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DOES TAX AVOIDANCE SENSITIVE TO THE COVID-19 PANDEMIC?

PERMATA AYU WIDYASARI*
DIVALDO JUSELVEC YULFAN
MARIA EUGENIA HASTUTI

Universitas Surabaya, Jl. Raya Kalirungkut, Kali Rungkut, Kec. Rungkut, Surabaya, Jawa Timur, Indonesia
permataayu@staff.ubaya.ac.id, divaldojuselvecy@gmail.com, mhastuti@staff.ubaya.ac.id

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Abstract**:** *This research was conducted to obtain empirical evidence related to changes in tax avoidance carried out by companies before and after the Covid-19 pandemic, from 2019 to 2022. This research examines it further using two tests, including a two-category difference test and the MANOVA test. This basic research is carried out using a quantitative approach with secondary data in financial reports. The objects used in this research were 366 non-financial companies. This research uses several substitute variables for tax avoidance: book tax difference, GAAP effective tax rate, current effective tax rate, cash tax rate, and effective tax rate differential. Based on different tests, BTD is more sensitive in capturing differences in tax avoidance due to different statutory rates in 2019. The MANOVA test found no differences in tax avoidance from before to after the pandemic in 2019, 2020, 2021 and 2022. This indicates that income declined during the pandemic, but the tax payout ratio remained unchanged. Therefore, the pandemic has not changed the level of tax avoidance practices in Indonesia.*

Keywords**:** *Book-Tax Differences, Covid-19 Pandemic, Effective tax rate, Non-Financial Sectors, Tax Avoidance*

INTRODUCTION

During COVID-19 pandemic, Many countries have implemented various regulations to reduce the spread of the virus, such as maintaining social distancing (Brodeur et al. 2021). The COVID-19 pandemic means that community activities cannot continue as usual, resulting in a decline in economic growth (Theodorus and Rudyanto 2022). COVID-19 is an unprecedented shock that has hit the world economy with potential long-term macroeconomic consequences (Athira and Ramesh 2023). COVID-19 result in several decision, such as social distancing, event cancellation, and shutdown decisions, lowered the S&P 500 by more than 30% (Zhang et al., 2020) and GDP global per capita by 6.2%. This decline is the worst since World War II (Athira and Ramesh, 2023).

Steps to prevent the spread of COVID-19, such as maintaining social distancing, have had a significant impact on companies. Companies have difficulty selling existing inventory of merchandise, resulting in stalled sales (Banerjee et al. 2020) and a decline in revenue (De Vito and Gómez 2020). COVID-19 impacts company liquidity and creates cost constraints. On average, revenue decreased by 10%, but operational costs decreased by 6% (Banerjee et al. 2020).

Due to the decline in sales and income, almost all companies worldwide experienced a decline in profits, so they did everything they could to reduce their expenses. One form of

burden that companies try to reduce is the tax burden.

The Covid pandemic is an event that can affect the global economy. Research on the financial crisis, which is also a global economic event, on tax avoidance practices was carried out with a population of companies listed on the Iranian stock exchange from 2003 to 2013. In this research, 2008 was the midpoint. 2003 to 2008 represent the period before the financial crisis, while 2008 to 2013 represent the years after the financial crisis. This research found an influence of the financial crisis on tax avoidance (Hashemi Tilehnouei, Tootian Esfahani, and Soltanipanah 2018).

Companies avoided taxes during the global financial crisis (Richardson, Taylor, and Lanis 2015). Companies that maximize corporate value can manage taxes as long as the benefits exceed the costs associated with the strategy (Hanlon and Heitzman 2010). External uncertainty can change the business conditions in which the company operates and the benefit-cost ratio of tax avoidance (Athira and Ramesh 2023). So, the Covid-19 pandemic has influenced tax avoidance practices (Rudyanto, Julisar, and Debora 2023).

The practice of tax avoidance means that companies retain money resources (funds) that should go to the state or government to remain in the company. These resources (funds) can be used to increase company value (Wang et al. 2020). effective tax planning aims to maximize company value, not minimize tax payments (Shackelford and Shevlin 2001). So, it can be said that tax avoidance is a strategy to increase company value as well as to maximize shareholder wealth (Wang et al. 2020). The level of company profitability also influences tax avoidance practices. High profitability will motivate companies to make careful taxation in order to achieve maximum tax (Oktaviana and Kholis 2021).

The explanation for tax avoidance practices based on agency theory is that companies often make complicated transactions to avoid detection by tax authorities. Apart from hiding it from the tax authorities, this transaction also causes shareholders not to know the resources they own so that management can use them to pursue their interests (Desai and Dharmapala 2006; Desai, Dyck, and Zingales 2007; and Wang et al. 2020).

Social responsibility theory can explain the phenomenon of tax avoidance practices from two points of view (Wang et al. 2020). Firstly, paying taxes is a social obligation of a company, and taxes can be used to improve social welfare (Sikka 2012 and Rudyanto 2024). Therefore, the practice of tax avoidance is a socially irresponsible action. The more socially responsible a company is, the less tax avoidance it will undertake (Christensen and Murphy 2004; Hoi, Wu, and Zhang 2013; and Lanis and Richardson 2013). However, on the other hand, tax avoidance practices can generate resources (funds) that can be used to invest in activities that are also socially responsible, such as infrastructure investment and job creation (Davis et al. 2016).

Even though tax evasion is not prohibited by law, society sees it as wrong and considers it less nationalistic because companies carrying out tax evasion will decrease state revenues (Ilyas and Priantara 2013). Apart from that, Indonesia's self-assessment system in taxation can be a loophole for a company to avoid tax. This tax system allows companies to calculate, deposit, and report their own annual income tax.

This research was conducted because there were contradictions in research that several previous researchers had conducted. Tax avoidance declined during the COVID-19 pandemic (Kusbandiyah et al. 2022; Athira and Ramesh 2023; and Kobbi-Fakhfakh and Bougacha 2023). Meanwhile, other research by (Rosalina and Pratiwi 2021) states that the COVID-19 pandemic has caused an increase in tax aggressiveness, which indicates an increase in tax avoidance due to the pandemic. Apart from that, there is also research that says that

there is no significant impact on corporate tax avoidance due to the COVID-19 pandemic (Efendi 2020 and Ardiany, Herfina, and Putri 2022).

This research differs from previous research because it uses two types of tests, the independent difference test and the multivariate test (MANOVA), which is used to see whether the pandemic impacts corporate tax avoidance. A t-test between two categories was carried out to compare tax avoidance in the year before COVID-19 and the year during COVID-19. The research year 2019 is the year before Covid, and the years 2020, 2021, and 2022 are years of Covid conditions. Next, the Manova test functions to compare more than 2 categories. Comparisons are made by separating years. The MANOVA test will compare tax avoidance in 2019 vs 2020 vs 2021 vs 2022.

In addition, various types of tax avoidance measurements were used in this research, including book-tax difference (BTD), GAAP effective tax rate (GAAP ETR), current effective tax rate (CUETR), cash effective tax rate (CETR), and effective tax rate differential (ETR DIFF). The research uses non-financial companies listed on the Indonesia Stock Exchange from 2019 to 2022 as the research population. This research aims to see whether the COVID-19 pandemic impacts tax avoidance practices in non-financial companies listed on the Indonesian Stock Exchange.

Covid-19

In December 2019, several cases of pneumonia appeared simultaneously without known causes in Wuhan, China. This virus is related to the virus that causes severe acute respiratory syndrome (SARS) and is called SARS-CoV-2, also known as COVID-19. On January 30, 2020, more than 80,000 cases were confirmed worldwide, and WHO said that the spread of SARS-CoV-2 was an emergency public health problem of international concern (Cucinotta and Vanelli 2020).

Tax Avoidance Measurement

Book-tax differences (BTD) are the differences between financial statement reporting and tax records. There are two types of differences: fixed differences and time differences. Fixed differences are differences in commercial and fiscal financial reports arising from new transactions that will not disappear over time. Time differences are differences in commercial and fiscal financial reports that arise due to expenses, realized income, and losses and profits in temporary financial statements that will disappear over time. The BTD measurement used in this research is Total Book-Tax Differences.

Effective Tax Rate (ETR) is a measure of a company obtained by comparing the company's tax costs with total net profit before tax (Hanlon 2005). In this research, several variations of ETR are used, namely Current Effective Tax Rate (CUETR), Cash Effective Tax Rate (CETR), Long-Run Effective Tax Rate (LRETR), and Effective Tax Rate Differential (ETRDIF). Cash Effective Tax Rate (CETR) is a measurement that compares taxes paid with income before tax.

Book Tax Differences

Book-tax differences are the difference between income before tax from commercial financial statements and income subject to tax in fiscal financial statements (Hanlon 2005). There are two types of book-tax differences: fixed differences and time differences. Fixed differences are differences caused by different transactions due to commercial and tax reporting regulations, so these changes are permanent.

Companies experiencing financial stress showed low levels of tax avoidance before and during the pandemic. However, the practice of tax avoidance was higher during the pandemic than before it. On the other hand, the pandemic period increased the negative relationship between financial difficulties and tax avoidance (Ariff et al. 2023). The seven largest

banks in Nigeria researched tax avoidance. The researchers discussed the amount of tax avoidance in these banks and the pattern of tax avoidance. They found that from 2011 to 2019, there was a total of ₦681.6 billion between commercial income and avoided taxable income for all companies combined (Folorunso and Lokanan 2023).

Research on the relationship between the COVID-19 pandemic and tax avoidance implemented by companies listed on the Indonesian Stock Exchange shows that BTD significantly impacts the tax aggressiveness of companies in the manufacturing sector (Rosalina and Pratiwi 2021).

H1a: There is effect from the Covid-19 pandemic on Total Book-Tax Differences Effective Tax Rate

Effective Tax Rate is a measure of the tax burden that can be used as the percentage of tax actually paid by the company compared to the commercial profits owned by the company (Putri and Irawati, 2019). Several variations of the Effective Tax Rate used in this research are GAAP Effective Tax Rate (GAAP ETR), Current Effective Tax Rate (CUETR), Cash Effective Tax Rate (CETR), and Effective Tax Rate Differential (ETRDIFF).

There is research to see whether there is a relationship between the Covid-19 pandemic and tax avoidance. This research has a sample of financial companies listed on the Indonesia Stock Exchange using the GAAP ETR measurement. The results of this research are indications that there is a significant relationship between Covid-19 and tax avoidance. Companies are more motivated to reduce losses and try not to go bankrupt due to COVID-19 (Wicaksono and Adi 2023).

H1b: There is an influence from the Covid-19 pandemic on the GAAP Effective Tax Rate

CUETR can be used to see the impact and patterns of tax avoidance (Folorunso and Lokanan 2023). In their research, they obtained an average CUETR of 16%, which means there is 50% statutory tax, and as much as 30% is avoided by the combined companies studied (Kobbi-Fakhfakh and Bougacha 2023) conducted research and found that COVID-19 positively impacted CUETR. This finding shows that the COVID-19 pandemic reduced the tendency of companies to avoid taxes.

Research shows changes in ETR in health companies. Due to the reduction in tax rates and the provision of tax facilities, the ETR should have decreased from 2019 to 2020. However, research found that it had increased during that period (Pinastika and Irawan 2021).

H1c: There is an influence from the COVID-19 pandemic on the Current Effective Tax Rate

Kusbandiyah et al. (2022) conducted research on non-cyclical consumer companies listed on the IDX to see whether there were differences between these companies before and after the COVID-19 pandemic. They found that CETR declined during the pandemic, which shows that the COVID-19 pandemic impacts tax avoidance.

(Andika and Sukartha 2022) conducted research on companies listed on the IDX, which were selected through purposive sampling to see changes in tax avoidance during the pandemic year. To see tax avoidance, CETR is used as a substitute variable. The results of this research show that the ETR value decreased from 2018 to 2021, which indicates an increase in tax avoidance by companies.

H1d: There is an influence from the Covid-19 pandemic on the Cash Effective Tax Rate

(Satyadini 2018) analyzed the magnitude of risk and dimensions of tax avoidance. The regression results show that the ETR differential has a significant negative value for the ETR, which indicates that the ETR has a higher value than the statutory tax rate. A high ETR indicates that there has been a decrease in corporate tax avoidance.

(Athira and Ramesh 2023) researched the impact of COVID-19 on corporate tax avoidance. This research uses data from the Refinitiv Eikon database to create a sample of non-financial companies from various countries. Their research used samples from the first quarter of 2019 to the fourth quarter of 2020. This research showed an increase in company ETR from before and after the Covid-19 pandemic. This indicates that there was a decrease in the ETR Differential when the pandemic occurred, which indicates that there was a decrease in tax avoidance by companies.

H1e: There is an influence from the Covid-19 pandemic on the Effective Tax Rate Differential

RESEARCH METHOD

Unit of Analysis

This type of research is empirical, carried out by comparing changes in the dependent variable from previous covid and after covid. The central aim of this research is to identify any changes in tax avoidance. To achieve this, we need to test the variable of tax avoidance. However, tax avoidance itself is not directly calculable. Therefore, this research employs several substitute variables, such as Book-Tax Differences and Effective Tax Rate, to measure tax avoidance.

Book-tax differences, a key variable in this research, refer to the disparities between reporting financial statements and tax records. These differences can be classified into two types: fixed differences and time differences. Fixed differences are permanent disparities that arise from new transactions. Time differences, on the other hand, are temporary disparities that stem from expenses, realized income, and losses and profits in financial statements. In this research, we use Total Book-Tax Differences as our BTD measurement.

Effective Tax Rate (ETR) is a measure of a company obtained by comparing the company's tax costs with total net profit before tax (Hanlon 2005). In this research, several variations of ETR are used, namely Current Effective Tax Rate (CUETR), Cash Effective Tax Rate (CETR), and Effective Tax Rate Differential (ETRDIF). Cash Effective Tax Rate (CETR) is a measurement that compares taxes paid with income before tax (Dyreng, Hanlon, and Maydew 2008).

$$BTD_{i,t} = \frac{AI_{i,t} - \frac{CTE_{1,t}}{STR_{i,t}}}{Asset_{t-1}}$$

$$GAAP\_ETR_{i,t} = \frac{GAAP\_TE_{i,t}}{AI_{i,t}}$$

$$ETR\_Diff_{it} = STR_{i,t} - GAAP\_ETR_{i,t}$$

$$CUETR_{it} = \frac{CTE_{1,t}}{AI_{i,t}}$$

$$CETR_{it} = \frac{CTP_{i,t}}{AI_{i,t}}$$

$$LRETR_{it} = \frac{\sum CTP_{i,t}}{\sum AI_{i,t}}$$

$BTD_{i,t}$= *Book-Tax Differences*
$GAAP\_ETR_{it}$ = *GAAP Effective Tax Rate*
$CUETR_{it}$= *Current Effective Tax Rate*
$CETR_{it}$= *Cash Effective Tax Rate*
ETR_Diff_{it}= *Effective Tax Rate Differential*
$AI_{i,t}$= *Pre-Tax Income*
$TI_{i,t}$= *Taxable Income*
$Asset_t$= *Total Asset*
$GAAP\_TE_{i,t}$ = *GAAP Tax Expense*
$CTE_{i,t}$= *Current Tax Expense*
$CTP_{i,t}$= *Cash Tax Paid*
$STR_{i,t}$= *Statutory Tax Rate*

This research uses two types of tests: the T-test and Manova. Each test has a different function, but they can be complementary overall. The first test is a t-test between two categories comparing tax avoidance in the year before COVID-19 and the year during COVID-19. From the sample, coding was carried out for the year 2019, given the code 0, symbolizing not yet COVID-19, and the years 2020, 2021, and 2022,

given the code 1, symbolizing the COVID-19 situation. The second test is the Manova test, which compares more than two categories. Comparisons are made by separating years. The MANOVA test will compare tax avoidance in 2019 vs 2020 vs 2021 vs 2022

RESULTS AND DISCUSSION

This research aims to see whether, with the COVID-19 pandemic, there has been a change in the tax avoidance treatment of companies listed on the Indonesian Stock Exchange. The objects in this research are non-financial companies listed on the Indonesia Stock Exchange from 2019 to 2022. Apart from that, the objects in this research also meet the established criteria such as:

1. Non-financial companies listed on the Indonesia Stock Exchange 2019 -2022.
2. Non-financial companies with complete annual financial reports from 2019 to 2022.
3. Non-financial companies that use the Indonesian Rupiah currency in their financial statements.

T-test independent samples

The analysis used to test hypotheses H1a to H1e is an independent difference test. There are two stages in testing a hypothesis using an independent difference test. The first stage is looking at the results of Levene's test. Levene's test is used to test whether the variables used have the same variance. If the probability value from Levene's test is > 0.05, it means that the variables have the same variant; conversely, if the probability value from Levene's test is < 0.05, it means that the variable has a different variant. Once the variant of the variable is known, the hypothesis can be accepted if the results of the test of the variant show a sig value < α (5% or 0.05).

The first variable to be tested is the Book-Tax Difference (BTD). With the data in Table 3, it can be seen through Levene's test that the BTD variable has a probability of 0.012. Because the probability is <0.05, it can be concluded that BTD has an unequal variance. Because BTD has unequal variances, it can be seen that the t-value obtained is 2.652 with a significance probability of 0.008. Based on BTD, there are differences in tax avoidance in the categories before the pandemic and during the pandemic.

The following variable to be tested is the GAAP Effective Tax Rate (GAAP ETR). In Table 3, it is known that GAAP ETR has a probability of 0.674, and because the probability is > 0.05, it can be said that GAAP ETR has the same variance. Because these variables have the same variance, it can be seen that the t value of GAAP ETR is -0.062 with a probability significance value of 0.951. because the significant value of GAAP ETR is > 0.05, it can be concluded that there is no difference in the tax avoidance treatment carried out by companies before and after the COVID-19 pandemic.

Table 1. Research population

Criteria	Firm- year Companies
Non-financial companies listed on the Indonesia Stock Exchange 2019 -2022	535
Less:	
De-listed during the years	(4)
Incomplete data in the financial report	(71)
Not using IDR (Indonesian Rupiah) currency in the financial report	(94)
Total companies used for the observation	366

The third variable tested using the independent difference test method is the Current Effective Tax Rate (CUETR). As shown in Table 3, Levene's test results obtained in the test show a probability value of 0.161, which means CUETR has the same variable, so the t-value of this variable is 1.123 with a significant probability value of 0.262. Because the significance value of CUETR is > 0.05, it can be concluded that there is no difference between before and after the COVID-19 pandemic regarding the tax avoidance treatment carried out by companies.

The following variable that will be tested in this research is the Cash Effective Tax Rate (CETR). Table 3 shows that in the independent difference test, a probability value 0.156 was obtained from Levene's test, indicating that CETR has the same variable. Because these variables have the same variance, it can be determined that CETR has a t value of 1.419 with a significant probability of 0.156. Because the probability significance of CETR is > 0.05, it can be concluded that there has been no change in the tax avoidance treatment carried out by companies before and after the COVID-19 pandemic.

The last variable tested with the independent difference test is the Effective Tax Rate Differential (ETR DIFF). Table 3 shows that the results of Levene's test show a probability of 0.659, and because the probability is > 0.05, the ETR DIFF variable has the same variance. Because ETR DIFF has the same variance, it can be seen that the t-value of this variable is 0.275 with a probability significance of 0.783. because the ETR DIFF probability significance is > 0.05, it can be concluded that before and after the COVID-19 pandemic had no impact on the tax avoidance treatment carried out by companies.

Based on the results of different tests with five measurements of tax avoidance, BTD, GAAP ETR, CUETR, CETR, and ETR DIFF are the only BTDs that detect differences in tax avoidance in the categories before and during the pandemic.

Table 2. Statistic Descriptive

	N	Minimum	Maximum	Mean	Std. Deviation
BTD	1464	-6,120	3,287	-0,038	0,359
GAAP ETR	1463	-16,251	76,910	0,192	2,334
CUETR	1463	-11,810	15,646	0,139	0,875
CETR	1463	-46,542	25,424	0,159	2,164
ETR DIFF	1463	-76,690	16,471	0,035	2,334

Table 3 T-test independent sample test result

		Levene's Test		t	df	Sig (2-tailed)
		F	Sig			
BTD	Equal variances assumed	6,273	0,012	1,718	1458	0,086
	Equal variances not assumed			2,652	1455	0,008
GAAP ETR	Equal variances assumed	0,177	0,674	-0,062	1466	0,951
	Equal variances not assumed			0,087	1344	0,931
CUETR	Equal variances assumed	1,967	0,161	1,123	1466	0,262
	Equal variances not assumed			0,924	478	0,356
CETR	Equal variances assumed	0,195	0,659	1,419	1466	0,156
	Equal variances not assumed			1,962	1292	0,05
ETR DIFF	Equal variances assumed	0,177	0,674	0,275	1466	0,783
	Equal variances not assumed			0,388	1344	0,698

Tabel 4 T-test independent sample test result for pharmaceutical and transportation sectors

		Pharmaceutical sector					Transportation sector				
		Levene's Test		t	df	Sig (2-tailed)	Levene's Test		t	df	Sig (2-tailed)
		F	Sig				F	Sig			
BTD	Equal variances assumed	1,323	0,257	0,275	38	0,785	0,002	0,965	0,264	86	0,792
	Equal variances not assumed			0,442	37	0,661			0,310	49	0,758
GAAP ETR	Equal variances assumed	2,303	0,137	-0,670	38	0,507	2,956	0,089	0,455	86	0,650
	Equal variances not assumed			-1,151	31	0,259			0,622	72	0,536
CUETR	Equal variances assumed	0,227	0,637	-0,143	38	0,887	5,417	0,022	1,627	86	0,107
	Equal variances not assumed			-0,195	31	0,847			1,033	22	0,313
CETR	Equal variances assumed	2,779	0,104	0,958	38	0,344	13,913	0,000	2,042	86	0,044
	Equal variances not assumed			0,773	11	0,455			1,259	21	0,221
ETR DIFF	Equal variances assumed	2,303	0,137	0,76	38	0,452	2,831	0,096	-0,568	86	0,571
	Equal variances not assumed			1,306	31	0,201			-0,776	72	0,440

Then, the author carried out additional tests in the transportation and pharmaceutical sectors. The pharmaceutical sector was chosen. The author considers this sector to have experienced increased income because, during the pandemic, people needed more health products. In contrast, the transformation sector is a sector that is considered to have experienced a decrease in income because, during the pandemic, people's mobility was minimal. Based on a comparison between working capital and profit, the pharmaceutical sector uses lower working capital but manages to equal or even higher profits compared to other

sub-sectors (Putri and Wafaretta 2023). Apart from that, the transportation sector is more homogeneous, where almost all companies experience losses, so there could be changes in tax avoidance during the pandemic (Gani 2021). The results of independent tests conducted with utmost care and precision in the pharmaceutical and transportation sectors unequivocally show that the COVID-19 pandemic did not significantly impact all the variables tested, reinforcing the initial findings.

Multivariate Analysis of Variance (MANOVA) Test

The next test carried out to test hypotheses H1a to H1e is Multivariate Analysis of Variance or MANOVA. The method used in this test is the Tukey method. With this method, if the significance value from year to year is > 0.05, there is no difference in tax avoidance treatment from year to year.

Table 5, which presents the BTD variable data, shows that in 2019, the BTD variable had a sig of 0.224 against BTD in 2020, a sig of 0.808 against BTD in 2021, and a sig of 0.499 against BTD in 2022. Meanwhile, BTD in 2020 has a sig of 0.224 against BTD in 2019, 0.740 against BTD in 2021, and 0.957 against BTD in 2022. It can also be seen that BTD in 2021 has a sig of 0.808 against BTD in 2019, a sig of 0.740 against BTD in 2020, and a sig of 0.957 against BTD in 2022. Then, BTD in 2022 has a sig of 0.499 against BTD in 2019, a sig of 0.957 against BTD in 2020, and BTD in 2021. This data, meticulously collected and analyzed, clearly indicates that there is no difference between corporate tax avoidance from 2019 to 2022.

The second variable tested using the MANOVA test is GAAP ETR. Table 6 shows that the 2019 GAAP ETR has a sig of 0.797 to the 2020 GAAP ETR, a sig of 0.972 to the 2021 GAAP ETR, and a sig of 0.993 to the 2022 GAAP ETR. It can also be seen that the 2020 GAAP ETR has a sig of 0.797 to the 2020 GAAP ETR. GAAP ETR in 2019, a sig of 0.529 to GAAP ETR in 2021, and a sig of 0.639 to GAAP ETR in 2022. Meanwhile, GAAP ETR in 2021 had a sig of 0.972 to GAAP ETR in 2019, 0.529 to GAAP in 2020, and 0.998 to GAAP ETR in 2022. Through these data, it can be concluded that through the GAAP ETR variable, there is no change in the tax avoidance treatment carried out by companies before and after the COVID-19 pandemic.

The third variable tested using the MANOVA test is CUETR. Table 7 shows that CUETR in 2019 had a sig of 0.375 against CUETR in 2020, a sig of 0.852 against CUETR in 2021, and a sig of 0.998 against CUETR in 2022. Meanwhile, CUETR in 2020 had a sig of 0.375 against CUETR in 2019, a sig of 0.853 in 2021, and a SIG of 0.471 against Cuetr in 2022. Then, the cuetr in 2021 had a SIG of 0.852 against the cuetr in 2019, SIG was 0.853 of the 2020 cuetr, and SIG of 0.918 of the 2022 cuetr. Sig of 0.998 for CUETR in 2019, sig of 0.471 for CUETR in 2020, and sig of 0.918 for CUETR in 2021. This data shows that with the CUETR variable, there has been no change in the treatment of tax avoidance carried out by companies before and after the COVID-19 pandemic.

The fourth variable that will be tested using the MANOVA test is CETR. The results are attached in Table 8. Through the results of this test, it can be seen that CETR in 2019 has a sig of 0.370 against CETR in 2020, a sig of 0.636 against CETR in 2021, and a sig of 0.938 against CETR in 2022. Then, CETR in 2020 has a sig of 0.370 to CETR in 2019, 0.973 to CETR in 2021, and 0.728 to CETR in 2022. Meanwhile, CETR in 2021 has a sig of 0.636 to CETR in 2019, 0.973 to CETR in 2020, and 0.930 to CETR in

2022. Then, CETR in 2022 also has a sig of 0.938 to CETR in 2019, a sig of 0.728 to CETR in 2020, and a sig of 0.930 to CETR in 2022. The CETR variable data shows that there has been no change in tax avoidance treatment in companies before or after the COVID-19 pandemic.

The last variable tested using the MANOVA test was ETR DIFF. The results, presented in Table 9, provide a clear picture. ETR DIFF in 2019 has a sig of 0.697 to ETR DIFF in 2020, a sig of 0.994 to ETR DIFF in 2021, and a sig of 1 to ETR DIFF in 2022. Similarly, for ETR DIFF in 2020, it has a sig of 0.697 against ETR DIFF in 2019, a sig of 0.529 against ETR DIFF in 2021, and a sig of 0.639 against ETR DIFF in 2022. ETR DIFF in 2021 has a sig of 0.994 against ETR DIFF in 2019, a sig of 0.529 to ETR DIFF in 2020, and a sig of 0.998 to ETR DIFF in 2022. ETR DIFF in 2022 also has a sig of 1 to ETR DIFF in 2019, a sig of 0.639 to ETR DIFF in 2020, and a sig of 0.998 against ETR DIFF in 0.998. Based on these conclusive results, it can be stated that with the ETR DIFF variable, there is no difference before and after the Covid-19 pandemic in the tax avoidance treatment carried out by companies.

In this research, a MANOVA test was also carried out in the pharmaceutical and transportation sectors, two key sectors, to see whether there were changes in tax avoidance before and after the Covid-19 pandemic. The results, presented in table 4, are of significant importance. They show that the Covid-19 pandemic did not cause significant changes in tax avoidance by companies in these crucial sectors.

Table 5. Result of MANOVA test for BTD

Year	Comparative year	Mean Difference	Std. Error	Sig.
2019	2020	0,0494	0,0258	0,224
	2021	0,0231	0,0258	0,808
	2022	0,0362	0,0258	0,499
2020	2019	-0,0494	0,0258	0,224
	2021	-0,0262	0,0258	0,740
	2022	-0,0131	0,0258	0,957
2021	2019	-0,0231	0,0258	0,808
	2020	0,0262	0,0258	0,740
	2022	0,0131	0,0258	0,957
2022	2019	-0,0362	0,0258	0,499
	2020	0,0131	0,0258	0,957
	2021	-0,0131	0,0258	0,957

Table 6. Result of MANOVA test for GAAP ETR

Year	Comparative year	Mean Difference	Std. Error	Sig.
2019	2020	-0,1580	0,1727	0,797
	2021	0,0754	0,1727	0,972
	2022	0,0458	0,1727	0,933
2020	2019	-0,1580	0,1727	0,979
	2021	0,2335	0,1726	0,529
	2022	0,2038	0,1726	0,639
2021	2019	0,0754	0,1727	0,972
	2020	0,2335	0,1726	0,529
	2022	0,2038	0,1726	0,998
2022	2019	0,0458	0,1727	0,993
	2020	0,2038	0,1726	0,639
	2021	0,2038	0,1726	0,998

Table 7. Result of MANOVA test for CUETR

Year	Comparative Year	Mean Difference	Std. Error	Sig.
2019	2020	0,1040	0,0647	0,375
	2021	0,0521	0,0647	0,852
	2022	0,0104	0,0647	0,998
2020	2019	-0,1040	0,0647	0,375
	2021	-0,0519	0,0647	0,853
	2022	-0,0935	0,0647	0,471
2021	2019	-0,0521	0,0647	0,852
	2020	0,0519	0,0647	0,853
	2022	-0,0416	0,0647	0,918
2022	2019	-0,0104	0,0647	0,998
	2020	0,0935	0,0647	0,471
	2021	0,0416	0,0647	0,918

Table. 8 Result of MANOVA test for CETR

Year	Year Comparative	Mean Difference	Std. Error	Sig.
2019	2020	0,2588	0,1600	0,370
	2021	0,1897	0,1600	0,636
	2022	0,0928	0,1600	0,938
2020	2019	-0,2588	0,1600	0,370
	2021	-0,0690	0,1599	0,973
	2022	-0,1659	0,1599	0,728
2021	2019	-0,1897	0,1600	0,636
	2020	0,0690	0,1599	0,973
	2022	-0,0969	0,1599	0,930
2022	2019	-0,0928	0,1600	0,938
	2020	0,1659	0,1599	0,728
	2021	0,0969	0,1599	0,930

Tabel 9 Hasil Uji MANOVA (ETR DIFF)

Year	Comparative year	Mean Difference	Std. Error	Sig.
2019	2020	0,1880	0,1727	0,697
	2021	-0,0454	0,1727	0,994
	2022	-0,0158	0,1727	1.000
2020	2019	-0,1880	0,1727	0,697
	2021	-0,2335	0,1726	0,529
	2022	-0,2038	0,1726	0,639
2021	2019	0,0454	0,1727	0,994
	2020	0,2335	0,1726	0,529
	2022	0,0296	0,1726	0,998
2022	2019	0,0158	0,1727	1.000
	2020	0,2038	0,1726	0,639
	2021	-0,0296	0,1726	0,998

DISCUSSION

This research, which employed several analytical methods, is significant in its findings. It determined whether there were changes in the tax avoidance treatment carried out by companies before and after the COVID-19 pandemic. The study used several substitute variables, namely Book-Tax Differences (H1a), GAAP Effective Tax Rate (H1b), Current Effective Tax Rate (H1c), Cash Effective Tax Rate (H1d), and Effective Tax Rate Differential (H1e), to measure these changes. Changes in the Treatment of Corporate Tax Avoidance Before and After the Covid-19 Pandemic Through the BTD Variable.

The research employed rigorous testing methods to understand how tax avoidance changed before and after the pandemic through the Book-Tax Differences variable. Two testing methods, the independent differences test (t-test) and the MANOVA test, were used. The independent difference test in table 3 revealed significant differences in BTD between the groups of years before the pandemic and during the pandemic.

This research coded the sample for 2019 with code 0, which symbolizes before the pandemic, when the statutory rate was 25%. In 2020, 2021, and 2022, the sample was coded 1, symbolizing the pandemic when the statutory rate fell to 22% starting in 2020.

Remember that the formula for the book-tax difference is income before tax minus the results of dividing this year's tax burden by the tax rate (or the statutory rate); this result is then divided by the previous year's assets. So, Book-Tax Difference (BTD) can be more sensitive, considering there are differences in tax avoidance before and during the pandemic, but the difference lies in the statutory rate. Coincidentally, in code group 0 (in 2019), the tax rate is 25%; in code group 1 (starting in 2020), the tax rate is 22%. This can explain why only BTD detected differences in tax avoidance, but the other four tax avoidance measurements did not.

This occurred due to changes in the corporate income tax rate set by the taxation authority, where the 25% tax rate was applied in 2019 and previously changed to 22% in 2020 and beyond (Handayani and Rachmawati 2022). This change encouraged taxpayers to comply more with their tax obligations. In 2019, tax incentives were also provided to restore economic conditions damaged by the COVID-19 pandemic (Wijaya and Buana 2021). This is in line with the results of the MANOVA test; in all measurements of tax avoidance between 2019 compared to 2020, 2021, and 2022, and vice versa, no differences were found in the level of tax avoidance.

Changes in the Treatment of Corporate Tax Avoidance Before and After the Covid-19 Pandemic Through the GAAP ETR Variable

Two testing methods were used to determine how tax avoidance changed before and after the pandemic through the GAAP Effective Tax Rate variable: an independent difference test (t-test) and a MANOVA test. Through the independent difference test in Table 3, it is known that GAAP ETR has a significance value of 0.951 so hypothesis H1b is rejected because GAAP ETR has a sig of 0.951 > 0.05; therefore, it can be concluded that there is no difference in the treatment of tax avoidance by companies before and after the Covid-19 pandemic. 19. Through the MANOVA test results in table 6, it is known that GAAP ETR from 2019 to 2022 has a significant value of > 0.05 so that hypothesis H1b is rejected because the GAAP ETR value before and after the Covid-19 pandemic has not changed. The results of this research are from (Ardiany, Herfina, and Putri 2022), which found no significant change in corporate tax avoidance during COVID-19.

Changes in the Treatment of Corporate Tax Avoidance Before and After the Covid-19 Pandemic Through the CUETR Variable

Two testing methods were used to determine how tax avoidance changed before and after the pandemic through the current effective tax rate variable: an independent difference test (t-test) and a MANOVA test. The independent difference test in Table 3 shows that CUETR has a significance value of 0.262, so hypothesis H1c is rejected because CUETR has a sig of 0.262 > 0.05. Therefore, it can be concluded that there has been no change in the treatment of tax avoidance by companies before and after the COVID-19 pandemic. The results of the MANOVA test in Table 7 show that the significant value of CUETR from 2019 to 2022 is

> 0.05, so hypothesis H1c is rejected because there is no change in the CUETR value between before and after the COVID-19 pandemic. The results of this study contradict the research of (Athira and Ramesh 2023), which shows that companies will increase their tax avoidance during the pandemic to increase the possibility of sustainability of their business during the pandemic.

Changes in the Treatment of Corporate Tax Avoidance Before and After the Covid-19 Pandemic Through the CETR Variable

Two testing methods were carried out to determine how tax avoidance changed before and after the pandemic through the Cash Effective Tax Rate variable: an independent difference test (t-test) and a MANOVA test. Through the independent difference test in Table 3, it is known that CETR has a significance of 0.156, so hypothesis H1d is rejected because CETR has a sig of 0.156 > 0.05; therefore, it can be concluded that there has been no change in the treatment of corporate tax avoidance before and after the Covid-19 pandemic. The results of the MANOVA test in Table 8 show that the significant value of CETR from 2019 to 2022 is > 0.05, so hypothesis H1d is rejected because there is no change in the CETR value between before and after the COVID-19 pandemic.

Changes in the Treatment of Corporate Tax Avoidance Before and After the Covid-19 Pandemic Through the ETR DIFF Variable

Two testing methods were used to determine how tax avoidance changed before and after the pandemic through the Effective Tax Rate Differential variable: an independent difference test (t-test) and a MANOVA test. Through the independent difference test in Table 3, it is known that ETR DIFF has a significance value of 0.783, so hypothesis H1e is rejected because ETR DIFF has a sig of 0.783 > 0.05; therefore, it can be concluded that there was no change in the treatment of corporate tax avoidance before and after the pandemic. Covid-19. The results of the MANOVA test in Table 9 show that the significant value of CETR from 2019 to 2022 is > 0.05, so hypothesis H1e is rejected because there is no change in the CETR value between before and after the COVID-19 pandemic.

Changes in the Treatment of Corporate Tax Avoidance Before and After the Covid-19 Pandemic Through the LRETR Variable

A linear regression analysis test was conducted to determine how tax avoidance changed before and after the pandemic through the Long Run Effective Tax Rate variable. Based on the F statistical test in Table 11, it is known that the LRETR variable has an F sig value of 0.540 (greater than 0.05). This shows that this regression model is unfit and cannot be used to draw reasonable conclusions.

CONCLUSION

This research, of significant importance to the field of corporate finance and taxation, aimed to investigate whether the Covid-19 pandemic led to a change in the tax avoidance practices of non-financial companies listed on the Indonesia Stock Exchange from 2019-2022. After conducting a series of tests to assess the change in corporate tax avoidance, it was concluded that there was no significant alteration in tax avoidance before and after the pandemic, as indicated by the BTD variable; GAAP ETR; CUETR; ETR DIFF.

This research found no significant change in the tax avoidance treatment carried out by non-financial companies listed on the Indonesia Stock Exchange between before and after the COVID-19 pandemic. However, through the results of this research, it can only be seen that there has been no change in the amount of tax avoidance carried out, so it cannot be concluded that this is a good or bad thing because this research cannot be known whether the company continues to avoid tax consistently, or the company is obedient in paying taxes according to the amount that should be paid.

The disparity between the findings of this research and previous studies can be attributed to the different research subjects. This study focused on non-financial companies, while previous research concentrated on specific sectors such as consumer goods. This distinction in research subjects underscores the unique contribution of this study to the existing body of knowledge.

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