

The Indian stock market and six other Asian stock exchanges: A Causality Analysis

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ABSTRACT - This paper investigation on the performance evaluation of Asian indices actuates of concentrate in the midst of the period from first January 2009 and 31st December 2018. The performance evaluation of every single Asian nation indices in the stock market of National Stock Exchanges (NIFTY) analyze the Jakarta Stock Exchanges, Korean composite price indexes, Nikkei Stock Broking, Singapore Exchanges (SGX), Shanghai Stock Exchanges, Stock Exchange of Thailand (Taiwan) Performance assessment the comparative of Asian financial exchange indices. . The examination on secondary information. Use the tools by applying Augmented Dickey-Fuller Unit root test, Johansen Cointegration test, Granger Causality test and Vector Error Correction Model (VECM). Using the instruments by applying Augmented Dickey-Fuller Unit root test, Johansen Cointegration test, Granger Causality test and Vector Error Correction Model (VECM), the examination that Nifty records differentiate and the execution of the all Asian indices lists. The investigation on the best long-run association among Nifty and NIFTY and JAKARTA, KOSPI, NIKKIE, SGX, SHANGHAI, TAIWAN. There is long term positive significance of NIFTY and JAKARTA, KOSPI, NIKKIE, SGX, SHANGAI, TAIWAN. Sharp, JAKARTA. SHANGAI, NIFTY more than the 5% centrality dimension. All these are indices less than the 5% significance level.

Keywords: Augmented Dickey-Fuller Unit root test, Asian stock exchanges, Granger Causality test, Johansen Cointegration test, Performance of Stock market, Vector Error Correction Model.

I. INTRODUCTION

Stock Exchange is a market in buying and selling of securities. Stock Exchange origination in AD 1460 of the Stock Exchange of Amsterdam Stock Exchange is the most settled Stock Exchange. Start-up in 1602 by Dutch East India Company first issued the primary offers on the Amsterdam Stock Exchange. First Stock Exchange an old Stock Exchange in Asia in 1875 of the Bombay Stock Exchange. It's an outstanding Stock Exchange in Asia. National Stock Exchange (NSE) of India LTD. Set up in 1995. The pointer is Nifty 50. Cunning for National rundown for 50 stocks. Jakarta Stock Exchange develops in 1912. The indicator is JSX. It's an Indonesian Stock Exchange is a merger of Jakarta stock exchange. Korean Composite Stock Price Indexes (KOSPI) develop in 1983. On September 12, 2001, KOSPI is the greatest one-day drop rate drop of 12.02% (67.97%). it's a South Korea Nation Stock Exchange. Singapore Stock Exchange is set up on first December 1999. Its indicator in SGX. Shanghai

Stock Exchange is an Establish on 26th November 1990. The indicator is SSE. It's a China country Stock Exchange. Taiwan Stock Exchange was a set up in 23rd October 1961. In undertaking start on ninth February 1962. Taiwan is a Taiwan country. The pointer is TWSE. NIKKEI stock Exchange is an Establish in seventh September 1950. The marker is N225. It's the Japan Country Stock Exchange. Performance Evaluation of Asian stock records indices initiates a seven Stock Exchange in Asia. It's a very excellent respect the examiners. Its best records in Asia. In this examination study best come back to the speculator more performance of the records of Asia. In this of the most supported of best records add to financial experts.

II. LITERATURE REVIEW

Samveg Patel (2012) examine on "The impact of macro-economic determinates on the performance of the Indian stock market ". The examination using 20 years of data from 1991-2011. The examination of macroeconomic elements of two 2 Stock trades Sensex and S&P CNX

Nifty. Look at the basis of macro-economic factors like Price, Exchange rate, rundown of mechanical creation, Money supply, Gold esteem, Silver esteem, Oil costs and so forth. The secondary information gathered using apparatuses of Augmented Dickey-Fuller Unit Root Test Method, Johansen's Co-joining Test, Granger Causality test and Vector Error Correlation Model (VECM). The examination of performing the Indian stock market to worldwide stock market (S and P CNX Nifty).

Ms. Kairvi Rathod examination on (2015) "An observational on the performance of Indian indices over world indices – An investigation of Economies Recovery Phase". Data accumulated Secondary information of four-year time range from first April 2009 to 31st March 2013. Benchmark of Stock Exchange of India, China, Japan, Shanghai, Singapore linkage between the Indian Stock Exchange. The benefit of remote investors invests into Indian markets best open door in India. In this examination of taking at the Indian securities exchanges and world Stock exchanges.

Dr. Mayor shah and Mitesh Patel on study (2016) "Concentrate on Interdependency of Indian stock market with chosen Asian securities exchange when an adjustment in exchange time or being". Examination on the causal association between the Indian Stock Exchange (BSE) and Asian Stock Exchanges. Examination on seventeenth November 2006 to 31st January 2013. A Sample examination of 2 periods. The principal time frame is seventeenth November 2006 to third January 2010, second term fifth January 2010 to first January 2013. This examination auxiliary information gathered utilizing Descriptive insights return examination, T-test. Indian Securities Exchange positive co-relate the Asian Securities trade with Hong Kong and Jakarta Securities Exchange.

Ravleen Kaur examination on (2017) "Comparative investigation of Indian Stock Exchange and major Index with Global Stock Exchange and their major Index". The examination looked at the Indian stock exchange and worldwide Stock Exchange. The examination time allotment is 16 years from 2001 to 2016. Stock Exchange are Japan, Hong Kong, China, and the USA of contrasting and Indian Stock Exchanges. Information use the secondary information gathered. Comparing at stock Exchange Quantitative assessments like market capitalization, no of allowing offers to return, and Circuit breakers. Abstract extents of Descriptive statistics, Skewness, and kurtosis.

Sukhmandar Singh and Deepak Kumar consider on (2018) "Comparative examination Indian of the stock market with International stock market ". The Co-connection between the Indian Stock Exchange and International Stock

Exchange. Benchmark Stock Exchange in India. Contrasted with China, Taiwan, Hong Kong, Japan, Korean, and the UK and the USA. The Investigation time of 4 years from 31st January 2014 to 31st January 2018.

Using accurate instruments of Descriptive measurements and association between the Indian Stock Exchange and International Stock Exchange.

III. OBJECTIVES OF THE STUDY

To investigate the event of long-term equilibrium connection between Indian stock exchange Nifty and six other Asian indices JAKARTA, KOSPI, NIKKIE, SGX, SHANGAI, and TAIWAN.

To evaluate the elements of short-term linkages between Indian stock trade Nifty and six other Asian indices JAKARTA, SGX, KOSPI, NIKKIE, SHANGAI and, TAIWAN.

IV. THE SCOPE OF THE STUDY

The investigation is just first January 2009 to 31st December 2018. It's a more extensive idea and study considers seven nation records of stock exchanges performance utilizing the day by day closing values.

List of indices selected

- National stock exchange (NIFTY)
- Korean Composite stock price Indexes (KOSPI)
- Indonesia Stock Exchange (JSX)
- Singapore Exchange (SGX)
- Taiwan Stock Exchange (TWSE)
- Japan Stock Exchange (NIKKEI)
- Hong Kong Stock Exchange (SSE)

The information gathered of the timespan of all files is about its: Augmented Dickey-Fuller Unit Root Test Method, Johansen's Co- integration Test, Granger Causality test and Vector Error Correlation Model (VECM).

V. RESEARCH METHODOLOGY

This inspects the performance evaluation of Asian Stock Indices. The Nifty analyze the Jakarta, Korean, Nikkei, Singapore, Shanghai, Taiwan Stock Exchanges and this examination secondary information gathered from the Asian files official Websites This paper is a period 10 years from first January 2009 to 31st December 2018. Information and were examined by economic tools and methods and techniques from using E view statistical package. Information testing an Augmented Dickey-Fuller Unit Root Test Method and Johansen's Co-cointegration Test between Asian markets prompts. Granger Causality test and Vector Error Correlation Model (VECM).

VI. DATA ANALYSIS AND INTERPRETATION

A. Unit Root Test

Table 1: Unit Root Test Results (Source: EViews 7)

Indices	Particulars	t- statistic	Critical Value 5%	P-value
JAKARTA	At level	-30.54689	-2.862554	0.0001
KOSPI	At level	-44.8054	-2.862518	0.0001
	At first difference	-20.75976	-2.862525	0.0000
NIFTY50	At level	-46.72114	-2.862511	0.0001
	At first difference	-19.61709	-2.862519	0.0000
NIKKIE	At level	-47.65239	-2.862745	0.0001
	At first difference	-21.33463	-2.862755	0.0000
SGX NIFTY	At level	-50.8327	-2.862462	0.0001
	At first difference	-22.39785	-2.862469	0.0000
SHANGAI	At level	-47.18474	-2.862531	0.0001
	At first difference	-20.32439	-2.862539	0.0000
TAIWAN	At level	-49.44753	-2.862526	0.0001
	At first difference	-21.58218	-2.862534	0.0000

Table 1 shows the result of the ADF unit root test for NIFTY50 and JAKARTA, KOSPI, NIKKIE, SGX, SHANGHAI, TAIWAN Asian indices over the sample period 2009-2018. The results of the ADF Unit Root Test for JAKARTA shows that null hypothesis H_1 at a level, the t-value is -30.54689, which is lower than the computed ADF critical value (-2.862554) at 5 percent level of significance. For KOSPI, the t-value is -20.75976, which is lower than the computed ADF critical value (-2.862525) at 5 percent level of significance. For NIFTY50, the t-value is -19.61709, which is lower than the computed ADF critical value (-2.862519) at 5 percent level of significance. For NIKKIE, the t-value is -

21.33463, which is lower than the computed ADF critical value (-2.862755) at 5 percent level of significance. For SGX NIFTY, the t-value is -22.39785, which is lower than the computed ADF critical value (-2.862469) at 5 percent level of significance. For SHANGAI, the t-value is -20.32439, which is lower than the computed ADF critical value (-2.862539) at 5 percent level of significance. For TAIWAN, the t-value is -21.58218, which is lower than the computed ADF critical value (-2.862534) at 5 percent level of significance. Time series do not have unit root problem and the data good enough to proceed to the Cointegration test.

Table 2: Cointegration Test Results

Indices	Co-integration test	Level	t- statistics	C.V.at 5%	Probability
NIFTY50 & JAKARTA	Trace Test	H0: r=0(none)*	953.4179	15.49471	0.0001
		H1: r<1 (at most 1)	439.0239	3.841466	0.0000
	Max.Eigen	H0: r=0(none)*	514.3940	14.26460	0.0001
		H1: r<1 (at most 1)	439.0239	3.841466	0.0000
NIFTY50 & KOSPI	Trace Test	H0: r=0(none)*	840.7984	15.49471	0.0001
		H1: r<1 (at most 1)	366.6629	3.841466	0.0000
	Max.Eigen	H0: r=0(none)*	474.1356	14.26460	0.0001
		H1: r<1 (at most 1)	366.6629	3.841466	0.0000
NIFTY50 & NIKKEI	Trace Test	H0: r=0(none)*	806.0407	15.49471	0.0001
		H1: r<1 (at most 1)	374.7871	3.841466	0.0000
	Max.Eigen	H0: r=0(none)*	431.2536	14.26460	0.0001
		H1: r<1 (at most 1)	374.7871	3.841466	0.0000
NIFTY50 & SGX NIFTY	Trace Test	H0: r=0(none)*	884.7780	15.49471	0.0001
		H1: r<1 (at most 1)	406.5477	3.841466	0.0000
	Max.Eigen	H0: r=0(none)*	478.2303	14.26460	0.0001
		H1: r<1 (at most 1)	406.5477	3.841466	0.0000
NIFTY50 & SHANGAI	Trace Test	H0: r=0(none)*	851.3464	15.49471	0.0001
		H1: r<1 (at most 1)	401.1499	3.841466	0.0000
	Max.Eigen	H0: r=0(none)*	450.1965	14.26460	0.0001
		H1: r<1 (at most 1)	401.1499	3.841466	0.0000
NIFTY50 & TAIWAN	Trace Test	H0: r=0(none)*	902.3585	15.49471	0.0001
		H1: r<1 (at most 1)	415.3109	3.841466	0.0000
	Max.Eigen	H0: r=0(none)*	487.0476	14.26460	0.0001
		H1: r<1 (at most 1)	415.3109	3.841466	0.0000

B. Johansen's Co-Integration Test

Table 2 presents the results of the JCIT which was conducted to establish whether there was any long-run equilibrium between NIFTY50 and JAKARTA, KOSPI, NIKKIE, SGX, SHANGHAI, TAIWAN over the sample period 2009-2018. NIFTY50 and JAKARTA null hypothesis (H2): there is no co-integration between NIFTY50 & JAKARTA the trace statistics indicates one cointegrating equation at 5 percent level significance since p-value (0.0001) is lower than 0.05. moreover, the trace statistics indicate one co-integrating equation at 5 percent significance level; this is evidenced by the p-value (0.0000) which is lower than .05, which leads to the not acceptance of the alternative hypothesis that there is no co-integration between NIFTY50 & JAKARTA. Also, the results of JCIT as presented in table 2 exhibit that the trace statistic for the calculated Max-Eigen value (953.4179) is more than its critical value (15.49471) indicating that variables are bound together by long-run equilibrium relationships and follow a long run path, also it depicts the absence of cointegration variables in confirmation of the two time series, since Max Eigen t-statistics value (514.3940) is greater than its critical value (14.26460) at 5% level of significance. Nonetheless, further results of Johansen co-integration test denote that the null hypothesis H2: there is no co-integration between the NIFTY50 & JAKARTA is rejected at 5 percent level of significance since trace and Maximum Eigen test indicate at most 1 cointegration equation at the 0.05 level. Therefore, it leads to the acceptance of the alternative hypothesis that there is co-integration between NIFTY50 & JAKARTA in the support of the best indices of Asia. The results of the JCIT which is the null hypothesis (H2): there is no co-integration between NIFTY50 & KOSPI the trace statistics indicates one co-integrating equation at 5 percent level significance since p-value (0.0001) is lower than 0.05. moreover, the trace statistics indicate one co-integrating equation at 5 percent significance level; this is evidenced by the p-value (0.0000) which is lower than .05, which leads to the not acceptance of the alternative hypothesis that there is no co-integration between NIFTY50 & KOSPI.

Also, the results of JCIT as presented in table 2 exhibit that the trace statistic for the calculated Max-Eigen value (840.7984) is more than its critical value (15.49471) indicating that variables are bound together by long-run equilibrium relationships and follow a long run path, also it depicts the absence of cointegration variables in confirmation of the two time series, since Max Eigen t-statistics value (474.1356) is greater than its critical value (14.26460) at 5% level of significance. Nonetheless, further results of Johansen co-integration test denote that the null hypothesis H2: there is no co-integration between the NIFTY50 & KOSPI is rejected at 5 percent level of significance since trace and Maximum Eigen test indicate

at most 1 cointegration equation at the 0.05 level. Therefore, it leads to the acceptance of the alternative hypothesis that there is co-integration between NIFTY50 & KOSPI in the support of the best indices of Asia.

The results of the JCIT which is the null hypothesis (H2): there is no co-integration between NIFTY50 & NIKKEI the trace statistics indicates one co-integrating equation at 5 percent level significance since p-value (0.0001) is lower than 0.05. moreover, the trace statistics indicate one co-integrating equation at 5 percent significance level; this is evidenced by the p-value (0.0000) which is lower than .05, which leads to the not acceptance of the alternative hypothesis that there is no co-integration between NIFTY50 & NIKKEI. Also, the results of JCIT as presented in table 2 exhibit that the trace statistic for the calculated Max-Eigen value (806.0407) is more than its critical value (15.49471) indicating that variables are bound together by long-run equilibrium relationships and follow a long run path, also it depicts the absence of cointegration variables in confirmation of the two time series, since Max Eigen t-statistics value (431.2536) is greater than its critical value (14.26460) at 5% level of significance. Nonetheless, further results of Johansen co-integration test denote that the null hypothesis H2: there is no cointegration between the NIFTY50 & NIKKEI is rejected at 5 percent level of significance since trace and Maximum Eigen test indicate at most 1 cointegration equation at the 0.05 level. Therefore, it leads to the acceptance of the alternative hypothesis that there is co-integration between NIFTY50 & NIKKEI in the support of the best indices of Asia.

The results of the JCIT which is The null hypothesis (H2): there is no co-integration between NIFTY50 & SGX NIFTY the trace statistics indicates one co-integrating equation at 5 percent level significance since p-value (0.0001) is lower than 0.05. moreover, the trace statistics indicate one co-integrating equation at 5 percent significance level; this is evidenced by the p-value (0.0000) which is lower than .05, which leads to the not acceptance of the alternative hypothesis that there is no co-integration between NIFTY50 & SGX NIFTY. Also, the results of JCIT as presented in table 2 exhibit that the trace statistic for the calculated Max-Eigen value (884.7780) is more than its critical value (15.49471) indicating that variables are bound together by long-run equilibrium relationships and follow a long run path, also it depicts the absence of cointegration variables in confirmation of the two time series, since Max Eigen t-statistics value (478.2303) is greater than its critical value (14.26460) at 5% level of significance. Nonetheless, further results of Johansen co-integration test denote that the null hypothesis H2: there is no co-integration between the NIFTY50 & SGX NIFTY is rejected at 5 percent level of significance since trace and Maximum Eigen test indicate at most 1 cointegration equation at the 0.05 level. Therefore, it leads

to the acceptance of the alternative hypothesis that there is co-integration between NIFTY50 & SGX NIFTY in the support of best indices of Asia.

The results of the JCIT which is a null hypothesis (H2): there is no co-integration between NIFTY50 & SHANGAI the trace statistics indicates one cointegrating equation at 5 percent level significance since p-value (0.0001) is lower than 0.05. Moreover, the trace statistics indicate one co-integrating equation at 5 percent significance level; this is evidenced by the p-value (0.0000) which is lower than .05, which leads to the not acceptance of the alternative hypothesis that there is no co-integration between NIFTY50 & SHANGAI. Also, the results of JCIT as presented in table 2 exhibit that the trace statistic for the calculated Max-Eigen value (851.3464) is more than its critical value (15.49471) indicating that variables are bound together by long-run equilibrium relationships and follow a long run path, also it depicts the absence of cointegration variables in confirmation of the two time series, since Max Eigen t-statistics value (450.1965) is greater than its critical value (14.26460) at 5% level of significance. Nonetheless, further results of Johansen co-integration test denote that the null hypothesis H2: there is no cointegration between the NIFTY50 & SHANGAI is rejected at 5 percent level of significance since trace and Maximum Eigen test indicate at most 1 cointegration equation at the 0.05 level. Therefore, it leads to the acceptance of the alternative hypothesis that there is co-

integration between NIFTY50 & SHANGAI in the support of the best indices of Asia.

The results of the JCIT which is a null hypothesis (H2): there is no co-integration between NIFTY50 & TAIWAN the trace statistics indicates one co-integrating equation at 5 percent level significance since p-value (0.0001) is lower than 0.05. moreover, the trace statistics indicate one co-integrating equation at 5 percent significance level; this is evidenced by the p-value (0.0000) which is lower than .05, which leads to the not acceptance of the alternative hypothesis that there is no co-integration between NIFTY50 & TAIWAN. Also, the results of JCIT as presented in table 2 exhibit that the trace statistic for the calculated Max-Eigen value (902.3585) is more than its critical value (15.49471) indicating that variables are bound together by long-run equilibrium relationships and follow a long run path, also it depicts the absence of cointegration variables in confirmation of the two time series, since Max Eigen t-statistics value (487.0476) is greater than its critical value (14.26460) at 5% level of significance. Nonetheless, further results of Johansen co-integration test denote that the null hypothesis H2: there is no cointegration between the NIFTY50 & TAIWAN is rejected at 5 percent level of significance since trace and Maximum Eigen test indicate at most 1 cointegration equation at the 0.05 level. Therefore, it leads to the acceptance of the alternative hypothesis that there is co-integration between NIFTY50 & TAIWAN in the support of the best indices of Asia.

c. Vector Error Correction Model:

Since some cointegration between JAKARTA, KOSPI, NIKKEI, SGX, SHANGAI, TAIWAN and NIFTY50 in

Asian was empirically established, the next level of analysis involved fitting the series into a

Table 3: Long run causality

Pair of Indices	Long run causality					Wald Test
	Dependent	Coefficient C(1)	Std. Error	t-Statistic	Prob.	Chi-square prob.
NIFTY50 & JAKARTA	JAKARTA	-1.055	0.035	-30.476	0.001	0.060
	NIFTY50	-0.004	0.002	-1.773	0.076	0.083
NIFTY50 & KOSPI	KOSPI	-0.173	0.024	-7.280	0.001	0.001
	NIFTY50	-0.910	0.035	-26.326	0.001	0.001
NIFTY50 & NIKKEI	NIKKEI	-0.883	0.037	-23.974	0.001	0.001
	NIFTY50	-0.201	0.019	-10.330	0.001	0.001
NIFTY50 & SGX NIFTY	SGXNIFTY	-0.974	0.034	-28.383	0.001	0.001
	NIFTY50	-0.035	0.007	-4.954	0.001	0.000
NIFTY50 & SHANGAI	SHANGAI	-0.003	0.002	-1.195	0.232	0.632
	NIFTY50	-1.003	0.035	-28.426	0.001	0.080
NIFTY50 & TAIWAN	TAIWAN	-0.570	0.026	-22.011	0.001	0.001
	NIFTY50	-0.510	0.027	-18.799	0.001	0.001

Source: EViews 7 Extract

As shown in table 4, the lower t –statistics value of -30.476 and -1.773 respectively are both the probability

value JAKARTA is 0.001 less than the at 5% and NIFTY50 is 0.076 more than the at 5% significance level,

this evidencing the absence of long-run equilibrium relation between JAKARTA & NIFTY50 as far as the Asian concern. JAKARTA is influenced by the current year NIFTY50 at less than the 5percent of probability and NIFTY50 is influenced by the current year JAKARTA at less than 5percent probability. From the VECM result, it is evidence that JAKARTA no has long run positive from NIFTY50 and NIFTY50 has no long-run negative from JAKARTA co-relation of 2 indices. The lower t–statistics value of -7.280 and -26.326 respectively are both less than the probability value (0.001) at 5% significance level, thus evidencing the absence of long-run equilibrium relation between KOSPI & NIFTY50 as far as the Asian concern. KOSPI is influenced by the current year NIFTY50 and NIFTY50 are influenced by the current year KOSPI at less than the 5 percent of probability. From the VECM result, it is evidence that KOSPI and NIFTY50, NIFTY50 and KOSPI has no long-run negative co-relation. The lower t –statistics value of -23.974 and -10.330 respectively are both less than the probability value (0.001) at 5% significance level, thus evidencing the absence of long-run equilibrium relation between NIKKEI & NIFTY50 as far as the Asian concern. NIKKEI is influenced by the current year NIFTY50 and NIFTY50 are influenced by the current year NIKKEI at less than the 5 percent of probability. From the VECM result, it is evidence that NIKKEI and NIFTY50, NIFTY50 and NIKKEI has no long-run negative correlation.

The lower t –statistics value of -28.383 and -4.954 respectively are both less than the probability value (0.001) at 5% significance level, thus evidencing the absence of

long-run equilibrium relation between SGX NIFTY & NIFTY50 as far as the Asian concern. SGX NIFTY is influenced by the current year NIFTY50 and NIFTY50 are influenced by the current year SGX NIFTY at less than the 5 percent of probability. From the VECM result, it is evidence that SGX NIFTY and NIFTY50, NIFTY50 and SGX NIFTY has no long-run negative co-relation. The lower t –statistics value of -22.011 and -18.799 respectively are both less than the probability value (0.001) at 5% significance level, thus evidencing the absence of long-run equilibrium relation between TAIWAN & NIFTY50 as far as the Asian concern. TAIWAN indices more than the NIFTY50. TAIWAN is influenced by the current year NIFTY50 and NIFTY50 are influenced by the current year TAIWAN at less than 5percent of probability. From the VECM result, it is evidence that TAIWAN and NIFTY50, NIFTY50 and TAIWAN has no long-run negative co-relation.

1. Short Run Causality

C (4) and C (5) = 0 is null hypothesis. Wald statistics to check NIFTY50 and JAKARTA, KOSPI, NIKKIE, SGX, SHANGAI, TAIWAN

C (4)= C (5)=0 hence there is a short run causality running from NIFTY50 and JAKARTA, KOSPI, NIKKIE, SGX, SHANGAI, TAIWAN, Probability is less than 5% (Table 4). Therefore, there is a long run causality from NIFTY50 and JAKARTA, KOSPI, NIKKIE, SGX, SHANGAI, TAIWAN. There is a short run causality from NIFTY50 and JAKARTA, KOSPI, NIKKIE, SGX, SHANGAI, TAIWAN.

Table 4: Granger Causality Test

Null Hypothesis	Obs	F-Statistic	Prob.	Decision
NIFTY does not Granger Cause JAKARTA	2380	0.21141	0.8095	Accept
JAKARTA does not Granger Cause NIFTY		1.09109	0.3360	Accept
KOSPI does not Granger Cause NIFTY	2452	38.6970	0.0003	Reject
NIFTY does not Granger Cause KOSPI		0.01511	0.9850	Accept
NIKKIE does not Granger Cause NIFTY	2053	0.50811	0.6017	Accept
NIFTY does not Granger Cause NIKKIE		0.43053	0.6502	Accept
SGX does not Granger Cause NIFTY	2466	0.07037	0.9321	Accept
NIFTY does not Granger Cause SGX		0.11655	0.8900	Accept
SHANGHAI does not Granger Cause NIFTY	2424	0.03757	0.9631	Accept
NIFTY does not Granger Cause SHANGHAI		0.04266	0.9582	Accept
TAIWAN does not Granger Cause NIFTY	2435	0.06225	0.9397	Accept
NIFTY does not Granger Cause TAIWAN		0.00423	0.9958	Accept

Source: EViews 7 Extract

c. Granger Causality Test

The results Granger causality test are presented in table 4. It seems that there is no causality between NIFTY, JAKARTA, KOSPI, NIKKIE, SGX, SHANGAI,

TAIWAN, and vice-versa. In other words, NIFTY does not Granger Cause JAKARTA, KOSPI, NIKKIE, SGX, SHANGAI, TAIWAN and JAKARTA, KOSPI, NIKKIE, SGX, SHANGAI, TAIWAN does not Granger Cause NIFTY in the Asian indices. The null hypothesis

H3: NIFTY does not Granger Cause JAKARTA is accepted as the probability value (0.8095) is greater than 0.05 required significance level. Similarly, the null hypothesis H4: JAKARTA does not Granger cause NIFTY is accepted as the probability value (0.3360) is greater than 0.05 required significance level.

NIFTY does not Granger Cause KOSPI is accepted as the probability value (0.9850) is greater than 0.05 required significance level. Similarly, the null hypothesis H4: KOSPI does not Granger cause NIFTY is not accepted as the probability value (0.0003) is greater than 0.05 required significance level. NIFTY does not Granger Cause NIKKEI is accepted as the probability value (0.6502) is greater than 0.05 required significance level. Similar to the null hypothesis H4: NIKKEI does not Granger cause NIFTY is accepted as the probability value (0.6017) is greater than 0.05 required significance level.

NIFTY does not Granger Cause SGX is accepted as the probability value (0.8900) is greater than 0.05 required significance level. Similar to the null hypothesis H4: SGX does not Granger cause NIFTY is accepted as the probability value (0.9321) is greater than 0.05 required significance level. NIFTY does not Granger Cause SHANGAI is accepted as the probability value (0.9582) is greater than 0.05 required significance level. Similar to the null hypothesis H4: SHANGAI does not Granger cause NIFTY is accepted as the probability value (0.9631) is greater than 0.05 required significance level. NIFTY50 does not Granger cause TAIWAN is accepted as the probability value (0.9958) is greater than 0.05 required significance level. Similar to the null hypothesis H4: TAIWAN does not Granger cause NIFTY50 is accepted as the probability value (0.9397) is greater than 0.05 required significance level.

This means that to a significant extent NIFTY50 does not necessarily attract or lead to an increasing level of JAKARTA, KOSPI, NIKKIE, SGX, and SHANGAI, TAIWAN. Similarly, JAKARTA, KOSPI, NIKKIE, SGX, SHANGAI, TAIWAN is not caused by NIFTY50 and thus the value of NIFTY50 cannot be used to predict future of JAKARTA, KOSPI, NIKKIE, SGX, SHANGAI, TAIWAN.

VII. CONCLUSION

This paper motives that there is no appearance of causality among NIFTY and JAKARTA, NIKKIE, SGX, SHANGAI, TAIWAN. What's more, with the use of time series examination, the investigation appearing there is a nearness of the accurately long term positive relationship to NIFTY and JAKARTA, KOSPI, NIKKIE, SGX, SHANGAI, TAIWAN. There is one SHANGAI, NIFTY more than the 5% significance level. There is a Cointegration relationship among NIFTY and JAKARTA, KOSPI, NIKKIE, SGX, SHANGAI, TAIWAN. Just two

indices NIFTY, JAKARTA and SHANGAI, NIFTY over 5% significance level. These two indices are NIFTY, JAKARTA and SHANGAI, NIFTY co-relationship of Asian Indices. NIFTY indices as correlated to the SHANGAI indices. INDIAN NIFTY rely on the SHANGAI indices. KOSPI does not Granger cause NIFTY is rejected at 5% and it implies that KOSPI do cause Indian NIFTY.

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