

**STOCK REACTIONS AND ABNORMAL STOCK RETURNS IN THE PROPERTY
SECTOR LISTED ON THE INDONESIA STOCK EXCHANGE
DUE TO THE COVID-19 PANDEMIC**

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Abstract: *The COVID-19 outbreak has severely affected equity markets and most stock index around the world. Indonesia is no exception, the social restriction policy (PSBB) imposed by the government caused the IHSG to be corrected negatively. One of the sectors that was severely affected at the beginning of the pandemic was the property sector. This study aims to see the reaction of property sector stocks due to the Covid-19 incident and abnormal returns that occurred during the early days of the Covid-19 pandemic. The research sample is 51 property sector companies listed on the IDX. By using multivariate regression, it was found that the announcement of the first time an Indonesian citizen had contracted Covid-19 was still responded positively by stock returns in the property sector. Meanwhile, the announcement of the restriction policy (PSBB) for the first time in Jakarta encountered a negative response by stock returns in the property sector. The abnormal return model shows that company size, cash/TA, leverage, BVPS, and market to book value altogether significantly affect the cumulative abnormal return of property sector stocks, with a contribution of 18.07%. While partially only the size of the company that significantly affects the cumulative abnormal return of the property sector. Therefore, the larger the size of the company, the greater the abnormal return.*

Keywords: Covid-19 Stock Reaction, Abnormal Returns, Multivariate Regression

1. Introduction

The discovery of pneumonia cases in Wuhan, Hubei Province, China, towards the end of December 2019 denoted the onset of the COVID-19 outbreak. On March 11, 2020, the World Health Organization classified the coronavirus (COVID-19) as a pandemic (WHO, 2020). On March 2, 2020, Indonesia first reported two positive cases. But only after, on April 10, 2020, Indonesia officially confirmed for the first time the Large-scale Social Restrictions policy (hereinafter referred to as PSBB) and continued with the implementation of the Enforcement of Restrictions on Community Activities policy (hereinafter referred to as PPKM), which was extended until July 25, 2021.

The COVID-19 pandemic has significantly damaged equity markets and most stock indices worldwide have dropped due to the COVID-19 pandemic (Wilkes, 2020). At the time of the Spanish flu of 1918-1920, the daily share price fluctuation was no more than 2.5%. On the other

hand, the present of COVID-19 triggers a move 24 times higher. Even so, some financial experts claim that organizations that have a focus on sustainable growth and strong management have higher success than companies that do not (Hildebrand et al., 2020; Schroders, 2020). Zhang et al. (2020) assume that COVID-19 has disrupted financial markets around the world, causing unprecedented levels of risk, and that investors have been hammered in a short amount of time. The stock market has dropped, and the volatility of the stock market has increased drastically over the world (Ali et al., 2020; Baker et al., 2020).

Every business is significantly affected by COVID-19 and faces significant losses in all phases of operations (Spicer et al., 2020). Stock market values have fallen significantly in Asia (Shanghai Stock Exchange Composite Index, Nikkei Stock Average Index); United States (Dow Jones Industrial Average, S&P 500 Index, Nasdaq Composite Index); Europe (Financial Times Stock Exchange 100 Index); and stock indices in Latin America (Rudden, 2020) and Australia (Chau, 2020).

The Indonesian government has established new policies, such as social distancing, work from home (WFH), and school from home (SFH), to reduce the transmission of the Covid-19 virus (Romadhon, 2022). These policies have had a significant influence on the business sector, leading in several economic falls. What really is curious is how the assessment will affect businesses that are aware of the immediate effects of activity restrictions and stay-at-home directives. Due to the pandemic, property companies are most likely to face significant negative returns. The Deputy Minister of Finance revealed that the property sector was one of the hardest hit during the onset of the pandemic, as people delayed their purchases of needs and long-term investments such as property investment (CNBC Indonesia, 2022).

This study adopts previous research performed by Carter et al. (2022), which investigates the stock market performance of US transportation and accommodation companies (airlines, restaurants, and hotels) in reaction to the COVID-19 pandemic from mid-February to late-March 2020. Meanwhile, current study explores the stock reactions and abnormal returns of property companies listed on the Indonesia Stock Exchange during the Covid-19 pandemic, as this sector was the most significantly affected during the early days of the outbreak

2. Literature Review

2.1. Company Value and COVID-19-related Events Affecting the Property Industry

Company Value is the present value of the firm's future expected free cash flows, discounted at the appropriate discount rate. Due to variations in risk, the COVID-19 pandemic may affect the value of a company by altering future cashflow projections or the needed rate of return (Citra et al., 2021). The outbreak has an effect on the property sector; the value of property companies will decline, as will their predicted future cash flow. Social distancing and work from home (WFH) will reduce the utilization of office buildings, apartments, and houses, leads to a decline in sales. Due to uncertainty on the extent of the outbreak, the risk of property sector stocks rose, leading to a significant drop in stock prices.

2.2. The COVID-19 Pandemic and Its Consequences

The Composite Stock Price Index (CSPI) was above 6,000 from the beginning of the year in January 2020 to the 24th of March, when it experienced its worst decline ever to 3,937 in response to the official statement by the World Health Organization (2020) that the spread of COVID-19 maybe unavoidable (Sugianti & Anwar, 2021). The CSPI reached 4000 at the end of February, its lowest level since March 16, 2017. Notwithstanding, on March 24, the CSPI had

fallen by 37.49 % to 3,937, which was the lowest level of all-time significant incidents due to the COVID-19 pandemic in Indonesia from March 2020 to April 2020.

2.3. The Economic Impact of the COVID-19 Pandemic on the Property Sector

The COVID-19 pandemic has a wide-ranging impact on all sectors of life. One of the effects felt in the property sector's downfall was one that was heavily influenced by the COVID-19 outbreak. Furthermore, when the government implemented policies to control the pandemic, a significant drop in sales had an impact on the company's financial performance, as sales of apartments, offices, and high-rise buildings slowed. As a direct consequence of the Covid-19 pandemic, numerous property companies experienced a significant drop in sales and net profit.

PSBB phase II will very definitely return the commercial sector property industries, such as offices, to the conditions that existed at the beginning of the PSBB implementation, when offices were expected to adopt a work from home (WFH) system for all employees. Hence, this has an impact on the amount of space required by the organization. In addition, the economic impact can be seen in the following sector.

- a) Property industry tenant sector: although it has not recovered from the initial PSBB situation, it is now experiencing difficulties again in the second phase. Property industry tenant sector turnover declined once again, and such conditions makes the tenants were eventually forced to re-negotiate with the landlord for the lease and the term of payment.
- b) Hotel sector Property Industry: as the sector that was first affected by the initial PSBB policy or regulation which decreased for certain cases such as business and leisure activities which decreased significantly and also several hotel buildings which were closed when the PSBB policy was implemented.
- c) Retail sector Property Industry: including one of the sectors that was quite affected since the beginning of the PSBB implementation, during the transition period, mall visitor traffic was observed to decline and the reduction in visitor capacity had a negative impact on this sector, coupled with the second phase of the PSBB implementation, where retail would face another challenge.

3. Research Method

3.1. Sample Collection

The sample in this study is the property sector companies listed on the IDX. As highlighted by Mazumder (2020) and Mazumder & Saha (2021), current study applies several standard filters for data cleaning. In the first stage, sorting the company's main business line, namely the property sector. Subsequently, eliminating illiquid firms, firms that traded less than 150 days (out of 508 trading days) in this sample period are cleared. Finally, 2021 financial report data is available. The final sample consists of 51 property companies listed on the IDX. To obtain abnormal returns and dummy events, daily stock prices are required for a period of 508 trading days from September 2, 2019 to September 30, 2021.

3.2. Empirical Methodology and Hypothesis Development

In developing the empirical methodology, this study refers to Gibbons (1980), Schipper & Thompson (1983), Binder (1985b, 1985a), Malatesta (1986), Sinkey Jr & Carter (1999), D. A. Carter & Simkins (2004), and Humphrey et al. (2016). This study uses a multivariate regression model (MVRM) to examine the effect of COVID-19 on the stock performance of the property industry. MVRM is the application of apparently irrelevant regression techniques (SUR), as in

Zellner (1962) that investigates events simultaneously affecting all enterprises in the same industry. In this situation, the remaining stock returns are not independent and identical.

.....(1)

As a description, R is the return of the company or portfolio i on day t , while $\sum$ is the return on the JCI index on day t , α_i and β_i are market model parameters, D_j is a dummy for event date j , $\gamma_{i,j}$ are abnormal returns of company / portfolio i on day j , and ε is the standard error term.

To capture the effects of the COVID-19 crisis, researchers tested the following hypothesis. First, examine the market reaction of the sample companies to various events during the COVID-19 crisis period. Thus, the first hypothesis tests whether the event date yields significant abnormal returns for each firm. Hypothesis 1 (H1) can be stated as follows:

$$\begin{aligned} H01 : \gamma_{i,j} &= 0 \forall i \text{ and } j \\ Ha1 : &\text{at least one } \gamma_{i,j} \neq 0 \end{aligned}$$

The rejection of H01 indicates that the stock prices of the sample industries reacted to the COVID-19 crisis period and prices were incorporated into the information. Because some events are things that investors avoid, the abnormal returns are expected to be negative, and vice versa. Furthermore, if rational pricing by the market is supported by the results of this study, the researcher performs cross-sectional regression to see which company factors are important to explain cumulative abnormal returns on event days.

The cumulative abnormal return (CAR) model is as follows:

.....(2)

With CAR_i is the cumulative abnormal return of the i -th stock, Size is company size, CashTA is Cash per total asset, Leverage is Debt to Equity Ratio (DER), BVPS is book value per share, Mktbook is market value to book value. The calculation of abnormal return (AR) through the CAPM model, so that the expected return is obtained. Meanwhile, abnormal return is the difference between real returns and expected returns, and CAR is the cumulative of abnormal returns during the Covid-19 period, where the abnormal return event window used is 2nd March – 31st March, 2020.

Hypothesis 2 (H2) is a hypothesis from CAR modelling which can be stated as follows:

$$\begin{aligned} H02 : \beta_i &= 0 \forall i \\ Ha2 : &\text{at least one } \beta_i \neq 0 \end{aligned}$$

The rejection of H02 indicates that the proposed independent variable significantly affects the cumulative abnormal return.

4. Results and Discussion

4.1. Descriptive Analysis

The descriptive statistics of the variables involved in the abnormal return model that are presented in Table 1.

Table 1. Descriptive Statistics of Research Variables

Variable	Mean	Maximum	Minimum	Std. Dev.
CAR	-1.73751	154.6194	-72.1808	33.03512
LNSIZE	1477108	17.98064	11.12491	1.674523
CASHTA	5.543943	20.31865	0.065224	5.341615
LEVERAGE	32.92311	249,476	-555,141	99.6726
BVPS	591.5542	10320.08	-87,775	1566,413
MKTBOOK	158.6036	2772,691	-199.373	403.2787

Source: research data (processed)

The mean of cumulative abnormal return (CAR) of all samples is -1.74%, with the lowest CAR is -72, 18 % (issuer code: KIJA), and the highest CAR is 154.62 % (issuer code: DADA). In addition, the mean natural logarithm of company size is 14.77. Meanwhile, mean of cash value per total asset is 5.54, while leverage value is 32.92%, as followed by BVPS mean value of 591.55 rupiah and the mean of market to book value is 158.60.

The reaction to the Covid-19 dummy event on property sector stock returns can be seen in Table 2 below.

Table 2. Stock Returns Reaction due to Covid-19

γ_i	i	Coefficient	Prob.
γ_1	1	1.351055	0.0086**
γ_2	2	-0.331792	0.5287
γ_3	3	0.189533	0.7124
γ_4	4	-0.790640	0.1239
γ_5	5	0.538014	0.2969
γ_6	6	0.604371	0.2428
γ_7	7	-0.047474	0.9268
γ_8	8	0.048859	0.9303
γ_9	9	-1.006852	0.0534*
γ_{10}	10	-0.702376	0.1658

**Significance at level 5% * Significance at level 10%

Source : Output Eviews

As shown in Table 2, the events that have an effect on property stock returns are event dummy 1 (significant at the 5% level) and event dummy 9 (significant at the 10% level). The first event dummy was the President of the Republic of Indonesia that announce for the first time of Indonesian citizens had contracted Covid-19, it was announced on March 2, 2020. This event was responded to by the movement of property sector stock prices. However, the response during this period was still positive because the PSBB and PPKM policy had not yet been implemented in Indonesia at the time of this announcement, and activities in Indonesia were still running normally. Meanwhile, the event dummy 9 was the Governor of DKI Jakarta approved by the Minister of Health announcing PSBB policy in the Jakarta area, announced on April 7, 2020. This incident was immediately responded negatively by stock returns in the property sector.

Furthermore, the influence of the company's internal factors on the abnormal return of property shares can be seen in Table 3 below.

Table 3. The Influence of Company Internal Factors on Abnormal Return

Variable	Coefficient	Std. Error	t-Statistics	Prob.
LNSIZE	-9.596150	2.705445	-3.546976	0.0009
CASHTA	-0.402722	0.867525	-0.464219	0.6447
LEVERAGE	-0.018502	0.043653	-0.423840	0.6737
BVPS	0.001242	0.002796	0.444272	0.6590
MKTBOOK	0.006075	0.010883	0.558210	0.5795
C	141.1514	38.60731	3.656081	0.0007
R-squared	0.262608	F-stat	3.205170	
Adjusted R-squared	0.180675	Prob.	0.014695	

Source: Output EViews

F test results obtained prob value. 0.01 is less than 0.05, so it can be concluded that with a 95% confidence level, company size, Cash/TA, leverage, BVPS, and market to book value significantly affect the cumulative abnormal return of property sector shares. The contribution of these five variables to the cumulative abnormal return of the property sector is 18.07%. Meanwhile, partially through the t test, it shows that the size of the company has a significant effect on the cumulative abnormal return of the property sector. The regression coefficient on the company size variable is negative, meaning that the larger the company size, the greater the abnormal return. This implies that the Covid-19 outbreak has had a negative impact on large property companies. Therefore, the turmoil caused by Covid in property sector companies in the lower middle category is not as significant as experienced by large property sector companies.

Moreover, cash/TA, leverage, BVPS, and market to book value variables partially do not significantly affect the cumulative abnormal return of property sector stocks. According to previous research (D. Carter et al., 2022) in the first event window also shows that Cash/TA, leverage, and market to book value do not significantly affect abnormal returns, but in the second and third event windows significantly influence abnormal returns.

5. Conclusion

The findings reveal that stock returns in the property sector reacted positively to the announcement of Indonesian people contracting Covid-19 for the first time. Nevertheless, the property sector's stock returns were negatively affected by the initial announcement of the Large-Scale Social Restrictions Policy (PSBB) in Jakarta.

Besides that, company size, cash/TA, leverage, BVPS, and market to book value altogether contribute 18.07 % to the cumulative abnormal return of property sector shares, as shown in the abnormal return model. Partially, only the size of the company that has a significant impact on the property sector's cumulative abnormal return. The abnormal return is related to the size of the company, which means the larger the size of the company, the greater the abnormal return. The turmoil caused by Covid in property sector companies in the lower middle category is not as significant as experienced by large property sector companies.

Further research should be able to make observations over a longer period of time than the one used in this study, as well as add other variables that are thought to have a significant influence on abnormal returns, and add an event window to see the effect of the Covid-19 event on stock reactions in the property sector. Furthermore, further researchers can add sample variations for sectors other than the one used in current study.

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