CHAPTER IV

DATA ANALYSIS AND DISCUSSION

This chapter analyzed the data about *the cumulative average abnormal return* on the two events with the different date. Firstly, it was the t-10 until t+10 days from the date of the announcement of XVIII ASEAN Games. Secondly, it was the t-10 until t+10 days from the date of the announcement of XXX SEA Games. Lastly by comparing the first event and second event whether both events react differently or not.

The data analysis in this research used the close price of two sources of data. Firstly, the stocks from the LQ45 index that listed in Indonesian Stock Exchange (IDX) was the data taken from Indonesian Stock Exchange (IDX) in the period of September 2014. Secondly, the stock from PSEi that consisted of 30 stocks that listed in the Philippine Stock Exchange (PSE) in the period of August 2017. To calculate the data in this research, the researcher used *Microsoft Excel 2016* and analyzed the data using *IBM SPSS Statistics 24*.

4.1. Statistical Descriptive

Statistical descriptive analysis in this research was used to know the mean, total minimum and maximum, and also the standard deviation from *Cumulative Average Abnormal Return* from all sample of LQ45 and PSEi on the 10 days before the announcement, the day of the announcement and 10 days after the announcements. The calculation of statistical descriptive analysis used *IBM SPSS Statistics 24*.

Below were the results of the calculation:

Table 4.1 The Descriptive Statistics of Research Variable XVIII ASIAN Games

	N	Minimum	Maximum	Mean	Std. Deviation
CAAR before ASIAN Games	10	-.01390	-.00060	-.0073100	.00416692
CAAR the Day ASIAN Games	1			-.00590	
CAAR after ASIAN Games	10	-.02870	-.00640	-.0161100	.00749362

Source: Secondary data processed, 2018

From the data, the minimum, maximum, mean, and standard deviation of each item is obtained. The minimum value of *Cumulative Average Abnormal Return* before the announcement of ASIAN Games was -0.01390, while the maximum value was -0.00060. The mean of *Cumulative Average Abnormal Return* before the announcement of ASIAN Games was -0.0073100, while the standard deviation was 0.00416692.

From the data also found the minimum value of *Cumulative Average Abnormal Return* at the day of the announcement of ASIAN Games was -0.00590, while the maximum value was -0.00590. The mean of *Cumulative Average Abnormal Return* at the day of the announcement of ASIAN Games was also -0.00590.

From the data also found the minimum of *Cumulative Average Abnormal Return* after the announcement of ASIAN Games was -0.02870, while the maximum value was -0.00640. The mean of *Cumulative Average Abnormal Return* after the announcement of ASIAN Games was -0.0161100, while the standard deviation was 0.00749362.

Table 4.2 The Descriptive Statistics of Research Variables XXX SEA Games

	N	Minimum	Maximum	Mean	Std. Deviation
CAAR before ASIAN Games	10	-.00070	.02090	.0090200	.00655656
CAAR the Day ASIAN Games	1			.01590	
CAAR after ASIAN Games	10	.01300	.02760	.0200300	.00567686

From the data, the minimum, maximum, mean, and standard deviation of each item is obtained. The minimum value of *Cumulative Average Abnormal Return* before the announcement of SEA Games was -0.00070, while the maximum value was 0.2090. The mean of *Cumulative Average Abnormal Return* before the announcement of SEA Games was 0.0090200, while the standard deviation was 0.00655656.

From the data also found the minimum value of *Cumulative Average Abnormal Return* at the day of the announcement of SEA Games was 0.01590, while the maximum value was

0.01590. The mean of *Cumulative Average Abnormal Return* at the day of the announcement of SEA Games was also 0.01590.

From the data also found the minimum of *Cumulative Average Abnormal Return* after the announcement of SEA Games was 0.01300, while the maximum value was -0.02760. The mean of *Cumulative Average Abnormal Return* after the announcement of SEA Games was 0.0200300, while the standard deviation was 0.00567686.

4.2.Normality Test

In this research, normality test used *Kolmogorov-Smirnov Test* with the significance level of 5%. Normality test was performed to determine whether the data obtained was normally distributed or not. The data is normally distributed if the significance value is > 0.05. If the data is normally distributed, hypothesis test can be done by paired sample t-test. However, if the data is not normally distributed, the hypothesis test is performed by *Wilcoxon signed rank test*.

Here is a table of normality test results of research:

4.2.1. Normality Test I

Normality test I was used to find out whether the data obtained in this research had normal distribution or not, on the *cumulative average abnormal return* before and after the announcement XVIII ASIAN Games. Below is the result of the normality test I:

Table 4.3 Table of Normality Test of the Announcement XVIII ASIAN Games

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
CAAR before Asian	.185	10	.200	.962	10	.806

	Kolmogorov-Smirnov			Shapiro-Wilk		
Games						
CAAR after Asian Games	.148	10	.200	.951	10	.686

Source: Secondary data processed, 2018

Based on the table above, the result of normality test using Kolmogorov-Smirnov test found that *Cumulative Average Abnormal Return* before the announcement, and *Cumulative Average Abnormal Return* after the announcement of XVIII ASIAN Games had the probability value of greater than the level of significance set at 5%. Thus, the data was normally distributed. *Paired sample t-test* can be used to test the first hypothesis.

4.2.2. Normality Test II

Normality test II was used to find out whether the data obtained in this study was normally distribution or not, on the *cumulative average abnormal return* before and after the announcement XXX SEA Games. Below is the result of the normality test II:

Table 4.4 Table of Normality Test of the Announcement XXX SEA Games

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
CAAR before SEA Games	.110	10	.200	.980	10	.964
CAAR after SEA Games	.198	10	.200	.885	10	.150

Source: Secondary data processed, 2018

Based on the table above, the result of normality test using Kolmogorov-Smirnov test found that *Cumulative Average Abnormal Return* before the announcement and *Cumulative Average Abnormal Return* after the announcement of XXX SEA Games had the probability value of greater than the level of

significance set at 5%. Thus, the data was normally distributed. *Paired sample t-test* can be used for testing the second hypothesis.

4.3.Hypothesis Test

Hypothesis testing was used to know any differences of average abnormal return on the day of the announcement events, both the announcement of XVII ASIAN Games and also XXX SEA Games with the significant rate of 0.05 (5%).

4.3.1. ***Cumulative Average Abnormal Return* in the LQ45 Index that Listed in the Indonesia Stock Exchange has Differences Before and After the Announcement of XVIII ASIAN Games**

This hypothesis testing was used to determine whether *cumulative average abnormal return* has difference before and after the announcement of XVIII ASIAN Games. Below is the result of hypothesis testing I:

Table 4.5 Hypothesis Testing Result of the XVIII ASIAN Games Announcement

	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	T	df	Sig. (2 tailed)
Pair1 CAAR before ASIAN Games-CAAR after ASIAN Games	-.008800	.00943634	.00298403	-.0155503	-.0020496	-2.949	9	.016

Source: Secondary data processed, 2018

Based on the table above, the result of *paired sample t-test* found that the comparison of *cumulative average abnormal return* before and after the announcement showed that the t was -2.949 and with the probability value of 0.016 and the value below the significance value of 5%. In this *paired sample t-test,* it was found that *cumulative average abnormal return* had difference before and after the announcement of XVIII ASIAN Games. This hypothesis testing showed that the first hypothesis (H1) in this research was significant.

4.3.2. *Cumulative Average Abnormal Return* **in the PSE Index that Listed in the Philippine Stock Exchange has Difference Before and After the Announcement of XXX SEA Games**

This hypothesis testing was used to determine whether *cumulative average abnormal return* has difference before and after the announcement of XXX SEA Games. Below is the result of hypothesis testing II:

Table 4.6 Hypothesis Testing Result of the XXX SEA Games announcement

	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2 tailed)
Pair1 CAAR before SEA Games-CAAR after SEA Games	.011010	.0080186	.0025357	.00527380	.01674620	4.342	9	.002

Source: Secondary data processed, 2018

Based on the table above, the result of *paired sample t-test* found that the comparison of *cumulative average abnormal return* before and after the announcement showed that the t was 4.342 with the probability value of 0.002 and the value below the significance value of 5%. In this *paired sample t-test,* it was found that *cumulative average abnormal return* had difference before and after the announcement of XXX SEA Games. This hypothesis testing showed that the second hypothesis (H2) in this research was significant.

4.4. Discussion of Research Result

This section is the explanation of the data analysis result as described in the previous chapter. The discussion of the research result in this chapter was arranged sequentially based on the problem formulation and research hypothesis. Based on the result of the analysis, it was found that hypothesis one and two were accepted. It means that Indonesia stock price and Philippine stock price had the same impact on the announcement of the International Sporting Event proven by the Indonesia stock price which was influenced by the announcement with the result of below 5% for the error rate, and also Philippine stock price which was influenced by the announcement with the result of below 5% for the error rate.

4.4.1. The Effect of XVIII ASIAN Games Announcement on Indonesia Stock Price

The announcement of XVIII ASIAN Games that was announced in Seoul, South Korea resulted that Indonesia became the host country of the next ASIAN Games in the upcoming 2018. Based on the result in previous chapter, it was found that the announcement of XVIII ASIAN Games affected the Indonesia

stock price. In other words, a significant impact on the market before and after the announcement of XVIII ASIAN Games did occur.

The announcement of XVIII ASIAN affected the Indonesia stock price and produce negative *cumulative average abnormal return* with the negative number of mean by -0.0088000. This result was supported with the previous research where as if the host country's stock market produced the positive abnormal returns, the country recognize the announcement as good news and vice versa (Ramdas et al, 2015). During the FIFA World Cup periods, the US stock market showed a negative abnormal return (Kaplanski & Levy, 2010). It means that Indonesian stock market considering the announcement of XVIII ASIAN Games as informative news because the event is influenced by the stock price.

In this term, this result did not supported the previous study about the winner of bid to host an international sporting event that showed a positive reaction in stock market return (Martins & Serra, 2007), while Indonesia produce negative *cumulative average abnormal return*. In term of this event, Indonesia was beaten by China and Dubai due to the hosting country for ASIAN Games. Unfortunately, the result wasn't the same with the previous research that stated the stock market of the winner of bid showed a positive reaction in stock market return

In this study, the announcement contained the important information that was necessary for investors in buying or selling stocks in the capital market. Besides, according to Fama (1970) a security market is efficient if security prices fully reflected by the information available. Thus, markets are efficient because

the market reflected the announcement and also the investor is anticipating about the event.

4.4.2. The Effect of XXX SEA Games Announcement on Philippine Stock Price

This hypothesis is tested to know whether XXX SEA Games announcement has an effect on Philippine stock price or not. Based on the result in previous chapter, the announcement of XXX SEA Games affected the Philippine stock price and gave the positive *cumulative average abnormal return* to the Philippine stock price with positive number of mean by 0.011010. In other words, a significant effect of the market before and after the announcement of XXX SEA Games occurred.

The announcement of XXX SEA Games was considered as informative news for Philippine stock market proven by event that gave the abnormal return for the stock price. It is supported by Ramdas et al. (2015) where if the host country's stock market produce the positive abnormal returns, the country recognize the announcement as good news and vice versa.

In this term, this result supported the previous research about the winner of bid to host an international sporting event that showed a positive reaction in stock market return (Martins & Serra, 2007). This statement was also supported by Iskic (2014). He stated that *cumulative average abnormal return* was significant after the announcements for the World Football Cup.

In this research, it was found that the announcement contained the important information necessary for investors in buying or selling stocks in the

capital market. Besides, according to Fama (1970) a security market is efficient if security prices fully reflected by the information available. This term market was efficient because the market reflected the announcement and also the investor is anticipating the event.