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The effect of environmental uncertainty on tax avoidance with corporate governance as a moderator

ABSTRACT

The study aims to examine the effect of environmental uncertainty on tax avoidance and the moderating effects of corporate governance. Data collection uses secondary data derived from the financial statements and annual reports of companies listed on the Indonesia Stock Exchange for the period of 2017–2019, using the S&P Capital IQ database. The population of this study consists of 80 companies with an observation period of 3 years. Thus, the total of research observations is 240, obtained by the purposive sampling method. The results showed that environmental uncertainty negatively affects tax avoidance. The indicators of corporate governance, which is an independent board of commissioners, can strengthen the relationship between environmental uncertainty and tax avoidance, while audit quality is proven to weaken the relationship between environmental uncertainty and tax avoidance.

Keywords: tax avoidance, environmental uncertainty, corporate governance

JEL Classification: H26, H23

Introduction

According to Gallemore and Labro [2015], companies that run their operations in an uncertain environment benefit more from the quality of their internal information in helping them avoid paying more taxes. Environmental uncertainty stems from the lack of access to adequate information during the decision-making process and the inability of management to anticipate it [Darvishmotevali et al., 2020]. Economic trends and globalisation caused by technological advances and increased competition can lead to higher environmental uncertainty [Huang, Sun, Zhang, 2017].

Environmental uncertainty will affect the condition and performance of the company which then has an impact on stakeholders and investors. Environmental uncertainty requires a company to adapt and take various preventive steps to survive in the business environment [Surbakti, Sudaryati, 2021]. In an uncertain environment, it allows companies to adapt by carrying out earnings management activities and leads to other opportunities such as tax avoidance activities. This certainly shows that environmental uncertainty can be an important factor in tax avoidance activities [Queen, Siregar, 2019].

Corporate governance is needed to minimise information asymmetry in environmental uncertainty control activities. When environmental uncertainty increases, corporate governance encourages companies to optimise their business processes to achieve operational efficiency [Aprisma, Sudaryati, 2020]. Corporate governance is implemented in the form of structures and processes to enable the company to run on a path consistent with its goals and strategies [Deegan, 2014]. Corporate governance can be explained through the agency theory, which states that to achieve company goals, principals must supervise [Prismanitra, Sukirman, 2021].

Shareholders believe that directors or managers can act on their behalf by focusing on maximising profits; this includes reducing tax obligations. However, based on an agency perspective, separate control and ownership can affect the taxation decisions of companies that are able to ignore the interests of shareholders because they only reflect the personal interests of directors or managers [Wahab et al., 2017]. According to Halioui et al. [2016], managers can deliberately take advantage of the benefits obtained through tax planning. To avoid this, corporate governance is important in shaping the alignment of the different interests of managers and shareholders.

Although not many studies have examined the effect of environmental uncertainty on tax avoidance, there are studies that have proven a positive relationship between environmental uncertainty and tax avoidance [Laksono, Firmansyah, 2020; Ratu, Siregar, 2019; Syarendra, Kristanto, 2020]. However, some studies also state a negative relationship between environmental uncertainty and tax avoidance [Huang, Sun, Zhang, 2017]. Other studies also found no significant effect between environmental uncertainty and tax avoidance [Bimo, Prasetyo, Susilandari, 2019; Carolina, Purwantini, 2020], in accordance with the previous research by Ratu and Siregar [2019], which proved that corporate governance significantly weakens

the effect of environmental uncertainty on tax avoidance. This research will also examine the moderating effect of corporate governance on the relationship between environmental uncertainty and tax avoidance.

Theory and hypothesis development

2.1 Agency theory

The *agency theory* appears in a contract between the principal or investor of a company and the agent or manager. Agency problems arise when there is a conflict or dispute between the principal and the agent related to the company's goals, and when it is difficult for the principal to verify the agent's actions, especially as for his/her expenses [Jensen, Meckling, 1976]. An agency relationship is an agreement in which one or more principals employ agents to act on behalf of the principal in providing services that affect the granting of rights to agents regarding decision-making. It should be believed that there are reasons why agents do not always act in the principal's interest [Jensen, Meckling, 1976].

Stakeholder theory

Deegan [2014] describes the *stakeholder theory* as an umbrella representing a number of alternative theories that discuss various issues regarding stakeholder relationships, including considerations of rights, power, and effectiveness of stakeholder management. The stakeholder theory is an effective theory because it utilises the capabilities of stakeholders toward the fulfillment of organisational goals. This is useful in complex environments because companies that work for stakeholders have better information on which to base decisions [Harrison et al., 2015]. The stakeholder theory consists of two branches, the first is an ethical (or normative) branch, where in this understanding stakeholders have basic rights that cannot be violated. The second is the managerial (or positive) branch.

Harrison et al. [2015] argue that the stakeholder theory is an efficient theory because when organisations treat stakeholders well, they will have a tendency to reciprocate with a positive attitude as well, i.e. stakeholders will share valuable information, and customers buy more goods or services, financiers can provide better financial terms, or employees work hard and remain loyal to the organisation, even during difficult times.

Environmental uncertainty and tax avoidance

Technological innovations that continue to develop, globalisation, and increasingly fierce competition have brought companies to greater environmental uncertainty [Lin, Zhao, Li, 2014]. When the perception of environmental uncertainty is high, managers believe that external

condition and activities are changing rapidly, making it difficult to get an accurate picture of what is happening in the market and where the company is based [Yu et al., 2016]. Pressure from environmental uncertainty results in high operational costs that need to be incurred by companies in minimising the impact of the uncertainty that occurs [Aprisma, Sudaryati, 2020].

Tax avoidance is one of the company's actions to cover the high risks that can arise from environmental uncertainty [Ratu, Siregar, 2019]. According to Huang, Sun, and Zhang [2017], environmental uncertainty leads to a higher desire for companies to implement tax avoidance activities. Tax avoidance becomes a more desirable alternative to tax savings because when the external environment becomes more uncertain tax savings will be more difficult to make.

Research by Laksono and Firmansyah [2020] proves that under uncertain environmental conditions, companies will try to minimise their tax payments more than in normal environmental conditions. Research by Syarendra and Kristanto [2020] identifies that there is a positive influence between environmental uncertainty and tax avoidance, which means that the higher the environmental uncertainty, the higher the corporate tax avoidance practice. This conclusion is in line with the study of Ratu and Siregar [2019] which proves that environmental uncertainty has a positive effect on tax avoidance, where an uncertain environment will lead to an increased risk that leads to tax avoidance. Based on these arguments, the researchers build the following hypothesis:

H1: Environmental uncertainty has a significant positive effect on tax avoidance.

The effect of corporate governance as a moderating variable

Corporate governance is able to provide advice and supervision to management in carrying out its operational efficiency when uncertainty increases, which aims to maintain the stability of the company's performance [Aprisma, Sudaryati, 2020]. This is supported by the agency theory, which states that corporate governance can minimise the actions of managers in prioritising personal interests [Dianawati, Agustina, 2020]. Corporate governance is predicted to reduce the impact of environmental uncertainty in generating information asymmetry associated with tax avoidance [Ratu, Siregar, 2019]. Previous research by Ratu and Siregar [2019] proved that corporate governance significantly weakens the effect of environmental uncertainty on tax avoidance.

High environmental uncertainty opens the way for company management to take opportunistic actions [Aprisma, Sudaryati, 2020]. Supervision provided by an independent board of commissioners as an organ of corporate governance can reduce agency problems that arise, such as the opportunistic attitude of the management. Opportunistic actions taken by the management include minimising tax payments in order to maximise company wealth so that company managers will get bonuses [Eksandy, 2017]. According to Kovermann and Velte [2019], managers will engage in higher levels of tax avoidance when there is no strong governance mechanism in the company.

The research by Eksandy [2017] concludes that the higher the number of independent commissioners as a measure of corporate governance, the higher the supervision and control over the performance of managers in companies that are able to reduce tax avoidance activities. In accordance with the research of Sunarsih and Oktaviani [2016], independent commissioners have a negative influence on tax avoidance, which means that the higher the proportion of independent commissioners in the company, the reduced tax avoidance. Based on these arguments, the researchers build the following hypothesis:

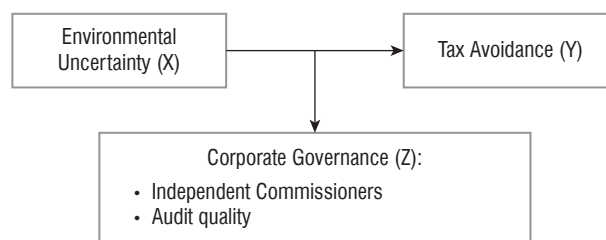
H2: Independent commissioners weaken the effect of environmental uncertainty on tax avoidance.

In addition to the independent board of commissioners, audit quality as a component of corporate governance is also proven to be able to influence tax avoidance practices [Sunarsih, Oktaviani, 2016]. Good corporate governance is needed to be a way to overcome agency problems that arise from tax avoidance practices that are carried out when faced with environmental uncertainty [Ratu, Siregar, 2019]. One form of control and supervision that can minimise agency costs is auditing financial statements [Eksandy, 2017]. Financial statements are believed to be more reliable if they have been audited by one of the 'Big Four' Public Accounting Firms (KAP) because they state the true value of a company [Mais, Patminingih, 2017].

The previous research by Sunarsih and Oktaviani [2016] concluded that with the use of audit services from the 'Big Four' Public Accounting Firms (KAP), the tax avoidance measures applied by the company became lower. According to Mulyani et al. [2018], audit quality significantly affects negatively tax avoidance, which means that the level of fraud by management in the form of tax avoidance activities will be lower if the company uses audit services from KAP 'Big Four', compared to companies that use audit services from accounting public 'Non-Big Four'. Following these arguments, the hypothesis built by the researchers is as follows:

H3: Audit quality weakens the effect of environmental uncertainty on tax avoidance.

Figure 1. Conceptual framework



Source: own elaboration.

Research method

Population and the sample

The population of this study is companies engaged in manufacturing which were listed on the Indonesia Stock Exchange in the period of 2017–2019. There are several companies that do not comply with the criteria explained in the previous part, including as many as 83 companies that do not report net income, 26 companies that do not pay cash taxes, and 2 companies with incomplete data in the 2017–2019 period. For this matter, the total sample that meets the criteria is 80 companies and will be observed for three years, so the total for the 2017–2019 period is 240 observations.

Table 1. Description of the research data

No.	Information	Number
1.	Total of the manufacturing companies from the listed on the Indonesia Stock Exchange in the 2017–2019 period	191
2.	Companies that do not report net income in the 2017–2019 period	(83)
3.	Companies that do not pay cash taxes in the 2017–2019 period	(26)
4.	Companies with the data that is not complete in the period of 2017–2018	(2)
	Total sample	80
	Observation year	3
	Number of observations	240

Source: own research, 2021.

Empirical model

The empirical model used in this research will first test the first hypothesis, namely regarding the relationship between environmental uncertainty and tax avoidance. Here is the first empirical research model:

Model 1

$$\text{CETR}_{i,t} = \alpha + \beta_1 \text{EU}_{i,t} + \beta_2 \text{SIZE}_{i,t} + \beta_3 \text{ROA}_{i,t} + \varepsilon_{i,t}$$

where:

$\text{CETR}_{i,t}$: *Tax avoidance* as measured by cash tax paid/pretax income

$\text{EU}_{i,t}$: *Environmental uncertainty* measured by sales volatility

$\text{SIZE}_{i,t}$: Natural logarithm of total assets

$\text{ROA}_{i,t}$: Ratio of net profit to total assets

$\varepsilon_{i,t}$: error

The second empirical model will examine the moderating effect of corporate governance in the relationship between environmental uncertainty and tax avoidance, which will prove whether corporate governance can weaken the relationship between environmental uncertainty and tax avoidance. Here is the second empirical research model:

Model 2

$$\text{CETR}_{i,t} = \alpha + \beta_1 \text{EU}_{i,t} + \beta_2 \text{DKI}_{i,t} + \beta_3 \text{KUAD}_{i,t} + \beta_4 \text{EU} * \text{DKI}_{i,t} + \beta_5 \text{EU} * \text{KUAD}_{i,t} + \beta_6 \text{SIZE}_{i,t} + \beta_7 \text{ROA}_{i,t} + \varepsilon_{i,t}$$

where:

$\text{CETR}_{i,t}$: Tax avoidance as measured by cash tax paid/pretax income

$\text{EU}_{i,t}$: *Environmental uncertainty* measured by sales volatility

$\text{DKI}_{i,t}$: Proportion of the board of commissioners independent of the total commissioners

$\text{KUAD}_{i,t}$: *Dummy variables*, namely 1 if using the services of a 'Big Four' KAP and 0 if using the services of a non 'Big Four' KAP

$\text{SIZE}_{i,t}$: Natural logarithm of total assets

$\text{ROA}_{i,t}$: Ratio of net profit to total assets

$\varepsilon_{i,t}$: error

Results and discussion

Descriptive statistical analysis results

Table 2. Descriptive statistics

Variable	Obs	mean	Std. Deviation	Min	Max
CETR	240	0.3478212	0.3031655	0.0306	1.31475
EU	240	0.0836154	0.0705976	0.0051	0.4548
DKI	240	0.415935	0.1091498	0.25	0.8
SQUAD	240	0.4208333	0.4947246	0	1
EUDKI	240	0.0343858	0.0313501	0.002	0.2811
EUKUAD	240	0.0309129	0.0549606	0	0.4548
SIZE	240	14.87656	1.610998	11.4	19.679
ROA	240	0.0877792	0.1039365	0.0003	0.921

Source: own research, 2021.

Table 2 provides the results of descriptive statistical analysis using the STATA software on all variables, namely tax avoidance (CETR), environmental uncertainty (EU), independent commissioners (DKI), audit quality (KUAD), independent commissioners (EUDKI) as moderating variables, audit quality (EUKUAD) as a moderating variable, and a control variable

are company size (SIZE) and profitability (ROA). The table of descriptive statistical analysis results that can be seen above, aims to explain the average value, standard deviation, as well as the minimum and maximum values for all the variables in this study. The table also shows that there were 240 observations in this study.

The dependent variable, namely tax avoidance (CETR) has a mean of 0.348, a standard deviation of 0.303, a minimum value of 0.031, and a maximum value of 1.315. A high CETR value indicates high cash tax payments by the company. The mean value is 0.348, which is close to the minimum value, meaning that there is an indication of the tendency of manufacturing companies to avoid taxes. A standard deviation value that is lower than the mean means that the distribution of CETR data is not varied or even.

The independent variable, namely environmental uncertainty (EU), has a mean or average value of 0.084, then the standard deviation of 0.071. The average value obtained is 0.084, which is close to the minimum value, which means that the level of environmental uncertainty in manufacturing companies is relatively low on average. The standard value a deviation lower than the mean or average means that the distribution of environmental uncertainty (EU) data is evenly distributed or does not vary.

The independent board of commissioners (DKI) variable has a mean or average of 0.416, a standard deviation of 0.109, a minimum value of 0.25, with a maximum value of 0.80. The mean value obtained is close to the minimum observation value, meaning that the proportion of independent commissioners in manufacturing companies is on average 41.6%, so the performance of independent commissioners in conducting supervision tends to be low. In accordance with the provisions of POJK Number 33/POJK.04/2014, it is stated that independent commissioners have at least 30% seats of the total board of commissioners. A mean value that is higher than the standard deviation means that the data is evenly distributed.

The audit quality variable (KUAD) is measured using a dummy variable, where a value of 1 means that the company uses audit services from KAP 'Big Four', but if the value is 0 it means that the company uses KAP audit services other than the 'Big Four'. The results of the descriptive statistical analysis obtained are the mean or average of 0.421, the standard deviation of 0.495, the minimum value of 0, and the maximum value of 1. Based on the mean obtained, it can be concluded that from 240 observations, 42% of companies use audit services other than the 'Big Four'.

The moderating variable for independent commissioners (EUDKI) has a minimum value of 0.002 and a maximum value of 0.281. The mean value of the independent board of commissioners as a moderating variable is 0.034, with a standard deviation of 0.031. In accordance with the mean value, it can be seen that the value is relatively small because it is close to the minimum observation value. The standard deviation value lower than the mean means that the data distribution does not vary.

The moderating variable, namely audit quality (EUKUAD), has a minimum value of 0 and a maximum value of 0.455. The mean or average of audit quality as a moderating variable has a value of 0.031, with a standard deviation of 0.055. Based on the mean value, it can be seen

that the value is relatively small because it is close to the minimum observation value. Standard deviation that is higher than the average means that the data distribution is uneven or varied.

The control variable in this study is using company size (SIZE), which has an average value or mean of 14.88, a standard deviation of 1.61, a minimum value of 11.4, and a maximum value of 19.68. Based on the mean value obtained, it means that the average manufacturing company has a large company size. The standard deviation value is lower than the mean value meaning that the distribution of the control variable data is less varied or can be said to be evenly distributed.

The next control variable is profitability (ROA) with a mean value of 0.088, a standard deviation of 0.104, a minimum value of 0.0003, and a maximum value of 0.921. Based on the results of these descriptive statistics, in the average manufacturing company 8.78% of the profit obtained by the company comes from the use of assets. The mean value is lower than the standard deviation value, which means that the distribution of the control variable data varies.

Correlation test

Table 3. Correlation test

Variable	CETR	EU	DKI	SQUAD	EUDKI	EUKUAD	SIZE	ROA
CETR	1.000							
EU	0.175*	1.0000						
DKI	0.0267	-0.0517	1.0000					
SQUAD	-0.0222	-0.1229	-0.0318	1.0000				
EUDKI	0.1598*	0.9239*	0.2377*	-0.1396*	1.0000			
EUKUAD	0.1677*	0.3569*	-0.0912	0.6612*	0.2630*	1.0000		
SIZE	-0.1319*	-0.2286*	-0.0820	0.4939*	-0.2509*	0.2435*	1.0000	
ROA	-0.0846	0.0889	0.1702*	0.2495*	0.0710	0.3060*	0.0168	1.000

*Significant at 5%

Source: own research, 2021.

The Pearson correlation test is used as a measure of the strength of the linear relationship between two variables. The table above shows the results of the correlation between the variables: there is a significant correlation between variables at the 5% level. As can be seen from the table, tax avoidance (CETR) which is the dependent variable, has a weak positive relationship to the environmental uncertainty (EU) variable, the independent board of commissioners (EUDKI) as the moderating variable, and audit quality (EUKUAD) as the moderating variable. This is indicated by the correlation coefficients of 0.175, 0.1598, 0.1677, respectively. There is a very weak positive relationship between tax avoidance (CETR) and the independent board of commissioners (DKI), which is 0.0267.

Based on the table above, it can be seen that there is a weak negative relationship between tax avoidance (CETR) and company size (SIZE), which is a control variable of -0.1319; there is also a very weak negative relationship between tax avoidance (CETR) and audit quality (EUKUAD). and the control variable is profitability (ROA), each of which has a correlation

coefficient of -0.0222 and -0.0846 . Table 3 also shows that between the independent variables, namely environmental uncertainty (EU) and the independent board of commissioners (EUDKI) as the moderating variable, there is a very strong and positive correlation, where the correlation coefficient value is 0.9329 .

Classic assumption test

Normality test

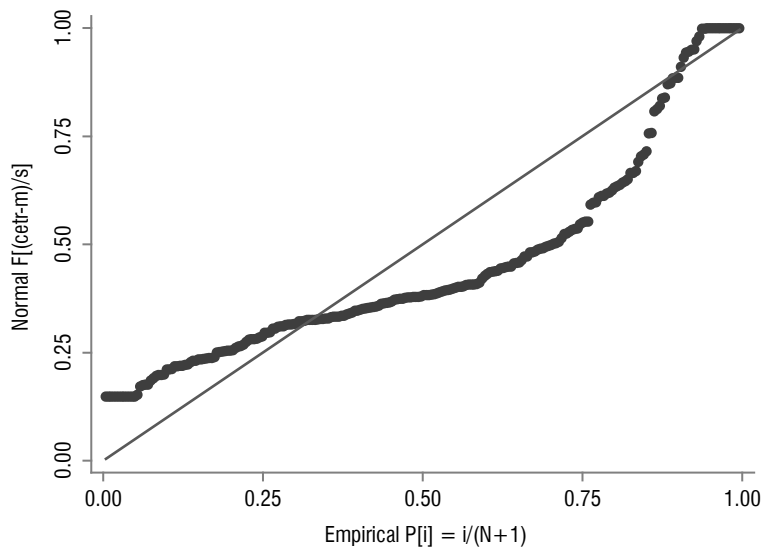
The Shapiro-Wilk Test was applied to perform a normality test with the probability value greater than 0.05 , which shows the distribution of data is normal, or the probability value is lower than 0.05 , which means that the data distribution is not normal.

Table 4. Normality test model 1 and model 2

Variable	Obs	W	V	Z	Prob > z
CETR	240	0.75057	43,643	8,768	0.00000

Source: own research, 2021.

Figure 1. PP Plot model 1 and model 2



Source: own research, 2021.

As can be seen from Table 4, the probability value generated through the Shapiro-Wilk test is 0.00000 , which indicates that the dependent variable data, namely tax avoidance (CETR), has not been distributed normally. In order to overcome the problem of normality in the data, the 5% winsorize technique was carried out on STATA. Even though the technique was applied, the results obtained still do not show a probability value above 0.05 . Due

to this, the researchers provide an overview of the distribution of the data through a normal probability plot which can be seen in Figure 1. As can be observed, the data points are located far from the diagonal line, which means that the tax avoidance (CETR) data is still not normally distributed.

Multicollinearity test

Table 5. Multicollinearity test model 1

Variable	VIF
EU	1.06
SIZE	1.06
ROA	1.01
Mean VIF	1.04

Source: own research, 2021.

The multicollinearity test is applied by looking at the Variance Inflation Factor (VIF), where if the VIF is greater than 10, it indicates the presence of multicollinearity between the variables. However, in table 5, it can be seen that the mean or average VIF value for model 1 obtained is 1.04. This result means that the data is free from multicollinearity problems.

Table 6. Multicollinearity test model 2

Variable	VIF
EU	18.00
EUDKI	17.17
EUKUAD	2.93
SQUAD	2.84
DKI	2.52
SIZE	1.40
ROA	1.22
Mean VIF	6.58

Source: own research, 2021.

In Table 6 it can be seen that the average value of VIF in model 2 obtained is 6.58. Because these results show the average value of VIF lower than 10, it means that there is no strong relationship between the independent variables, so it can be concluded that the data does not have multicollinearity problems.

Heteroscedasticity test

Table 7. Heteroscedasticity test model 1

Model	Significance Level	Results	Conclusion
Model 1	0.05	0.0000	There is a heteroscedasticity problem

Source: own research, 2021.

To perform the heteroscedasticity test, the Breusch-Pagan/Cook-Weisberg test was used in this study. In accordance with the table above, it can be seen that the probability value obtained is worth 0.0000. This indicates that there is a heteroscedasticity problem in model 1, due to the significance of the p-value < 0.05. In order to overcome this problem, the 5% winsorise technique was carried out on STATA. However, the results obtained still show the same probability value.

Table 8. Heteroscedasticity test model 2

Model	Significance Level	Results	Conclusion
Model 2	0.05	0.0000	There is a heteroscedasticity problem

Source: own research, 2021.

In Table 8 it can be seen that the probability value obtained is 0.0000, which is less than 0.05. Similarly to model 1, in model 2 there is also a heteroscedasticity problem. The 5% winsorize technique has been applied, but the results obtained still show the same probability value. This is a limitation found in this study.

Analysis of multiple linear regression

Table 9. Test results of model 1

$CETR_{it} = \alpha + \beta_1 EU_{it} + \beta_2 SIZE_{it} + \beta_3 ROA_{it} + \varepsilon_{it}$			
Variable	Direction	Coefficient	p-value
Dependent variable: CETR			
Independent variable: EU (H1)	+	0.800	0.0025***
Control variable: SIZE	?	-0.016	0.0895*
ROA	?	-0.291	0.059*
Constant		0.552	0.002***
N = 240 Prob > F = 0.0031 Adjusted R-squared = 0.0448 ***Significant rate 1% **Significant rate 5% * Significant rate 10%			

Source: own research, 2021.

Multiple linear analysis is used with the aim of estimating the relationship of several independent variables that have a relationship with the dependent variable. As can be seen from table 9, the results of the analysis of the multiple linear regression equation for model 1 are as follows:

$$CETR_{i,t} = 0.552 + 0.800 EU_{i,t} - 0.016 SIZE_{i,t} - 0.291 ROA_{i,t} + \varepsilon_{i,t}$$

Table 10. Test results model 2

CETR _{i,t} = α + β ₁ EU _{i,t} + β ₂ DKI _{i,t} + β ₃ KUAD _{i,t} + β ₄ EU*DKI _{i,t} + β ₅ EU*KUAD _{i,t} + β ₆ SIZE _{i,t} + β ₇ ROA _{i,t} + ε _{i,t}			
Variable	Direction	Coefficient	p-value
Dependent variable: CETR			
Independent variable:			
EU	+	2.633	0.01***
DKI	-	0.655	0.0085***
SQUAD	-	-0.044	0.245
EU*DKI (H2)	-	-5.431	0.0145**
EU*KUAD (H3)	-	1.434	0.007***
Control variable:			
SIZE	?	-0.026	0.0305**
ROA	?	-0.579	0.002***
Constant		0.453	0.0275**
N = 240 Prob > F = 0.0001 Adjusted R-squared = 0.0912 ***Significant rate 1% **Significant rate 5% *Significant rate 10%			

Source: own research, 2021.

As can be seen from table 10, the results of the analysis of multiple linear regression equations for model 2 are as follows:

$$CETR_{i,t} = 0.453 + 2.633 EU_{i,t} + 0.655 DK I_{i,t} - 0.044 KUAD_{i,t} - 5.431 EU * DK I_{i,t} + 1.434 EU * KUAD_{i,t} - 0.026 SIZE_{i,t} - 0.579 ROA_{i,t} + \varepsilon$$

Table 9 shows the results of the t-test for model 1, where the environmental uncertainty (EU) variable has a p-value of 0.0025 (0.0025 < 1%, 5%, 10%). This means that environmental uncertainty has a significant effect on tax avoidance. Next, the SIZE control variable or company size has a p-value of 0.0895 (0.0895 < 10%), this means that company size has a significant effect on tax avoidance at the 10% level. Table 9 also shows the results of the t-test for the control variable, namely profitability (ROA), where the p-value is 0.059 (0.059 < 10%). This result also means that there is a significant relationship between ROA control variables and tax avoidance.

Table 10 shows the results of the t-test for model 2. Based on the regression results, environmental uncertainty (EU) has a significant relationship to tax avoidance seen from the p-value 0.01 ($0.01 < 1\%$, 5%, 10%). This means that there is a significant relationship between environmental uncertainty and tax avoidance. The independent board of commissioners (DKI) variable has a significant effect as seen from the p-value of 0.0085, which is below the significance level of 1%, 5% and 10%, unlike the case with the audit quality variable (KUAD) which does not have a significant effect because the p-value obtained is 0.245 or greater than 10%.

From Table 10 it can also be seen that the moderating variable, namely the independent board of commissioners (EUDKI) is said to be significant with a p-value of 0.0145, which is said to be significant at the 5% and 10% levels. Audit quality (EUKUAD), which is a moderating variable, has a p-value of 0.007, so it can be said to be significant at the levels of 1%, 5%, and 10%. The results of the t-test for the control variables in model 2, namely company size (SIZE) and profitability (ROA), are proven to have a significant effect on tax avoidance, this can be seen through the p-values of 0.0305 which are below the 5% significance level and 10% and 0.002 which are below the 1%, 5% and 10% significance levels.

Discussion

The effect of environmental uncertainty on tax avoidance

Environmental uncertainty has a positive significant effect on CETR seen from the p-value, namely 0.0025 ($0.0025 < 1\%$, 5%, 10%) and has a coefficient of 0.800, which means that the higher environmental uncertainty, the lower tax avoidance or compliance. companies will pay higher taxes. Based on these results, the first hypothesis is rejected. This result is also contrary to the research of Ratu and Siregar [2019], which concluded that uncertain environment will lead to increased risk that leads to tax avoidance. It is different with Syarendra and Kristanto [2020], who in their research suggest that the higher environmental uncertainty, the more the practice of tax avoidance in the company is also high.

Despite being faced with a high level of environmental uncertainty, tax avoidance can be relatively low because companies in Indonesia will tend to choose to make savings by reducing their expenses so as to increase efficiency. This prevents companies from avoiding taxes which are usually applied by increasing unnecessary costs in order to reduce the tax burden. In uncertain environmental conditions, companies generally allocate costs to develop strategies and innovate in their products in order to maintain company performance so as not to resort to tax avoidance.

The role of the independent board of commissioners in weakening the relationship of environmental uncertainty to tax avoidance

In accordance with the results of the previous test, the moderating variable, namely the independent board of commissioners, has a p-value of 0.0145 ($0.0145 < 5\%$, 10%) with a coefficient of -5.431 . When compared with the coefficient of environmental uncertainty before moderation, which was 2.633, the independent board of commissioners' moderation variable was able to reduce the CETR value. These results mean that the higher the number of independent commissioners in companies with high environmental uncertainty, the lower the CETR value, so it can be said that there is a tendency for companies to avoid tax. Based on this, the second hypothesis is rejected.

Indirectly, Mais and Patminingih's research [2017] supports the results of this study, as their research concludes that the higher the number of independent commissioners or commissioners from outside the company, the lower the effectiveness of their performance in providing control and supervision of the management performance within the company, related to tax avoidance. However, this result is contrary to the research of Sunarsih and Oktaviani [2016], which argues that the higher or larger the proportion of independent commissioners in a company, the more effective their performance is to monitor and control the management performance which can then reduce the actions taken to pursue tax avoidance.

In accordance with the agency theory, the interests of company managers often conflict with the interests of shareholders, such as when uncertain environmental conditions can force management to act according to their wishes and in this case can take the form of tax avoidance. As part of the supervisory function on the company's board, more and more independent boards of commissioners can provide better oversight to management so as not to take opportunistic actions, such as tax avoidance. This is because independent commissioners are considered external parties who are not directly involved in the company's operational activities, so they do not have opportunistic interests. However, the existence of an independent board of commissioners has so far only been limited to following the minimum rules of the Financial Services Authority, so the lack of dominance of independent commissioners on the board causes the supervisory function to be less effective.

The role of audit quality in weakening the relationship of environmental uncertainty to tax avoidance.

In accordance with the results of the research above, the moderating variable of audit quality has a p-value of 0.007 ($0.007 < 1\%$, 5% , 10%), where the coefficient value obtained is 1.434. These results mean that the audit quality provided by the 'Big Four' KAP in the face of high environmental uncertainty, is able to increase the CETR value so that companies will tend to be more obedient in paying taxes and not doing tax avoidance. For this reason, the third hypothesis can be accepted and is indirectly supported by Sunarsih and Oktaviani [2016],

who in their research argue that the higher the audit quality, which acts as a component of corporate governance, the fewer corporate tax evasion actions are taken.

KAP 'Big Four' firms generally employ auditors who are competent and have high motivation capabilities. They provide more training and opportunities to gain broader knowledge for auditors so that the audit quality provided by the 'Big Four' auditors is higher. Therefore, even though the company is faced with an uncertain environment, the company still has a lower level of fraud related to tax avoidance practices. This is influenced by the auditors of KAP 'Big Four', who are generally considered capable of maintaining an attitude of independence in carrying out audits of the company's financial statements. The audited financial statements will be more trusted by users because they are more transparent and show the true value of the company.

Summary

This study has a main focus of proving the effect of environmental uncertainty on tax avoidance and the moderating role of corporate governance in weakening this relationship. The total observations in this study are 240, which are companies engaged in manufacturing, listed on the Indonesia Stock Exchange for the 2017–2019 period. The research data was obtained through S&P Capital IQ, the Indonesia Stock Exchange website, and the companies' official website. This study tested two regression models using the STATA version 12 software.

Based on the tests that have been carried out, the results of the first model research conclude that environmental uncertainty has a significant negative effect on tax avoidance, which means that when manufacturing companies in Indonesia are faced with environmental uncertainty, such as globalisation pressures and industrial competition, companies tend to be careful in using the expenditure. This affects them to make savings, thus preventing companies from implementing tax avoidance that is usually applied by increasing costs that are not needed.

The results of the second model research that examines the moderating role of corporate governance through indicators of independent commissioners and audit quality concludes that independent commissioners strengthen the relationship between environmental uncertainty and tax avoidance; these results indicate that when dealing with an uncertain environment, the existence of independent commissioners is only limited to following the minimum rules of the Financial Services Authority, so the lack of dominance of independent commissioners affects the supervisory function of management to be less effective in reducing tax avoidance.

From the results of the second model test, it can be concluded that audit quality weakens the relationship between environmental uncertainty and tax avoidance; this result means that the role of the 'Big Four' is useful for minimizing tax avoidance actions in companies facing uncertain environmental pressures. KAP 'Big Four' are considered capable of maintaining independence in carrying out the audit process of the company's financial statements, so that the financial statements will be more trusted by users because it shows the true value of the company.

This study has several limitations, namely (1) the first research model that examines the relationship of environmental uncertainty to tax avoidance and the second research model that examines the moderating effect of corporate governance does not pass the heteroscedasticity test, (2) the research sample is only limited to companies engaged in the manufacturing sector and the observations made are limited to three years (2017–2019). Future researchers can use other measures to measure tax avoidance besides the proxies used in this study, such as the cash effective tax rate. Further researchers can also measure corporate governance with indicators other than independent commissioners and audit quality. Future researchers can add control variables such as leverage, net operating losses, and Property, Plant and Equipment (PPE) so that the next research is able to give more suitable results in current conditions.

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