

Investor reaction on value added tax incentives during COVID-19

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ABSTRACT

The COVID-19 pandemic is one of the causes of the weakening of the world economy. Anticipating these conditions, the Indonesian Government implemented several fiscal policies, one of which was the VAT incentive. The aim of this study is to examine the impact of this policy on the capital market. The sample from this study is listed firms in the property sector with an observation period of 2020 to 2022. The findings show that this policy effectively causes the market to become more efficient except during the second phase of implementation. Other findings also show that the implementation of VAT incentives can increase market risk in the property sector. This study also found that the implementation of the VAT incentive policy only had a small impact so that it did not provide a significant difference in returns except during the second phase of the implementation period.

Keywords: COVID-19; efficient market hypothesis; returns; VAT incentives

JEL Classification: G14; G18

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1. Introduction

In early 2020, the COVID-19 pandemic became a deadly outbreak throughout the world. Various countries are starting to implement policies in the health sector to prevent the spread of the epidemic, such as social distancing. In Indonesia, the government is also implementing similar health policies for the community. However, even though various efforts had been made, there was still no certainty about the pandemic conditions at that time when it would end. The biggest situation and problem throughout the world is that the spread of COVID-19 has had an impact on

weakening the economy. This is indicated by symptoms of declining purchasing power and public demand for general products, raw materials, semi-finished products, and finished products.

In Indonesia, COVID-19 has also had a particularly significant impact on the property sector. Findings from Islami and Canggih (2023), Silindung and Yanti (2023), and Simanjuntak (2023) show that the property sector experienced less than optimal conditions during the COVID-19 pandemic. To deal with this condition, one of the Indonesian government's efforts is to implement fiscal policy with the aim of encouraging economic growth. Fiscal

policy plays an important role in controlling the inflation rate, strengthening economic conditions in various sectors, and expanding employment opportunities (Bahari & SBM, 2019). In addition, fiscal policy is a key element of economic policy in developing countries to maintain macroeconomic stability and accelerate economic growth (Chugunov et al., 2021).

One form of fiscal policy from the Indonesian government is implementing value added tax (or VAT) incentives, especially in the property sector. This study assumes that the COVID-19 pandemic and the VAT incentive policy are significant issues in the Indonesian capital market, especially from the perspective of the efficient market hypothesis. Based on these assumptions, this study aims to examine the reactions of investors in Indonesia to the implementation of VAT incentives during the COVID-19 pandemic. Another urgency of this study is to provide a reference for the government as a policymaker regarding the impact of VAT incentives on market conditions in Indonesia. The event windows from this study are: (1) implementation of PMK regulation No. 21/PMK.010/2021; (2) implementation of PMK regulation No. 103/PMK.010/2021; and (3) implementation of PMK regulation No. 6/PMK.010/2022.

2. Literature review

Efficient market hypothesis and fiscal policy

The efficient market hypothesis emphasizes that the latest information will immediately be reflected in the stock prices prevailing at that time (Fama, 1970). Fama (1970) explains that stock price fluctuations are a reflection of investors' psychology as a result of responding to circulating information. Fama (1970) explains that the type of information causes markets to be classified into weak, semi-strong, and strong forms.

The COVID-19 pandemic is an information of global issue that has a long-term impact on the world economy, including Indonesia (Budiarto & Pontoh, 2022). In early 2020, the outbreak of the COVID-19 pandemic significantly affected world market conditions, including Asian markets (Pontoh & Budiarto, 2023). In Indonesia, the COVID-19 pandemic has also affected investor behavior and caused stock prices to fluctuate (Budiarto et al., 2020). In this condition, investment conditions in Indonesia are greatly influenced by the risks, both systematic and non-systematic (Pontoh & Budiarto, 2021).

In order to maintain economic conditions and state revenues, the government, through the Minister of Finance, has issued several fiscal policies, especially in the field of taxation. On March 1, 2021, the Indonesian Government issued a tax policy through the Minister of Finance of the Republic of Indonesia Regulation No. 21/PMK.010/2021 with transaction coverage from March 2021 to August 2021. This regulation states that all VAT owed on the handover of landed houses and flat residential units is borne by the government. In the next stage, the Indonesian Government issued a follow-up policy through PMK No. 103/PMK.010/2021 which is valid from September 2021 to December 2021. The final VAT-specific policy implemented by the Indonesian Government is outlined in PMK No. 6/PMK.010/2022 which is valid from January 2022 to September 2022.

Hypothesis development

Blandina et al. (2020) explain that fiscal policy is really needed by society, especially to improve economic conditions during the COVID-19 pandemic. Tambunan (2020) explains that tax incentives not only provide administrative convenience but also aim to provide economic relaxation on a wider scale,

including reducing the tax burden for corporations in Indonesia. Apart from strengthening the economy, the aim of the Indonesian Government in providing tax incentives for the public is to reduce the burden on taxpayers and avoid tax arrears during the COVID-19 pandemic (Ma'ruf & Andriansyah, 2022). Sari et al. (2022), and Meita and Malau (2023) also found that the implementation of tax incentives tends to provide benefits in the form of increased taxpayer compliance.

Liwe et al. (2021) find that the implementation of fiscal policy in taxation was able to cause investment risks in Indonesia to move quite stably. Munajat and Nurfitriana (2021) find that there was a positive response from investors when tax incentives in the form of a tax amnesty were implemented. According to Aizar and Wijaya (2022), VAT incentives in the property sector are running effectively so that business conditions in this sector are improving. Aji and Haptari (2022) find that VAT DTP incentives were able to stimulate the profitability of companies in the real estate sector, especially in 2021. Dewi and Rohman (2023) found that effective implementation of tax incentives was able to improve tax planning so that it could increase profitability and value. company. However, empirically Hidayatulloh and Nugroho (2020) find that information about the implementation of tax incentives did not provide a significant market reaction. Based on review, the hypothesis of this study is noted as follows.

H0: there is no difference in investor reactions to the implementation of VAT tax incentives

H1: there are differences in investor reactions to the implementation of VAT tax incentives

3. Research method

This study uses listed firms in the real estate sector during the period 2020 to 2022. At the analysis stage, the event

windows used follow the implementation periods of PMK No. 21/PMK.010/2021, PMK No. 103/PMK 010/2021, and PMK No. 6/PMK.010/2022. In detail, the observation sub-periods (stages) based on the Minister of Finance Regulation (or PMK) are described as follows.

1. Stage I: PMK No. 21/PMK.010/2021
 - a. Time before implementation: 1 December 2020 to 31 December 2020.
 - b. Implementation time: 1 March 2021 to 31 August 2021 (implementation of this regulation is effective from 1 January 2021).
 - c. Time after implementation: 1 September 2021 to 30 September 2021.
2. Stage 2: PMK No. 103/PMK.010/2021
 - a. Time before implementation: 1 August 2021 to 31 August 2021.
 - b. Implementation time: 1 September 2021 to 31 December 2021.
 - c. Time after implementation: 1 January 2022 to 31 January 2022.
3. Stage 3: PMK No. 6/PMK.010/2022
 - a. Time before implementation: 1 December 2021 to 31 December 2021.
 - b. Implementation time: 1 January 2022 to 30 September 2022.
 - c. Time after implementation: 1 October 2022 to 31 October 2022.

This study uses analysis of variance (ANOVA) and random test with the stock returns (SR) variable which is calculated by the difference between the current price (P_t) and the previous price (P_{t-1}) divided by the previous price (P_{t-1}). The formula for SR is written as follows.

$$SR = \frac{P_t - P_{t-1}}{P_{t-1}}$$

4. Result and discussion

Result

Table 1 presents the descriptive statistics of returns during the implementation of the three regulations.

Stage 1 has the highest returns in the "after implementation" period with a high standard deviation. The results on Stage 2 show that the highest mean returns were in the "implementation" period with the highest standard deviation compared to the other two periods. The findings in Stage 3 show that the lowest returns were in the

"implementation" period with the highest standard deviation compared to the other two periods. Interestingly, this study finds that the three "implementation" periods had the highest standard deviation compared to the periods before and after implementations.

Table 1. Descriptive statistics

	Mean	Std. Deviation	Skewness	Kurtosis
Stage 1 (before implementation)	0.0017	0.00632	-0.069	-0.974
Stage 1 (implementation)	0.0002	0.00673	0.391	1.304
Stage 1 (after implementation)	0.0031	0.00643	0.028	-0.091
Stage 2 (before implementation)	0.0012	0.00526	0.896	1.284
Stage 2 (implementation)	0.0017	0.00600	-0.037	0.123
Stage 2 (after implementation)	-0.0031	0.00485	-0.010	-1.484
Stage 3 (before implementation)	0.0001	0.00501	0.392	0.161
Stage 3 (implementation)	-0.0002	0.00578	0.134	1.673
Stage 3 (after implementation)	0.0001	0.00570	-0.585	-0.030

Table 2 presents the results of the normality test for data from each sub-period. This study uses the Kolmogorov-Smirnov test to detect whether the data has a normal distribution or not. The test results show that the statistical values of

all sub-periods are not significant at the 1%, 5%, and 10% levels. Based on these results, it can be concluded that the data from all sub-periods is normally distributed.

Table 2. Normality test

	Statistic	df	Sig.
Stage 1 (before implementation)	0.100	18	0.200
Stage 1 (implementation)	0.070	121	0.200
Stage 1 (after implementation)	0.122	21	0.200
Stage 2 (before implementation)	0.138	19	0.200
Stage 2 (implementation)	0.053	85	0.200
Stage 2 (after implementation)	0.138	20	0.200
Stage 3 (before implementation)	0.133	21	0.200
Stage 3 (implementation)	0.055	180	0.200
Stage 3 (after implementation)	0.149	20	0.200

- **Stage 1: PMK No. 21/PMK.010/2021.** Table 3 presents the results of the mean difference test for the three sub-periods in Stage 1. The results of the Levene test show that the statistical value of 0.004 is insignificant so it indicates the variance is the same or homogeneous. The F-test statistical

value of 1.852 is also insignificant at the 1%, 5% and 10% levels, indicating that returns between observation periods do not have significant differences. The mean difference test confirms the F-test where returns from the three sub-periods (before until after implementation) are not significantly

different. Furthermore, the Cohen test shows that the effect size of the event between periods is 0.023 or small. In addition, this study finds that the

statistical value of the z-test for each sub-period was insignificant at the 1%, 5%, and 10% levels.

Table 3. Mean difference and random tests (Stage 1)

	Before implementation	Implementation	After implementation
Before implementation		0.00151	-0.00133
Implementation	-0.00151		-0.00284
After implementation	0.00133	0.00284	
z-test	-0.729	0.464	-1.336
Levene test	0.004		
F-test	1.852		
Cohen test	0.023		

*, **, *** are significance level at 10%, 5%, and 1%

- **Stage 2: PMK No. 103/PMK.010/2021.** Table 4 presents the results of the mean difference test for the three sub-periods in Stage 2. The results of the Levene test show that the statistical value of 0.544 is insignificant so it indicates the variance is the same or homogeneous. The F-test statistical value of 5.721 is significant at the 1%, 5%, and 10% levels, indicating that returns between observation periods have significant differences. The mean difference test shows that there is a significant difference in returns from the "before

implementation" sub-period to the "after implementation" sub-period. Apart from that, the findings also show that there is a difference in returns between the "implementation" sub-period and the "after implementation" sub-period. Furthermore, the Cohen test shows that the effect size of the event between periods is 0.086 or small. In addition, this study finds that the statistical value of the z-test for two sub-periods is insignificant at the 1%, 5%, and 10% levels except for the "implementation" sub-period.

Table 4. Mean difference and random tests (Stage 2)

	Before implementation	Implementation	After implementation
Before implementation		-0.00058	0.00423*
Implementation	0.00058		0.00481***
After implementation	-0.00423*	-0.00481***	
z-test	0.115	-2.072**	-1.114
Levene test	0.544		
F-test	5.721***		
Cohen test	0.086		

*, **, *** are significance level at 10%, 5%, and 1%

- **Stage 3: PMK No. 6/PMK.010/2022.** Table 5 presents the results of the mean difference test for the three sub-periods in Stage 3. The results of the

Levene test show that the statistical value of 0.263 is insignificant so it indicates the variance is the same or homogeneous. The F-test statistical

value of 0.037 is also insignificant at the 1%, 5% and 10% levels, indicating that returns between observation periods do not have significant differences. The mean difference test confirms the F-test where returns from the three sub-periods (before until after implementation) are not significantly

different. Furthermore, the Cohen test shows that the effect size of the event between periods is 0.000 or no effect. In addition, this study finds that the statistical value of the z-test for each sub-period was insignificant at the 1%, 5%, and 10% levels.

Table 5. Mean difference and random tests (Stage 3)

	Before implementation	Implementation	After implementation
Before implementation		0.00028	0.00003
Implementation	-0.00028		-0.00025
After implementation	-0.00003	0.00025	
z-test	-0.669	0.165	0.000
Levene test	0.263		
F-test	0.037		
Cohen test	0.000		

*, **, *** are significance level at 10%, 5%, and 1%

Discussion

- **Stage 1: PMK No. 21/PMK.010/2021.**
The results of the analysis show that the implementation of this regulation does not result in a large effect size. This condition is demonstrated by the insignificant difference in returns between the sub-periods during implementation and the sub-periods before and after implementation. However, market conditions seem to tend to react to the implementation of this regulation. This is proven by an increase in risks during implementation of the regulation compared to other sub-periods. Apart from that, the more efficient market in weak form also indicate a positive reaction in responding to information from the implementation of this regulation. As the impact, the returns increase during sub-period after implementation of regulation.
- **Stage 2: PMK No. 103/PMK.010/2021.** Similar to Stage 1, the implementation of second

regulation also does not have a large effect size. However, this study finds that the implementation period had the highest returns (although not significantly different from the previous period) and also indicated high risk. Supporting this condition, the analysis results indicate that the implementation of the second regulation tends to result in the market becoming inefficient especially during implementation period. In other words, the investors did not respond quickly to information about the implementation of the second regulation. As an impact, returns in the after-implementation period experienced a decline accompanied by low market risk.

- **Stage 3: PMK No. 6/PMK.010/2022.**
This study finds that the implementation of the third regulation had no impact at all. This is proven by the absence of significant differences in returns between sub-periods. This study also finds that the

“implementation” period had the lowest returns but had the highest market risk. In addition, the analysis results show that returns before, during, and after the implementation of the third regulation are efficient. These findings indicate that there are other factors that influence investor behavior in the market related to the no effect of implementing this third regulation.

5. Conclusion

The COVID-19 pandemic is a disaster that disrupts world economic growth. Anticipating weakening economic conditions, the Indonesian Government is intensively pursuing various policies in the fiscal and monetary fields. One of the government's fiscal policies is to provide VAT incentives for the property sector. This policy is information that plays an important role in triggering a capital market reaction. From the point of view of efficient market hypothesis, the VAT incentive policy is effectively able to cause market conditions to become efficient except in the second stage period. However, the findings also show that this policy only had a small impact on the property sector in the capital market. This study also finds that market conditions during policy implementation tend to become riskier, especially in the property sector. The results of this study are limited to the property sector so further studies are highly recommended to expand the sample and observation period.

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