International Journal of Management Science and Information Technology (IJMSIT)
Vol. 3, No. 1, January – June 2023.
E-ISSN: 2774-5694, P-ISSN:2776-7388
DOI: https://doi.org/10.35870/ijmsit.v3i1.1107

COMPARATIVE ANALYSIS OF THE PERFORMANCE OF THE COMPOSITE STOCK PRICE INDEX (IHSG) WITH THE INDONESIAN SHARIA STOCK INDEX (ISSI) DURING THE COVID-19 PANDEMIC

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Article Info

Article history:

Received April 14, 2023
Revised April 16, 2023
Accepted April 15, 2023

Keywords:

Conventional Stocks
Islamic Stocks
ISSI
JCI

ABSTRACT

The objective of this study is to determine whether there is a difference in performance between the conventional stock index and the Islamic stock index. If the performance is different, what is the magnitude of the difference. This research is important to be done to be used as a reference and also a preference for the community to determine which investment instrument is the right one and will be profitable for them. This type of research is comparative. The method used in this study is a quantitative method with secondary data. Secondary data will be accessed through the official website. Secondary data is then processed so that it can provide the right conclusions. The results of this study indicate that there is no significant difference between the conventional stock index and the Islamic stock index in terms of Sharpe's performance. However, there is a significant difference between the conventional stock index and the Islamic stock index in terms of Treynor and Jensen's performance.

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1. INTRODUCTION

The placement of a sum of money in an investment now, in the hope of making a profit in the future. There are two general types of investments. Specifically, investments in real assets and investments in financial assets. The money market and capital market are where financial assets are invested. It may be certificates of deposit, money market securities, notes, and so on in the money market. Meanwhile, securities in the capital market may be stocks, options, warrants, futures contracts, bonds, and so on. In Indonesia, two forms of financial markets have emerged: conventional capital markets and Islamic capital markets. The main difference between conventional and sharia capital markets is the halal and haram requirements of the stocks listed on the exchange. Research by Darmawan states that investing in the capital market is a current commitment to money and other resources with the aim of developing value through trading securities in the capital market [1].

On March 2, 2020, the Indonesian government first publicized the Covid-19 case in Indonesia, which was transmitted directly by President Joko Widodo. The rapid spread of the virus infected a large number of people around the world. According to data collected until April 23, 2021, Covid-19 has spread to 223 countries with 144,358,956 confirmed positive cases, with as many as 1,632,248 confirmed positive cases in Indonesia (https://covid19.go.en/, 2021). However, it cannot be denied that this outbreak does not only affect the health sector; the economic sector is also greatly affected. The Covid-19 pandemic caused a downturn in the world economy [2]. The International Monetary Fund (IMF) predicts that the world economy will increase by minus 3% at the beginning of the pandemic (Ministry of Finance of the Republic of Indonesia, 2020). Although Indonesia's economy is in recession during Covid-19, the ratio of government budget deficit to GDP reached 6.34% in 2020 and the ratio of government budget deficit to GDP was 5.7% in

2021. The slowdown of the economic system will be felt throughout the economy, including tourism, transportation, industry, exports, imports and investment.

During the Covid-19 pandemic, one of the investment media for fund development that has been common in the community, especially the middle class and above, is investment in stocks, both conventional and Islamic stock instruments. The comparison between the two continues from time to time as the passion for investment continues to grow in the community. Investment fund development companies or fund managers are competing to collect and try to accumulate coffers of management funds by trying to win the hearts of investors. Both conventional and Islamic stock indices have factors that influence their movement. The Composite Stock Price Index, inflation, exchange rate (kurs), BI rate and Sharia Bank Indonesia Certificate (SBIS) are some of the factors that affect the movement of the Indonesia Sharia Stock Index (ISSI) [3]. In accordance with the results of the Error Correction Model (ECM) analysis shows that in the short term the BI rate and JCI have a significant influence on the ISSI. While BI rate, inflation, exchange rate, SBIS, JCI in the long term have a significant influence.

On a year to date (ytd) basis, the Sharia Stock Index shows a lower performance than the Composite Stock Price Index (JCI). Throughout this year, ISSI was recorded to have fallen 14.60 percent, JII70 corrected 14.13 percent, and JII minus 15.83 percent. Meanwhile, the JCI only fell 12.77 percent (16/11/2020 Kompas.com).

Various related studies on mutual fund performance assessment have often been conducted before with different results such as those conducted [4], [5], [6], [7], [3], [8].

Based on the background, the author writes a problem formulation, namely Is there a significant difference between the Composite Stock Price Index (JCI) and the Indonesian Sharia Stock Index (ISSI) during Covid-19 based on the Sharpe method, Treynor method, and Jensen method?

1.1. Literature Review

1.1.1. Investment

Investment can be defined as the postponement of the current economy to be used in efficient production over a period of time [9]. Meanwhile, according to Sukirno, investment activities carried out by the community will continuously increase economic activity and employment opportunities, increase national income and increase the level of community prosperity [10].

1.1.2. Shares

The definition of shares according to Eduardus Tanderlin is a proof that ownership of the assets of the company that issued the shares [11]. According to (Abi, 2016: 17) shares can be defined as a sign of capital participation of a person or party (business expenses) in a company or limited liability company [12].

1.1.3. Stock Price Index

A stock index is a statistical measure that reflects the overall price movement of a set of stocks selected based on certain criteria and methodology and evaluated regularly [9]. According to Anoraga and Pakarti, the JCI is an index that shows the general movement of stock prices listed on the stock exchange which is a reference to the development of activities in the capital market [13].

1.1.4. Stock Index Performance

In evaluating an index, it is necessary to find a comparison index to compare the level of return and risk of the stock index. to evaluate the performance of a stock index there are two ways that can be done, namely by direct comparison and can also use certain parameters [14].

a. Sharpe Index

Sharpe index is a portfolio performance measure developed by William Sharpe [15]. The Sharpe index was developed by William F. Sharpe in 1966. Sharpe portfolio performance (reward to variability/RVAR) is calculated by dividing the excess return by the variability of the portfolio return.

Measurement with the Sharpe method is based on the risk premium, namely the difference (difference) between the average return on investment securities and risk-free securities (SBI and SWBI interest rates) Sharpe index is formulated as follows [15]:

$$Sp = \frac{\overline{Rp} - \overline{Rf}}{\sigma TR}$$

Description:
Sp = Sharpe performance index.
Rit = stock return in observation period t
Rf = average risk-free return (SBI rate)
σp = Standard Deviation of stock returns

b. Treynor Index

Treynor index is a portfolio performance measure developed by Jack Treynor. The Treynor measurement is basically no different from the Sharpe measurement, except that what acts as a divisor is beta which is systematic risk or market risk [16].

In this model, what is considered relevant as basic risk- adjusted is systematic risk. The Treynor index is formulated as follows [16]:

$$T_P = \frac{R_{it} - R_f}{\beta_p}$$

Description:
Tp = Treynor performance index
Rit = stock return in observation period t
Rf = average risk-free return (SBI)
βp = market risk of the stock index or systematic risk of the stock index

c. Jensen Index

This model was created by Michael C. Jensen and is based on the Capital Asset Pricing Model (CAPM). In this model, what is considered relevant as basic risk-adjusted is systematic risk, with modifications to reflect the superiority or inferiority of portfolio managers in forecasting security prices [17].

Jensen's Alpha is formulated using simple linear regression as follows:

$$\alpha p = TR_p - R_{BR} - \beta p\,(R_M - R_{BR})$$

$$\overline{TR}_p = \overline{R_{BR}} + \beta p\,(R_M - R_{BR})$$

Description:
Jp = Jensen Index
Rp = average rate of return
Rf = average risk-free return (SBI)
Rm = average market return
βp = market beta coefficient.

1.1.5. Portfolio Performance Evaluation Assessment

According to Tandelilin, portfolio performance evaluation assessment is carried out to determine and analyze whether the portfolio formed can increase the possibility of achieving investment objectives from the level of return and risk [11]. In other words, whether the portfolio return that has been formed is able to compensate for the level of risk that investors must bear.

2. RESEARCH METHOD

This research is comparative descriptive research that will describe the comparison between two observations, namely comparing the performance of Islamic stocks with the performance of conventional stocks. The data used in this research is secondary data, in the form of Islamic stock price index in the form of JII index and conventional stock index in the form of JCI index.

The hypothesis in this study is as follows:

Ho: There is no difference between the performance of the conventional stock index and the performance of the Islamic stock index.

Ha: There is a difference between the performance of the conventional stock index and the performance of the Islamic stock index.

The data analysis technique uses statistical data analysis, namely the parametric statistical difference test of 2 independent samples or called the independent sample t-test to compare the performance of the conventional stock index and the performance of the Islamic stock index. Where the data to be processed with the t-test is first tested for normality with the Kolmogrov Smirnov Test. The basis for making the t-test decision is as follows:

a. If the significance value or sig. (2-tailed) > 0.05, then Ho is accepted and Ha is rejected.
b. If the significance value or sig.(2-tailed) <0.05, then Ho is rejected and Ha is accepted.

Table 1. Operationalization of Variables

No.	Dimension	Indicator	Scale	Source
1.	*Sharpe ratio*	$S_P = \frac{R_{it} - R_f}{\sigma_p}$	Ratio	Monthly report from IDX
2.	*Treynor ratio*	$T_P = \frac{R_{it} - R_f}{\beta_p}$	Ratio	Monthly report from IDX
3.	*Jensen ratio*	$J_P = (R_p - R_f) - \beta p (R_m - R_f)$	Ratio	Monthly report from IDX

Source: [18], [19], [20]

3. RESULTS AND ANALYSIS

3.1. Research Results

In accordance with the predetermined criteria, there are 30 companies that will be sampled in the research time for 17 months will be calculated to produce data that will be processed in the study. The following is a presentation of the data that will be considered

3.1.1. Closing price of Conventional Stock Index Share Price

The closing price data used in this study was obtained from the summary stock data for the end of March 2020-July 2021 recorded on the Indonesia Stock Exchange (IDX) website. The following is a presentation of the closing price data for the stock prices of JCI issuers:

Table 2. Closing Price of Conventional Stock Indices for the March 2020-July 2021 Period

Bulan	AISA	AMRT	BALI	CASA	DFAM	ETWA	JTPE	LPCK	MEDC	MOLI	SMKL	STAR	TAMU	TBIG	TRUS
Mar-20	168	700	705	388	352	53	920	432	346	1070	179	138	119	830	380
Apr-20	168	870	850	388	424	50	800	700	450	1090	180	138	180	1195	326
Mei-20	168	910	880	368	400	64	745	705	440	1125	180	138	62	1060	350
Jun-20	168	795	795	400	334	78	780	855	452	1010	181	140	64	1105	348
Jul-20	168	740	890	390	346	72	760	805	464	900	188	140	55	1290	340
Agt-20	157	715	900	388	348	62	825	885	550	900	180	131	58	1305	342
Sep-20	214	665	1000	386	350	62	895	765	338	950	178	129	53	1335	308
Okt-20	218	675	990	386	286	62	885	800	374	845	187	128	50	1500	344
Nov-20	284	710	900	388	236	62	920	1440	498	890	186	112	50	1425	344
Des-20	390	790	800	376	206	62	1010	1420	590	850	202	106	50	1630	294
Jan-21	258	795	720	380	173	62	1050	1020	605	1020	202	96	50	2160	346
Feb-21	310	1020	710	430	187	62	1325	1110	695	1075	206	82	50	2170	342
Mar-21	274	900	755	384	176	62	1390	1135	570	1060	198	100	50	2070	330
Apr-21	290	950	650	378	160	62	1235	1370	670	905	206	98	50	2790	296
Mei-21	236	905	610	380	156	62	1215	1075	690	830	210	102	50	2590	290
Jun-21	194	1250	635	394	138	62	1295	1015	640	955	250	106	50	3210	308
Jul-21	206	1350	600	402	135	62	1145	930	488	1075	248	125	50	3210	332

Source: IDX, data processed

3.1.2. Closing price of the Islamic Stock Index

The closing price data used in this study was obtained from the summary stock data for the end of March 2020-July 2021 recorded on the Indonesia Stock Exchange (IDX) website The following is a presentation of the closing price data for the share prices of ISSI issuers:

Table 3 Closing Price of the Islamic Stock Index for the March 2020-July 2021 Period

Bulan	AALI	ADHI	ANTM	ASII	BSDE	ICBP	INTP	KLBF	LPKR	PGAS	SMRA	TLKM	UNTR	UNVR	WIKA
Mar-20	4820	444	362	3860	695	8850	9275	975	151	745	494	2620	12600	5650	890
Apr-20	6100	550	510	3850	705	9875	11650	1440	162	855	444	3500	16300	8275	950
Mei-20	7400	500	535	4770	635	8150	12100	1415	184	860	464	3150	15700	7750	1085
Jun-20	8225	610	605	4800	740	9350	11800	1460	171	135	585	3050	16550	7900	1200
Jul-20	9700	600	730	5150	690	9075	12375	1565	138	1265	600	3050	21600	8400	1190
Agt-20	10175	595	820	5100	840	10225	11875	1580	157	1255	645	2860	23000	8225	1240
Sep-20	10175	500	705	4460	740	10075	10400	1550	119	925	555	2560	22800	8100	1095
Okt-20	10550	585	1060	5400	890	9775	12325	1545	137	1105	655	2650	22000	7950	1215
Nov-20	12325	1090	1145	5300	1050	9900	14300	1505	234	1390	820	3230	23000	7725	1620
Des-20	12325	1535	1935	6025	1225	9575	14475	1480	214	1655	805	3310	26600	7350	1985
Jan-21	11050	1465	2380	6275	1085	9350	13300	1515	173	1390	695	3240	23875	7075	1830
Feb-21	11250	1385	2840	5400	1160	8575	12500	1470	202	1440	825	3490	22550	7000	1740
Mar-21	10025	1095	2250	5275	1120	9200	12225	1570	193	1315	940	3420	22125	6575	1535
Apr-21	9325	1155	2490	5500	1179	8700	12850	1440	133	1225	970	3200	21175	6000	3440
Mei-21	8825	975	2450	5300	1120	8200	12100	1450	151	1115	940	3440	22550	5850	1250
Jun-21	7600	755	2300	4940	965	8150	10300	1400	154	1005	850	3150	20250	4950	990
Jul-21	7950	685	2520	4720	935	8125	8800	1260	149	975	750	3240	20000	4410	920

3.2. Kolmogorov-Smirnov Normality Test

Because the data used is more than 50, it uses 1 Sample K-S.

Table 1. Normality Test Group	Kolmogorov Smirnov (Sig.)	Remarks
Before	0,109	Normal
After	0,127	Normal

In the Kolmogorov-Smirnov test, data is said to be normally distributed (symmetrical) If it is more than 0.05, the data is normal. Based on the output table above, it is known that the significance value of the ISSI stock price variable both before and during the Covid-19 pandemic is more than 0.05, so according to the basis for decision making, the data can be said to be normally distributed.

3.2.1. Sharpe method t-test

Table 4. T-test results of stock performance comparison with Sharpe method

Independent Samples Test						
				t-test for Equality of Means	df	Sig. (2-tailed)
Performance	Equal variances assumed	37,433	0,000	-0,562	508	0,574
	Equal variances not assumed			-0,562	454,966	0,574

Source: Results of data processing spss 26, 2022

Table 4 shows the results of the conventional stock index difference test with the Islamic stock index. The table shows a t-count of -0.562 and a significant value of sig 2- tailed (p-value) of 0.574 which means more> 0.05. Thus, it can be concluded that H1 is rejected or there is no significant difference between the conventional stock index and the Islamic stock index using the Sharpe method during the period March 2020 to July 2021. This happens because between conventional stocks and Islamic stocks the difference in stock performance is very small so that there is no significant difference between conventional stocks and Islamic stocks.

3.2.2. Method Treynor t-test

Table 5. T-test results of stock performance comparison with Treynor method

Independent Samples Test						
				t-test for Equality of Means	df	Sig. (2-tailed)
Performance	Equal variances assumed	140,406	0,000	-3,063	508	0,002
	Equal variancesnot assumed			-3,063	256,581	0,002

Source: Results of data processing spss 26, 2022

Table 5 shows the results of the conventional stock index difference test with the Islamic stock index. The table shows a t-count of -3.065 and a significant value of 2- tailed sig (p-value) of 0.002 which means more <0.05. Thus, it can be concluded that H2 is accepted or there is a significant difference between the conventional stock index and the Islamic stock index using the Treynor method during the period March 2020 to July 2021. There is a significant difference also occurs due to differences in stock performance between conventional and Islamic stocks, namely Islamic stocks have more positive results than conventional stocks.

3.2.3. Method Jensen t-test

Table 6. T-test results of stock performance comparison with Jensen method

Independent Samples Test						
				t-test for Equality of Means	df	Sig. (2-tailed)
Performance	Equal variances assumed	3,881	0,049	-3,260	508	0,001
	Equal variancesnot assumed			-3,260	460,02	-3,260

Source: Results of data processing spss 26, 2022

Table 6 shows the results of the conventional stock index difference test with the Islamic stock index. The table shows a t-count of -3.260 and a significant value of sig 2- tailed (p-value) of 0.001 which means more <0.05. Thus, it can be concluded that H3 is accepted or there is a significant difference between the conventional stock index and the Islamic stock index using the Jensen method during the period March 2020 to July 2021. The Jensen method is the strongest method among other methods because the Jensen method produces more positive stock performance.

3.3. Paired t-Test

Descriptive samples show the difference in average stock prices before and during the Covid-19 pandemic.

Table 2. Descriptive Sample	Mean	Mean
Group		
Before	155,5798	565,5768
After	185,3548	385,3449

Based on this output, it is known that the average share price of ISSI and JCI before the Covid-19 pandemic was Rp155.5798 while the average share price of ISSI during the Covid-19 pandemic was Rp185.3548. Since the average share price of ISSI during the Covid-19 pandemic is greater than the average share price before the Covid-19 pandemic, it means that descriptively there is a difference in the average share price before and during the Covid-19 pandemic. Furthermore, to prove whether the difference is real (significant) or not, a paired t-test is conducted.

Tabel 3. *Paired Samples Test*	Sig.	Keterangan
Group		
Before-After	0,031	Diterima

Source: Processed results, 2022

The mean value is negative because the first group (average ISSI price before the Covid-19 pandemic) is lower than the second group (average ISSI price during the Covid-19 pandemic). Based on the output table above, it is known that the Sig. (2-tailed) is 0.31 greater than 0.05. So, in accordance with the basis for decision making in the paired sample test H0 is accepted and Ha is rejected, meaning that there is no significant difference between the average ISSI stock price before and during the Covid-19 pandemic.

3.4. Analysis

3.4.1. Comparison of Stock Index Performance with Sharia Stock Index using Sharpe Method

based on the decision-making criteria, H1 is rejected. That is, there is no significant difference between the performance of the conventional stock index and the Islamic stock index using the Sharpe method. This is because in the calculation with the Sharpe method between conventional stocks and Islamic stocks, it shows that the Sharpe performance measurement does not produce a significant difference in the results of stock performance during this period.

The results of this study are in line with research [21], [8], [4] which states that there is no significant difference in stock performance using the Sharpe method.

3.4.2. Comparison of Stock Index Performance with Sharia Stock Index using Treynor Method

Based on the results of the t-test on the Treynor method, the Asymp. Sig. (2-tiled) of 0.002 or <0.05, which means that based on the decision-making criteria, H2 is accepted. That is, there is a significant difference between the performance of the conventional stock index and the Islamic stock index using the Treynor method.

The results of this study are in line with research [22], [23], [24] which states that there is a significant difference in stock performance using the Treynor method.

3.4.3. Comparison of Stock Index Performance with Sharia Stock Index using Jensen Method

Based on the results of the t-test on the Jensen method, the Asymp. Sig. (2-tiled) of 0.001 or <0.05, which means that based on the decision-making criteria, H3 is accepted. That is, there is a significant difference between the performance of the conventional stock index and the Islamic stock index using the Jensen method.

The results of this study are in line with research [23], [22], [25] which state that there are significant differences in stock performance.

4. CONCLUSION

Based on the research that has been conducted on the Comparative Analysis of the Performance of the Composite Stock Price Index (JCI) with the Indonesian Sharia Stock Index (ISSI) during the Covid 19 Pandemic, it can be concluded as follows: There is no significant difference between the performance of conventional stocks and Islamic stocks using the Sharpe method. There is a significant difference between the performance of conventional stocks and Islamic stocks using the Treynor method, there is a significant difference between the performance of conventional stocks and Islamic stocks using the Jensen method. Based on descriptive analysis of the test results and discussions that have been described, the conclusion of this study is that there is no significant difference between the average ISSI share price before and during the Covid-19 pandemic. ISSI, which fell at the beginning of the pandemic, may have been caused by investor panic and influenced by the fall in the JCI and several other external factors. The characteristics of ISSI which has interest-based debt that cannot be more than 45% of the company's total assets are expected to provide better resilience for issuers in facing the recessionary period due to this pandemic. Based on the results of this study, it shows that in the existence of a situation that results in the shaky economy of a country does not cause a sharp change in the ISSI, because basically the stocks in the ISSI already have a strong foundation so that they have good endurance when facing a shock that hits the ISSI. Therefore, the Indonesia Stock Exchange is expected not to stop in providing more education and motivation for investors to invest in Islamic stocks. In this study there are limitations which need to be developed by further research, namely only examining the performance of the Islamic stock index.

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