

# Analysis of Abnormal Return Difference before and After Tax Amnesty Announcement toward Indonesia Stock Exchange (IDX)

(Case Study on KOMPAS-100)

Yogi Mahendra Wendy Wiratama\*, Brady Rikumahu\*\*,

\*Undergraduate of International ICT Business, Telkom University

\*\*Faculty of Economics and Business, Telkom University

**Abstract-** This study aims to determine whether there is a significant impact of Tax Amnesty announcement on July 1<sup>st</sup> 2016 toward Indonesia Stock Exchange (IDX) period of February – July 2016. The research conducted event study method to examine the phenomenon. Event studies aim to examine abnormal rates of return by the significant economic information. Sample of the research was 78 companies that listed on KOMPAS-100 index which are not doing any corporate action during event window of 5-days before (t-5) until 5-days after event date. Average abnormal return was being variable of the research by calculate market model with 100-days of estimation date. The research concluded that there is no significant difference in event window of 5-days before and 5-days after Tax Amnesty announcement.

**Index Terms-** event study, tax amnesty, average abnormal return, abnormal return, market model

## I INTRODUCTION

Global economic condition influences the Indonesia economics, such as global economic growth moderation, unstable economics of America, retardation of china's growth, uncertainty of monetary policy, commodity prices declined, geopolitics risk: The Middle East & Brexit (Faisal, 2016:12). Those conditions indirectly diminish the national economic growth. During the last five years (2011-2015), the national economic growth has declined with the global economy condition which also had a declining in economic activity (bisniskeuangan.kompas.com, retrieved April 30<sup>th</sup> 2017).

The declining of national growth forced Indonesia government to make a new regulation that would enhance the national growth itself. Since the July 1<sup>st</sup> 2016, Indonesian government implemented the UU No. 11 Year 2016 regarding Indonesia Tax Amnesty. The tax amnesty itself applied based on batch method. Each of the batch has the difference rates level of tax amnesty. The tax amnesty divided into 3 batch. The 1<sup>st</sup> batch started from July to

September 2016, 2<sup>nd</sup> batch started from October to December 2016, the 3<sup>rd</sup> batch started from January to March 2017.

The lowest growth is in the 2015 which had the lowest rate among the last five years which had only 4.79% which compared with the last five years' rate, as is displayed on

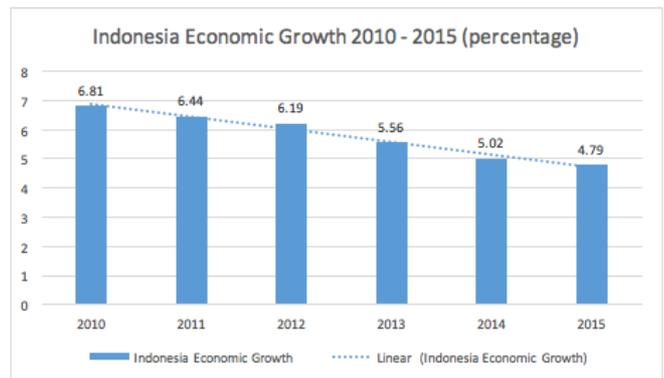


Figure 1.1 as below:

Figure 1.1 Indonesia Economic Growth 2010-2015 (in percent)

Source: bisniskeuangan.kompas.com

(Secondary Data Processed)

Tax Amnesty is believed to bring many advantages, especially to the country itself. The program will increase the national economic growth through asset repatriation, which indicated with: domestic liquidity increased, Rupiah's exchange rate improvement, interest rate decreased, investment increased, etc. Tax amnesty is the part of reformation of taxation toward a fair system, and expansion of taxation database (Faisal, 2016:17). According to Kartajaya, H. (2009), by August 10<sup>th</sup> 2007, IDX cooperate with Harian Kompas launched KOMPAS-100, a movement indicator or index which contains 100 chosen companies in Indonesia. He stated that stock on the KOMPAS-100 already represent 70%-80% from the whole market capitalization on Indonesia Stock Exchange (IDX). Issuer of KOMPAS-100 is chosen by considering frequency of transaction, volume of transaction, market capitalization, and fundamental aspect from those stock. According to (Bodie et al, 2011:381), technique of empirical financial

research to assess the impact of an event on a firm's stock price is measured by using the abnormal return approach. The phenomenon that occurred on IDX's stock while Indonesia Tax Amnesty ratification announcement is considered as Semistrong-Form of Efficient Market Hypothesis. Based on Tandelilin (2010:223), Semistrong-Form of Efficient Market Hypothesis is occurred when current stock market's price is already reflected historical information including all of published information such as earning, dividend, stock split announcement, and another published event that affect future company's cash flow. Fama (1991) on Tandelilin (2010:224) complete the classification of Efficient Market Hypothesis (EMH) and made Semistrong-Form to be Event Studies. Reilly and Brown (2009:157) inferred that to do any test regarding Semistrong-Form Hypothesis, researcher have to find the abnormal return rate by adjusting security's rates of return for the rates of return of the overall market during around specified period.

## I. LITERATURE REVIEW

According to (Fama, 1970) grouped Efficient Market Hypothesis and its empirical test study into three which are consisted as weak-form efficiency, semistrong-form efficiency, and strong efficiency. Bodie et al. (2011:375) stated that those each form of market efficiency indicate the availability if the information within the movement of price on its market.

Fama (1991) on (Halim, 2015:102) called the semistrong-form efficient market as event studies. Semistrong-form efficient market indicates that all of firm's publicly available information is reflected by the stock's prices. According to (Bodie et al, 2011:381), event studies refers to atechnique of empirical financial research to assess the impact of an event on a firm's stock price is measured by using the abnormal return approach. Observer measure abnormal return on a specified period of an event to assess the difference between the stock's actual return and the expected return based

Some researchers have conducted research to measure the impact of Tax Amnesty announcement to a capital market, especially on Indonesia Stock Exchange (IDX). However, there are different result on those research. Manik et. al (2014) found that there is no significant difference on IDX by before and after the Tax Amnesty announcement. While Wulandari (2017) found a significant difference on before and after Tax Amnesty announcement toward IDX.

Manik et. al (2014) conducted research event window of 10-days start from 11<sup>st</sup> July 2016 until 15<sup>th</sup> July 2016 and 19<sup>th</sup> July 2016 until 25<sup>th</sup> July 2016 which are five days before and after the announcement of Tax Amnesty ratification. There are 20 companies on property industry that listed on (Indonesia Stock Exchange) IDX became sample of the research. The model of abnormal return that used in the research was market-adjusted model to calculate expected return. On this research, there was no significant different on Indonesia Stock Exchange (IDX) in property industry stock market by the calculation of abnormal return, even it was increased on property index price.

Wulandari (2017) conducted research that examined the empirical difference before and after the implementation of

Tax Amnesty regulation by calculating the abnormal return and trading volume activity on IDX. The object of the research was 45 companies that was fulfilled the criteria and listed on LQ-45 during February 2016 – July 2016. Event window that was used in the research was 10-days, consisted of 5-days before and 5-days after the event of Tax Amnesty regulation implemented. The result of the research was a significant difference of the abnormal return and the stock trading volume activity between before and after Tax Amnesty regulation implemented.

Based on previous studies, there are a gap among the results from the research that already conducted. Hence, hypothesis of the research is proposed as follow:

H<sub>A</sub>: There is a significant difference of average abnormal return 5-days before tax amnesty program ratification announcement (June 24<sup>th</sup> until June 30<sup>th</sup>) and 5-days after Tax Amnesty program ratification announcement (July 11<sup>st</sup> – July 15<sup>th</sup>) on stock that listed on KOMPAS-100 index of Indonesia Stock Exchange (IDX) during February 2016 – July 2016 period.

## II. METHODOLOGY

This research use quantitative method to observe sample by gathering data through research instrument and statistical analysis. Data that are used in this research are daily stock price which considered as secondary data that gathered from finance.yahoo.com and investing.com. Based on the purpose of the business research, this research is a descriptive research as this research aim to assess and describe the characteristics of objects. While, based on research objectives, this research is considered as a comparative descriptive research that aim to describe characteristics of variable that compared to each research object which are the condition of before and after the event announcement. This study type of investigation is correlational study type that aim to describe variable which associated with phenomena and needed to be identified of the factors. Correlational study is conducted with minimal interference by researcher. Unit of analysis in this research is on organization level that observe stock on KOMPAS-100 index. By the time horizon, it is considered as longitudinal studies which observe object in more than one point in time.

Population in this research is company that listed on the KOMPAS-100 index during February 2016 – July 2016 period. This research uses purposive sampling which can be grouped as nonprobability sampling designs. Research sample on the research is 78 stock. The sampling phase of this research is based on some criteria, as follows:

- a. Company that listed on KOMPAS-100 index during Februry 2016 – July 2016.
- b. Company that have no corporate action during the event window which is on between 11-days, in 5-days before event, event date, and 5-days after the event announcement, from 24<sup>th</sup> June 2016 until 15<sup>th</sup> July 2016 (include stock trading day-off).

This research variable is consisted of abnormal return. Then, the detailed analysis technique and hypothesis testing of the analysis on average abnormal return of Tax Amnesty announcement toward KOMPAS-100 stock index of Indonesia Stock Exchange (IDX) is stated as follows:

- a. Define Event window and estimation period of Event Study

Event window of this research is 11-days, which are 5-days before the event date (June 24<sup>th</sup> – June 30<sup>th</sup> 2016), the event date (July 1<sup>st</sup> 2016), and 5-days after event date (July 11<sup>th</sup> 2016) of ratification announcement of Indonesia Tax Amnesty Law. Estimation period of the research is 100-days (t-105) during January 29<sup>th</sup> 2016 until June 23<sup>rd</sup> 2016.

- b. Calculate Return, that stated on Hartono (2016) as:

$$R_{i,t} = \frac{P_t - P_{t-1}}{P_{t-1}} \quad (2-1)$$

$P_t$  : Current period stock price of (t) period  
 $P_{t-1}$  : Previous period stock price of (t-1) period

- c. Calculate Abnormal Return by Market Model, that according to Brown and Warner (1985) as:

$AR_{i,t} = R_{i,t} - \alpha_i - \beta_i R_{m,t}$  (2-2)  
 $AR_{i,t}$  : abnormal return for security (i) on (t) period  
 $R_{i,t}$  : actual return (i) on the estimation period of (t)  
 $\alpha_i$  : intercept for securities (i)  
 $\beta_i$  : slope coefficient which is Beta from (i) securities  
 $R_{m,t}$  : market index returns on (t) estimation period which can be calculated with  $R_{m,t} = \frac{IHS G_t - IHS G_{t-1}}{IHS G_{t-1}}$ , IHS G<sub>t-1</sub> and IHS G are Indeks Harga Saham Gabungan (accumulated stock index price)

- d. Calculate Average Abnormal Return, that according to Hartono (2016) as:

$$AAR_t = \frac{\sum_{i=1}^k AR_{it}}{k} \quad (2-3)$$

$AAR_t$  : average abnormal return on the specified period (t)  
 $AR$ : abnormal return of (i) stock on the specified period (t)  
 $k$  : number of securities that affected by event study

- e. Define Null-Hypothesis ( $H_0$ ) and Alternative Hypothesis ( $H_a$ ),

$H_0$  : There is no significant difference of average abnormal return 5-days before tax amnesty program ratification announcement (June 24<sup>th</sup> until June 30<sup>th</sup>) and 5-days after Tax Amnesty program ratification announcement (July 11<sup>st</sup> – July 15<sup>th</sup>) on company that listed on KOMPAS-100 index of Indonesia Stock Exchange (IDX) during February 2016 – July 2016 period.

$H_1$  : There is a significant difference of average abnormal return 5-days before tax amnesty program ratification announcement (June

24<sup>th</sup> until June 30<sup>th</sup>) and 5-days after Tax Amnesty program ratification announcement (July 11<sup>st</sup> – July 15<sup>th</sup>) on company that listed on KOMPAS-100 index of Indonesia Stock Exchange (IDX) during February 2016 – July 2016 period.

- f. Determine Significance Level

Significance level is a critical probability relate to statistical hypothesis test that assess how likely is an observed value and statistical expectation being supported the difference by the inference (Zikmund et al, 2010:510). Significance level ( $\alpha$ ) that used in this research is 5% or with 95% of Confidence level of 95%.

- g. Normality Distribution Testing

Normality distribution test purpose to know whether data of population well normally distribute or not. This test use Kolmogorov-Smirnov (K-S testing) by comparing asymptotic significance (2-tailed) with  $\alpha - 0.05$ . If data is normally distributed, paired simple If the data is not normally distributed, non-parametric test that is used is Wilcoxon Test. Criteria to define a normality to a data are:

1. If Asymp. Sig. (2-tailed)  $\leq 0.05$ , data is normal distributed.
2. If Asymp. Sig. (2tailed)  $> 0.05$ , data is not normally distributed.

- h. Hypothesis Testing

Hypothesis testing on this research use paired-samples t-test if the normality test of the data show that the data is normally distributed. If the result of the normality test show that the data is not normally distributed, Author use Wilcoxon Signed- Rank test to know whether Tax Amnesty program ratification announcement has significant impact toward abnormal return on company that listed on KOMPAS-100 period of February 2016 – July 2016.

If the data of the research is normally distributed and use paired-samples t-test, the criteria of the hypothesis is stated as follows:

1. If significant level more than 0.95 or p-value  $\leq 0.05$ , reject  $H_0$ , and accept  $H_a$ . It means that there is a significant difference between abnormal return on company that listed on KOMPAS-100 index during February 2016 – July 2016 period before and after Indonesia Tax Amensty program announcement.
2. If significant level more than 0.95 or p-value  $\geq 0.05$ , accept  $H_0$ , and reject  $H_a$ . It means that there is no significant difference between abnormal return on company that listed on KOMPAS-100 index during February 2016 – July 2016 period before and after Indonesia Tax Amensty program announcement.

If the data of the research is not normally distributed and use Wilcoxon test, the criteria of the hypothesis is stated as follows:

1. If  $Z(\text{calculated}) \leq Z(\text{table})$  on significant level of 0.05 or  $\text{sig} \geq 0.05$ , accept  $H_0$ . It means that there is no significant difference between abnormal return on company that listed on KOMPAS-100 index during February 2016 – July 2016 period before and after Indonesia Tax Amesty program announcement.
2. If  $Z(\text{calculated}) > Z(\text{table})$  on significant level of 0.05 or  $\text{sig} \leq 0.05$ , reject  $H_0$  and accept  $H_a$ . It means that there is significant difference between abnormal return on company that listed on KOMPAS-100 index during February 2016 – July 2016 period before and after Indonesia Tax Amesty program announcement.

IV RESULT AND DISCUSSION

Data is gathered from 11-days of event window through market model on 100-days of estimation period to calculate abnormal return on 78 securities that listed on KOMPAS-100 during February 2016 to July 2016.

Table 4.1 Abnormal Return Descriptive Statistics

Day	N	Minimum	Maximum	Mean	Std. Deviation
t-5	78	-.0842	.0868	-.0039	.0281
t-4	78	-.0976	.2369	-.0001	.0404
t-3	78	-.2017	.0939	-.0022	.0392
t-2	78	-.0697	.0887	.0001	.0317
t-1	78	-.1657	.3447	-.0017	.0566
t	78	-.0854	.1453	-.0021	.0296
t+1	78	-.1119	.0763	.0007	.0341
t+2	78	-.1717	.1334	.0041	.0443
t+3	78	-.1168	.1541	.0041	.0435
t+4	78	-.1817	.0584	-.0043	.0348
t+5	78	-.0634	.0667	-.0012	.0263

(Secondary Data Processed)

From Table 4.1, minimum value of abnormal return was on (t-4), -20.17% on Media Nusantara Citra Tbk (MNCN). Maximum value of the abnormal return occurred on (t-1) as many as 34.47% on Dharma Samudera Fishing Industries Tbk (DSFI). While the highest mean of abnormal return occurred on (t+3), 0.41% in point. The lowest level of standard deviation occurred on (t+5) as many as .0263, it means that data distribution spread is close to the mean as .0263 point. Whereas the highest value of standard deviation on abnormal return occurred on (t-1) as many as .0566, it means that the data distribution is the farthest from

the mean than the other day.

Figure 4.1 Average Abnormal Return during Event Window

(Secondary Data Processed)

It is shown on Figure 4.1 that before Tax Amesty program ratification announcement, it only had positive average abnormal return value on June 29<sup>th</sup>, 2016 (t-2) with .01% respectively. Meanwhile, on the rest days before event date it had negative average abnormal return value, namely June 24<sup>th</sup>, 2016 (t-5) with -0.39%; June 27<sup>th</sup>, 2016 (t-4) with -0.01%; June 28<sup>th</sup>, 2016 (t-3) with -0.22%; June 30<sup>th</sup>, 2016 (t-1) with -0.17%.

After Tax Amesty program ratification announcement, on July 11<sup>th</sup> 2016 (t+1) the average abnormal return was increased to 0.07%, this trend was followed until July 13<sup>rd</sup>, 2016 with 0.41% on (t+2) and (t+3). On July 13<sup>rd</sup>, 2016. Negative average abnormal return value only occurred on July 14<sup>th</sup>, 2016 (t+4) and July 15<sup>th</sup>, 2016 (t+5) with -0.43% and -0.12% respectively.

Table 4.2 Average Abnormal Return Descriptive Statistics

AAR	N	Minimum	Maximum	Mean	Std. Deviation
Before_Announcement	78	-7.17%	8.54%	-0.16%	.0181
After_Announcement	78	-6.49%	4.91%	0.07%	.0163

The minimum value of average abnormal return before Tax Amesty program ratification announcement was -7.17% on Eureka Prima Jakarta Tbk (LCGP). The maximum value of average abnormal return before Tax Amesty program ratification announcement was 8.54% on Dharma Samudera Fishing Industries Tbk (DSFI). Tax Amesty program ratification announcement contained information that made bad affect to Indofood Sukses Makmur Tbk (INDF) that had -6.49% of average abnormal return value after the event. Otherwise, Vale Indonesia Tbk (INCO) was affected positively by Tax Amesty program ratification announcement with 4.91% of average abnormal return value. Before the event, average abnormal return of whole sample was -0.16%. It is increased on the average abnormal return after Tax Amesty program ratification announcement with 0.07% of average abnormal return value. From the Table 4.2, it can be concluded as Tax Amesty program ratification announcement give positive affect on company that listed on KOMPAS-100 in generally.

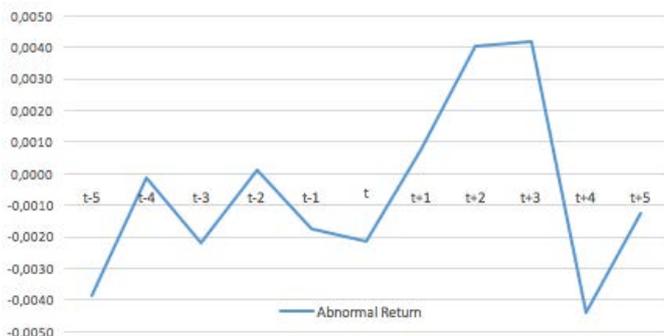
Table 4.3 Average Abnormal Return Normality Test

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Before_Announcement	.132	78	.002	.866	78	.000
After_Announcement	.101	78	.048	.939	78	.001

a. Lilliefors Significance Correction

(Secondary Data Processed Using SPSS 23)

From Table 4.3, Sig. value both of Kolmogorov-Smirnov and Shapiro-Wilk for both of variable (Before\_Announcement and After\_Announcement) are less than the significance level ( $p < .05$ ). From the information



above, it can be concluded that the data is not normally distributed. Therefore, the hypothesis testing of average abnormal return will be conducted with Wilcoxon Signed-Rank Test.

**Table 4.4 Average Abnormal Return Wilcoxon Signed-Rank Test**

	After_Announcement - Before_Announcement
Z	-1.008 <sup>b</sup>
Asymp. Sig. (2-tailed)	.314

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

(Secondary Data Processed Using SPSS 23)

From Table 4.4, hypothesis testing of average abnormal return After\_Announcement and Before\_Announcement variable shown Asymp. Sig. (2-tailed) more than significant level (.314 > .05). It means that Tax Amnesty program ratification announcement have no significant impact on company that listed on KOMPAS-100 index during the event window.

During after Tax Amnesty program announcement event window, market index price (IHSG) increased since (t+1) for 3-days until (t+3) respectively. As the market index price increased, Indonesia Stock Exchange (BEI) also broke their record of transaction frequency since it privatization on July 13<sup>rd</sup>, 1992 with 377,132 transactions (ekbis.sindonews.com).

When it came to the fourth day after Tax Amnesty program ratification announcement, IHSG as market index is dropped into 5,083.54 in price and -0.98% in stock return. Those phenomena affect abnormal return that make it dropped into -0.43%. It is decreased for 84% of abnormal return mean in (t+3) to (t+4). This abnormal return decrease is affected by stock that had low value of abnormal return, some of them are Visi Media Asia (VIVA) with -18.17%, Dharma Samudera Fishing Industries (DSFI) with -8.04%, HM Sampoerna (HMSP) with -7.72%, Indo Tambangraya Megah (ITMG) -7.24%, and Bekasi Fajar Industrial Estate (BEST) with -5.63% of abnormal return. Negative abnormal return means that actual return is smaller than the expected return. In this research, expected return is estimated by the data from estimation period.

From the result of the research, it can be concluded that there is an increase in average abnormal return before to after Tax Amnesty program ratification announcement, from -0.16% to 0.07% of average abnormal return. Positive average abnormal return means that Tax Amnesty program ratification announcement contains good news that affect the average abnormal return. It also shows that there is a decrease on standard deviation between before and after Tax Amnesty program ratification announcement from .0181 to .0163. Smaller standard deviation means that data distribution is closer to the mean of data. It could imply that investors are tend to have similar reaction toward the event, because the data distribution are more narrow.

According to the result of Wilcoxon Signed-Rank Test operation that already stated on Table 4.4, accept the null-hypothesis of the research. Therefore, we can conclude that there is no significant difference of average abnormal return 5-days before tax amnesty program ratification announcement (June 24<sup>th</sup> until June 30<sup>th</sup>) and 5-days after Tax Amnesty program ratification announcement (July 11<sup>th</sup> – July 15<sup>th</sup>) on company that listed on KOMPAS-100 index of Indonesia Stock Exchange (IDX) during February 2016 – July 2016 period, although it has positive value on average abnormal return. It is also proven that Tax Amnesty program ratification announcement contained good news because it has positive value of average abnormal return.

Same result of hypothesis testing also occurred with Manik et al. (2017) that tax amnesty has no significant difference in abnormal return to company that listed on property sectoral index of Indonesia Stock Exchange (IDX) during the event window between 5-days before and 5-days after Tax Amnesty program announcement.

By the research, it can be concluded that Indonesia capital market (IDX) is a semi-strong efficient market mode, as there is an abnormal return that the price already reflected the information within it. Although it has positive average abnormal return value, it had no significant difference average abnormal return before and after Tax Amnesty program ratification announcement during the event window that was affected by the low negative point of (t+4) during the event window.

## V CONCLUSION

This research is aimed to analyze abnormal return difference 5-days before and 5-days after Tax Amnesty announcement during event window toward Indonesia Stock Exchange (IDX) period of February – July 2016 with estimation period for 100 days. Sample of the research are company that listed on KOMPAS-100 period of February – July 2016. Based on result of the research, it can be concluded as follows:

- Average abnormal return before Tax Amnesty program ratification announcement on the 78 stock that listed on KOMPAS-100 is -.0016. Positive abnormal return only occurred on (t-2) with .0001. Average abnormal return after Tax Amnesty program ratification announcement is .0007. Negative abnormal return occurred on (t+4) and (t+5), -.0043 and -.0012 respectively. It can be concluded as the market react to the information that contained on the event.
- Hypothesis test using Wilcoxon Signed-Rank Test result no statistical significant difference of average abnormal return of stock that listed on KOMPAS-100 in Indonesia Stock Exchange (IDX) before and after Tax Amnesty program ratification announcement during the event window. Information that contained in the event gave no significant effect on stock market.

To investor, consider Tax Amnesty or another government policy announcement as it affect the stock market in order to quickly react in fundamental analysis strategy as it can affect the Indonesia stock market.

To issuer, need to keep and maintain the performance of company in order to keep the stock stable around Tax Amnesty or another government policy announcement.

Email: [yogimahendra@students.telkomuniversity.ac.id](mailto:yogimahendra@students.telkomuniversity.ac.id)  
[/yogimahendra@icloud.com](mailto:yogimahendra@icloud.com)

Telp : (+62)81-322-272-424

## REFERENCES

- [1] Bodie, Z., Kane, A., Marcus, A. J. (2011). *Investment and Portfolio Management*. (Global edition). Singapore: Mc-Graw – Hill.
- [2] Brown, S.J., and Warner, J.B. (1985). Using daily stock returns: the case of event studies. *Journal of Financial Economics*, 14.
- [3] Faisal, Eddy. (2016) *Memahami Amnesti Pajak Dengan Cerdas & Lengkap*. Jakarta: Buku Pintar Indonesia.
- [4] Fama, Eugene F. (1970). *Efficient Capital Markets: A Review of theory and Empirical Work*. New York: Papers and Proceedings of the Twenty-Eight Annual Meeting of the American Finance Association New York.
- [5] Halim, A. (2015). *Analisis Investasi: di Aset Keuangan*. Jakarta: Mitra Wacana Media.
- [6] Hartono, Jogiyanto. (2016). *Teori Portofolio dan Analisis Investasi*. (10<sup>th</sup> edition). Yogyakarta: BPFE Yogyakarta.
- [7] Kartajaya, Hermawan. (2009). *Kompas 100 Corporate Marketing Cases*. Jakarta: Gramedia Pustaka Utama.
- [8] Manik, S., Jullie J. Sondakh, and Sintje Rondowuwu. (2017). Analysis of Stock Price Reaction Before and After First Period Tax Amnesty. *Jurnal EMBA*. Volume 5. Number 2.
- [9] Media, K. C. (2016, February 7). Pertumbuhan Ekonomi 2015 Terendah dalam Enam Tahun Terakhir. Retrieved May 09, 2017, from <http://bisniskeuangan.kompas.com/read/2016/02/07/182803626/Pertumbuhan.Ekonomi.2015.Terendah.dalam.Enam.Tahun.Terakhir>
- [10] Reilly, F. K. and Brown, K.C. (2009). *Analysis of Investments and Management Portfolios* (9<sup>th</sup> edition). Canada: South-Western Cengage Learning.
- [11] Tandelilin, Eduardus. (2010). *Portofolio dan Investasi*. Yogyakarta: Kanisius.
- [12] Wulandari, I Gusti Agung A., Made Arie Wahyuni, and Edy Sujana. (2017). Reaksi Investor Dalam Pasar Modal Terhadap Undang-Undang Tax Amnesty. *E-journal s1 Ak Universitas Pendidikan Ganesha: Jurusan Akuntansi Program S1*. Volume VII. Number 1.
- [13] Yovanda, Yanuar Riezqi. (2016). Likuiditas Terbaik se-ASEAN, BEI Pecahkan Rekor Frekuensi Transaksi. Retrieved January 14<sup>th</sup>, 2018, from <https://ekbis.sindonews.com/read/13223/32/likuiditas-terbaik-se-asean-bei-pecahkan-rekor-frekuensi-transaksi-1468417407>
- [14] Zikmund, William et al. (2010). *Business Research Methods*. (8th edition). Ohio: N.p. Print.

## AUTHORS

**First Author** – Yogi Mahendra Wendy Wiratama, Undergraduate, International ICT Business, Telkom University, Indonesia.

Email: [yogimahendra@students.telkomuniversity.ac.id](mailto:yogimahendra@students.telkomuniversity.ac.id)  
[/yogimahendra@icloud.com](mailto:yogimahendra@icloud.com)

**Second Author** – Dr. Brady Rikumahu, S.E., M.B.A., Department of ICT Business Management, Faculty of Economics and Business, Telkom University, Indonesia

**Correspondence Author** – Yogi Mahendra Wendy Wiratama, Undergraduate, International ICT Business, Telkom University, Indonesia.