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Tax Avoidance: The Role of Managerial Ability and CEO Overconfidence

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Abstract

Purpose – The purpose of this study is to examine the effect of CEO managerial ability and overconfidence on tax avoidance.

Design/methodology/approach – The study was conducted on 120 annual reports of mining sector companies listed on the Indonesian Stock Exchange (IDX) from 2017-2021. Multiple regression was used to test the hypotheses. Tax avoidance was measured by CETR. Managerial ability was measured by firm efficiency and CEO overconfidence is measured by five proxies related to company-specific scores.

Findings – This study shows that managerial ability has negative significant effect on tax avoidance. The results reveal that CEO overconfidence has no significant effect on tax avoidance. Managers with high managerial ability will not only increase profits in the short term, but also consider the company's survival in the long term, so; they will reduce tax avoidance activities. Meanwhile, CEO's overconfidence cannot influence the tax management that has been determined by the company.

Originality/value– This study attempts to fill the gap in the literature about the influence of management attributes on company decision making in tax avoidance activities. This study indicates that the tax avoidance decision in the company cannot be explained by the executive's psychological characteristics only.

Research limitations/Implications – This research is limited to how tax avoidance is influenced by managerial ability and overconfidence in decision making with characteristics related to psychological and internal factors. Future research can add other factors such that can influence decision making in conducting tax avoidance, such as rewards, experience, performance measures and other factors. This study has implications in decision making for policymakers in relation to designing future tax systems to reduce the possibility of companies engaging in tax avoidance practices. Companies are also required to be more transparent in disclosing their performance in generating income to avoid tax avoidance activities.

Keywords: Managerial ability, overconfidence, tax avoidance.

Article Type: Research Paper.

Introduction

Tax avoidance has become a major issue among the public, especially for government, management and authorities (Chen et al., 2010). Tax avoidance measures on a company can prevent the government from accessing its main resources. Conversely, this tax avoidance can benefit internal and external parties of the company. First, it can provide benefits for the company when viewed from the reduction in pre-tax profits obtained. Second, the savings in money generated allow shareholders to increase cash flow which can lead to an influx of various investments. Third, management will benefit from this tax avoidance strategy, namely by providing bonuses related to corporate tax management (Khan et al., 2017).

Tax avoidance is the ability to pay taxes with a lower amount compared to profit before tax carried out through a series of management actions by reducing income tax through tax planning activities (Chen et al., 2010). Tax avoidance can be a complex issue because this action is allowed but

not desirable (Fauzan et al., 2019). Tax avoidance cases that occur in Indonesia can be seen from the case of PT Adaro Energy Tbk which occurred in 2019. This company is one of the mining sector companies operating in Indonesia. PT Adaro Energy Tbk practices tax avoidance by transferring pricing to its subsidiary in Singapore so that the tax paid by the company is IDR1.75 trillion or US\$125 million less than the tax payable in Indonesia (Finance.detik.com, 2019).

PricewaterhouseCoopers (PwC) Indonesia also stated that out of 40% of mining sector companies in Indonesia, only 30% had reported their taxes transparently in 2020. As for others, the company's tax report is still not transparent. In addition, in 2016 data from the Ministry of Finance showed that the tax ratio generated from the mining sector, especially minerals and coal, was only 3.9%, while the national tax ratio in that year was 10.4% (Katadata.co.id, 2019). This low tax ratio cannot be avoided from tax avoidance activities carried out by mining sector companies.

Tax avoidance practices in companies can occur because they are influenced by various factors. In the perspective of tax avoidance, managers are interested in maximizing their own interests by controlling corporate tax payments (Sumunar et al., 2019). The difference in interests between managers and company owners encourages managers to behave unethically, namely by carrying out tax avoidance actions to meet their personal interests. Thus, better internal capabilities are needed in managers in determining corporate tax planning strategies, whether the company will be involved or not in tax avoidance activities. One of the managerial decisions often made in achieving higher profitability is embezzlement and evasion of tax payments (Akbari et al., 2018). When the performance produced by managers is lower they will reduce the burden, one of which is by reducing the tax burden.

The focus of this research is on ethical decision making in conducting tax avoidance carried out by mining companies. This research is important to see whether from the available financial data there is still a desire for company management to behave unethically, namely by taking tax avoidance actions. The management in question is those who have attributes in the form of attitudes that are influenced by psychological factors and internal abilities. These attributes are thought to have an influence on decision making. This study aims to provide a better understanding of the importance of top executive behavioral traits and managers' internal abilities in decision making.

This study covers how the influence of executives' personal characteristics are influenced by psychological factors to explain overconfidence and internal ability to carry out tax avoidance activities. Psychological research shows that overconfidence is a common psychological trait and is usually reflected in the following three aspects: (i) unrealistic optimism, i.e. overestimating abilities, control power, and likelihood of success; (ii) better than average, i.e. consider oneself better than average; (iii) narrow confidence intervals, i.e. overestimating the accuracy of one's assessment of the actual situation (Gao & Han, 2020).

Managerial ability is the ability used in maximizing company value, namely by using available resources efficiently in business operations (Demerjian et al., 2012). Managerial ability can be positively related to tax avoidance for several reasons. First, managers with higher levels of managerial ability have better knowledge and insight into their industry. So that they can take advantage of this condition in exploiting existing tax planning opportunities. Second, managers can place emphasis on minimizing costs, so that managers who have greater ability can reduce cash outflows to tax authorities. Third, managers with better abilities lower the tax burden paid because cash tax payments do not result in specific returns for the company. Conversely, tax savings will result in a positive return on investment (Koester et al., 2017).

Previous research on managerial ability was conducted by (Aristyatama & Bandiyono, 2021; Park et al., 2016) showed that managerial ability and tax avoidance are negatively and significantly related. These results support the view that if the opportunity cost of tax avoidance activities is higher than the opportunity cost for other management activities, managers with higher ability will transfer resources into other management activities such as sales, investment or financial activities to increase company revenues rather than choose to engage in tax avoidance activities (Park et al., 2016). Managers with a higher level of ability have a broader understanding of their business

environment, so they tend to focus more on efforts to improve company performance compared to taking riskier tax avoidance actions (Aristyatama & Bandiyono, 2021).

However, this study is different from the study (Akbari et al., 2018; Koester et al., 2017; Nurfauzi & Firmansyah, 2018; Saragih et al., 2021) which shows that managerial ability and tax avoidance are positively related. Managers with a higher level of managerial ability will engage in many tax avoidance activities that can reduce the company's cash tax payments. They tend to have a broader knowledge of the company's operating environment, so they are able to take advantage of the gaps in opportunities available in carrying out tax avoidance strategies. They can align company decisions with tax strategies and can identify opportunities for tax avoidance actions (Nurfauzi & Firmansyah, 2018).

In addition to managerial ability, other factors that can be behind tax avoidance actions are individual characteristics in a company. Tax avoidance activities carried out by companies can involve company leaders as decision makers. Intrinsically, individual decisions are the most determining factor in the presence or absence of tax avoidance actions within the company. The CEO as the core of corporate decision-making can influence all aspects of a company's financing, investment, and operations (Gao & Han, 2020). Psychological factors that include overconfidence are one of the characteristics possessed by CEOs that can encourage these actions (Sugiono & Anggraeny, 2022). Personal traits that exist in top executives will be reflected in organizational behavior and CEO overconfidence has influence in setting company policies and strategic decisions, one of which is corporate tax policy (Hsieh et al., 2018). Overconfidence CEOs need to generate greater levels of revenue in meeting their revenue expectations. Engaging in tax avoidance measures can help overconfidence CEOs provide more financial resources in financing their investment projects by reducing the company's tax burden (Hsieh et al., 2018). Overconfidence behavior possessed by executives encourages them to take tax avoidance actions to reduce tax burden and cash flow to pay taxes, allowing companies to divert their money for more profitable things, such as financing their investments and business expansion (Sugiono & Anggraeny, 2022).

Literature review regarding CEO overconfidence can be seen in the study conducted (Hsieh et al., 2018). The results of this study state that companies will be more likely to engage in tax avoidance measures when they have CEO overconfidence and CFO overconfidence. This is because there is a common belief in the company's business situation and because there are risks that they dare to bear due to this tax avoidance action that allows them to cooperate in tax avoidance actions. This research also supports research (Aliani et al., 2016; Chyz et al., 2019; Kubick & Lockhart, 2017; Nurul Hidayana, 2021; Sumunar et al., 2019) who stated that CEO overconfidence has a positive effect on tax avoidance. CEO overconfidence overstates tax savings and thus overconfidence and tax minimization will have a positive effect.

This research has several contributions, both in terms of literature and practice. This study explains tax avoidance activities by using the ability of managers who do not include the influence of company characteristic variables. By focusing on manager's abilities, this study can expand the field of research that can explain management activities through manager characteristic. This study explains how managers or executives make decisions to do tax avoidance which are influenced by psychological factors and internal abilities. This study adds to the literature in the field of accounting, especially taxation which discusses the relationship between managerial ability, CEO overconfidence and tax avoidance. This study has implications in decision making for policymakers in relation to designing future tax systems to reduce the possibility of companies engaging in tax avoidance practices. The results of this study can be useful as a consideration for regulators in monitoring tax avoidance activities that often occur in Indonesia. This study uses a different sample from previous studies, namely mining sector companies listed on the IDX for the 2017-2021 period. In addition, tax avoidance in this study was measured using CETR while previous studies used LTD. This measurement is used for its ability to capture actual cash tax savings (Dyreg et al., 2010). The CEO overconfidence measurement in this study is also different from previous studies, where previous

studies used stock option-based proxies. While this study uses five proxy variables related to company-specific scores because they are based on publicly available financial data.

Literature Review

Agency Theory

Agency theory was developed by Jensen and Meckling in 1976. This theory explains the business relationship that occurs between the principal and the agent to be able to perform a service to fulfill the principal's interests through giving authority to the agent in making decisions. Therefore, the agent has the responsibility to fulfill the tasks given to him by the principal, which is then called the principal-agent model (Alkurdi & Mardini, 2020). Each party in this agency relationship basically has different economic interests. Principals want managers to do work that can increase shareholder wealth. However, on the contrary, managers often do work that does not maximize the interests of shareholders but maximizes their own interests. Therefore, if the relationship between these two parties (principal and agent) is to increase profits, the agent does not always act in the interests of the principal. This is what can be the background to the emergence of agency problems in a company.

The agency relationship that occurs between the principal and the agent means that the agent is bound to act or make the best decisions in the interests of the principal. In practice, this does not always happen based on what each party expects. Sometimes managers do not report the actual conditions that occur within the company to the owner. Managers try to overcome the company's shortcomings and maintain its performance so that the manager has a good reputation. This can lead to increased conflicts of interest and information asymmetry between managers and shareholders. This information asymmetry can occur because managers know more information about the company than the owners, which in turn can lead to agency problems.

Differences in interests between shareholders and managers can influence various matters relating to the company, including decisions in managing corporate taxes (Armstrong et al., 2015). Managers may be able to hide some transactions which can lead to increased conflicts of interest and information asymmetry between managers and shareholders related to tax transactions. Shareholders do not always require a reduction in the tax burden through tax avoidance measures. However, managers prefer tax avoidance actions because of the short-term profits that will be obtained (Park et al., 2016). Shareholders who act as principals incur agency costs which aim to supervise all decisions taken by management as agents, so that they act based on the interests of the company.

Agency theory is a basic theory that can explain how managers behave as agents in companies in making tax decisions, whether to avoid or comply with them (Nurfauzi & Firmansyah, 2018). Company management can take advantage of opportunities for tax avoidance activities to fulfill their personal interests. In this case, the company has implemented a series of accrual policies. When a company carries out a lot of tax avoidance activities, it will result in the deferred tax liabilities paid by the company in the future being greater than in the current period. When future tax liabilities are greater, this means that management is not considering the company's survival in the long term, but only in the short term, namely when they assume management of the company. Thus, this condition can give rise to a conflict of interest between the two parties. So the information asymmetry that occurs between company management and the owner will give rise to agency costs.

The Influence of Managerial Ability on Tax Avoidance

Managerial ability is the ability to maximize company value, namely by utilizing existing resources as efficiently as possible in all company activities (Demerjian et al., 2012). Managerial ability is a key factor that must be considered in integrating the use of all company resources to achieve profits. One of the managerial decisions that is often made to achieve higher profitability is evasion and avoidance of tax payments (Akbari et al., 2018). Management that has a higher ability to manage resources efficiently is involved in greater tax avoidance activities in three ways.

First, higher ability managers can balance business decisions with tax strategies and more easily identify tax planning opportunities due to their higher understanding of the company's operating environment. Second, managers with higher capabilities can reduce costs, they can manage company resources efficiently so that they can achieve the expected cost reduction. Third, managers who can manage company resources efficiently are expected to be able to make decisions that can minimize cash outflows on income taxes because cash tax savings can be used for company operating activities with the potential to generate positive investment returns (Koester et al., 2017).

Agency theory is a basic theory that can explain how managers behave as agents within the company in making tax decisions, whether to avoid or comply with them. Managers who have better abilities have smarter thinking in taking advantage of opportunities that can provide benefits for the company, one of these opportunities is tax management (Nurfauzi & Firmansyah, 2018). Managers who act as agents often have different interests from the principal, so that differences in background in making decisions give rise to conflicts of interest between the two (Aristyatama & Bandiyono, 2021). In practice, sometimes managers do not report the actual conditions that occur within the company to the owner. Managers' attitudes like this can cause agency problems such as information asymmetry between the two parties, for example in corporate taxes (Armstrong et al., 2015).

Previous research regarding managerial ability can be seen from research (Akbari et al., 2018; Koester et al., 2017; Saragih et al., 2021) which states that there is a positive relationship between managerial ability and tax avoidance. Managers with a higher level of managerial ability will be more involved in tax avoidance actions so that they can reduce the tax rate paid by the company. Managers who have better abilities tend to have broader insight into their industry, so they are able to identify opportunities that exist in carrying out tax avoidance activities.

This study is also in line with research (Nurfauzi & Firmansyah, 2018) which provides evidence that managerial ability has a positive effect on corporate tax aggressiveness. The greater the manager's ability to manage resources, the company's tax avoidance activities will increase. Managers with greater abilities have a good understanding of the business environment, so managers can align company decisions with tax strategies and can identify opportunities to get involved in tax avoidance. In this regard, we propose the following hypothesis:

H1: Managerial ability has a positive effect on tax avoidance.

The Effect of CEO Overconfidence on Tax Avoidance

Tax avoidance activities carried out by companies can involve company leaders as decision makers. Individual decisions are the factor that most determines whether or not there is tax avoidance in the company. Overconfidence is part of a CEO's characteristics that will influence the company's strategic choices and decision making, including the decision to take tax avoidance actions (Nurul Hidhayana, 2021). Overconfident CEOs have an attitude that tends to exaggerate their abilities and the possibility that their performance will be better and more useful (Hsieh et al., 2018).

An overconfident CEO will require a larger inflow of company cash compared to a CEO who is not overconfident, because overconfident CEOs need funds for their investment needs. Thus, overconfident CEOs expect greater levels of income in meeting their revenue expectations. Engaging in tax avoidance actions can help overconfident CEOs provide more financial resources to finance their investment projects, namely by reducing the company's tax burden (Hsieh et al., 2018).

Based on agency theory, this condition can create a conflict of interest between management and company owners. Management can take advantage of this tax avoidance activity opportunity for personal interests, namely to meet their income expectations. In this case, the company has implemented a series of accrual policies. When a company carries out a lot of tax avoidance activities, it will result in the deferred tax liabilities paid by the company in the future being greater than in the present. Tax avoidance activities will arise from management behavior that is contrary to the interests of company owners because it reduces the tax burden which can destroy the company's

value in the future. So this condition can cause agency problems between the two parties and agency costs from this action.

Previous research regarding CEO overconfidence can be seen from research (Hsieh et al., 2018) which shows that companies are more likely to engage in tax avoidance when they have an overconfident CEO and an overconfident CFO. This is because there is a common belief in the company's business situation and because there are risks that they are willing to bear due to tax avoidance actions, thus enabling them to work together in tax avoidance actions. This research supports research (Aliani et al., 2016; Kubick & Lockhart, 2017) which explains that CEO overconfidence has a positive influence on tax avoidance. This means that CEO overconfidence can reduce the company's effective tax rate thereby increasing tax avoidance strategies. CEO overconfidence overestimates tax savings and thus overconfidence and tax minimization will be positively related to each other.

Research conducted (Chyz et al., 2019) shows that CEO overconfidence results in a 10.1 percentage point reduction in the effective tax rate paid by the company. This means that CEO overconfidence can cause an increase in tax avoidance activities in the company. Thus, it can be said that the personality traits of top executives can influence tax avoidance actions. Research conducted by (Nurul Hidhayana, 2021; Sumunar et al., 2019) also found that CEO overconfidence can increase tax avoidance. This is done because the CEO is overconfident in using the power of preferences he has in making decisions. In this regard, we propose the following hypothesis:

H2: CEO overconfidence has a positive effect on tax avoidance.

Methods

This research uses a quantitative descriptive approach and is causality research. The objects of this research are mining sector companies listed on the IDX in 2017-2021. This research uses secondary data sourced from annual reports of mining sector companies uploaded via the official website of the Indonesia Stock Exchange, namely *www.idx.co.id* and the official websites of each company. Researchers used purposive sampling techniques in taking samples. Then, multiple linear regression analysis was carried out to determine the influence between variables using SPSS 25 software.

Table 1. Sample Selection Process

Criteria	Total
Population of mining sector companies registered on the IDX for the 2017-2021 period	63
Criteria:	
Mining sector companies that conducted an IPO after January 1 2018	(9)
Mining sector companies experienced losses during the research year, namely the 2017-2021 period	(30)
Number of companies that meet the sampling criteria	24
Number of years of research	5
Number of data samples during observation	120

Source: processed by the author

This research uses the Cash Effective Tax Rate (CETR) to measure tax avoidance, which is measured by dividing the cash paid for taxes by profit before tax. Tax payments in cash can be seen in the current year's cash flow statement in the income tax payment post in cash flow for operating activities, while profit before tax is found in the profit and loss statement. A low CETR value indicates that the cash paid for taxes is less than the profit before tax, so the company is detected as carrying out tax avoidance activities.

This CETR proxy is used because it is a clearer signal of tax avoidance when compared to other measurements. This is because this measurement is able to capture the cash tax savings actually paid by the company (Dyrenge et al., 2010). CETR is used as a proxy for measuring tax avoidance because this measurement is more robust compared to other measurements (Park et al., 2016). This shows that long-term tax avoidance actions generally include aspects of tax avoidance behavior that are very different from short-term tax avoidance actions. Specifically, long-term tax avoidance measures

capture how a company's tax avoidance strategy is implemented over a longer period of time (Dyreg et al., 2008), thus this measure is used.

This research applies a relatively new measure of managerial ability based on accounting information referring to research (Park et al., 2016) using the managerial ability measurement model first introduced by (Demerjian et al., 2012). This measurement aims to capture the manager's ability to manage company resources efficiently. Managerial ability according to (Demerjian et al., 2012) is measured using two steps. First, using Data Envelopment Analysis (DEA), namely the efficient limit that calculates the number and combination of resources in each company. In general, DEA measures the efficiency of units that have the same input and output. In this case, a more efficient manager is able to produce greater output from a given set of inputs. The company's efficiency score in the efficient limit is one. The further the distance from the efficient limit, the lower the efficiency score. Researchers use DEA by comparing the sales or business income generated by each company on the inputs used, namely cost of goods sold, selling, general and administrative expenses, net plant, property and equipment (PPE), and intangible assets.

Second, efficiency measured using DEA has shortcomings because the measurement is influenced by firm-specific risks such as stock returns and returns on assets. Therefore, firm-specific factors related to manager ability should be removed from measures of total firm efficiency. So after eliminating company-specific factors that can be positive or negative from the total efficiency of the company, the manager's ability can be defined as the unexplained part of the total efficiency of the company to obtain a residual value. In decomposing total company efficiency into managerial capability, researchers conducted a regression using company size, market share, positive free cash flow, company age, number of business departments and foreign currency indicators. Thus, the residual result from this estimation is a measure of managerial ability.

CEO overconfidence in this study was measured using five proxy variables related to company-specific scores. This method is used to measure CEO overconfidence because it is suitable for use in studies with large samples based on publicly available financial data contained in company financial reports (Gao & Han, 2020). Additionally, this proxy assumes that overconfident executives are consistently optimistic across decision contexts and infer overconfidence from other executives' decisions. This company-specific score only requires company-level financial data, so there is no need for data on executive stock option holdings as in other measures (Schrand & Zechman, 2012).

Table 2. Definition and Measurement of Variables

Variable	Variable definition	Measurement	Scale
Dependent Variable			
Tax avoidance	The ability to pay taxes in a lower amount compared to profit before tax is carried out through a series of management actions by reducing income taxes through tax planning activities (Chen et al., 2010).	$CETR = \frac{\text{Cash Tax Paid}}{\text{Pre Tax Income}}$ Definition of variables: a. Cash tax paid: Company cash tax payments b. Pre tax income: Profit before tax	Ratio
Independent Variable			
Managerial ability	A useful ability to maximize profits by utilizing limited resources efficiently throughout business operations (Demerjian et al., 2012).	1. Data Envelopment Analysis (DEA) $\text{Max} = \frac{\text{SALES}}{\text{COGS} + \text{SG\&A} + \text{PPE} + \text{INTAN}}$ Definition of variables: a. SALES: Sales revenue generated b. COGS: Company's Cost of Goods Sold c. SG&A: Selling, general and administrative expenses d. PPE: Fixed assets/tangible assets (net plant, property and equipment)	Ratio

e. INTAN: Intangible assets

2. Regresi Regression

$$\text{Firm Efficiency} = \beta_0 + \beta_1 \text{SIZE}_t + \beta_2 \text{MS}_t + \beta_3 \text{FCF}_t + \beta_4 \text{AGE}_t + \beta_5 \text{BUSEG}_t + \beta_6 \text{FCI}_t + \epsilon$$

Definition of variables:

- a. Firm efficiency: The firm efficiency measured by DEA
- b. SIZE: Natural log of total assets
- c. MS (Market Share): Percentage of revenue (sales) earned by companies in the industry in year t
- d. FCF (Free Cash Flow): Coded 1 if the company has positive free cash flow (profit before depreciation and amortization – changes in working capital – capital expenditures in year t), otherwise coded 0
- e. AGE: Natural log of (the number of years the firm has been listed + 1)
- f. BUSEG (Business Segment Concentration): The number of business departments
- g. FCI (Foreign Currency Indicator): The absolute magnitude of foreign currency translation accounts (foreign currency gain, foreign currency translation loss, gain on foreign currency transactions, loss on foreign currency transactions)/total revenue
- h. ϵ : Managerial ability score

CEO overconfidence	The attitude tendency is to exaggerate the abilities and knowledge possessed, so that the expected results are higher than what actually occurs (Hsieh et al., 2018).	0 = CEO is not overconfident 1 = CEO is overconfidence	Dummy
		Definition of variables: CEO overconfidence is measured by five proxy variables related to company-specific scores using dummy variables including:	
		<ol style="list-style-type: none"> a. The company's capital expenditures are compared to the industry median for that year. If the company's capital expenditure is greater than the industry median, the CEO is considered overconfident and given a value of 1 and 0 otherwise. b. Excess investment adjusted for industry is a regression of total asset growth on sales growth according to industry year classification. If the residual is greater than zero, the CEO is considered overconfident and the value is equal to 1 and 0 otherwise. c. Overconfident CEOs prefer debt financing as measured by the ratio of total liabilities to capital. If the debt-to- 	

- equity ratio is greater than the industry median, its value is equal to 1 and 0 otherwise.
- d. Overconfident CEOs tend to pay long-term interest and use convertible corporate bonds or preferred shares. When a company holds preferred shares or convertible corporate bonds, its value is equal to 1; otherwise the value is 0.
 - e. CEO overconfidence will reduce dividend distribution. If the company does not distribute dividends, the value is equal to 1 and if the company distributes dividends the value is equal to 0.

Then, the total score of the five proxy variables was calculated using dummy variables. If the score is equal to or greater than 3, the CEO is assessed as overconfident (OC) and the OC value = 1. Conversely, the CEO is assessed as not overconfident and the OC value = 0.

Source: processed by the author

Data Analysis

The data analysis method uses descriptive statistics, classical assumption testing and hypothesis testing using multiple linear regression with the help of SPSS 25 software. Meanwhile, to find the company's total efficiency value using DEA, researchers used DEAP 2.1 software.

The research regression model is:

$$Y = \alpha + \beta_1 MA + \beta_2 OC + e$$

Definition of variables:

Y	= Tax Avoidance
α	= Constant
β	= Regression Coefficients
MA	= Managerial Ability
OC	= CEO Overconfidence
e	= Error

Results

Descriptive Statistic

Table 3 shows the results of the research descriptive statistics. The managerial ability variable produces a minimum value of -0.33735 and a maximum value of 0.22869. The average value of managerial ability is 0.0000004 with a standard deviation of 0.12908287. From these results it is known that the average of managerial ability is positive. This means that this study illustrates that on average managers have good abilities in making efficient use of inputs in the form of company resources to produce outputs in the form of sales or business income. Meanwhile, the minimum value for overconfidence is 0 and the maximum value is 1. The average value for overconfidence is 0.47 and the standard deviation is 0.501. Thus, it can be seen that 47% of mining sector companies in the 2017-2021 period had overconfident CEOs. Meanwhile, tax avoidance has a minimum value of 0.001 and a maximum value of 0.992. The resulting average value is 0.30633 with a standard deviation value of 0.240331. This means that around 31% of mining sector companies on average for

the 2017-2021 period did not carry out tax avoidance because the CETR was above the tax rate (22%).

Table 3. Descriptive Statistics

	N	Descriptive Statistic			
		Minimum	Maximum	Mean	Std. Deviation
Managerial Ability	120	-0.33735	0.22869	0.0000004	0.12908287
Overconfidence	120	0	1	0.47	0.501
Tax Avoidance	120	0.001	0.992	0.30633	0.240331
Valid N (listwise)	120				

Source: SPSS data processing, 2023

Classic assumption test

This research uses the classical assumption test to identify whether or not there are deviations from the classical assumptions of the multiple regression equation. The tests carried out have fulfilled all the requirements or criteria for passing the classic assumption test which consists of the normality test, multicollinearity test, autocorrelation test and heteroscedasticity test. Normality test using One Sample Kolmogorov-Smirnov on Asymp. Sig. (2-tailed) shows that the data is not normally distributed because the resulting value is only $0.005 < 0.05$. So the researchers carried out a normality test using the Monte Carlo method. After testing, it can be seen in the Monte Carlo Sig section. (2-tailed) that the resulting value is significant, namely $0.167 > 0.05$. So these results show that the data is normally distributed.

Hypotheses test

Table 4 show the results of multiple regression analysis conducted for this study.

Table 4. Multiple Regression Analysis Test Results

Model		Coefficients ^a				
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.300	0.029		10.373	0.000
	Managerial Ability	-0.551	0.165	-0.296	-3.344	0.001
	Overconfidence	0.013	0.042	0.026	0.299	0.766

a. Dependent Variable: Tax Avoidance

Source: SPSS data processing, 2023

From the results of the multiple regression test above, the equation can be obtained:

$$\text{Tax Avoidance (CETR)} = 0,300 - 0,551MA + 0,013OC + e$$

A constant value of 0.300 means that the independent variable consisting of managerial ability and overconfidence has a value of 0 or is considered constant, so the size of the tax avoidance variable is 0.300. The managerial ability regression coefficient value of -0.551 shows that the managerial ability variable has a negative coefficient on the tax avoidance variable (CETR). Thus, when the other independent variables remain constant, every unit increase in the managerial ability variable will reduce the CETR variable by 55.1%. The overconfidence regression coefficient value of 0.013 indicates that the overconfidence variable has a positive coefficient on the tax avoidance variable (CETR). Thus, when the other independent variables remain constant, every unit increase in the overconfidence variable will increase the CETR variable by 1.3%.

The coefficient of determination result on the Adjusted R Square value is 0.072, as shown in Tabel 5. This means that the magnitude of the independent variable, namely managerial ability and overconfidence, in explaining the dependent variable, namely tax avoidance, is 7.2%. Meanwhile, the remaining 92.8% is influenced by other variables outside the research variables.

Table 5. Coefficient of Determination Test Results (R2)

Model Summary ^b	
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Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.296 ^a	0.087	0.072	0.231550	1.938

a. Predictors: (Constant), Overconfidence, Managerial Ability

b. Dependent Variable: Tax Avoidance

Source: SPSS data processing, 2023

Table 6 below shows the significance value of the F test of $0.005 < 0.05$. So it can be concluded that the independent variables (managerial ability and overconfidence) simultaneously/together influence the dependent variable, namely tax avoidance.

Table 6. F Test

ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	0.600	2	0.300	5.599	0.005 ^b
	Residual	6.273	117	0.054		
	Total	6.873	119			

a. Dependent Variable: Tax Avoidance

b. Predictors: (Constant), Overconfidence, Managerial Ability

Source: SPSS data processing, 2023

Table 7 demonstrates the t-test results, a significance value for managerial ability of $0.001 < 0.05$ and a β value of -0.551 . This means that managerial ability partially has a significant negative effect on tax avoidance. These results show that the first hypothesis is rejected. Meanwhile, the significance value of overconfidence is $0.766 > 0.05$ and the β value is 0.013 . So, it can be concluded that partial overconfidence has no influence on tax avoidance, meaning that the second hypothesis is also rejected.

Table 7. T-test

		Coefficients ^a				
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta		
1	(Constant)	0.300	0.029		10.373	0.000
	Managerial Ability	-0.551	0.165	-0.296	-3.344	0.001
	Overconfidence	0.013	0.042	0.026	0.299	0.766

a. Dependent Variable: Tax Avoidance

Source: SPSS data processing, 2023

Discussion

The Influence of Managerial Ability on Tax Avoidance

The results of the statistical test show that the significance value for the managerial ability variable is $0.001 < 0.05$ and the β value is -0.551 . So, it can be concluded that the managerial ability variable has a significant negative effect on tax avoidance. These results prove that hypothesis 1 is rejected. The results of this research state that managerial ability is inversely proportional to tax avoidance, which means that the higher the managerial ability in managing the efficiency of company resources, the lower the tax avoidance activity. This study supports research (Aristyatama & Bandiyono, 2021; Park et al., 2016; Prakosa & Sari, 2019) which found a negative and significant relationship between managerial ability and tax avoidance. This is because managers with a higher level of managerial ability have a broader understanding and wealth of information about their industry. Thus, managers can maximize output through efficient use of company resources.

Research conducted by (Park et al., 2016) states that a high level of managerial ability will reduce a company's tax avoidance activities. These results support the view that if the opportunity costs of tax avoidance activities are higher than the opportunity costs for other management

activities, managers with higher capabilities will transfer resources into other management activities such as investment, sales or financial activities in increasing company income rather than choosing to get involved in tax avoidance activities. Managers who have higher abilities tend to focus on efforts to improve company performance rather than carrying out tax avoidance by avoiding risks that could occur in the company (Aristyatama & Bandiyono, 2021).

Managers with better abilities can maximize company performance by utilizing existing resources. Meanwhile, tax avoidance practices are considered to have greater opportunity costs with lower benefits. So, because tax avoidance activities generate non-tax costs, managers with higher abilities tend to prefer to increase output in other ways besides tax avoidance actions (Prakosa & Sari, 2019). In addition, managers with a higher level of managerial ability can take advantage of opportunities to invest. Because they will choose to improve company performance by taking advantage of investment opportunities rather than tax avoidance because investment is considered to have smaller costs.

Based on the view of agency theory, carrying out tax avoidance activities will create uncertainty for shareholders, namely the possibility of legal problems, fines and also related costs such as direct costs including time, human resources, resources spent on tax strategies, financial reporting costs, agency, political costs, costs related to defamation or other costs that are greater than the profits obtained (Park et al., 2016). Thus, the higher a manager's managerial ability, the more it will encourage managers to take appropriate steps in allocating company resources. One way is to act carefully to avoid the possibility of greater risks to the company. This action can be taken by avoiding tax avoidance activities and better planning tax obligations through legal and compliant tax planning (Aristyatama & Bandiyono, 2021).

Apart from that, with higher managerial ability the company does not just maximize short-term profits, but also considers going concerns or the company's survival in the long term. This means that managers with higher abilities consider their ethical attitudes more in making decisions because of their sense of ownership of the company. Managers are not only concerned with their own performance, so there is no opportunistic attitude within management. They consider the risks that could occur to the company. So, managers with a better level of managerial ability will reduce tax avoidance activities. This study contradicts research conducted by (Akbari et al., 2018; Koester et al., 2017; Nurfauzi & Firmansyah, 2018; Saragih et al., 2021) which shows that there is a positive and significant relationship between managerial ability and tax avoidance.

The Effect of CEO Overconfidence on Tax Avoidance

The results of the t statistical test show that the overconfidence variable has a significance value of $0.766 > 0.05$ and a β value of 0.013. So, it can be concluded that overconfidence has no effect on tax avoidance. These results prove that hypothesis 2 is rejected. This means that the CEO's overconfident attitude cannot influence the tax planning that has been determined by company management. The decision to carry out tax avoidance cannot be explained directly by the psychological factors that exist in individual CEOs. Therefore, although CEO overconfidence can influence company decision making, this does not always have an impact on tax avoidance decisions made by the company.

This study supports research (Carrer & Slavov, 2021; Sugiono & Anggraeny, 2022) which shows that CEO overconfidence has no influence on corporate tax avoidance. An increase or decrease in CEO overconfidence does not affect the company's tax avoidance activities. This means that the decision to avoid tax is not only limited to the CEO's level of self-confidence. Other factors such as companies carrying out CSR activities can influence CEO overconfidence not to be involved in tax avoidance because of a culture of morality, where companies not only prioritize the interests of shareholders, but also think about the company's survival in the future. Companies think about the benefits of their business activities on the economy, society and the surrounding environment, so they choose to avoid the risks of tax avoidance (Sugiono & Anggraeny, 2022).

In contrast to research (Carrer & Slavov, 2021; Sugiono & Anggraeny, 2022), this study is not in line with research (Hsieh et al., 2018) which shows that companies are more likely to engage in tax avoidance when they have an overconfident CEO and an overconfident CFO. This is because there is

a common belief in the company's business situation and because there are risks that they are willing to bear due to tax avoidance actions, thus enabling them to work together in tax avoidance actions. Likewise, studies conducted by (Aliani et al., 2016; Chyz et al., 2019; Kubick & Lockhart, 2017; Nurul Hidayana, 2021; Sumunar et al., 2019) show that CEO overconfidence has a positive influence on tax avoidance.

Conclusion

This study analyzes factors influencing tax avoidance, namely, managerial ability and CEO overconfidence. The results of this research indicate that managerial ability has a significant negative effect on tax avoidance. This means that the higher the level of managerial ability, the lower the tax avoidance activities will be. Managers with higher abilities can maximize output through efficient use of company resources. They not only increase profits in the short term, but also consider going concerns or the company's survival in the long term. So, managers with a higher level of ability will reduce tax avoidance activities. Meanwhile, CEO overconfidence has no effect on tax avoidance. This shows that the psychological factor in the form of overconfidence in the CEO cannot influence the tax management that has been determined by the company.

This research has limitations which can be seen from the decision making in carrying out tax avoidance which is only influenced by managerial ability and overconfidence which are determined by the characteristics or attributes of management which are related to certain executive traits such as overconfidence which is a psychological trait and internal ability manager. There are other factors that need to be identified in explaining the company's tax avoidance decision making. Thus, further research can add external factors, such as awards, experience, performance measures and other factors. Apart from that, further research can also use other sectors as research objects so that they can enrich the findings, or can apply other theories that explain the influence of psychological characteristics in decision making, such as upper echelons theory.

This research has implications for decision making for policy makers in relation to designing future tax systems to reduce the possibility of companies engaging in tax avoidance practices. Companies are required to be more transparent in disclosing their performance in generating income to avoid tax avoidance activities. The results of this research can be used as consideration for tax authorities in terms of implementing tax regulations and better law enforcement. This research can be useful for the government in increasing supervision of companies operating in Indonesia, especially mining sector companies so that they remain compliant in paying taxes and avoid tax risks. These findings are useful for regulators, company stakeholders and academics who are interested in understanding how management behavior influenced by psychological factors and internal capabilities can influence decision making related to tax avoidance activities.

References

- Akbari, F., Salehi, M., & Bagherpour Vlashani, M. A. (2018). The effect of managerial ability on tax avoidance by classical and Bayesian econometrics in multilevel models. *International Journal of Emerging Markets*, 13(6), 1656–1678. <https://doi.org/10.1108/IJoEM-09-2017-0367>
- Aliani, K., Mhamid, I., & Rossi, M. (2016). Does CEO overconfidence influence tax planning? Evidence from Tunisian context. *International Journal of Managerial and Financial Accounting*, 8(3/4), 197. <https://doi.org/10.1504/IJMFA.2016.081851>
- Alkurdi, A., & Mardini, G. H. (2020). The impact of ownership structure and the board of directors' composition on tax avoidance strategies: empirical evidence from Jordan. *Journal of Financial Reporting and Accounting*, 18(4), 795–812. <https://doi.org/10.1108/JFRA-01-2020-0001>
- Aristyatama, H. A., & Bandiyono, A. (2021). Moderation of financial constraints in transfer pricing aggressiveness, income smoothing, and managerial ability to avoid taxation. *Jurnal Ilmiah Akuntansi Dan Bisnis*, 16(2), 279. <https://doi.org/10.24843/JIAB.2021.v16.i02.p07>

- Armstrong, C. S., Blouin, J. L., Jagolinzer, A. D., & Larcker, D. F. (2015). Corporate governance, incentives, and tax avoidance. *Journal of Accounting and Economics*, 60(1), 1–17. <https://doi.org/10.1016/j.jacceco.2015.02.003>
- Carrer, G., & Slavov, T. (2021). Tax aggressiveness and CEO overconfidence in the stock market: evidence from Brazil. *Investment Management and Financial Innovations*, 18(1), 165–176. [https://doi.org/10.21511/imfi.18\(1\).2021.14](https://doi.org/10.21511/imfi.18(1).2021.14)
- Chen, S., Chen, X., Cheng, Q., & Shevlin, T. (2010). Are family firms more tax aggressive than non-family firms?. *Journal of Financial Economics*, 95(1), 41–61. <https://doi.org/10.1016/j.jfineco.2009.02.003>
- Chyz, J. A., Gaertner, F. B., Kausar, A., & Watson, L. (2019). Overconfidence and corporate tax policy. *Review of Accounting Studies*, 24(3), 1114–1145. <https://doi.org/10.1007/s11142-019-09494-z>
- Demerjian, P., Lev, B., & McVay, S. (2012). Quantifying managerial ability: a new measure and validity tests. *Management Science*, 58(7), 1229–1248. <https://doi.org/10.1287/mnsc.1110.1487>
- Dyreng, S. D., Hanlon, M., & Maydew, E. L. (2008). Long-run corporate tax avoidance. *The Accounting Review*, 83 (1), 61–82. <https://doi.org/10.2308/accr.2008.83.1.61>
- Dyreng, S. D., Hanlon, M., & Maydew, E. L. (2010). The effects of executives on corporate tax avoidance. *The Accounting Review*, 85(4), 1163–1189. <https://doi.org/10.2308/accr.2010.85.4.1163>
- Fauzan, F., Ayu, D. A., & Nurharjanti, N. N. (2019). The effect of audit committee, leverage, return on assets, company size, and sales growth on tax avoidance. *Riset Akuntansi Dan Keuangan Indonesia*, 4(3), 171–185. <https://doi.org/10.23917/reaksi.v4i3.9338>
- Finance.detik.com. (2019). Mengenal soal penghindaran pajak yang dituduhkan ke Adaro. <https://finance.detik.com/berita-ekonomi-bisnis/d-4612708/mengenal-soal-penghindaran-pajak-yang-dituduhkan-ke-adaro>.
- Gao, Y., & Han, K.-S. (2020). Managerial overconfidence, CSR and firm value. *Asia-Pacific Journal of Accounting & Economics*, 29(6), 1600–1618. <https://doi.org/10.1080/16081625.2020.1830558>
- Hsieh, T.-S., Wang, Z., & Demirkan, S. (2018). Overconfidence and tax avoidance: The role of CEO and CFO interaction. *Journal of Accounting and Public Policy*, 37(3), 241–253. <https://doi.org/10.1016/j.jaccpubpol.2018.04.004>
- Katadata.co.id. (2019). Gelombang penghindaran pajak dalam pusaran batu bara. <https://katadata.co.id/yuliawati/indepth/5e9a554f7b34d/gelombang-penghindaran-pajak-dalam-pusaran-batu-bara>.
- Khan, M., Srinivasan, S., & Tan, L. (2017). Institutional ownership and corporate tax avoidance: new evidence. *The Accounting Review*, 92(2), 101–122. <https://doi.org/10.2308/accr-51529>
- Koester, A., Shevlin, T., & Wangerin, D. (2017). The role of managerial ability in corporate tax avoidance. *Management Science*, 63(10), 3285–3310. <https://doi.org/10.1287/mnsc.2016.2510>
- Kubick, T. R., & Lockhart, G. B. (2017). Overconfidence, CEO awards, and corporate tax aggressiveness. *Journal of Business Finance & Accounting*, 44(5–6), 728–754. <https://doi.org/10.1111/jbfa.12237>
- Nurfauzi, R., & Firmansyah, A. (2018). Managerial ability, management compensation, bankruptcy risk, tax aggressiveness. *Media Riset Akuntansi, Auditing & Informasi*, 18(1), 75–100. <https://doi.org/10.25105/mraai.v18i1.2775>
- Nurul Hidayana, N. S. (2021). Pengaruh ceo overconfidence terhadap penghindaran pajak. *SAR (Soedirman Accounting Review): Journal of Accounting and Business*, 6.1, 50–62.
- Park, J., Ko, C. Y., Jung, H., & Lee, Y.-S. (2016). Managerial ability and tax avoidance: evidence from Korea. *Asia-Pacific Journal of Accounting & Economics*, 23(4), 449–477. <https://doi.org/10.1080/16081625.2015.1017590>
- Prakosa, R. A., & Sari, D. (2019). The effect of managerial ability on corporate tax avoidance. *Proceedings of the 3rd Asia-Pacific Research in Social Sciences and Humanities Universitas Indonesia Conference (APRISH 2018)*. <https://doi.org/10.2991/aprish-18.2019.42>

- Saragih, A. H., Raya, M. N., & Hendrawan, A. (2021). The moderating role of firm size on the association between managerial ability and tax avoidance. *Jurnal ASET (Akuntansi Riset)*, 13(1), 39–49. <https://doi.org/10.17509/jaset.v13i1.30783>
- Schrand, C. M., & Zechman, S. L. C. (2012). Executive overconfidence and the slippery slope to financial misreporting. *Journal of Accounting and Economics*, 53(1–2), 311–329. <https://doi.org/10.1016/j.jacceco.2011.09.001>
- Sugiono, G. D., & Anggraeny, Y. (2022). Influence of ceo over confidence, gender diversity and profitability on corporate tax avoidance: empirical study on manufacturing companies listed on the Indonesia stock exchange. *Journal of Applied Finance & Accounting*, 9(2). <https://doi.org/10.21512/jafa.v9i2.9178>
- Sumunar, K. I., Jannah, L., & Aulia, D. (2019). CEO overconfidence, tax avoidance, and education foundation. *Jurnal Akuntansi Dan Auditing Indonesia*, 23(2). <https://doi.org/10.20885/jaai.vol23>