

III. RESEARCH METHODOLOGY

3.1 Type of Research

This research is an event study which is a research technique that allows researchers to assess the impact of a particular event on the company's stock price. This research will be done within a period of 30 days with the window period for 15 days before and 15 days after the announcement of loan to value policy conducted by Bank of Indonesia.

3.2 Type of Data

The data used in this research is secondary data obtained via internet through the sites of securities to get daily stock price data. Secondary data are data that are not directly obtained from the first party. The necessary data in this study consist of daily closing price data, daily stock price of the property sector, daily trading volumes, the number of outstanding shares, and market index of IDX (JCI) during the observation period of the research.

3.3 Data Collection Methods

1. Literature Research

Research literature means read a variety of literature, references, and financial journals both in the form of books, magazines, newspapers, and news on the internet and learn the theories associated with this research.

2. Field Research

Field research conducted by visiting the sites related to the Indonesian capital market. The method used is the method of documentation, that collect data and recording the necessary data in this research.

3.4 Population and Sample

The population used in this research are all property stocks listed on the Indonesia Stock Exchange (IDX) and 10 samples was taken with purposive sampling method. Criteria for sample selection is a property company which the stocks are listed on the Indonesia Stock Exchange (IDX) in the period of research and see the change in the stock price of the property sector during the period of research because there are some stocks that are categorized as “sleeping stocks” which the stock that has not changed at all during the period of the research.

Table 3. Research Sample

No.	Company Name	Stock Code
1.	PT Alam Sutera Realty Tbk	ASRI
2.	PT Bumi Serpong Damai Tbk.	BSDE
3.	PT Ciputra Developmnet Tbk.	CTRA
4.	PT Ciputra Property Tbk.	CTRP
5.	PT Ciputra Surya Tbk.	CTRS
6.	PT Lippo Cikarang Tbk.	LPCK
7.	PT Lippo Karawaci Tbk.	LPKR
8.	PT Moderland Realty Ltd. Tbk.	MDLN
9.	PT MetropolitanLand Tbk.	MTLA
10	PT Pakuwon Jati Tbk.	PWON

The research period is 30 days with the window period of 15 days before and 15 days after the announcement of the implementation of the loan to value policy.

3.5 Operational Definition of Variable

The variables that will be analyzed in this research consisted of the dependent variables and independent variable, which will explain the impact of the abnormal return and trading volume in property companies listed on the Indonesia Stock Exchange on loan to value policy announcement by Bank Indonesia.

- Dependent Variables
 - According Jogiyanto (2010) abnormal return is the difference between the actual return of stock with the expected return of stock. Jogiyanto (2010), to calculate the abnormal return of i stock on t day can use the following formula:

$$ARI_t = R_{i_t} - E(R_{i_t})$$

- Trading volume activity is the number of stocks within a certain period.

Trading volume activity (TVA) is used as an indicator of the liquidity of a stock. The formula for calculating the TVA according Mulatsih (2009) is as follows :

$$TVA_{it} = \frac{\text{the amount of stocks from company i traded on t time}}{\text{the amount outstanding stocks from i company on t time}}$$

- Independent Variable

The independent variable in this reserach is the loan to value policy. loan to value or LTV is the ratio between the value of credit that can be granted by the lender (bank) to the value of collateral in the form of property during the beginning of the loan that based on the price of the last assessment (Bank of Indonesia, 2013).

3.6 Data Analysis Methods

1. Qualitative Analysis

Qualitative analysis done by using the existing theories and approaches related to the research to solve problems and explain the problems with the data obtained that will be used in this research.

2. Quantitative Analysis

– Abnormal return analysis method:

- a. Calculate the daily actual return of stock during the period of research

(Jogiyanto, 2010):

$$Ri_t = \frac{P_t - P_{t-1}}{Pi_{t-1}}$$

Explanation :

R = rate of return of the stock

P_t = price of stock on t period

P_{t-1} = stock price on previous t-1 period

- b. Calculate the expected return with market-adjusted model by using the following formula (Jogiyanto, 2010):

$$Rm_t = \frac{(IHS G_t - IHS G_{t-1})}{IHS G_{t-1}}$$

Explanation :

$IHS G_t$ = IHS G t period

$IHS G_{t-1}$ = IHS G t-1 period

- c. Calculate the abnormal return using this formula (Jogiyanto, 2010) :

$$ARi_t = Ri_t - E (Ri_t)$$

Explanation :

ARi_t = abnormal return i security on t period

Ri_t = rate of return i security on t period

$E (Ri_t)$ = expected return i security on t period

- d. Calculate average abnormal return of each stock during the period of research using this formula (Suryawijaya in Bei, 2015):

$$AAR_{before} = \frac{\sum_{j=t-15}^{t-1} AR_{before}}{T}$$

$$AAR_{after} = \frac{\sum_{j=t+1}^{t+15} AR_{after}}{T}$$

- e. Calculate average abnormal return for all stocks during the period of research (Jogiyanto, 2010) :

$$AAR_{it} = \frac{\sum_{i=t}^n AR_{it}}{n}$$

Explanation :

AAR_{it} = average abnormal return of i stock on t period

AR_{it} = abnormal return of i stock on t period

n = number of period

– Trading volume activity analysis method:

- a. Calculate the TVA of each stock during the period of research (Mulatsih, 2009):

$$TVA_{it} = \frac{\text{the amount of stocks from company i traded on t time}}{\text{the amount outstanding stocks from i company on t time}}$$

- b. Calculate average TVA each stock during the period of research (Suryawijaya in Bei, 2015):

$$ATVAi_{before} = \frac{\sum_{j=t-15}^{t-1} TVAit_{before}}{T}$$

$$ATVAi_{after} = \frac{\sum_{j=t-15}^{t-1} TVAit_{after}}{T}$$

- c. Calculate average TVA of all stocks during the period of research

(Suryawijaya in Bei, 2015):

$$ATVA_t = \frac{\sum_{i=1}^n TVA_{it}}{n}$$

3.7 Hypothesis Testing

The steps in conducting statistical hypothesis testing are as follows:

1. Formulate the hypothesis :

Hypothesis 1 :

- Ho : Allegedly there is no significant difference on abnormal returns in property companies listed on the Indonesia Stock Exchange before and after the LTV policy announcement conducted by Bank Indonesia.
- Ha : Allegedly there is a significant difference on abnormal returns in property companies listed on the Indonesia Stock Exchange before and after the LTV policy announcement conducted by Bank Indonesia.

Hypothesis 2 :

- Ho : Allegedly there is no significant difference on trading volume activity in property companies listed on the Indonesia Stock Exchange before and after the LTV policy announcement conducted by Bank Indonesia.
- Ha : Allegedly there is a significant difference on trading volume activity in property companies listed on the Indonesia Stock Exchange before and after the LTV policy announcement conducted by Bank Indonesia.

2. Determine the selection of statistical test

- Normality Test

Before testing the hypothesis, firstly test the normality of the data which are the data abnormal return and trading volume activity. To see whether the data were normally distributed or not. Normality testing of data using statistical tools SPSS which is Kolmogorov-Smirnov test. Criteria for normality test is if the probability values $>$ level of significant ($\alpha = 5\%$) then the data is normally distributed, otherwise if the probability value $<$ level of significant ($\alpha = 5\%$) then the data is not normally distributed.

- Paired Sample T-Test

This test is conducted to determine whether there are significant differences in abnormal return and trading volume activity as a result of the implementation of the policy loan to value. This testing process using SPSS. The researcher uses a confidence level of 95% or $\alpha = 5\%$ with the following criteria:

- If the probability value $<$ level of significant ($\alpha = 5\%$) it can be concluded that H_0 refused and H_a accepted which means that there are significant differences.
- If the probability value $>$ level of significant ($\alpha = 5\%$) it can be concluded that H_0 is accepted and H_a rejected, which means there are no significant differences.