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The Effect of Dow Jones Industrial Average, FTSE 100 and Hangseng on Joint Stock Price Index on the Indonesia Stock Exchange in the Period of 2020

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At the time of the Covid 19 pandemic in Indonesia, the economy became increasingly difficult, so many factories had difficulty surviving, and laid off their employees. As an effort to stay afloat, many laid-off employees have started investing in the capital market in order to continue to earn income and to fill time while looking for new jobs. This is evidenced by the increase in retail investors in 2020 to 3,615,000 investors. This number increased by 45.51% from the number of investors in the previous year, namely 2019. With so many new investors, the easiest thing to do to analyze stock price movements is to look at stock movement indexes in other countries, such as the Dow Jones Industrial Average, FTSE 100 and Hangseng.

This research was conducted on the Indonesia Stock Exchange, by looking at the movement of the Composite Stock Price Index. The researcher uses a purposive sampling method to take samples with the criteria of the time period used is during 2020. The object of this research is the effect of the Dow Jones Industrial Average, FTSE 100, Hangseng on the Composite Stock Price Index from January 2020 to December 2020, and obtained data number 225. Hypothesis testing using Classical Assumption Test, Multiple Linear Regression Analysis, Simultaneous Test (f test), Partial Test (t test), and Coefficient of Determination Test.

The results of the Key Test show that the Dow Jones Industrial Average, FTSE 100, and Hangseng have a significant effect on the JCI partially and simultaneously during the study period, with the adjusted number R2 or 92.57%, while the remaining 7.43%. in this research.

Keywords: DJI, FTSE 100, Hangseng, Composite Stock Price Index

Introduction

During the Covid 19 pandemic in Indonesia, the economy became increasingly difficult, so many factories/offices had difficulty surviving, and laid off their employees. As an effort to stay afloat, many laid-off employees have started investing in the capital market in order to continue to earn income and to fill their time while looking for a new job. This is evidenced by the increase in retail investors in 2020 to 3,615,000 investors. This number increased by 45.51% from the number of investors in the previous year, namely 2019.

Beginner investors, who only became investors in March 2020, greatly benefited from the fall in stock prices in Indonesia, so they got the cheapest stock prices, and could generate maximum profits. The COVID-19 pandemic has resulted in an anomaly in the movement of the

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Composite Stock Price Index data. according to (Purnama, 2018). If the deviation occurs in the capital market, then unusual profits can be received by investors by setting the right strategy in stock trading. So that novice investors can buy stocks in March 2020 and sell them when the stock price index starts to rebound in April, or if long-term investors can wait until stock prices return to their pre-pandemic position. The historical data development of the Composite Stock Price Index which has increased and decreased during 2020 can be seen in Figure 1.

Figure 1
Composite Stock Price Index Chart Fluctuation
Source: www.idx.co.id

With so many new investors, the easiest thing to do to analyze stock price movements is to look at stock index movements in other countries, such as the Dow Jones Industrial Average, FTSE 100 and Hangseng.

Figure 2
Dow Jones Industrial Average Chart
Source: https://id.investing.com/indices/u

Figure 3
Source: https://id.investing.com/indices/uk-100

Figure 4
Hangseng Chart
Source: https://id.investing.com/indices/hang-sen-40

Because the COVID-19 pandemic started overseas first, so from the three charts above it can be seen that the decline in the DJI, FTSE 100, and Hang Seng stock indexes began to occur from January 2020, different from the JCI which began to decline in March 2020. So from the graph - foreign market index chart, investors in Indonesia should be better prepared to face the decline in the JCI, so that losses can be minimized. If investors can develop a good strategy, the losses due to this anomaly can be prevented, and turned into opportunities to generate optimal profits.

Research purposes

This research was conducted to find out how much influence the DJI, FTSE 100 and Hangseng market indexes can affect the average price of the Indonesian Composite Stock either partially or simultaneously for the 2020 period.

Literature Review

The Definition of the Dow Jones Industrial Average

In the capital market in the United States, there are three main stock market indexes. These stock indexes are the Dow Jones Industrial Average, Nasdaq Composite and Standard & Poor's 500. Overall these three indexes function as Security Market Indicator Series (SMIS). The Dow Jones Industrial Average (DJIA) is the most widely used stock market index in the United States for analysis (Muhaimin Zikri, 2013). (Artini et al., 2017) The main index on the New York Stock Exchange in America and its calculation using an average of 30 companies is called the DJI or

the Dow Jones Index. Meanwhile, from research conducted by (Sihombing & Rizal, 2014) The result is that in the long term DJI will have an effect on the JCI.

Understanding FTSE 100

The stock index indicator that represents 81% of the market capitalization of the entire London Stock Exchange (UK) is referred to as The Financial Times Stock Exchange 100 (Agus et al., 2015). The FTSE 100 Index consists of the 100 largest companies that represent 81% of the market capitalization of the London Stock Exchange. (Halim & Marcories, 2011). According to research conducted by (Muhaimin Zikri, 2013) The FTSE 100 doesn't have significance effect to the JCI.

Definition of Hang Seng

Hang Seng Index Company Limited is a stock index owned by Hang Seng Bank Bank (Ratna et al., 2018), (Hartantio & Yusbardini, 2020) The Hang Seng Index (HSI) is a cumulative index number composite of 50 blue chip stocks listed on the Hong Kong Stock Market. The stocks listed in this index come from various sectors, such as the Industrial Sector, Financial Sector, Property and so on. The Hong Kong stock market is the second largest stock exchange in Asia. Therefore, the Hong Kong stock exchange is more in demand by investors. Thus, any price changes on the Hang Seng index will affect the JCI movement on the IDX. according to (Budijanto et al., 2012) there is a strong correlation between Hangseng and the stock market in Indonesia, namely the JCI.

Definition of Hang Seng

(Purnama, Marselia ; Hanitha, Vivin; Purnama, 2019) On the Indonesia Stock Exchange, there is a Composite Stock Price Index used as a measurement of the combined performance of all stocks listed on the Indonesia Stock Exchange. Actually, the overall stock price that has been calculated and arranged to form a trend in such a way that it can be used as a reference for calculations to make decisions is referred to as the JCI. (Sawidji, 2015).

Hypothesis Formulation

H1: There is a partial effect of the Dow Jones Industrial Average, FTSE 100, and Hangseng on the Composite Stock Price Index on the Indonesia Stock Exchange for the period 2020.

H2: Simultaneously there is the effect of the Dow Jones Industrial Average, FTSE 100, and Hangseng on the Composite Stock Price Index on the Indonesia Stock Exchange for the period 2020.

Methods

Sample

Sample is the part of population that has the same characteristics of the population based on Sugiyono in (M. ; O.` P. Purnama, 2020). The sample selected by the researcher is based on the criteria determined by the researcher called purposive sampling (Purnama et al., 2021).

The sample used is the Composite Stock Price Index (JCI), DJI, FTSE 100, and Hangseng data for the 2020 period. With the data selection criteria, namely the 2020 period, the sample selection based on purposive sampling resulted in 225 data.

Table 1. IHSG, DJI, FTSE 100, Hangseng Data

Date	ihsg	dji	ftse 100	hangseng
2-Jan-20	6,283.58	30,409.56	7,604.30	28,543.52
3-Jan-20	6,323.47	28,868.80	7,622.40	28,451.50
6-Jan-20	6,257.40	28,634.88	7,575.34	28,226.19
7-Jan-20	6,279.35	28,703.38	7,573.85	28,322.06
8-Jan-20	6,225.69	28,583.68	7,574.93	28,087.92
9-Jan-20	6,274.49	28,745.09	7,598.12	28,561.00
10-Jan-20	6,274.94	28,956.90	7,587.85	28,638.20
13-Jan-20	6,296.57	28,823.77	7,617.60	28,954.94
14-Jan-20	6,325.41	28,907.05	7,622.35	28,885.14
15-Jan-20	6,283.37	28,939.67	7,642.80	28,773.59
16-Jan-20	6,286.05	29,030.22	7,609.81	28,883.04
17-Jan-20	6,291.66	29,297.64	7,674.56	29,056.42
20-Jan-20	6,245.04	29,348.10	7,651.44	28,795.91
22-Jan-20	6,233.45	29,196.04	7,571.92	28,341.04
23-Jan-20	6,249.21	29,186.27	7,507.67	27,909.12
24-Jan-20	6,244.11	29,160.09	7,585.98	27,949.64
29-Jan-20	6,113.04	28,722.85	7,483.57	27,160.63
30-Jan-20	6,057.60	28,734.45	7,381.96	26,449.13
31-Jan-20	5,940.05	28,859.44	7,286.01	26,312.63
3-Feb-20	5,884.17	28,256.03	7,326.31	26,356.98
4-Feb-20	5,922.34	28,399.81	7,439.82	26,675.98
5-Feb-20	5,978.51	28,807.63	7,482.48	26,786.74
6-Feb-20	5,987.15	29,290.85	7,504.79	27,493.70
7-Feb-20	5,961.00	29,379.77	7,466.70	27,404.27
10-Feb-20	5,952.08	29,102.51	7,446.88	27,241.34
11-Feb-20	5,954.40	29,276.82	7,499.44	27,583.88
12-Feb-20	5,913.08	29,276.34	7,534.37	27,823.66
13-Feb-20	5,871.95	29,551.42	7,452.03	27,730.00
14-Feb-20	5,866.94	29,423.31	7,409.13	27,815.60
17-Feb-20	5,867.52	29,398.08	7,433.25	27,959.60
19-Feb-20	5,928.79	29,232.19	7,457.02	27,655.81
20-Feb-20	5,942.49	29,348.03	7,436.64	27,609.16
21-Feb-20	5,882.25	29,219.98	7,403.92	27,308.81
24-Feb-20	5,807.05	28,992.41	7,156.83	26,820.88
25-Feb-20	5,787.14	27,960.80	7,017.88	26,893.23
26-Feb-20	5,688.92	27,081.36	7,042.47	26,696.49
27-Feb-20	5,535.69	26,957.59	6,796.40	26,778.62
28-Feb-20	5,452.70	25,766.64	6,580.61	26,129.93
2-Mar-20	5,361.25	25,409.36	6,654.89	26,291.68
3-Mar-20	5,518.63	26,703.32	6,718.20	26,284.82
4-Mar-20	5,650.14	25,917.41	6,815.59	26,222.07
5-Mar-20	5,638.13	27,090.86	6,705.43	26,767.87
6-Mar-20	5,498.54	26,121.28	6,462.55	26,146.67
9-Mar-20	5,136.81	25,864.78	5,965.77	25,040.46
10-Mar-20	5,220.83	23,851.02	5,960.23	25,392.51
11-Mar-20	5,154.10	25,018.16	5,876.52	25,231.61
12-Mar-20	4,895.75	23,553.22	5,237.48	24,309.07
13-Mar-20	4,907.57	21,200.62	5,366.11	24,032.91
16-Mar-20	4,690.66	23,185.62	5,151.08	23,063.57
17-Mar-20	4,456.75	20,188.52	5,294.90	23,263.73
18-Mar-20	4,330.67	21,237.38	5,080.58	22,291.82
19-Mar-20	4,105.42	19,898.92	5,151.61	21,709.13
20-Mar-20	4,194.94	20,087.19	5,190.78	22,805.07
23-Mar-20	3,989.52	19,173.98	4,993.89	21,696.13

24-Mar-20	3,937.63	18,591.93	5,688.20	22,663.49
26-Mar-20	4,338.90	20,704.91	5,815.73	23,352.34
27-Mar-20	4,545.57	22,552.17	5,510.33	23,484.28
30-Mar-20	4,414.50	21,636.78	5,563.74	23,175.11
31-Mar-20	4,538.93	22,327.48	5,671.96	23,603.48
1-Apr-20	4,466.04	21,917.16	5,454.57	23,085.79
2-Apr-20	4,531.69	20,943.51	5,480.22	23,280.06
3-Apr-20	4,623.43	21,413.44	5,415.50	23,236.11
6-Apr-20	4,811.83	21,052.53	5,582.39	23,749.12
7-Apr-20	4,778.64	22,679.99	5,704.45	24,253.29
8-Apr-20	4,626.69	22,653.86	5,677.73	23,970.37
9-Apr-20	4,649.08	23,433.57	5,842.66	24,300.33
14-Apr-20	4,706.49	23,390.77	5,791.31	24,435.40
15-Apr-20	4,625.90	23,949.76	5,597.65	24,145.34
16-Apr-20	4,480.61	23,504.35	5,628.43	24,006.45
17-Apr-20	4,634.82	23,537.68	5,786.96	24,380.00
20-Apr-20	4,575.90	24,242.49	5,812.83	24,330.02
21-Apr-20	4,501.92	23,650.44	5,641.03	23,793.55
22-Apr-20	4,567.56	23,018.88	5,770.63	23,893.36
23-Apr-20	4,593.55	23,475.82	5,826.61	23,977.32
24-Apr-20	4,496.06	23,515.26	5,752.23	23,831.33
27-Apr-20	4,513.14	23,775.27	5,846.79	24,280.14
28-Apr-20	4,529.55	24,133.78	5,958.50	24,575.96
29-Apr-20	4,567.32	24,101.55	6,115.25	24,643.59
4-May-20	4,605.49	24,345.72	5,753.78	23,613.80
5-May-20	4,630.13	23,749.76	5,849.42	23,868.66
6-May-20	4,608.79	23,883.09	5,853.76	24,137.48
11-May-20	4,639.10	24,331.32	5,939.73	24,602.06
12-May-20	4,588.73	24,221.99	5,994.77	24,245.68
13-May-20	4,554.36	23,764.78	5,904.05	24,180.30
14-May-20	4,583.00	23,247.97	5,741.54	23,829.74
15-May-20	4,507.61	23,625.34	5,799.77	23,797.47
18-May-20	4,511.06	23,685.42	6,048.59	23,934.77
19-May-20	4,548.66	24,597.37	6,002.23	24,388.13
20-May-20	4,545.95	24,206.86	6,067.16	22,952.24
26-May-20	4,626.80	24,575.90	6,067.76	23,384.66
27-May-20	4,641.56	24,995.11	6,144.25	23,301.36
28-May-20	4,716.19	25,548.27	6,218.79	23,132.76
29-May-20	4,753.61	25,400.64	6,076.60	22,961.47
2-Jun-20	4,847.51	25,383.11	6,220.14	23,995.94
3-Jun-20	4,941.01	25,742.65	6,382.41	24,325.62
4-Jun-20	4,916.70	26,269.89	6,341.44	24,366.30
5-Jun-20	4,947.78	26,281.82	6,484.30	24,770.41
8-Jun-20	5,070.56	27,110.98	6,472.59	24,776.77
9-Jun-20	5,035.06	27,572.44	6,335.72	25,057.22
10-Jun-20	4,920.68	27,272.30	6,329.13	25,049.73
11-Jun-20	4,854.75	26,989.99	6,076.70	24,480.15
12-Jun-20	4,880.36	25,128.17	6,105.18	24,301.38
15-Jun-20	4,816.34	25,605.54	6,064.70	23,776.95
16-Jun-20	4,986.46	25,763.16	6,242.79	24,344.09
17-Jun-20	4,987.78	26,289.98	6,253.25	24,481.41
18-Jun-20	4,925.25	26,119.61	6,224.07	24,464.94
19-Jun-20	4,942.27	26,080.10	6,292.60	24,643.89
22-Jun-20	4,918.83	25,871.46	6,244.62	24,511.34
23-Jun-20	4,879.13	26,024.96	6,320.12	24,907.34
24-Jun-20	4,964.73	26,156.10	6,123.69	24,781.58

26-Jun-20	4,904.09	25,745.60	6,159.30	24,549.99
29-Jun-20	4,901.82	25,015.55	6,225.77	24,301.28
30-Jun-20	4,905.39	25,595.80	6,169.74	24,427.19
2-Jul-20	4,966.78	25,734.97	6,240.36	25,124.19
3-Jul-20	4,973.79	25,827.36	6,157.30	25,373.12
7-Jul-20	4,987.08	26,287.03	6,189.90	25,975.66
8-Jul-20	5,076.17	25,890.18	6,156.16	26,129.18
9-Jul-20	5,052.79	26,067.28	6,049.62	26,210.16
10-Jul-20	5,031.26	25,706.09	6,095.41	25,727.41
13-Jul-20	5,064.45	26,075.30	6,176.19	25,772.12
14-Jul-20	5,079.12	26,085.80	6,179.75	25,477.89
15-Jul-20	5,075.80	26,642.59	6,292.65	25,481.58
16-Jul-20	5,098.37	26,870.10	6,250.69	24,970.69
17-Jul-20	5,079.58	26,734.71	6,290.30	25,089.17
20-Jul-20	5,051.11	26,671.95	6,261.52	25,057.99
21-Jul-20	5,114.71	26,680.87	6,269.73	25,635.66
22-Jul-20	5,110.19	26,840.40	6,207.10	25,057.94
23-Jul-20	5,145.01	27,005.84	6,211.44	25,263.00
24-Jul-20	5,082.99	26,652.33	6,123.82	24,705.33
27-Jul-20	5,116.67	26,469.89	6,104.88	24,603.26
28-Jul-20	5,112.99	26,584.77	6,129.26	24,772.76
29-Jul-20	5,111.11	26,379.28	6,131.46	24,883.14
30-Jul-20	5,149.63	26,539.57	5,989.99	24,710.59
3-Aug-20	5,006.22	26,313.65	6,032.85	24,458.13
4-Aug-20	5,075.00	26,664.40	6,036.00	24,946.63
5-Aug-20	5,127.05	26,828.47	6,104.72	25,102.54
6-Aug-20	5,178.27	27,201.52	6,026.94	24,930.58
7-Aug-20	5,143.89	27,386.98	6,032.18	24,531.62
10-Aug-20	5,157.83	27,433.48	6,050.59	24,377.43
11-Aug-20	5,190.17	27,791.44	6,154.34	24,890.68
12-Aug-20	5,233.45	27,686.91	6,280.12	25,244.02
13-Aug-20	5,239.25	27,976.84	6,185.62	25,230.67
14-Aug-20	5,247.69	27,896.72	6,090.04	25,183.01
18-Aug-20	5,295.17	27,931.02	6,076.62	25,367.38
19-Aug-20	5,272.81	27,778.07	6,111.98	25,178.91
24-Aug-20	5,277.04	27,692.88	6,104.73	25,551.58
25-Aug-20	5,338.89	28,308.46	6,037.01	25,486.22
26-Aug-20	5,340.33	28,248.44	6,045.60	25,491.79
27-Aug-20	5,371.47	28,331.92	5,999.99	25,281.15
28-Aug-20	5,346.66	28,492.27	5,963.57	25,422.06
1-Sep-20	5,310.68	28,430.05	5,862.05	25,184.85
2-Sep-20	5,311.97	28,645.66	5,940.95	25,120.09
3-Sep-20	5,280.81	29,100.50	5,850.86	25,007.60
4-Sep-20	5,239.85	28,292.73	5,799.08	24,695.45
7-Sep-20	5,230.20	28,133.31	5,937.40	24,589.65
9-Sep-20	5,149.38	27,500.89	6,012.84	24,468.93
10-Sep-20	4,891.46	27,940.47	6,003.32	24,313.54
11-Sep-20	5,016.71	27,534.58	6,032.09	24,503.31
14-Sep-20	5,161.83	27,665.64	6,026.25	24,640.28
15-Sep-20	5,100.87	27,993.33	6,105.54	24,732.76
16-Sep-20	5,058.48	27,995.60	6,078.48	24,725.63
17-Sep-20	5,038.40	28,032.38	6,049.92	24,340.85
18-Sep-20	5,059.22	27,901.98	6,007.05	24,455.41
21-Sep-20	4,999.36	27,657.42	5,804.29	23,950.69
22-Sep-20	4,934.09	27,147.70	5,829.46	23,716.85
23-Sep-20	4,917.96	27,288.18	5,899.26	23,742.51

24-Sep-20	4,842.76	26,763.13	5,822.78	23,311.07
25-Sep-20	4,945.79	26,815.44	5,842.67	23,235.42
28-Sep-20	4,906.55	27,173.96	5,927.93	23,476.05
29-Sep-20	4,879.10	27,584.06	5,897.50	23,275.53
30-Sep-20	4,870.04	27,452.66	5,866.10	23,459.05
5-Oct-20	4,958.77	27,682.81	5,942.94	23,767.78
6-Oct-20	4,999.22	28,148.64	5,949.94	23,980.65
7-Oct-20	5,004.33	27,772.76	5,946.25	24,242.86
8-Oct-20	5,039.14	28,303.46	5,978.03	24,193.35
9-Oct-20	5,053.66	28,425.51	6,016.65	24,119.13
12-Oct-20	5,093.10	28,586.90	6,001.38	24,649.68
13-Oct-20	5,132.57	28,837.52	5,969.71	24,597.50
14-Oct-20	5,176.10	28,679.81	5,935.06	24,667.09
15-Oct-20	5,105.15	28,514.00	5,832.52	24,158.54
16-Oct-20	5,103.41	28,494.20	5,919.58	24,386.79
19-Oct-20	5,126.33	28,606.31	5,884.65	24,542.26
20-Oct-20	5,099.84	28,195.42	5,889.22	24,569.54
21-Oct-20	5,096.45	28,308.79	5,776.50	24,754.42
22-Oct-20	5,091.82	28,210.82	5,785.65	24,786.13
23-Oct-20	5,112.19	28,363.66	5,860.28	24,918.78
27-Oct-20	5,128.23	27,685.38	5,728.99	24,787.19
2-Nov-20	5,115.13	27,463.19	5,654.97	24,460.01
3-Nov-20	5,159.45	26,925.05	5,786.77	24,939.73
4-Nov-20	5,105.20	27,480.03	5,883.26	24,886.14
5-Nov-20	5,260.33	27,847.66	5,906.18	25,695.92
6-Nov-20	5,335.53	28,390.18	5,910.02	25,712.97
9-Nov-20	5,356.00	28,323.40	6,186.29	26,016.17
10-Nov-20	5,462.74	29,157.97	6,296.85	26,301.48
11-Nov-20	5,509.51	29,420.92	6,382.10	26,226.98
12-Nov-20	5,458.60	29,397.63	6,338.94	26,169.38
13-Nov-20	5,461.06	29,080.17	6,316.39	26,156.86
16-Nov-20	5,494.87	29,479.81	6,421.29	26,381.67
17-Nov-20	5,529.94	29,950.44	6,365.33	26,415.09
18-Nov-20	5,557.52	29,783.35	6,385.24	26,544.29
19-Nov-20	5,594.06	29,438.42	6,334.35	26,356.97
20-Nov-20	5,571.66	29,483.23	6,351.45	26,451.54
23-Nov-20	5,652.76	29,263.48	6,333.84	26,486.20
24-Nov-20	5,701.03	29,591.27	6,432.17	26,588.20
25-Nov-20	5,679.25	30,046.24	6,391.09	26,669.75
26-Nov-20	5,759.92	29,872.47	6,362.93	26,819.45
30-Nov-20	5,612.42	29,910.37	6,266.19	26,341.49
1-Dec-20	5,724.74	29,638.64	6,384.73	26,567.68
2-Dec-20	5,813.99	29,823.92	6,463.39	26,532.58
3-Dec-20	5,822.94	29,883.79	6,490.27	26,728.50
4-Dec-20	5,810.48	29,969.52	6,550.23	26,835.92
7-Dec-20	5,930.76	30,218.26	6,555.39	26,506.85
8-Dec-20	5,944.41	30,069.79	6,558.82	26,304.56
10-Dec-20	5,933.70	30,173.88	6,599.76	26,410.59
11-Dec-20	5,938.33	29,999.26	6,546.75	26,505.87
14-Dec-20	6,012.52	30,046.37	6,531.83	26,389.52
15-Dec-20	6,010.13	29,861.55	6,513.32	26,207.29
16-Dec-20	6,118.40	30,199.31	6,570.91	26,460.29
17-Dec-20	6,113.38	30,154.54	6,551.06	26,678.38
18-Dec-20	6,104.32	30,303.37	6,529.18	26,498.60
21-Dec-20	6,165.62	30,179.05	6,416.32	26,306.68
22-Dec-20	6,023.29	30,216.45	6,453.16	26,119.25

23-Dec-20	6,008.71	30,015.51	6,495.75	26,343.10
29-Dec-20	6,036.17	30,403.97	6,602.65	26,568.49
30-Dec-20	5,979.07	30,335.67	6,555.82	27,147.11

Source : https://id.investing.com/indices/uk-100-historical-data

Data analysis technique

1. Classical Assumption Test

   (Purnama & Purnama, 2020) The classical assumption test is carried out as a basic test and standard basis to test whether the variables in a study meet the assumptions of normality test, multicollinearity test, autocorrelation test and heteroscedasticity test.

   1. Normality test

      Normality testing is testing about normality of data distribution based on opinion to Santosa and Ashari in (Hanitha, 2020).. Then in (Purnama, 2019) If the results of the histogram curve display are close to the standard form with a normal distribution, i.e. the distribution of the data forms a bell or bell, then this explains that the data is normally distributed.

   2. Multicollinearity test

      (Purnama, Marselia ; Purnama, 2020) Multicollinearity test was conducted to test whether the regression model showed that there was no correlation between independent variables so that the regression model was feasible to use. Multicollinearity does not occur if the VIF value 10, so it can be interpreted that there is no multicollinearity between the independent variables in the regression model.

   3. Autocorrelation test

      Based on opinion from (Ghozali & Ratmono, 2017) In linear regression model there is a correlation between the residual error in period t and the error in period t-1 (previous) while the autocorrelation test is used. If the Durbin Watson score is between -2 and 2 then the data can be used for further analysis, and there is no autocorrelation.

   4. Heteroscedasticity Test

      The heteroscedasticity test was used to do the observation to the regression model for the unequal residual variance There should be no heteroscedasticity condition in the data to be used for regression analysis (V.Wiratna Sujarweni, 2015). We can concluded that heteroscedasticity does not occur if the scatterplot graph does not view a clear pattern, such as the points spread above or below the number 0 on the Y axis, it is

2. Multiple Regression Analysis

   This analysis is used to see the linear effect between three independent variables on one dependent variable, and to predict the value of the dependent variable t on the independent variable, the researcher uses linear regression analysis. (Priyatno, 2014) data processing using the statistical test tool Eviews 10.

   The research model can be formulated as follows:

   $$Y = \alpha + \beta 1x1 + \beta 2x2 + \beta 3x3 + \varepsilon$$

   Y = IHSG
   X1 = DJI
   X2 = FTSE 100
   X3 = Hangseng
   ε = eror

Hypothesis testing

t test

The t-test is conducted to test whether the variable x has an influence on the variable y if the other x variables are considered constant. (Ghozali & Ratmono, 2017). If the probability value is less than 0.5 then the hypothesis is accepted so that the x variable has a significant influence on the y variable.

F test

The F test is used to test the overall significance of the regression line to test whether Y linearly affects the three variables X1, X2, X3. (Ghozali & Ratmono, 2017). If the significance value of F is less than 0.5, it can be concluded that the F test hypothesis is accepted, that is, there is a simultaneous effect between the variables X1, X2, X3 on the Y variable.

Coefficient of Determination

(Purnama, Marselia ; Hanitha, Vivin; Purnama, 2019) The value of the coefficient of determination is used to calculate the ability to analyze the variation of the dependent variable in the regression model. The value of the coefficient of determination ranges from zero to one. The greater the coefficient of determination, the greater the ability of the variable x to predict the variable y. In this study the coefficient of determination is shown by the adjusted r2.

Results

Classic Assumption Test Results

Normality Test Results

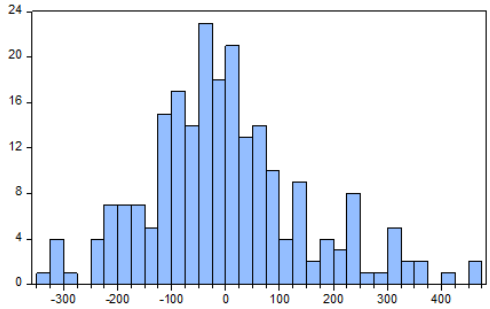

Figure 5. Normality test result

Source : Eviews 10 data processing application

The conclusion from the results of the normality test above, the histogram curve forms a bell or bell so it can be concluded that all the data used in this study are normally distributed.

Multicollinearity Test Results

Table 2. Multicollinearity Test Results

Variance Inflation Factors
Date: 06/15/21 Time: 19:25
Sample: 1/02/2020 12/30/2020
Included observations: 225

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	39263.65	395.0187	NA
DJI	3.21E-05	236.1172	2.075726
FTSE_100	0.001368	549.0314	5.085593

HANGSENG	0.000276	1783.021	6.366711

Source : Eviews 10 data processing application

The Multicollinearity Test Table above shows that the regression model is in a condition where there is no multicollinearity. This can be seen from the VIF correlation value is less than 10. So that the entire data can be used for the next regression analysis.

Autocorrelation Test Results

Autocorrelation test is used to determine the magnitude of the correlation between confounding variables under certain conditions and existing variables. (Ghozali & Ratmono, 2017) The results of the autocorrelation test can be seen in table 3.

Table 3. Autocorrelation Test Results

Durbin-Watson stat	0.345836

Source : Eviews 10 data processing application

After the autocorrelation test was conducted, the number 0.345836 was found in the range of -2 and +2, meaning that if the research refers to the Durbin-Watson criteria, it can be concluded that there is no autocorrelation in this study.

Heteroscedasticity Test Results

The heteroscedasticity test with the scatterplot test gives results as shown in Figure 6 below:

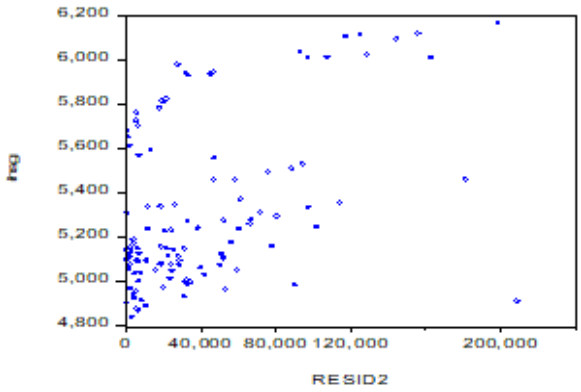

Figure 6. Scatterplot

Source : Eviews 10 data processing application

Based on this, it can be concluded that there is no pattern in the scatterplot graph, so it is certain that there is no heteroscedasticity problem in the current test.

Multiple Regression Analysis

Table 4. Multiple Regression Analysis result

Dependent Variable: IHSG
Method: Least Squares
Date: 06/15/21 Time: 19:24
Sample: 1/02/2020 12/30/2020
Included observations: 225

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2636.014	198.1506	-13.30308	0.0000
DJI	0.073513	0.005667	12.97311	0.0000

FTSE_100	0.134940	0.036992	3.647790	0.0003
HANGSENG	0.199640	0.016605	12.02293	0.0000

R-squared	0.926683	Mean dependent var	5243.272
Adjusted R-squared	0.925688	S.D. dependent var	548.5911
S.E. of regression	149.5470	Akaike info criterion	12.87072
Sum squared resid	4942514.	Schwarz criterion	12.93145
Log likelihood	-1443.956	Hannan-Quinn criter.	12.89523
F-statistic	931.1080	Durbin-Watson stat	0.345836
Prob(F-statistic)	0.000000		

Source : Eviews 10 data processing application

So it can be described the results of the t statistical test analysis and the results of the multiple linear regression equations that have been carried out, are as follows:

a. The constant value of -2636.014 indicates that if the independent variable, namely DJI, FTSE 100, and Hangseng, is zero, then the dependent variable, namely the JCI, is worth -2636,014 units.
b. The DJI coefficient value of 0.073513 concludes that if there is an increase of 1 unit in DJI, then the JCI will increase by 0.073513 units. Therefore, DJI has a positive and significant impact on the JCI.
c. The FTSE 100 coefficient value of 0.134940 indicates that if there is an increase in the FTSE 100 of 1 unit, it will increase the value of 0.134940 units on the JCI variable. So it means that the FTSE 100 has a positive and significant impact on the JCI.
d. Hangseng coefficient value of 0.199640 indicates that if there is an increase in Hangseng by 1 unit, then the JCI value increases by 0.199640 units. So it means Hangseng has a positive and significant influence on the JCI.

Individual Significance Test (t Test)

1. Variable Dow Jones Industrial Average (X1)
   After testing with Eviews 10, the resulting DJI variable significance value is 0.0000, so it is concluded that DJI partially has a significant effect on the JCI. DJI movements are usually the benchmark for stock market movements in other countries, because investors usually use DJI to analyze JCI movements. If the DJI declines, it is assumed that the JCI will also decline, as evidenced by the results of this study that DJI has a significant and positive influence on the JCI.
2. Variable FTSE 100 (X2)
   FTSE 100 which has a significance value of 0.0003 can be seen from table 4 clearly and this value is significantly smaller than alpha 0.05. so it can be concluded that H1 will be accepted and H0 will be rejected, it can also be concluded that in 2020 partially, other independent variables are considered constant, so the conclusion is that there is a significant effect of FTSE 100 on the Composite Stock Price Index on the Indonesia Stock Exchange.
3. Hangseng variable (X3)
   It can be seen that in table 4, Hangseng has a t-test significance value of 0.0000, this means that the significance value is below 0.05. So the results are H0 partially rejected and H1 accepted, so it can also be interpreted that there is a strong influence between Hangseng on the JCI on the Indonesia Stock Exchange in 2020 if the other independent variables are held constant. it can be concluded that if Hangseng goes down, the JCI will also go down and vice versa.

Simultaneous Significance Test (F Test)

Table 5. F Test Result

F-statistic	931.1080
Prob(F-statistic)	0.000000

Source : Eviews 10 data processing application

After the researchers conducted a simultaneous significance test or F test, and gave the results as shown in table 5, the results of the study concluded that there was a simultaneous influence of the three independent variables on the dependent variable, showing the F-statistic value of 0.000000 < 0.05. So it can be concluded that there is a simultaneous influence of DJI, FTSE 100, and Hangseng on the Composite Stock Price Index for the 2020 period on the Indonesia Stock Exchange. This is not in accordance with research conducted by (Budijanto et al., 2012).

Coefficient of Determination

Table 6. Coefficient of Determination Result

R-squared	0.926683
Adjusted R-squared	0.925688

Source : Eviews 10 data processing application

From table 6, it can be seen that the test results of the Adjusted value are 0.925688 or 92.57%, which means that the variation of the three independent variables (X), namely DJI, FTSE 100, and Hangseng is able to explain 92.57% of the variation in the dependent variable (Y), namely the JCI, while the rest is 7.43%. can be shown by other variables that are not taken into account in this study.

Discussion

1. The influence of DJI on the JCI
   The results of this study conclude that DJI has a significant and positive influence on the JCI. This is in accordance with the research conducted by (Hartantio & Yusbardini, 2020) but has different results from the research conducted by (Budijanto et al., 2012). According to (Budijanto et al., 2012) DJI does not have a significant effect on the JCI.
2. Effect of FTSE 100 on JCI
   This study has results that are not in accordance with research conducted by (Agus et al., 2015), because the results obtained by (Agus et al., 2015) are that the FTSE 100 does not have a significant effect on the JCI. Meanwhile, according to (Halim & Marcories, 2011), precisely because of the improving economic situation in the period of their research, it was the JCI that affected the FTSE 100. According to (Muhaimin Zikri, 2013) the FTSE 100 also did not have a significant effect on the JCI.
3. The influence of Hangseng on the JCI
   This study has the same results as research conducted by (Sihombing & Rizal, 2014) and (Ratna et al., 2018) The Hangseng Index has a significant influence on the JCI. But it is different from the research conducted by (Budijanto et al., 2012), which said that Hangseng did not have a significant effect on the JCI.

Conclusion

1. Partially, DJI, FTSE 100, and Hangseng have a significant influence on the JCI in the 2020 research period.

2. From the analysis results Simultaneous all X variables namely DJI, FTSE 100, and Hangseng were tested together with Y variable, namely JCI. The results obtained are 0.925688 or 92.57%, which means that the variation of the three independent variables (X) namely DJI, FTSE 100, and Hangseng is able to explain 92.57% of the variation in the dependent variable (Y), namely the JCI. , while the remaining 7.43% can be shown by other variables that are not taken into account in this test.

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