Institutional Ownership, CFO Competency and Environmental Uncertainty as moderating on Tax Avoidance Evidence: Indonesia

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ABSTRACT

Introduction – Chief Financial Officer (CFO) is considered competent if they possess certifications such as Certified Public Accountant (CPA), Chartered Financial Analyst (CFA), or Tax Consultant Certification (BKP). Additionally, other indicators of competence include having a master's degree and relevant experience in areas such as auditing, accounting, finance, and tax.
Purpose – This study aims to determine the effect of institutional ownership and the competence of the Chief Financial Officer (CFO) on tax avoidance with environmental uncertainty as a moderating variable.
Methodology/Approach – The population of this study are companies listed on the Indonesia Stock Exchange (IDX) for the 2016-2021 period and using a purposive sampling method. This study uses balanced data panel. Population using all companies is listed on IDX. The number of observations of sample data is 474 company years from 2016-2021. This study also involved statistical testing based on panel data regression. Measurement of tax avoidance using Current Effective Tax Rate.
Findings – The results show that institutional ownership and CFO competency is positively related to tax avoidance and environmental uncertainty can weaken the negative relationship of institutional ownership to tax avoidance but can strengthen the positive relationship of CFO to tax avoidance. Based on this study, the regulator is considering more on tax regulation and penalties to reduce tax avoidance behavior. Institutional ownership is more motivated and able to intervene in tax avoidance.
Originality/ Value/ Implication – Both theoretically and practically, derived from this research are as follows within this research, particularly for CFOs with high competence, the implication is to maintain ethical practices when engaging in tax avoidance actions.

Keywords: Institutional Ownership, CFO Competency, Environmental Uncertainty, Tax Avoidance

INTRODUCTION

Tax avoidance refers to the deliberate measures taken by taxpayers to minimize their tax liabilities as much as possible (Slemrod, 2004). Hanlon and Heitzman (2010) expanded the concept by including strategies like utilizing tax incentives, engaging in tax planning, and adopting aggressive tax approaches to lower their tax payments. It is important to note that tax avoidance can create problems related to the difference in information between management and concerns about moral hazard, leading to potential agency issues (Lim, 2011).

Based on the definition of tax avoidance mentioned earlier, it is clear that it doesn't always lead to positive results. Instead, it can negatively affect companies by putting them at risk of having a bad reputation due to negative media coverage (Blaufuss et al., 2019; Hanlon and Slemrod, 2009; Kothari et al., 2009). Negative news tends to catch the attention of stakeholders, including shareholders, and institutional shareholders are a specific type of shareholders within a company.

Institutional ownership serves as a contributing factor to the promotion of tax avoidance. Institutional ownership refers to the significant proportion of shares held by institutional shareholders, including mutual funds, securities companies, insurance companies, pension funds, financial institutions, and other similar entities (Pirzada et al., 2015). It is measured by comparing the percentage of institutional ownership to the total outstanding stock.

Besides institutional ownership, the competence of the Chief Financial Officer (CFO) can also influence tax avoidance. Companies tend to prioritize managers who demonstrate capable competency over those who lack competence (Damerjian et al., 2013). Proficiency in skills related to the preparation of company financial reports and tax returns is crucial in this regard. Chen et al., (2019) further assert that the professional accounting experience of top management can impact the company's financial reporting. Chief Financial Officer (CFO) is considered competent if they possess certifications such as Certified Public Accountant (CPA), Chartered Financial Analyst (CFA), or Tax Consultant Certification (BKP). Additionally, other indicators of competence include having a master's degree and relevant experience in areas such as auditing, accounting, finance, and tax.

According to Fang et al. (2020), the knowledge and experience of top executives play a significant role in managing environmental uncertainty. Environmental uncertainty is influenced by external factors such as market conditions, technological advancements, and intense competition (Chin et al., 2014). Moreover, environmental uncertainty motivates managers to be adaptable and responsive to changes in the environment (Habib et al., 2017).

This study extends the findings of Khan et al. (2017) and Chen et al. (2019) by examining the moderating role of environmental uncertainty. The addition of the moderating variable of environmental uncertainty is motivated by the study period, which covers the years 2020 and 2021, the period when COVID-19 occurred. To the researcher's knowledge, no research examining the influence of environmental uncertainty in moderating the effect between institutional ownership, CFO competence, and tax avoidance has been conducted in Indonesia

The integration of these two studies was motivated by the belief that there may be a connection between institutional ownership, CFO competency, and tax avoidance. Institutional ownership refers to external entities responsible for overseeing a company's internal actions, while CFO competency relates to the internal members of the company who possess the competence to make decisions and formulate strategies.

One of the contribution on this research is that previous studies exploring the association between institutional ownership and tax avoidance have primarily focused on developed countries like the United States (Cheng et al., 2012; Khan et al., 2017; Bird and Karolyi, 2017) and China (Zhang et al., 2013; Cai and Rao, 2015), yielding disparate findings. This has prompted the authors to investigate the relationship between institutional ownership and tax avoidance in Indonesia as a developing country.

Then there is a scarcity of studies examining the relationship between CFO competency and tax avoidance. Previous research by Chen et al. (2019) utilized CPA certification and an MBA educational background as indicators of CFO competency, whereas this study enhances the measurement by incorporating experience in areas such as auditing, accounting, tax, and finance. Moreover, while previous research employed a dummy variable, this study employs a scoring method to assess CFO competency.

Furthermore, this research expands upon the existing literature by examining the moderating role of environmental uncertainty in influencing the relationship between institutional ownership, CFO competency, and tax avoidance. Based on author’s knowledge, this research has not been written by others.

LITERATURE REVIEW

Agency theory, as defined by Jensen and Mackling (1979), refers to a contractual relationship where one or more parties (principals) engage another party (agent) to act in accordance with their wishes. Eisenhardt (1989) further adds that agency theory is based on assumptions about human nature, namely self-interest, limited foresight, and risk aversion. These assumptions lead to the conclusion that both agents and principals prioritize their own interests.

Tax avoidance involves companies employing strategies to reduce their corporate tax payments below what would normally be required by exploiting loopholes in tax regulations (Hanlon and Heitzman, 2010). According to agency theory, institutional shareholders act as principals who delegate decision-making to managers. Institutional shareholders invest funds with the expectation of receiving attractive returns in the form of dividends.

Franzoni (1998) states that tax avoidance is a tax avoidance strategy that the legislator does not want to do but is permitted by the rules . This means that the tax reduction action taken is considered not to violate tax regulations because it is a *gray area* where the contents of the regulations are not detailed and detailed so that there is an exploitation of loopholes in these regulations. However, whether or not the legal limit of tax avoidance according to tax regulations is still a matter that is often discussed.

Previous research by Zhang et al. (2013) demonstrates that higher levels of institutional share ownership are associated with lower levels of tax avoidance. This finding aligns with Zhou's (2011) assertion that higher institutional ownership promotes adherence to tax regulations, encouraging companies to comply with tax procedures and activities.

In general, greater institutional share ownership in a company grants shareholders more decision-making authority over company interests and activities. As a result, higher institutional ownership has a tendency to increase institutional shareholders to intervene in management's tax avoidance behavior (Shleifer and Vishny, 1986, 1997). The monitoring actions carried out by institutional shareholders are expected to mitigate opportunistic behavior by management for their own gain. Thus, it can be concluded that higher institutional ownership corresponds to lower tax avoidance, as indicated by higher Effective Tax Rate (ETR) values. The first hypothesis in this study is as follows:

Hypothesis 1 : Institutional ownership has a negative effect with tax avoidance

According to Chen et al. (2019), the Chief Financial Officer (CFO) is responsible for preparing company financial reports and corporate tax returns. The CFO possesses the knowledge and expertise to determine the most suitable strategies for the company in various situations. When it comes to tax avoidance, the CFO plays a key role in making decisions regarding tax planning, tax avoidance, and compliance with tax regulations.

Previous research conducted by Chen et al. (2019) suggests that a CFO who is certified as a Certified Public Accountant (CPA) plays a significant role in making financial reporting decisions. The findings indicate that CFO with CPA certification are associated with lower Effective Tax Rate (ETR). A lower ETR implies that CFO with CPA certification is more adept at identifying opportunities for tax planning. Thus, it can be inferred that CFO with CPA certification are more inclined to engage in tax avoidance practices.

Research Chen et al. (2019) also tested the effect of CFO expertise on tax evasion. In his research, CFOs were considered experts if they met one of the three set criteria, namely the CFO was a partner, the CFO was an accounting expert in his biography and also had an accountant degree or had been a CFO in another company. The more competent a CFO is, the greater the CFO's chances of exploring tax planning, thereby increasing tax avoidance actions. The second hypothesis in this study is as follows:

Hypothesis 2: Competency CFO has a positive effect with tax avoidance

The presence of institutional shareholders in a company is expected to decrease the likelihood of managers engaging in self-serving actions, such as tax avoidance. However, high levels of environmental uncertainty can lead to unpredictable changes in revenue growth, resulting in increased information asymmetry between managers and stakeholders (Huang, Zhang, 2017).

Environmental uncertainty leads management to engage in tax avoidance actions to minimize the amount of tax paid to tax authorities, thereby ensuring the company's cash flow remains intact and the company's sustainability is maintained. This aligns with the findings of Huang et al. (2017), which indicate that companies are more likely to engage in tax avoidance when faced with high levels of environmental uncertainty.

The motivation behind such tax avoidance actions is to obtain immediate benefits, specifically cost savings that help stabilize low cash flows (Ghosh and Olsen, 2009). The third hypothesis in this study is as follows:

Hypothesis 3: Environmental uncertainty weakens the negative effect between institutional ownership and tax avoidance

Environmental uncertainty refers to unpredictable factors that cannot be easily anticipated. A competent Chief Financial Officer (CFO) possesses the necessary expertise to make informed decisions regarding financial planning and taxation. This is supported by research conducted by Chen et al. (2019), which suggests that CFO competency leads to a decrease in the Effective Tax Rate (ETR). This indicates that competent CFOs are more likely to exploit opportunities for tax planning.

In the face of environmental uncertainty, companies generally take measures to ensure their continued operations. This is done to stabilize cash flows that may be negatively affected by changes in environmental uncertainty. As a result, competent CFO tend to seek cost-saving strategies by reducing the amount of taxes paid.

Table 1. Sample Selection

Description :	Company Year	Number of Companies
Companies listed on the IDX for the period 2016 to 2021	5130	855
less :		
Company in financial mining, building construction and property industry	-2022	-337
Companies are not using rupiah currencies	-108	-18
Companies got lost before tax expense for the period 2016 to 2021	-1452	-242
Companies with incomplete data	-1074	-179
Total Observations	**474**	**79**

This is driven by the understanding that environmental uncertainty can have a significant impact on the overall operational activities of the company (Arieftiara et al., 2017).Essentially, the knowledge possessed by the CFO plays a role in mitigating environmental uncertainty.

Therefore, based on the aforementioned information, it can be concluded that high levels of environmental uncertainty are expected to increase the likelihood of competent CFOs engaging in tax avoidance actions. In other words, environmental uncertainty can strengthen the negative relationship between CFO competence and tax avoidance.

Hypothesis 4: Environmental uncertainty strengthens the positive effect between CFO and tax avoidance.

METHOD

The research method that will be used in this study is empirical research that is quantitative in nature. This study uses statistical tests with panel regression which examines the relationship between institutional ownership, CFO competency and tax avoidance moderated by environmental uncertainty.

(1) Data and Sample

This study used all public companies listed on the Indonesia Stock Exchange (IDX) in 2016-2021. The data is obtained from annual reports and company financial reports uses the eikon metabase.This research using balance data panel. Companies in the financial sector, mining, property, real estate, building construction and shipping sectors is not included because they have different regulation on tax (final income tax) so we can not use this sector for tax avoidance variable. The sample of data in this research is 474 company years in 2016-2021.

(2) Research Model

This study utilizes panel data analysis because it involves data from multiple companies over a period of several years. The research applies a regression analysis model to examine the relationship between each independent variable and the dependent variable at a significance level of 5%. The equation model used to test the hypothesis is as follows:

$$\text{Current } ETR_{i,t} = \beta_0 + \beta_1 INST_{i,t} + \beta_2\ COMCFO_{i,t} + \beta_3 ROA_{i,t} + \beta_4 LEV_{i,t} + \beta_5\ SIZE_{\ i,t} + \beta_6 AGE_{i,t+}\ \varepsilon_{i,t}\ (1)$$

Where the coefficient β_1 is used to measure H_1 which explains the negative relationship between institutional ownership and tax avoidance and β_2 to measure H_2 which explains the negative relationship between CFO competence and tax avoidance.

Furthermore, to test the moderating role of environmental uncertainty shown in model 2 which aims to test hypotheses 3 and 4 with model 2 as follows:

$$\text{Current } ETR_{i,t} = \beta_0 + \beta_1 INST_{i,t} + \beta_2\ COMCFO_{i,t} + \beta_3\ INST_{i,t}{*}EU_{,i,t} + \beta_4 COMCFO_{i,t}{*}\ EU_{i,t} + \beta_5 ROA_{i,t} + \beta_6 LEV_{i,t} + \beta_7\ SIZE_{\ i,t} + \beta_8 AGE_{i,t+} + \varepsilon_{i,t}\ (2)$$

Where there is β_3 used to measure H_3 which explains the moderating variable of environmental uncertainty between institutional ownership and tax avoidance while β_4 is used to measure H_4 which explains the moderating variable of environmental uncertainty between CFO competence and tax avoidance.

(3) Definitions of variable and operationalization

The dependent variable in this study is to minimize tax payments by taking advantage of tax loopholes and without violating predetermined rules. This study follows the measurement of tax avoidance in Hanlon and Heitzman's (2010) study, namely *Current* ETR. This proxy reflects the amount of income tax expense compared to profit before tax.

The first variable in this study is institutional ownership. The measurement of institutional ownership in this research is based on the percentage of shares held by institutions relative to the total number of outstanding shares, as outlined by Annisa and Kurniasih (2012).

The second variable in this study is CFO competency. CFO competency is measured by their possession of accounting, tax, and finance certifications (such as CPA, CFA, or BKP), educational background (such as an MBA or a master's degree in accounting, finance, or tax), as well as their prior experience in accounting, tax, audit, and finance.

The moderating variable in this study is environmental uncertainty. Environmental uncertainty is measured using sales volatility, which is considered a suitable measurement compared to technology volatility (Huang et al., 2017). The measurement used to quantify environmental uncertainty is *the Coefficient of variation* (CV) which is formulated by:

$$CV(S_i) = \frac{\sqrt{\sum_{i=1}^{5}\frac{(Si-Smean)^2}{5}}}{Smean}$$

There are four variable controls in this study such as size, leverage, ROA, and age. Size is measured Ln from total assets. Leverage is measured as total debt by total assets. ROA is measured by comparing net income to total assets. Age is measured by how long the company has been established.

This study utilized secondary data, which was collected by gathering information that already existed in previous datasets (Sekaran, 2011). The research employed panel data regression analysis, which combines time series and cross-sectional data. The panel data regression analysis in this research included three approaches: fixed effect model, common effect model, and random effect model. Data processing for this research was conducted using Stata 17.

This analysis provides an overview describing the relationships between the variables used in this study. Each variable in this research will be explained individually. The descriptive statistical analysis used numerical measures, including mean (average), maximum value, minimum value, and standard deviation.

The coefficient of determination test (R2) is a test that evaluates the influence between independent variables and dependent variables. The R2 value indicates how well the model's independent variables can explain the dependent variable. Testing is conducted to provide interpretations of the results obtained from the regression model used.

Hypothesis testing can be done using several methods, namely, individual t-tests, the F-test, which is used to evaluate the collective impact of independent variables on the dependent variable in this study, and the R2 test, which provides an overview of the extent to which independent variables explain variations in the dependent variable.

The F-test is used to test whether the independent variables significantly together affect the dependent variable. The hypothesis tested using the F-test in this research follows a significance standard of $\alpha = 0.05$. The t-test is used to examine the individual impact of independent variables on the dependent variable.

Decision-making in the t-test in this research follows a significance standard of α = 0.05."

RESULT AND DISCUSSION

(1) Statistics Descriptive

Based on Table 2, the statistical results reveal that the average tax avoidance, measured by Current ETR, is 0.2742 with a standard deviation of 0.1597. The highest value observed is 0.9481, while the lowest value is 0. Based on these statistical findings, it can be interpreted that the average Current ETR level in Indonesia is 27.42%. This average value exceeds the corporate tax rate in Indonesia, which was initially 25% and was later reduced to 22% since 2020. However, these results do not imply that corporate tax avoidance is not practiced by the sample companies, as there are still sample companies with varying Current ETR values below the average until it reaches a minimum value of 0.

Table 2. Statistics Descriptive

Obs	Mean	Std.Dev.	Min	Max
474	0.2742	0.1597	0	0.9481
474	0.6627	0.1959	0	1
474	0.4634	0.1919	0.33	1
474	0.3401	0.0281	0.1833	0.4472
474	0.0715	0.0633	-0.0196	0.4467
474	0.2378	0.1699	0	0.8004
474	33	14	5	88
474	21.637.596	49.366.181	153.733	367.311.000

(2) Regression Estimation Equation This research uses Uji Chow in the first model to choose between PLS (*Pooled Least Square*) and FEM (*Fixed Effect Models*) and uses the hausman test for the second model to choose FEM (*Fixed Effect Models*) and REM *(Random Effect Models).* Based on the result, the first model using FEM and the second model uses REM.

(3) Empirical Analysis

The results of hypothesis testing for Model 1 and Model 2 indicate that the models are statistically significant simultaneously, with an F-statistic greater than the F-table value or a p-value from the F-statistic less than 5%.

Table 3. Regression Result

Independent Variable	Predict the Direction of Influence	Dependent Variable Current ETR (Tax Avoidance) Model 1 Koef	Prob	Significance	Model 2 Koef	Prob	Significance
Intercept		-0.168	0.944		-0.13	0.636	
INST	-	0.066	0.031	**	0.021	0.021	**
COMCFO	+	0.081	0.047	**	0.319	0.055	*
INST*EU	+				1.2	0.014	**
COMCFO*EU	+				0.93	0.045	**
Variabel Kontrol							
ROA	+	2.147	0.001	***	1.033	0.0001	***
LEV	+	-0.039	0.758		-0.026	0.761	
LN_SIZE	+	-0.022	0.761		-0.007	0.403	
AGE	+	1.03	0.264		0.054	0.84	
Adjusted R-Squared		0.053			0.1165		
F-Statistic		2.74			55.81		
Prob (F-Stat)		0.018			0.00001		
Total Observations		474			474		
Total Companies		79			79		

The results of the H1 test in Table 3 indicate that both in model 1 and model 2, institutional ownership (INST) consistently shows a positive relationship with tax avoidance (CETR). In model 1, the probability is 0.031 with a significance level of 5%, while in model 2, the probability is 0.021 with a significance level of 5%.

This suggests that as institutional ownership in a company increases, tax avoidance also increases. As a result, hypothesis H1 is rejected, which contradicts the initial assumption that institutional ownership is negatively related to tax avoidance.

The results of the H2 test in Table 3 demonstrate that both in model 1 and model 2, CFO competency (COMCFO) consistently exhibits a positive relationship with tax avoidance (CETR). In model 1, the probability is 0.047 with a significance level of 5%, while in model 2, the probability is 0.055 with a significance level of 10%. This indicates that as the competence of the CFO in a company increases, tax avoidance also increases. Therefore, hypothesis H2 is accepted, supporting the initial assumption that CFO competency is positively associated with tax avoidance.

When testing hypothesis 3, it is found that the moderating variable of environmental uncertainty can weaken the negative relationship between institutional ownership and tax avoidance. The results of hypothesis testing in Table 3 reveal that the INST*EU variable has a positive impact on tax avoidance, with a probability of 0.014 at a significance level of 5%, and a positive coefficient value on tax avoidance. As a result, the H3 is accepted, aligning with the testing of hypothesis 3, which posits that environmental uncertainty can weaken the negative relationship between institutional ownership and tax avoidance.

Similarly, when testing hypothesis 4, it is discovered that the moderating variable of environmental uncertainty can strengthen the positive relationship between CFO competence and tax avoidance. The results of hypothesis testing in Table 3 demonstrate that the COMCFO*EU variable has a positive effect on tax avoidance, with a probability of 0.045 at a significance level of 5%, and a positive coefficient value on tax avoidance. Therefore, the H4 is accepted, in line with the testing of hypothesis 4, which suggests that environmental uncertainty can strengthen the positive relationship between CFO competence and tax avoidance.

CONCLUSION AND RECOMMENDATION

The research examines whether institutional ownership has a negative relationship with tax avoidance, then also examines whether CFO competence has a positive relationship with tax avoidance and whether the moderating role of environmental uncertainty weakens the negative relationship between institutional ownership and tax avoidance and the role of environmental uncertainty in strengthening the positive relationship between CFO competence and tax avoidance.

This study used 474 observations for the period from 2016 to 2021 using a sample of public companies listed on the IDX. From the research conducted, it can be concluded as follows:

1. The results of this study prove that institutional ownership is not negatively related to tax avoidance. This means that high institutional ownership is not always able to intervene in the actions of managers who are responsible for the interests of shareholders so that managers will continue to take *opportunistic actions* by taking tax avoidance actions.
2. CFO competence is positively related to tax avoidance. This means that the high competence of a CFO in a company will further increase the level of tax avoidance.
3. The moderating role of environmental uncertainty weakens the negative relationship between institutional ownership and tax avoidance. This is interpreted as an uncertain environmental condition that will encourage institutional ownership in carrying out tax avoidance actions.
4. The moderating role of environmental uncertainty strengthens the positive relationship between CFO competency and tax avoidance. This means that with uncertain environmental conditions, highly competent CFOs will tend to take tax avoidance actions.

The implications, both theoretically and practically, derived from this research are as follows within this research, particularly for CFOs with high competence, the implication is to maintain ethical practices when engaging in tax avoidance actions. Tax avoidance is aimed at making costs more efficient, as per tax regulations, tax avoidance is not prohibited. However, from an ethical standpoint, such actions can be interpreted as opportunistic actions for personal gain.

The implication for regulators, specifically tax authorities, is to distinguish between companies engaging in tax avoidance for cost efficiency and those doing it for personal gain. Regulators can then impose penalties for opportunistic actions to deter taxpayers.

The implication for investors, particularly institutional shareholders, in times of high environmental uncertainty is to maintain strict oversight of managerial performance to prevent opportunistic actions resulting in tax avoidance. These implications provide a framework for companies, regulators, and investors to navigate the complexities of tax avoidance in environments of high uncertainty.

Subsequent research needs to pay attention to the weaknesses and limitations of this study, allowing future researchers to make improvements and produce more comprehensive research. Here are some limitations and weaknesses found in this study:

1. The measurement of tax avoidance using Current ETR may not adequately capture whether a company is engaging in tax avoidance or simply experiencing losses.
2. The measurement of environmental uncertainty using the CV calculated based on five years of sales data has limitations, as a significant amount of data may not be available, resulting in a reduction in the research sample size.

Here are some research suggestions to enhance future studies:

1. Utilize other proxies for tax avoidance, such as BTD, as this proxy is measured by subtracting commercial income from fiscal income. This implies that any income and expenses not recognized fiscally should be disclosed in the fiscal report, indicating that the company is engaging in tax avoidance.
2. In the context of Indonesia, future research could focus on shorter time periods, allowing data for environmental uncertainty variables to be readily available in databases like Eikon or by employing the environmental uncertainty measurements used in Arieftiara et al.'s (2019) research.

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