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Implementations Of The Discretionary Accruals (Da) Method For Detecting Earning Management In Agricultural Sector Companies During The Covid-19 Pandemic

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Abstract. This research was conducted to obtain empirical evidence of the practice of earning management and the effect of company size and gender management on the earning management of agricultural sector companies in Indonesia during the Covid-19 pandemic. This research was conducted on agricultural sector companies on the Indonesia Stock Exchange (IDX). This study uses Discretionary Accrual as a proxy to detect the earning management of agricultural sector companies. The test was carried out using the Discretionary Accrual average difference test before and after the Covid-19 pandemic and multiple regression analysis. The results of the tests conducted show a significant difference between Discretionary Accrual (DA) before and after the Covid-19 pandemic. Further, there is no significant effect of company size and gender management on earnings management. This indicates the change in earnings quality reported by agricultural sector companies registered on the IDX before and after the Covid-19 pandemic.

1. Introduction

The Covid-19 pandemic has had a huge impact on the Indonesian state, not only in the health sector but also in the economic sector. The impact of the Covid-19 pandemic on the Indonesian economic sector is reflected in negative economic growth throughout 2020. The Central Statistics Agency BPS noted that economic growth throughout 2020 is as shown in Table 1.

Table 1. Indonesia's Economic Growth in 2020

No	Quarter	Economic growth
1	I	2.97
2	II	-5.32
3	III	-3.49
4	IV	-3.45
	Average	-2.32

Throughout 2020, Indonesia's economic growth experienced negative growth with an average growth throughout 2020 of -2.32. This means that Indonesia's Gross Domestic Product has decreased which indicates an increase in the unemployment rate, a decrease in retail sales, and a contraction in manufacturing and company income.

Likewise, the impact of the Covid-19 pandemic has been quite severe on the agricultural sector. The gross domestic product (GDP) of the agricultural sector throughout 2020 experienced a fairly severe contraction, namely experiencing negative growth of 20.15 percent in the fourth quarter compared to the previous quarter [1]. This indicates a decrease in income earned by companies in the agricultural sector listed on the Indonesia Stock Exchange (IDX).

The occurrence of revenue contraction in the company as a result of unfavorable economic conditions (Covid 19) will encourage company management to regulate reported earnings. This is driven by the motivation that management will try to meet the expectations of *stakeholders* (shareholders, investors, creditors) to continue to perform well even in times of crisis[2]. In addition, the motivation of management to regulate earnings is to avoid shareholders replacing management when the company's performance declines or is not good because management's failure to overcome the impact of the Covid-19 pandemic on company performance is a reflection of the company's management incompetence [3]. Previous studies have also confirmed earnings management by management during the financial crisis [4]–[6].

Various characteristics of the company are also suspected to have an effect on earnings management, such as: company size, and gender of management. Company size plays an important role for companies that practice profit management. Larger companies generally receive more attention from external parties such as investors, analysts, and the government, so large companies should be more careful in managing their financial statements. The presentation of earnings in large companies is suspected to be more accurate and more careful because the operating activities of large companies are more complex. With a more accurate and careful presentation of earnings, there is a small possibility for large companies to regulate earnings [7].

Women and men have different abilities due to differences in the socialization process. Women emphasize helping others, whereas men focus on making money and moving up in the organizational hierarchy. In addition, women are more likely to report fraudulent financial incidents. Therefore, it is suspected that the greater the composition of female management, the less likely the company is to regulate earnings [8].

The Covid-19 pandemic has an impact on the company's low performance which will encourage company management to make adjustments to reported profits. The management of this profit arrangement is detected by the value of *Discretionary Accrual* which increases (decreases) from the previous period. In addition, the Covid-19 pandemic has had various negative impacts in terms of company size, and the company's gender composition. This research will be carried out with the aim of Obtaining empirical evidence of profit-regulating practices of agricultural sector firms in Indonesia during the Covid-19 pandemic by using Discretionary Accruals and Obtain empirical evidence of the effect of firm size and gender management of profit management of agricultural sector companies in Indonesia during the Covid-19 pandemic.

2. Methods

This research was conducted on 22 companies in the agricultural sector on the Indonesia Stock Exchange (IDX). The data used in this study are secondary data of agricultural sector companies on the Indonesia

Stock Exchange in the form of annual financial report data, company stock prices, stock trading volume, for 2017, 2018, and 2019. The accounting period studied in this study is January 1, 2017 to December 31, 2020. The data was obtained from the data center of the Indonesia Stock Exchange, Indonesian Capital Market Directory.

Following Almarhameh et al., [9], earnings arrangements are estimated using the modified Jones (1995) *Discretionary Accrual* model before and after the Covid-19 pandemic period with January 1, 2020 as the separator date according to the Covid-19 pandemic that occurred in 2020. Company size is a classification of whether the company is included in the large or small category which is calculated based on the number of assets owned by the company. With this separation, it can be seen that the profit management activities carried out by large-scale companies as well as small-scale companies. Firm size is defined as the logarithm of total assets. The female board of directors reflects the care and full consideration of the information that will be distributed to other parties. With this composition, it can be seen that the profit management activities by companies with different compositions of female directors can be seen. The composition of female directors is measured by the percentage of the number of directors in each company.

3. Results and Discussion

This research was conducted on agricultural sector companies on the Indonesia Stock Exchange (IDX). The number of research samples used in this study are as follows:

Table 3. Research Sample

No	Criteria	Amount
1	Number of Agricultural Sector Companies	22
2	Companies registered after 2017	5
3	Companies that are delisted/suspended in 2017-2020	2
	Research Sample	15

The number of agricultural sector companies listed on the IDX is 22 companies. 5 companies listed after 2017 and 2 companies delisting/suspending/not submitting reports in the 2017-2020 period so that these two groups cannot be used as research samples. In the end, the number of samples used in this study amounted to 15 companies.

Abnormal accruals. Abnormal accruals are proxies used to estimate profit arrangements before and after the Covid-19 pandemic for agricultural sector companies. Abnormal accruals explain management behavior in influencing the amount of company profits through the selection and making of accrual policies that are required to be standard or not. The greater the value of abnormal accruals, the greater the behavior of management in influencing the amount of profit and vice versa. Abnormal accruals negative values indicate management tends to reduce profits and positive values Abnormal accruals indicate management behavior to increase accounting earnings.

Table 4. Descriptive Statistics *Abnormal accruals*

	Before Covid-19 Pandemic Period	After Covid-19 Pandemic Period
N	15	15
mean	-0.081	0.023
median	-0.052	0.003
Standard Deviation	0.090	0.201
Minimum	-0.346	-0.303
Maximum	-0.001	0.658

Based on Table 4, it can be seen that the minimum value of *Abnormal accruals* (ACC) in the year before the Covid-19 Pandemic was -0.346 while the maximum value of *Abnormal accruals* (ACC) was -0.001. The average value of *Abnormal accruals* (ACC) is -0.081 with a standard deviation of 0.090. What can be learned from the negative average value of *Abnormal accruals* (ACC) is that prior to the Covid-19 Pandemic, in general, agricultural sector companies tended to decrease profits through their accrual policies.

Based on Table 4, it can also be seen that the minimum value of *Abnormal accruals* (ACC) in the Covid-19 Pandemic Period was -0.303 while the maximum value of *Abnormal accruals* (ACC) was 0.658. The average value of *Abnormal accruals* (ACC) is 0.023 with a standard deviation of 0.201. What can be learned from the positive average value of *Abnormal accruals* (ACC) is that after the Covid-19 Pandemic, agricultural sector companies tend to increase their profits through their accrual policies.

Abnormal accruals (ACC) before the Covid-19 Pandemic Period were negative while *Abnormal accruals* (ACC) after the Covid-19 Pandemic Period were positive. What can be indicated from the descriptive statistics above is that there are differences in management responses before and after the Covid-19 Pandemic Period. Before the Covid-19 Pandemic, management tended to decrease profits, while after the Covid-19 Pandemic, management tended to increase profits.

The first alternative hypothesis in this study is that the management of agricultural sector companies regulates reported profits during the Covid-19 pandemic. Earnings arrangement is estimated using *abnormal accruals ( )* . Then the test was carried out using a different test for the average *abnormal accruals* before and after the Covid-19 pandemic.

Table 5. Statistical Test *Abnormal Accruals*

	Before	After
Observations	15	15
mean	-0.081	0.023
Standard Deviation	0.090	0.201
Z	-2,499	
Asymp.Sig.(2-tailed)	0.012	

Table 5 shows that the absolute average value of *abnormal accruals* before the Covid-19 pandemic was 0.081 with a standard deviation of 0.090. While the absolute average value of *abnormal accruals* after the Covid-19 pandemic is 0.023 with a standard deviation of 0.201. What can be learned is that the absolute average value of *abnormal accruals* before and after the Covid-19 pandemic is not much different, but the absolute value of *abnormal accruals* after the Covid-19 pandemic is more varied. This shows that management is responding in various ways to the Covid-19 pandemic.

Based on Table 5, it can be seen that the Z value is -2.499 with a significance value of 0.012 in *the Wilconxon signed rank test,* so it can be concluded that the alternative hypothesis can be accepted. In other words, the results obtained from the average difference test for *abnormal accruals* indicate that statistically there is a significant difference in *abnormal accruals* between the period before the Covid-19 pandemic and after the Covid-19 pandemic. Thus, it can be concluded that the management of agricultural sector companies regulates reported profits during the Covid-19 pandemic.

This finding is in line with the findings of previous studies which state that management manages earnings in times of crisis. Kumar and Vij (2017) examined the earnings management behavior by management of companies in India during the 2008 economic crisis and compared the earnings management behavior by management before and after the 2008 economic crisis. This study uses data from 500 companies and the research period is from 2007 to 2007. with 2012. The final result of the study states that there is a significant increase in earnings management in the period before the crisis and after the crisis for negative *Discretionary Accruals* . Filip and Raffournier (2014) examined earnings management behavior for companies in Europe during the 2008 crisis. They used data from 16 European countries. They found that earnings regulation decreased drastically during times of crisis and found a relationship between the level of earnings regulation and the rate of economic growth. Bepari et al (2013) conducted a study on earnings management behavior by management in Australian companies during the 2008 economic crisis. They found evidence that companies practiced earnings management in their financial statements during the 2008 crisis period. This study used 149 Australian companies. with the research period 2006-2009. Berndt and Offenhammer [10] conducted a study on earnings management behavior by management in banking companies in Germany during the 2008 economic crisis. The results show that earnings management practices have a significant impact on the statement of financial position and income statement. In addition, they also find that the increase in earnings management practices is influenced by the size of the company and the function of the capital market.

Several things can be learned based on the results of the research which states that the management of managing earnings in times of crisis is important for investors to consider the quality of earnings as a basis for making investment decisions. In addition, it is important for regulators to improve the quality of their regulations so that the information produced by companies is truly reliable and relevant.

Testing the Effect of Firm Size and Gender on Arrangements Profit. The second alternative hypothesis in this study is that the size of the company, the composition of management gender affects the company's profit management during the Covid-19 pandemic. The analytical tool to test this hypothesis is multiple regression analysis (*multiple regression*).

Table 6. Regression Results

Note:	n	r^2	F	Sig	B	t	Sig
Anova Test	30	0.051	0.735	0.488			
Constant					-0.339	-1,313	0.200
Company Size					0.020	1,212	0.236
Gender					-0.019	-0.064	0.949

Table 5 illustrates the results of the regression analysis of the effect of firm size and gender on earnings management. The value of adjusted r square = 0.051, so that 5% of the profit management model can be explained by company size and gender variables, while the remaining 95% is explained by other factors outside the model. The thing that can be learned from the small coefficient of determination is that company size and gender are not the main factors that encourage management to regulate earnings.
The ANOVA test or the f statistic test resulted in a significant level of 0.488. Since the significance level is greater than 0.10, the regression model cannot be used to predict earnings management, or it can be said that company size and gender together have no significant effect on earnings management.

The partial test of the regression model also yields the same conclusion, namely that the variables of firm size and gender have no significant effect on corporate earnings management. The firm size coefficient is positive (0.020) meaning that firm size has a positive effect on earnings management, but with a significance value of 0.236 which is greater than 0.01, it can be concluded that there is no real evidence that firm size has an effect on corporate earnings regulation. The Gender coefficient is negative (-0.019) meaning that Gender has a negative effect on earnings management but with a significance value of 0.949 which is greater than 0.01, it can be concluded that there is no real evidence that Gender has an effect on corporate profit regulation.

4. Conclusion

The main objective of this study is to provide empirical evidence whether or not earnings regulation is proxied by *abnormal accruals* (ACC) before and after the Covid-19 pandemic. The results of the tests carried out show that there is a statistically significant difference between *abnormal accruals* (ACC) before and after the Covid-19 pandemic. This indicates that there is a change in the quality of earnings reported by agricultural sector companies listed on the IDX before and after the Covid-19 pandemic

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