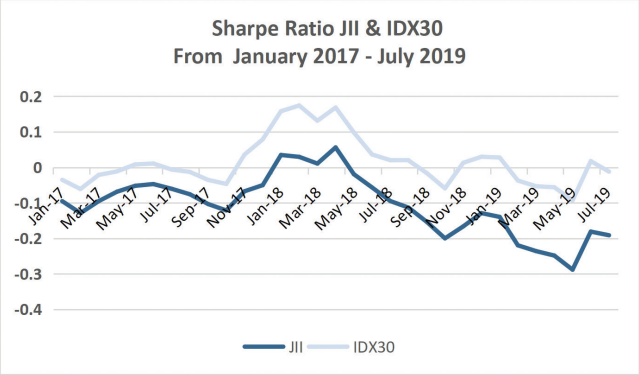

Figure 3: Sharpe Ratio JII and IDX30 from January 2017–July 2019

4.2.2. Homogeneityy Test

The results of the stock homogeneity test showed the Sig. > α value with a significance value of 0.088 > 0.05. Because the significance results show a significance value that is greater than the significance level α = 5% (0.05), it can be concluded that the data is homogeneous. The results of the normality and homogeneity test of the Sharpe ratio data show that the data is normally distributed and homogeneous so that it qualifies for hypothesis testing using the Independent Sample difference test. The first hypothesis testing is testing the Sharpe ratio JII data with the Sharpe ratio IDX30, the statistical test procedure is:

a. Determine the formulation of the first hypothesis:
   H0 = There is no difference between Sharpe ratio JII and Sharpe ratio IDX30.
   H1 = There is differences between Sharpe ratio JII and Sharpe ratio IDX30.

b. Determine the level of significance:
   The significant level used is 5% (0.05). If the value is sig. (2-tailed) > α (0.05) then H0 is accepted and H1 is rejected. As for the sig. (2-tailed) < α (0.05) then H1 is accepted and H0 is rejected.

4.2.3. Different Test Independent Sample *T*-test

After determining the hypothesis formula and determining the level of significance, the next step is to administer the Independent Sample *T*-test on the Sharpe ratio JII and IDX30 data. The following are the results of the Independent Sample *T*-test.

Table 3: The Result of Difference Independent Sample *T*-test Sharpe Ratio JII

		Levene's Test for Equality of Variances		*t*-test for Equality of Means						
		F	Sig.	*t*	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Sharpe Ratio	Equal variances assumed	3.008	0.088	−6.690	56	0.000	−0.12019832	0.01796710	−0.15619075	−0.08420590
	Equal variances not assumed			−6.690	51.499	0.000	−0.12019832	0.01796710	−0.15626031	−0.08413634

The results of the Independent Sample *T*-test above show that the *F* value of the levene count is 3.008 with a sig. 0.088 > 0.005, then the Equal Variances Assumptions are used. Based on the assumption of Equal Variances Assumed the value of Sig. (2-tailed) > α value. The significance value is 0.000 < 0.05. Because the results of the significance of the Sharpe ratio data show a significance value that is smaller than the significance level α = 5% (0.05), the conclusion of the hypothesis that can be drawn is that H0 is rejected and H1 is accepted, it was found that there are a significant difference between the Sharpe ratio JII and IDX30.

5. Conclusions

According to the data generated and processed during the period from January 2017 to July 2019, the return rate of conventional stocks is greater than the return rate of Islamic stocks in May 2019. Islamic stocks achieved the worst rate of return: a minus. In terms of risk generated by Islamic and conventional stocks during January 2017 to July 2019, it is quite stable. The return value and risk of Islamic and conventional stocks are used to calculate the performance of Islamic and conventional stocks through the Sharpe ratio method. There is a significant difference in the performance of Islamic and conventional stocks during the period January 2017 to July 2019. The performance of Islamic and conventional stocks is fluctuating; both Islamic and conventional stocks have achieved poor performance: a minus. From the results of the comparison of the highest Sharpe ratio index of Islamic and conventional stocks, it shows that the conventional stock index number is greater than Islamic stocks. This shows that the performance of conventional stocks is better than Islamic stocks. Another thing is also shown by the lowest Sharpe ratio index for Islamic and conventional stocks. Both showed negative results, but Islamic stocks are bigger than conventional stocks. This shows that the performance of Islamic stocks is worse than conventional stocks.

Investors who will invest in the company are advised to pay more attention to the level of risk and return that affects the stock price index as a reference for future investment feasibility so as not to experience capital loss. Investors are also expected to always look for the most up-to-date information about the shares to be invested, given that external factors are able to influence stock prices in the market. Islamic and non-Islamic stock-based companies should conduct an early analysis of macro and micro risks that can threaten their share prices. Especially sharia-based companies should examine the periods with negative returns, which can reduce investors' interest in buying the shares they issue. In addition to early analysis of the risks that will arise, improvement in current performance is also needed to increase profits as soon as possible, so that share prices also increase. It is hoped that further research will be carried out over a longer period of time so more accurate results can be provided, not only limited to JII shares for Islamic shares and IDX30 for conventional shares. There are still several other stock indexes listed on the IDX such as ISSI, JII70, IHSG, LQ45 as well as several other methods such as Jensen's Measure and Treynor's Measure. So, comparing these methods could be fruitful.

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