EFFECT OF 5 MOVEMENTS FROM 25 LARGEST STOCK EXCHANGE IN THE WORLD ON INDONESIA'S EXCHANGE

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ABSTRACT

The IDX is inseparable from the influence of the global stock market, because globalization makes a country's economic system open. For Indonesia and several stock exchanges where the market capitalization is relatively small, optimism and pessimism of foreign stock investors is expected to greatly affect the movement of stock indexes. The fall of the global market has become a negative sentiment for the JCI movement. This study aims to determine the effect of the movement of five stock exchanges in the world on the ICI. In this study used multiple linear regression method using SPSS 25.0 statistical software. The results showed that SSE had no significant effect on CSPI while Nikkei 225, DJIA, S&P BSE Sansex, and STI had a significant effect on ICI during 2012 - 2017.

Keywords: ICI; DJIA; SSE; BSE; STI.

1. INTRODUCTION

The capital market in Indonesia is still relatively vulnerable to general global macroeconomic conditions. This can be seen from several major events, such as the fall of the DJIA and the rise in world oil prices which then have an impact on high inflation. The effects of events in the USA s have an impact on the Indonesian Capital Market, of course there is a reason, one of which is often the cause is integration between exchanges. ICI shifts that have fluctuated over the past few years, domination of foreign investor ownership, connectivity between capital markets in several countries, of course, explicitly and logically this shows that ICI shifts are not merely speculative movements. This must be proven scientifically by examining several factors that can influence it

Indonesia and several stock exchanges whose market capitalization is relatively small, optimism and pessimism among foreign stock investors is suspected to be a big influence from the shift in its stock index. The collapse of global exchange is a negative sentiment on the ICI. The economic slowdown in China and the Asian region also caused portfolio capital to leave Indonesia in late July 2015.

Assessing the potential of other countries to the Indonesian economy, based on figure 1 there are 5 countries which are Indonesia's largest export destinations. Changes in economic conditions in the country will certainly have an impact, both directly and indirectly to Indonesia. If the recession, Indonesia's exports to these countries decline, it will have an impact on the company's profit growth in Indonesia, thereby affecting the movement of stock prices.

Table 1 : Top 5 Indonesia's Export Destination Countries

Country	Export Value (Billion USD)
China	17
USA	14
Japan	12
India	7
Singapura	6

Source : BPS Indonesia

Since January- October 2017, top 5 Indonesia's export destination countries, starting from the largest, are China, USA, Japan, India and Singapore. Based on these data, it is deemed necessary to pay attention to capital market indices From China (SSE), Japan (Nikkei 225), USA (DJIA), India (S & P BSE Sansex), and Singapore (STI). These 5 indices are considered able to represent the strength of the world economy and have a large influence on Indonesia. The results of this study are expected to explain the effect of shifting international stock indices on ICI and can predict the future even though the capital market is very dynamic and sensitive to changes in economic variables and social and political problems

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2. LITERATURE REVIEW

Indonesia Composite Index

According to Fahmi (2015) one of the stock indexes which is used as a reference for investors and other stakeholders in IDX is the Indonesia Composite Index . The ICI is a composite index of all types of shares listed on IDX.

China Capital Market

In less than 5 years, China has succeeded in establishing 4 stock exchanges and 7 futures exchanges. China's economic growth in the past 10 years has averaged 10% per year. A very high economic growth in a long period of time. (Harjadi, 2013)

Japan Capital Market

The stock exchange trading system in Japanese cities follows the trading system on the Tokyo Stock Exchange (TSE), where investors sell and buy investors place orders with the securities broker forwarding the order to Saitori, the stock exchange officer in charge of

bringing together sell and buy orders, according to Harjadi (2013)

United States Capital Market

The largest stock exchange in the world is in the USA, namely the New York Stock Exchange (NYSE), which ranks 1 and the National Association of Securitas Dealers Automated Quotation (NASDAQ) which ranks 2. The next largest stock exchange is the Tokyo Stock Exchange (TSE) in Japan which ranks 3, followed by the London Stock Exchange (LSE) in the United Kingdom, Harjadi (2013).

India Capital Market

The National Stock Exchange of India Limtited is a stock exchange market that was established in 1992 in Mumbai, India at the suggestion of the Government of India. NSE has a market capitalization of US $ 1,178 million in 2012, and ranks 11th with 5,191 listed companies.

Singapore Capital Market

Singapore already has 4 complete and strong market institutions, Harjadi (2013), thus Singapore became an escape for international investors to invest.

Hypothesis Development

H_1: Effect of the Shanghai Composite on ICI

Research by Triyono, et al, (2016), indicate DJIA, SSE index, and STI index have a positive effect on the ICI movement. Oktarina's research (2016), shows DJIA index, Nikkei 225 index, gold prices, and inflation give the positive effect to ICI. Research by Sihombing and Rizal (2014), that in short term, only DJIA, exchange rate and BI rate have significant

effect on ICI. While in long term, DJIA, N225, SSE, HSI, and BI rate have significant effect on JCI.

H₂ : Effect of Nikkei 225 on ICI
Widodo's research (2018), shows Nikkei 225 index, KS11 and KSLE positive and significant influence to JKSE. Research by Sutanto, et al., (2013), showed World Gold Prices, Nikkei 225 Index and DJIA have a significant positive effect on the ICI.

H₃ : Effect of the Dow Jones Industrial Average on the ICI
Research by Tarigan, et al (2015) shows DJIA, STI Index and SSE Index significantly influence the ICI. Venska's research (2014), showed DJIA, Nikkei 225, STI have significant effect on the ICI. Research by Oktaviani and Handayani (2018), the GDP growth and DJIA have affected the ICI.

H₄ : Effect of S&P BSE Sansex on ICI
Pramudika's research (2013), aim of analyzing and determining the development of the stock market index of the Asia Pacific region in relation to IDX. The tenth regional stock market index of Asia Pacific is representing the ASX and NZX Pacific regional stock exchanges as well as SSE, Hang Seng, BSE Sensex, FTSE, Nikkei, SGX and TSE. The results showed that the effect of global stock indices jointly significant influence but individually only SSE and Nikkei indices that affect the BEI index.

H₅ : There is influence between Straits Times and the ICI
Imbayani's research (2015), showed DJIA and STI had a significant positive effect to ICI, while the Nikkei 225 index, the Hang Seng and the rupiah exchange rate had a significant negative effect on
the ICI. Research by Artini, et al (2017): show that simultaneously GDP, SBI, Exchange rates, DJIA, Australian Index, SSE and STI has a significant effect on ICI. Partially GDP, DJIA and STI a positive and significant effect on the ICI. Research by Katti (2014), showed that only the foreign exchange rate and STI influence ICI.

3. RESEARCH METHOD

3.1. Data Collection Technigues
Data collection is carried out by the documentation method based on historical data of the closing price of the stock price index at the end of the year published

3.2. Operational Definitions of Variables
1) Composite Stock Price Index (Y) (Indonesia)
2) ICI uses all shares listed on the IDX in the calculation of index numbers and was calculated based on basic values on August 10, 1982.
3) Shanghai Composite Index (X1) (China)
4) The SEE index uses all shares listed on the Shanghai Stock Exchange in calculating index numbers and uses a base value of 100, first introduced on July 15, 1991
5) Nikkei 225 Index (X2) (Japan)
6) The Nikkei 225 index uses 225 of the highest ranking companies in the first session on the Tokyo Stock Exchange as a sample in index calculation and was recorded on May 16, 1949.
7) Dow Jones Industrial Average Index (X3) (United States)
8) The DJIA index is the main index and uses all shares listed on the NYSE.
9) S&P BSE Sansex Index (X4) (India)
10) Sansex BSE index uses the 30 highest ranking companies on the National Stock Exchange. Using a base value of 100 in 1978 - 1979.
11) Strait Times Index (X5) (Singapore)
12) The STI uses the 30 highest ranking companies on the Singapore Exchange.

3.3. Sample Collection Techniques
Determination of the sample using purposive sampling, and the sample are stock price indexes of five destination countries for Indonesian exports: China (SSE Index); Japan (Nikkei 225); USA (DJIA); India (S&P BSE Sansex) and Singapura (STI).

3.4. Data Analysis Techniques
Data Analysis and Processing

Technique

Data analysis method used multiple linear regression in which there were 5 independent variables.

Classical Assumption Testing

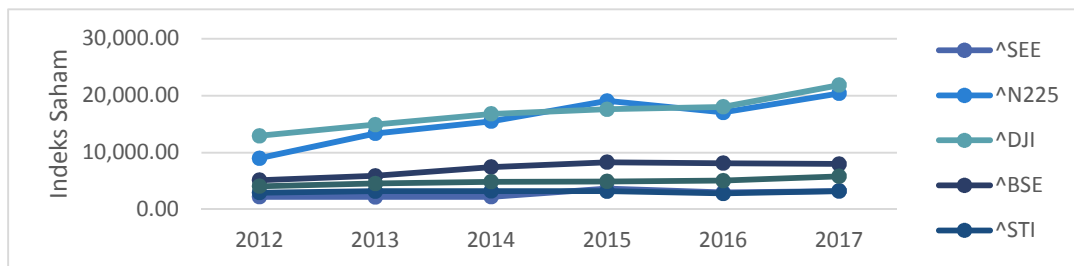According to Priyatno, 2014, a multiple linear regression requirement test consisted of normality test, multicollinearity test, heteroxedosity test, and autocorrelation test.

4. RESULT AND DISCUSSION

4.1. Result
Data Description

Data was processed using secondary data in the form of the SSE Index, Nikkei 225, DJIA, S & P BSE Sansex, STI and ICI.

Figure 1
Graph of Average Stock Exchange Index Development for Period 2012-2017

From Figure 1, the results of the analysis explained follows:

1. SSE Index - China has the highest value in 2015 which is 3,656.80 and the lowest value in 2013 which is 2,202.31.
2. Nikkei 225 Index - Japan has the highest value in 2017 which is 20,376.77 and the lowest value in 2012 which is 8,989.47.
3. DJIA - the United States has the highest value in 2017 which is 21,847.09 and the lowest value in 2012 which is 12,936.89.
4. S & P BSE Sansex Index - India has the highest value in 2015 that is equal to 8,294.05 and the lowest value in 2012 which is 5,166.40.
5. STI - Singapore has the highest value in 2017 that is equal to 3,232.46 and the lowest value in 2016 that is equal to 2,813.80.
6. ICI - Indonesia has the highest value in 2017 which is 5,837.03 and the lowest value in 2012 which is 4,093.02.

Hypothesis Testing and Study

Based on the Normal P-P plot, the data is normally distributed and the regression model has fulfilled the assumption of normality and suitable for use in research. The tolerance value of each independent variable is > 0.1, DJIA Index of 0.145, the STI of 0.907, the Nikkei 225 Index of 0.128 and the S & P BSE Sansex Index of 0.364 and has VIF < 10, DJIA of 6.877, STI of 1.102, Nikkei 225 Index of 7.813 and S & P BSE Sansex Index of 2,744. So the independent variables do not occur multicollinearity and can be used as research data. The heteroscedasticity problem does not occur, and DW level is no autocorrelation.

Analysis of Correlation

1) Correlation coefficient between SSE and ICI is 0.599, if the SSE rises, the ICI will go up and vice versa.
2) Correlation coefficient Nikkei 225 Index and ICI of 0.799, if the Nikkei 225 Index rises, the ICI also rises and vice versa.

3) Correlation coefficient between DJIA and ICI is 0.904, if the DJIA rises, the ICI will rise and vice versa.
4) Correlation coefficient between S & P BSE Sansex Index ICI is 0.713, if the S & P BSE Sansex Index rises then the ICI also rises and vice versa.
5) Correlation coefficient between STI and the ICI is 0.441, if the STI rises then the ICI also rises and vice versa.

Determination Cofficiency Analysis (R^2)

Adjusted R Square is 0.865 or 86.5%, means the Nikkei 225 Index, DJIA, S & P BSE Sansex Index and STI able to influence the ICI, and 13.5% (100% -86.5%) influenced by other variables such as the World Gold Price, World Oil Prices and USD / IDR exchange rate in Andiayas (2014).

Multiple Linear Regression Analysis

LN_Y_ICI = -1,249 - 0,159 LN_N225 + 0,768 LN_DJI + 0,086 LN_BSE + 0,377 LN_STI

1) Konstanta = -1,249
   This means that if the Nikkei 225 Index, DJIA, S & P BSE Sansex Index, and STI are 0 then the ICI is -1,249.
2) Regression coefficient Nikkei 225 Index equal to - 0.159 means if Nikkei 225 Index has a 1% increase while the other independent variables is fixed in value, the ICI will decrease by 0.159%.
3) The DJIA variable regression coefficient of 0.768 means that if the DJIA increases 1% while the other independent variables is fixed in value, the ICI will increase by 0.768%..
4) The S & P BSE variable regression coefficient is 0.086, meaning that if the S & P BSE Sansex Index has a 1% increase while the other independent variables is fixed in value, the ICI will increase by 0.086%.
5) The STI regression coefficient of 0.377 means that if the STI increases 1% while the other independent variables is fixed, the ICI will increase by 0.377%.

Hypotesis Test
F Test (Model Feasibility Test)

Table 1

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,869	1	,869	311,623	,000[b]
	Residual	,195	70	,003		
	Total	1,064	71			
2	Regression	,908	2	,454	199,632	,000[c]
	Residual	,157	69	,002		
	Total	1,064	71			
3	Regression	,919	3	,306	143,258	,000[d]
	Residual	,145	68	,002		
	Total	1,064	71			
4	Regression	,928	4	,232	114,312	,000[e]
	Residual	,136	67	,002		
	Total	1,064	71			

a. Dependent Variable: LN_Y_IHSG
b. Predictors: (Constant), LN_X3_DJI
c. Predictors: (Constant), LN_X3_DJI, LN_X5_STI
d. Predictors: (Constant), LN_X3_DJI, LN_X5_STI, LN_X2_N225
e. Predictors: (Constant), LN_X3_DJI, LN_X5_STI, LN_X2_N225, LN_X4_BSE

Significant value of 0.000 <0.05, it can be said that the regression equation model in this study is fit or feasible to use.

t Test

Table 2
Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2,126	,360		5,899	,000
	LN_X3_DJI	,654	,037	,904	17,653	,000
2	(Constant)	-,278	,669		-,415	,679
	LN_X3_DJI	,613	,035	,847	17,559	,000
	LN_X5_STI	,349	,085	,198	4,110	,000
3	(Constant)	-,996	,720		-1,385	,171
	LN_X3_DJI	,792	,084	1,094	9,386	,000
	LN_X5_STI	,362	,083	,206	4,391	,000
	LN_X2_N225	-,117	,051	-,270	-2,313	,024
4	(Constant)	-1,249	,711		-1,756	,084
	LN_X3_DJI	,768	,083	1,061	9,267	,000
	LN_X5_STI	,377	,081	,214	4,668	,000
	LN_X2_N225	-,159	,053	-,365	-2,993	,004
	LN_X4_BSE	,086	,040	,155	2,149	,035

a. Dependent Variable: LN_Y_ICI

Table 2 , it can be concluded that Nikkei 225 Index, DJIA, S & P BSE Sansex Index and STI have a significance value < 0.05, the four independent variables affect the ICI. Only the SSE has a significance value > 0.05, it can be concluded that the variable SSE does not have a significant influence on ICI during year 2012-2017.

4.2. Discussion

1) The significance value of the SSE is 0.248 > 0.05, meaning that SSE does not have a significant effect on the ICI. The movement of the Chinese stock market several times striking compared to the movement of global stock indices. The movement of the SSE index had accelerated faster in the period November 2014-June 2015. SSE was in an upward trend and touched an all time high on June 12, 2015. In the same period, the DJIA and the FTSE 100 index moved more moderately. Similarly, when compared with the ICI, "The movement was odd, never in line with the movement of the stock market in general," said Head of LOTS Services Lotus Andalan Sekuritas Krishna Dwi Setiawan. So far, China has its own reasons for keeping its burs closed. Their foreign exchange reserves are large, they have a budget surplus. So it doesn't really need to be open yet. Thus, the influence of the Chinese stock market is still very minimal on global stock exchanges including the ICI.

2) The significance value of the Nikkei 225 Index is 0.004 <0.05, and the direction is negative, so that Nikkei 225 Index has a negative and significant effect on the ICI.

3) The significance value of the DJIA of 0,000 <0.05, and the direction is positive,so that DJIA has a positive and significant effect on the ICI.

4) The significance value of the S&P BSE Sansex Index 0.035 < 0.05, and the direction is positive, so that S&P BSE Sansex Index has a positive and significant effect on the ICI.

5) The significance value of the STI is 0,000 <0.05, and the direction is positive, so that STI has a positive and significant effect on the ICI.

5. CONCLUSION

Only SSE Index was no influence, but Nikkei 225 Index, DJIA, Sansex S & P BSE Index and STI influenced the ICI on the IDX during 2012 - 2017.
Considering the market indices of 4 countries affect the ICI which is an indicator of Indonesia's economic movements, the government can immediately take policy steps in order to anticipate the negative impacts that will affect the growth of exports. Indonesian government, can make mutually beneficial bilateral agreements with countries such as the USA, India, Japan and Singapore so that Indonesia's export performance remains stable and the trade balance is maintained to remain surplus. For the Chinese state, bilateral relations, especially international trades, should be safeguarded and support Indonesia's export performance. To anticipate or reduce the risk of fluctuations in foreign exchange rates, it is necessary to plan to use currencies between countries relevant for Indonesia.

REFERENCES

Andiayas, I Gusti Agus. (2014). Pengaruh Beberapa Indeks Saham dan Indikator Ekonomi Global Terhadap Kondisi Pasar Modal Indonesia. *Online Jurnal Mahasiswa Universitas Udayana, Denpasar.*

Artini, Luh Gede Sri Artini, Nyoman Tri Aryati, Putu Vivi Lestari, Ni Putu Ayu Darmayanti, Gede Merta Sudiartha. (2017). Analisis Fundamental Makro dan Integrasi Pasar Saham Dunia Dengan Bursa Efek Indonesia. *Jurnal Manajemen, Strategi Bisnis dan Kewirausahaan, Volume* 11, No. 2, Agustus 2017.

Fahmi, Irham. (2015). *Pengantar Pasar* Modal *Edisi 1*. Bandung: Alfabet.

Harjadi, Sri. (2013). *Pasar Modal Indonesia* Pengantar *dan Analisis.* Jakarta: In Media.

Imbayani, I. Gusti Ayu. (2015). Analisis Pengaruh Indeks Dow Jones, Indeks Strait, Times Indeks Nikkei 225, Indeks Hang Seng, Dan Kurs Rupiah Terhadap Indeks Harga Saham Gabungan Di Bursa Efek Indonesia. *Jurnal Ilmu Manajemen Mahasaraswati*.

Katti, Siti Wardani Bakri. (2014). Analisis Faktor Makro Ekonomi, Indeks Bursa Global dan Kepemilikan Saham Asing terhadap Pergerakan Indeks Harga Saham di Bursa Efek Indonesia. *Jurnal Ekomaks*, Volume 3, pp 92-106.

Oktarina, Dian. (2016). Pengaruh Beberapa Indeks Saham Global dan Indikator Makroekonomi Terhadap Pergerakan IHSG. *Journal of Business & Banking (JBB)*, *Volume* 5 Number 2, 163-182. doi: 10.14414/jbb.v5i2.701.

Oktavia, Safitri and Wiwik Handayani. (2018). Effect of Rupiah Exchange Rate, GDP Growth, and Dow Jones Index on Composite Stock Price Index in Indonesia Stock Exchange. *Journal of Accounting and StrategicFinance (JASF), Volume* 1(1). doi:https://doi.org/ 005/jasf.v1i01.24.

Priyatno, Duwi. (2014). *SPSS 22 Pengolahan Data Terpraktis.* Yogyakarta: Andi Publisher

Pramudika, Gading dan Kus Pandi. (2013). Pengaruh Indeks Bursa Saham Regional Asia Pasifik terhadap Indeks Harga Saham Gabungan (IHSG) pada Bursa Efek Indonesia (BEI) tahun 2009-20011. *Jurnal Online Mahasiswa Universitas Brawijaya*, *Volume* 1(2).

Tarigan, Razaq Dastanta, Suhadak, Topowijono. (2015). Pengaruh Indeks Harga Saham Global Terhadap Indeks Harga Saham Gabungan (ICI) Studi Pada Bursa Efek Indonesia (BEI) Periode 2011-2014. *Jurnal Online Mahasiswa Universitas Brawijaya*.

Setiawan, Krishna Dwi. (2018, February 15). Belajar dari bursa saham di Tiongkok. Diakses pada Agustus 15, 2018, dari https://investasi.kontan.co.id/news/belajar-dari-bursa-saham-di-tiongkok.

Sutanto, Budi, Werner R. Murhadi, Endang Ernawati. (2013). Analisis Pengaruh Ekonomi Makro, Indeks Dow Jones, dan Indeks Nikkei 225 terhadap Indeks Harga Saham Gabungan (IHSG) Di BEI Periode 2007-2011. *Calyptra: Jurnal Ilmiah*

Venska, Dewa Ayu Kartika, Suhadak, dan Siti Ragil Handayani. (2014). The Effect of Global Stock Indexs (Dow Jones Industrial Average, Nikkei 225, Hang Seng, and Strait Times) On Jakarta Composite Index At Indonesian Stock Exchange (Period Of 2010 – 2012). *Jurnal Administrasi Bisnis (JAB), Volume* 9 No. 2.

Widodo. (2018). Analisis Pengaruh Indeks Harga Saham Gabungan Regional Terhadap Indeks Harga Saham Gabungan Indonesia. *Ekbis: Jurnal Ekonomi dan Bisnis*, *Volume* 1 no 2, Hal 148-164.

Mahasiswa Universitas Surabaya, *Volume* 2 No.1, hal. 1-9,

Sihombing, Pardomuan dan Rizal. (2014). Pengaruh Indeks Saham Global Dan Kondisi Makro Indonesia Terhadap Indeks Harga Saham Gabungan Bursa Efek Indonesia. *Media Ekonomi, Volume* 22 No.2 Agustus 2014.

Triyon, David, Indarto Indarto, Aprih Santoso. (2016). Analisis Pengaruh Indeks Harga Saham Asing dan Variabel Makroekonomi Indonesia Terhadap Indeks Harga Saham Gabungan (IHSG) Di Bursa Efek Indonesia (Periode Januari 2013 – Agustus 2015). *Jurnal Riset Ekonomi dan Bisnis*, *Volume* 9, No 3.

Undang-Undang Republik Indonesia Nomor 8 Tahun 1995 Tentang Pasar Modal di Indonesia.