

The Effect of Enviromental Uncertainty and Tax Avoidance: The Role of Managerial Ability in Emerging Country



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ABSTRACT

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Taxes play an essential role in state funding. As something that is not profitable for the company, it usually encourages efforts to reduce taxes by doing a tax avoidance. This study aims to determine the effect of environmental uncertainty on tax avoidance and to determine the managerial ability to weaken the effect of environmental uncertainty on tax avoidance. This study using SPSS, 458 samples used in this study are manufacturing companies listed on the Indonesia Stock Exchange in the period 2016 – 2020. The results of this study indicate that environmental uncertainty affects tax avoidance and managerial ability strengthens the effect of environmental uncertainty on tax avoidance. The result may be due to the large influence of environmental uncertainty in the company so that the risks obtained are difficult for managers to overcome.



1. Introduction

In building a strong economy, Indonesia requires substantial funds. Indonesia receives funds from the State Revenue and Expenditure Budget (APBN), the largest component of which comes from taxes. The amount of tax contribution in the receipt of the APBN shows that taxes are the holder of an important role in the state. Taxes finance most of the country's development to encourage national economic growth. Taxes are a source of funds that can handle economic problems in Indonesia, given that taxes are the largest source of income at this time (Astuti & Aryani, 2016).

Since the pandemic Covid-19 began, the performance of tax revenues has continued to decrease. The decrease in tax revenue is in line with the decrease in economic performance, many sectors are at a negative level and not a few are bankrupt. From DJP's data, until the end of the first quarter of 2020, the tax revenue was only Rp. 241.61 trillion although the pandemic started on March 2020. Compared with the same period last year, clearly saw a decrease of 2.47 percent (Listiyowati et al., 2021). However, the manufacturing industry shows a large contribution to the economy, which one is through the realization of tax revenues. Until the end of February 2020, the processing industry business sector tax payments reached IDR 38.8 trillion. This number makes the manufacturing sector the largest contributor to tax revenue with a portion of 25.9% of the total revenue collected by the DJP (Ali Akhmad Noor Hidayat, 2021).

Although the manufacturing industry has a large contribution to the economy, the impact of the Covid-19 pandemic is being felt in various business sectors. The decline in productivity and the number of workers who have been laid off due to the company's inability to pay wages are the impacts of the Covid-19 pandemic. On this uncertainty condition, the company isn't able to guarantee to provide a definite profit and also made companies more vulnerable to financial distress (Uğurlu & Aksoy, 2006). Even on these conditions the company still has an obligation to make tax payments, which made a high possibility to do a tax avoidance (Bizer & Judd, 1989; Dang et al., 2019; Natasha & Yustina, 2020)

Taxes are seen as something that is not profitable for the company. Something that is not profitable usually encourages efforts to evade or reduce taxes (Wardani & Pricillia, 2019). The act of fraud and evasion is a form of resistance to taxes. Avoidance or resistance to taxes is an obstacle that occurs in tax collection so that it can result in reduced state treasury revenues (Otusanya, 2011; Puspita & Febrianti, 2017). Tax avoidance or commonly referred to as tax avoidance in general can be regarded as a tax avoidance scheme to minimize the tax expense by exploiting loopholes in tax regulations of a country (Gallemore & Labro, 2015; Jusman & Nosita, 2020). The purpose of tax avoidance is to minimize that tax expense that must be paid (Chen et al., 2014).

Khan et al., (2017) state the practice of tax avoidance is mostly carried out by companies, because even though taxes are a state income, for a company, taxes will be considered as a burden that reduces their income. The Indonesian government's desire to impose high taxes is contrary to the thinking of every company that wants taxation to be as minimal as possible. Tax becomes company's concern because the amount that company must pay depends on its net income, which is the greater income received the greater tax that must be paid (Frank et al., 2009). For companies, tax is an expense that can reduce the company's net income, so company will tend to implement some methods to reduce tax payment (Jingga & Lina, 2017).

An example of a large-scale case is the Panama Papers. In the case of the Panama Papers, a new term is mentioned, namely "shell company", where the company is formally established and according to applicable regulations but is operated to carry out fictitious company activities or to store assets of the company or its founder so that it can reduce the amount of tax burden that should be deferred to the company or its founder (O'Donovan et al., 2019; Walsh-Fühling, 2018). Looking at the Panama Papers case, there is a tax avoidance phenomenon that can be seen from how companies manage their capital or fixed assets. Large companies tend to have greater room for good tax planning and adopt effective accounting practices to reduce the effective tax rate that occurs (Fernández-Rodríguez & Martínez-Arias, 2012). Likewise in Indonesia, in 2014 there was a total of IDR 463 trillion in total for foreign

investment. But unfortunately, many foreign investment claim to have suffered losses. Based on DJP's records, of the total foreign investment that suffered losses of only about 25%, while the rest were suspected doing a tax avoidance and generally these companies are in the manufacturing industry (Astuti & Aryani, 2016).

Tax avoidance is a way for a manager to anticipate environmental uncertainty. Yu et al., (2016) define environmental uncertainty as a situation when company does not have competent information about its internal and external operating environment. The volatile environment makes managers cannot predict possible future events, which is cause companies unable to estimate their expenses and revenue (Aprisma & Sudaryati, 2020; Dewi & Haryanto, 2016). There are some external uncertainties, such as globalization, technological advances, and increasingly fierce competition, which make companies face greater environmental volatile (Lin et al., 2014). Although it is difficult to predict, the role of managers is very influential to overcome environmental uncertainty with developed strategies (Ghosh & Olsen, 2009).

In anticipating a volatile environment, the ability of a manager can be an important factor because managers can choose relevant strategies to deal the environmental uncertainty (Sun & Price, 2016). A capable manager will be very much needed for the company because the progress of a company depends on how the manager manages the company. A capable manager is considered to have high ability and integrity as well as experience.

With this ability, managers can predict demand, understand about industry and technology trends, and also motivate their employees to work more efficiently and effectively (P. Demerjian et al., 2012). Companies need managers who are capable even though they do not have sufficient information to project something accurately in the future or there is environmental uncertainty (Akbari et al., 2018). Hence, the number of expense, income and company's losses or profit received becomes more certain. Certainty of losses or profits tends to make managers less aggressive to do tax avoidance (Koester et al., 2017; Park et al., 2016).

There are several studies related to the effect of environmental uncertainty on tax avoidance that have inconsistent results. A previous study conducted by Huang et al., (2017) stated that environmental uncertainty is related to tax avoidance. Hanlon & Heitzman, (2010) stated that environmental uncertainty has a significant effect on tax avoidance. In an uncertain environment, companies tend to be more careful in planning strategies, including tax planning, because taxes represent a significant expense for companies. Meanwhile, McGuire et al., (2014) state that environmental uncertainty within the company makes it difficult for managers to determine what actions related to taxes should be taken. Seviana & Kristanto, (2020) found that environmental uncertainty causes management to tend to take earnings management actions, so that they are not aggressive in taxation. Research that explains the relationship of environmental uncertainty to taxation is still limited and understudied as well as the inconsistent results of previous studies related to the effect of environmental uncertainty on tax avoidance, causing interest to do further study.

This study combines Book Effective Tax Rate, Cash Effective Tax Rate and Long-run Cash Effective Tax Rate as the proxies of Tax Avoidance. The use of these three proxies with sample of 5 years of manufacturing companies in Indonesia is expected for more accurate results. This research is in the context of the need for transparency and fairness which is a management responsibility to stakeholders especially the government, so it is important to maintain the credibility of the company by minimizing tax avoidance. This study focuses on what factors can affect tax avoidance in a company both internally and externally.

2. Literature Review

Agency Theory

Agency theory is defined as a contract between one or several principals that authorizes another person (the agent) to make decisions in running the company (Jensen & Meckling, 2019a). (Bathala & Rao, 1995) suggest that there is a relationship between two individuals where one becomes the principal and the other becomes the agent. The principal assigns certain tasks to the agent, then the agent agrees to carry out the task by giving some considerations to the principal. Agency theory has a focus on the relationship between two actors who have

different interests, between the agent and the principal. This theory also provides an overview of the separation between management and shareholders.

Eisenhardt, (1989) states that agency theory uses three assumptions of human nature, namely: (a) humans are generally self-interested (self-interest), humans have limited thinking power regarding future perceptions (bounded rationality), and Humans always avoid risk (risk averse). Based on the assumption of human nature, managers as humans will act opportunistically, namely prioritizing their personal interests.

This separation has the aim of achieving effectiveness and efficiency in managing the company by hiring the best agents in managing the company. There is a relationship between management, shareholders and government within the framework of agency theory in tax avoidance activities. The separation between principal and agent can lead agent to take the company's tax decision based their interest, although tax avoidance doesn't directly reflect the agency problem (Hanlon & Heitzman, 2010).

Environmental Uncertainty & Tax Avoidance

Environmental uncertainty is the concept of the level of change in environmental characteristics that can affect the company's operations, such as uncertainty from suppliers, customers, competitors, and policy makers (Ghosh & Olsen, 2009). Environmental uncertainty is an individual's limitation in assessing the probability of failing or succeeding in a decision that has been made (Duncan, 1972). Meanwhile (Downey et al., 1975) defend that environmental uncertainty makes managers make plans to adjust company conditions to uncertain conditions, one of which is tax planning because taxes are part of a significant cost planning. A company cannot develop in a way that only reflects its goals and needs without regard to its environment. Various environmental conditions can affect the level of company performance (Elsayed & Paton, 2005). So it can be said that the environment will affect the strategy and decision making by managers for the purpose of maximizing company profits.

In line with agency theory managers are responsible for managing shareholder assets under all conditions, including when the company faces conditions of high uncertainty in the business environment (Jensen & Meckling, 2019b). Based on agency theory, in conditions of high environmental uncertainty, it will encourage managers to consider legal ways to manage taxes, namely through tax avoidance. Increasing business competition, through changes in market and technology, has made company management more complex and difficult (Lam & Yeung, 2010). On the other hand, shareholders want managers to be able to increase wealth and maximize profits. This condition encourages managers to use their discretion to carry out earnings management, tax management, tax planning, and tax avoidance.

Most corporate taxpayers assume paying taxes as an expense because corporate finance shifts from the business sector to the public (Ariefiara et al., 2015). As a result, managers who are responsible for paying corporate taxes are generally psychologically effected by their natural tendency as human beings to not pay taxes (Eisenhardt, 1989). Therefore, the manager is ultimately committed to lowering costs, including tax payment to make maximum profit (Ariefiara et al., 2019). By doing a tax avoidance, company will gain additional funds so the cash flow will be more stable and reduce the risk of environmental uncertainty. It is consistent with previous study, that found the more significant volatile environment will caused more tax avoidance activity (Ariefiara et al., 2019; Huang et al., 2017; Hutchens et al., 2020).

H1: Environmental uncertainty is positively related to tax avoidance

Moderating Effect: Managerial Ability

The ability of a manager can be an important factor in anticipating volatile environment through the selection of relevant strategies. The skills or abilities possessed by a manager can have a good influence on the management and control of the company to achieve success in financial performance (Schellhorn & Sharma, 2013). Because the more knowledge a manager has, the more capable the manager will be in controlling the business he runs. A capable manager should be able to make wise decisions under any circumstances. The results of managerial skills can reduce decision-making actions that can harm the company because

when managers make decisions there are usually various inhibiting factors such as information uncertainty and conflicting views (Djuitaningsih & Rahman, 2012).

Companies need managers who are capable even if they do not have sufficient information to project something accurately in the future or in the presence of environmental uncertainty (Khurana et al., 2018). Based on the previous study, we were motivated to incorporate managerial ability to our hypothesis. We argue that more capable managers will engage less in tax avoidance activity and also be more able to adapt to an uncertain environment. Capable managers are expected to be able to overcome the occurrence of a volatile environment by being capable to manage their existing resources, so they don't need to take something risks like tax avoidance (Garg et al., 2022; Park et al., 2016).

H2: Managerial ability weakens the relationship between environmental uncertainty and tax avoidance

3. Research Method

This study uses listed manufacturing companies on Bursa Efek Indonesia. This study using panel data, based on sampling criteria there are 135 manufacturing companies that are consistently listed. It formed 929 firm-year observations with total sample are 458. After reducing some companies that not have financial information in IDR, their fiscal year ended not on December 31st, have a negative pre-tax income, the annual report is not complete for 5 years before (t-5). Another thing that exclude from the sample is influential outliers, there are 6 observations. The primer data of this study was taken from www.idx.co.id or from the company website.

Tax Avoidance

The dependent variable in this study is Tax Avoidance. Based on prior literature, for a more accurate result, this study combines 3 proxies to measure tax avoidance. The first one is the (annual) Book Effective Tax Rate (GAAPETR) which common measure of tax burden (Phillips et al., 2003). Based on Higgins et al., (2015) define GAAPETR as total income tax expense divided by pre-tax income. The second one, we use the (annual) Cash Effective Tax Rate to measure the tax avoidance. Based on Huang et al., (2017), we define the CASHETR as total cash paid divided by pre-tax income. As the last proxy, we use the long-run Cash Effective Tax Rate (CASHETR5) to mitigate less measurement of errors and avoid the mismatch of cash taxes and earnings (Hanlon & Heitzman, 2010).

$$GAAPETR = \frac{\text{Total Tax Expense}}{\text{Pre-tax Income}} \dots\dots\dots (1)$$

$$CASHETR = \frac{\text{Total Cash Tax}}{\text{Pre-tax Income}} \dots\dots\dots (2)$$

$$CASHETR5 = \frac{\sum \text{Total Cash Tax}}{\sum \text{Pre-tax Income}} \dots\dots\dots (3)$$

Enviromental Uncertainty

Environmental uncertainty is caused by the external environment that cannot be controlled by the company so that it will affect several things within the company, one of them is sales. (Ghosh & Olsen, 2009) the coefficient of variation of sales to calculate sales volatility as a measure of environmental uncertainty. A high sales CV value indicate a high level of environmental uncertainty as well:

$$CV(si) = \frac{\sqrt{\frac{\sum (Si - Smean)^2}{5}}}{Smean} \dots\dots\dots (4)$$

Table 3.1. Sample Selection

Criteria	Firm-year Observation
Listed between 2016-2020	929
Less:	
Financial Statements are not reported in IDR	78
Annual Report that ended on other Dec 31st	29
Company that have negative Pre-tax Income	119
Company that their ETR > 1	94
Annual report that have incomplete data	131
Influential Outliers	6
Final Sample	458

Source: The Processed Primary Data (2020)

Managerial Ability

Managerial ability is one of the most important factors in maintaining the survival of a company. Because one of the duties of a manager is to manage profits. If the managerial ability is high, the earnings quality will also be high and vice versa, if the managerial ability is low, the earnings quality will also be low (Francis et al., 2013). Managers who have high abilities will present earnings more accurately. Based on Demerjian et al., (2012) this study using DEA (Data Envelopment Analysis), the first stage uses the DEA score to measure the company's efficiency level with the following equation:

$$\text{Max}\theta = \frac{\text{Sales}}{\text{COGS} + \text{SGNA} + \text{PEE} + \text{INTAN}} \dots \dots \dots (5)$$

Maxθ = DEA Score which is then called FE

The second stage determines the value of management skills which is the residual value from the Tobit regression to the DEA score by adding the company characteristic factor (P. Demerjian et al., 2012). The higher the residual value, the higher skills.

$$\text{FE} = \alpha + \beta \text{ Firm Size} + \beta \text{ Positive Free Cash Flow} + \beta \ln(\text{Age}) + \beta \text{ Complexity} + \varepsilon \dots \dots \dots (6)$$

This study uses panel data, while the data analysis techniques that uses include: Multiple Linear Regression Test and Hypothesis Testing with the following model equation:

$$\text{TA} = \alpha + \beta_1 \text{EU} + \beta_2 \text{FSize} + \beta_3 \text{Lev} + \beta_4 \text{ROA} + \beta_5 \text{PPE} + \beta_6 \text{RD} + \beta_7 \text{EQNIC} + \beta_8 \text{INTAN} \dots (7)$$

$$\text{TA} = \alpha + \beta_1 \text{EU} + \beta_1 \text{MASCORE} + \beta_3 \text{EU} * \text{MASCORE} + \beta_4 \text{FSize} + \beta_5 \text{Lev} + \beta_6 \text{ROA} + \beta_5 \text{PPE} + \beta_6 \text{RD} + \beta_7 \text{EQNIC} + \beta_8 \text{INTAN} \dots \dots \dots (8)$$

- TA = Tax Avoidance
- EU = Enviromental Uncertainty
- FSize = Firm Size
- Mascore = Management Ability
- Lev = Total Debt/Total Asset
- ROA = Net Profit/Total Asset
- PPE = Firm's PPE
- RD = Firm's RnD
- EQNIC = Total Equity/Total Asset
- INTAN = Intangible Asset/Total Asset

4. Results and Discussion

Table 4.1 represents the descriptive statistics result of this study. There are nine variables that are described in this table which is: independent, dependent and control variables. The descriptive table in this study shows that the average value (mean) of environmental

uncertainty as measured by the coefficient of variation of sales is 1.131. It can be said that manufacturing companies experience conditions of high environmental uncertainty. The minimum value of the environmental uncertainty variable is 0.006 from the company Darya Varia Laboratoria Tbk. And while the maximum value of 2.149 comes from the company Sekar Bumi Tbk., so the smaller the value of environmental uncertain.

Then the managerial skill variable has an average value of 0.252 which means that managers owned by manufacturing companies are relatively less skilled. Aneka Gas Industri Tbk Company is a company that has the lowest managerial skill score of 0.094. Meanwhile, Chandra Asri Petrochemical Tbk, Unilever Indonesia Tbk, Astra International Tbk, Sampoerna Tbk have a large managerial skill score of 0.694. It can be said that these companies have management that is able to manage the company efficiently. So if the value is getting closer to 0 then the management is considered not successful in implementing efficiency in the company.

For variable GAAPETR and CASHETR variables, the average value is quite low, which is 0.287 and 0.303. It can be said that companies have a low effective tax rate so they are likely to do tax avoidance.

Table 4.1. Descriptive Statistic

Variables	Mean	Min	Max	SD
GAAPETR	.287	.008	.971	.147
CASHETR	.303	.001	.977	.193
CASHETR5	.317	.039	.993	.248
EU	1.131	.006	2.149	.241
FSIZE	28.682	22.203	33.494	1.649
LEV	.467	.005	6.594	.552
ROA	.559	-1.908	.768	8.039
PPE	.398	.001	4.396	.321
RD	.009	.000	1.910	.111
EQNIQ	.583	.000	1.561	.210
INTAN	.009	.000	.454	.364
MASCORE	.252	0.094	.694	.329

Source: The Processed Primary Data (2020)

Hypothesis testing in this study was carried out after testing the classical assumptions to make sure the reliability of the data. To analyzed the data, this study uses this research is multiple linear regression with alpha 5%. If the results have significance < 0.05 means the independent variables have a significant effect on the dependent variable.

Table 4.2 shows the regression result of the effect between environmental uncertainty and tax avoidance. Three proxies used for tax avoidance (CASETR, GAAPETR AND CASHETR5) as the dependent variables, these proxies are inverse function of tax avoidance. From regression result of equation 1, which is testing H1. Based on the regression model, when the dependent variable is GAAPETR, has t values as -0.177 with p-value 0.000. When the CASHETR as the dependent variable, the t value is -0.184 with p-value 0.001. Last, when CASHETR5 as the dependent variable, the t-value is -0.213 with p-value 0.001. The negative and significant coefficients support that environmental unceritainty is negatively related to ETR which means company more engage to do tax avoidance when they faced a volatile environment and this is support our first hypothesis (H1).

Meanwhile, for the second model, environmental uncertainty with managerial capability as moderating variables has a significant negative effect on the three tax avoidance proxies (0.000; 0.001; 0.000 <0.05). This means that managerial ability weakens the relationship between environmental uncertainty and tax avoidance. In other words, the presence of a capable manager make companies that experience uncertainty are more likely to avoid tax avoidance.

Table 4.2. Hypothesis Testing

	GAAPETR	CASHETR	CASHETR ₅
Model 1			
t	-.177	-.184	-.213
P-value	.000*	.001*	.001*
Adjusted R Square	.046	.039	.051
Model 2			
t	-.395	-.886	-.602
P-value	.000*	.001*	.000*
Adjusted R Square	.081	.175	.117

Note: *, significance at level 1%

The The first hypothesis states that environmental uncertainty is positively related to tax avoidance, supported by the results of this study. The result also supported the agency theory by Jensen and Meckling (1976) and support explanation Arieftiara et al. (2019), which stated on volatile environment, managers tend to use their personal judgment for decision making, included in term of tax avoidance to reduce company's cost. Companies that are in a condition of environmental uncertainty will experience several changes that characterize environmental activities that are relevant to the company's operations. Changes caused by environmental uncertainty, such as instability from customers and increasingly fierce business competition (Davila & Wouters, 2005). From this incident, it will be difficult for managers to plan and control. To minimize the existence of conditions of uncertainty, managers must determine strategies and make decisions because managers still have the opportunity to respond to environmental uncertainty. Environmental uncertainty caused by environmental volatility, makes it difficult for companies to make decisions and causes companies to be more careful to act in financial statements by avoiding tax. The results of this study are also in accordance with Ghosh and Olsen (2009) who support that environmental uncertainty causes companies to carry out strategies in taxation. The inability to predict something that is always changing causes companies to develop tax planning (McGuire et al., 2014).

The second hypothesis proved to be supported by the results of the study, managerial skills have a role to weaken the effect of environmental uncertainty. Company management is positioned on people who have wider information in terms of capacity and the overall work environment within the company (Ng & Daromes, 2016). A manager can be said must have skills if the manager has high intelligence, adequate expertise and a fairly high level of education. A competent manager will consider the benefits and risks faced by the company because of the decisions made. In carrying out their duties, a manager must be guided by a professional ethic code, so that every manager's decision-making should reflect professional considerations and not to carry out engineering that aims to benefit oneself or deceive others, tax avoidance is an action that a competent manager should not do (Jiraporn et al., 2016). Therefore, a capable manager should not carry out activities that do not reflect the professionalism of a manager. Tax avoidance is a decision that has a high risk if the company is found by the DJP to carry out high tax avoidance and until tax evasion is carried out, the company can be subject to large sanctions and this creates an additional burden for the company. The results of this study are in line with Demerjian et al., (2013) that argued capable managers do not need to carry out earnings management or earnings manipulation. This research also in line with Huang et al., (2017) who argued managerial skills can help companies to reduce tax avoidance activities.

5. Conclusion

The results of this study indicate that environmental uncertainty affects tax avoidance. Higher environmental uncertainty leads to more tax avoidance activity, reflected in lower effective tax rates. The results of this study indicate that managerial ability weakens the effect of environmental uncertainty on tax avoidance. This result may be due to the large influence of environmental uncertainty in the company, so that the risks obtained are difficult for

managers to overcome, even though managers have high abilities and even this can indicate that tax avoidance by competent managers is considered the most effective decision in overcoming environmental uncertainty.

This study has the following limitations. First, it is difficult to measure managerial ability because it is multidimensional. More precise measures of managerial performance can produce stronger results. Second, the sample only consists of manufacturing companies so that it cannot be generalized to conclusions and requires further research that is more specific to other company sectors.

This study also is expected to bring some contributions to the theory and practices. As a contribution to the theory, this study is supporting the agency theory related to the conflicts between shareholders and firms that represented by managers. Managers consider legal ways to manage taxes, namely through tax avoidance and on the other hand, shareholders want managers to be able to increase wealth and maximize profits. Therefore this research is an input for DJP in terms of implementing better tax regulations and enforcements in order to secure state revenue, to assess the risk of tax avoidance, it is necessary to consider the managerial profile of the company.

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