



## CEO Skills in Preventing Tax Avoidance Activities and Reducing the Risk of Stock Price Crashes in Indonesia

Mustika Winedar , Iman Harymawan 

Universitas Airlangga, Surabaya, Indonesia

✉ [mustika.winedar-2019@feb-unair.ac.id](mailto:mustika.winedar-2019@feb-unair.ac.id)

### ABSTRACT

The market bubble phenomenon has hit the capital markets, including in Indonesia. This occurs when a company's cash flow is lower than investors' expectations. Even the literature on stock price crash risk, which considers managers' motives to disguise negative information, identifies that tax avoidance has been used as a mask by managers to cover up poor performance. This study aims to determine the effect of high CEO capability on the relationship between tax avoidance and stock price crash risk in Indonesia. This research method uses a quantitative approach with 436 observations of companies on the Indonesia Stock Exchange during the period 2015–2019. Data was obtained through the official website of the Indonesia Stock Exchange indexed by Kompas 100. The data was tested using ordinary least squares regression model. The results of this study found that, first, tax evasion has a positive effect on the risk of decreasing the share price of companies incorporated in the Kompas 100 index on the Indonesia Stock Exchange. Second, that a highly skilled CEO can weaken the relationship between tax evasion and the risk of falling stock prices. This finding supports the agency theory perspective, where tax evasion is used by opportunistic managers to disguise financial information, thereby increasing the risk of future stock price crash. This study enriches the literature by demonstrating the role of highly skilled CEOs in influencing the intensity of the relationship between tax avoidance and stock price crash risk. Second, this study demonstrates the uniqueness of incorporating the human aspect, in the form of CEO characteristics, into the model linking tax avoidance with stock price crash risk.

### KEYWORDS

capital market, stock market, quantitative finance, corporate financial management, tax avoidance

JEL D53; H12; M41; M42

УДК 336.228, 336.63

## Роль компетенций генерального директора в предотвращении уклонения от уплаты налогов и снижении риска обвала цен на акции в Индонезии

Мустика Винедар , Иман Харимаван 

Университет Аирлангга, г. Сурабая, Индонезия

✉ [mustika.winedar-2019@feb-unair.ac.id](mailto:mustika.winedar-2019@feb-unair.ac.id)

### АННОТАЦИЯ

Феномен пузыря ударил по рынкам капитала, в том числе в Индонезии. Это происходит, когда денежный поток компании ниже ожиданий инвесторов. Литература о риске обвала цен на акции, в которой рассматриваются мотивы менеджеров для сокрытия негативной информации, указывает, что уклонение от уплаты налогов использовалось менеджерами в качестве маскировки по сокрытию плохой работы. Данное исследование направлено на определение влияния роли компетенций генерального директора на взаимосвязь процессов предотвращения уклонения от уплаты налогов и снижения риска обвала цен на акции в Индонезии. Метод исследования предусматривал количественный подход

с наблюдением 436 компаний на Индонезийской фондовой бирже в период 2015–2019 гг. Данные были получены через официальный сайт Индонезийской фондовой биржи, индексируемой Kompas 100. Данные были протестированы с использованием обычной регрессионной модели наименьших квадратов. Результаты исследования показали следующее. Во-первых, уклонение от уплаты налогов положительно влияет на риск снижения цены акций компаний, входящих в индекс Kompas 100 на Индонезийской фондовой бирже. Во-вторых, высококвалифицированный генеральный директор может ослабить взаимосвязь между уклонением от уплаты налогов и риском падения цен на акции. Этот вывод подтверждает точку зрения агентской теории, согласно которой уклонение от уплаты налогов используется оппортунистическими менеджерами для сокрытия финансовой информации, тем самым увеличивая риск будущего обвала цен на акции. Данное исследование обогащает литературу, демонстрируя роль высококвалифицированных руководителей во влиянии на интенсивность взаимосвязи между уклонением от уплаты налогов и риском обвала цен на акции. Также исследование демонстрирует уникальность включения человеческого аспекта в виде характеристик генерального директора в модель, связывающую уклонение от уплаты налогов с риском обвала цен на акции.

### КЛЮЧЕВЫЕ СЛОВА

рынок капитала, фондовый рынок, количественные финансы, управление корпоративными финансами, уклонение от уплаты налогов

## 1. Introduction

The market bubble phenomenon hit the capital market, including in Indonesia. This happens when the company's cash flow is lower than investors' expectations, Manrejo [1] said that manager will withhold negative information to protect his personal interests.

Habib [2] said that on the risk of stock price crashes that pays attention to managers' motives for disguising negative information has identified that tax evasion has been used as a mask by managers to cover up poor performance.

Various managerial policies that are deliberately designed to minimize the tax burden, Blaufus & Neifar [3–4] are proven to accurately increase profits, company value, and shareholder wealth, even by putting costs aside, aggressive tax strategies make company shares more attractive.

Garg [5] said especially when tax evasion is used by an opportunistic manager to disguise poor performance. Kim [6] also showed thus, shareholders are forced to consume misleading information asymmetry. Basri [7] substantiated if this is continuously done, then at a certain critical point there will be an accumulation of negative information which can drive down the company's stock price (crash risk).

Mazur [8] has shown that tax-evading firms have a higher probability of experiencing future stock price crashes. However, other studies have shown different results. Neifar [4] showed that in Germany, tax avoidance has no effect on stock price crash risk, but increases shareholder wealth significantly. The difference in the results of this study can occur because the positive effect of tax avoidance on the risk of a stock price crash depends on whether there is opportunistic behavior of managers in this relationship [9]. If tax evasion is not intended to hide negative information.

Al Mamun [10] showed that the tendency of managers to behave opportunistically is more driven by the need to maintain a career or because managers have low skills. Custódio [11] substantiated that managers with superior skills are not interested in hiding negative information because with high skills, they can overcome any consequential pressure. Managers with higher skills will enjoy higher levels of compensation and have diverse career experiences in a variety of industries. Therefore, Custódio [11] showed that managers with high skills are not as motivated to hide bad news as managers with low skills or abilities.

This study extends the literature on tax avoidance as a determinant of stock

price crash risk by taking into account the skills of a firm's key manager, the chief executive officer (CEO). Previous research has not revealed much about the role of highly skilled CEOs in firms that pursue aggressive tax policies.

To fill the gap in the literature, this study aims to answer the question of how the role of highly skilled CEOs in influencing the relationship between tax avoidance and stock price crash risk. Using a sample of Kompas 100 indexed companies listed on the Indonesia Stock Exchange for the period 2015 to 2019.

We are motivated to research the Indonesian capital market given that the phenomenon of tax avoidance has become a very serious taxpayer compliance problem and threatens the tax systems of countries in the world, including Indonesia. With Indonesia's tax ratio ranging from 10–12%, it shows that the contribution of tax revenue to national income is relatively low compared to the enormous potential of tax revenue. Sutrisno et al. [12] approve that this condition reflects the high level of tax evasion in Indonesia.

This research contributes to knowledge development in several ways.

*First*, this study enriches the literature by demonstrating the role of high skill CEOs in influencing the intensity of the relationship between tax avoidance and stock price crash risk. Through this study, it is evident that high-skill CEOs are not sensitive to career concerns, so they are not motivated to hide the negative information behind tax avoidance and can reduce the likelihood of the firm experiencing stock price crash risk.

*Second*, this study displays the uniqueness of incorporating human aspects in the form of CEO characteristics in a model that links tax avoidance with the risk of stock price crashes.

*Third*, this study makes a practical contribution by providing companies with an overview of the role of CEOs with high capabilities to mitigate the risk of stock price crashes.

*Finally*, this study also contributes theoretically Healy & Ball [13; 14] by providing evidence from an agency theory

perspective that managers' opportunistic behaviour is triggered by career concerns and low skills.

*The purpose of this study* was conducted with the aim of knowing the effect of a CEO's high skill on the relationship between tax avoidance and the risk of stock price crashes in Indonesia.

This study formulates the following hypothesis:

*H1*: Tax avoidance has a positive effect on the stock price crash risk

*H2*: CEOs with high skills weaken the positive relationship between tax avoidance and the risk of falling stock prices

In the next section, we will present literature review that explains the theory used in this study and explains the hypothesis we built.

## 2. Literature Review

### 2.1. Agency Theory

From the perspective of agency theory Meckling [15], the idea that tax avoidance facilitates agents (managers) to present information asymmetry to principals (shareholders) to hide their inability to perform well.

Jaya [16] showed that agency theory is closely related to tax avoidance practices, because agency theory or agency theory explains the relationship between stakeholders and company management, where both parties work together to achieve company goals, namely profit. Stakeholders or shareholders are referred to as principals, while company management is referred to as agents in agency theory.

Fama [17] substantiated that the relationship between the principal and the agent is contained in the Cooperation contract and is referred to as the agency relationship. The relationship between principal and agent Jaya [18] called an agency relationship that occurs when the owner of the company delegates authority to the manager as to perform a service or job in the company.

Svabova [19] said in agency theory, which is reflected in the agency relationship, there is often information asymmetry or differences in information received

between the principal and the agent. Where the principal or company owner has less information related to the company than the agent or company manager. This encourages managers to act alone and benefit themselves. In agency theory, financial reports made by company management are caused by opportunistic motivation and signaling motivation. Opportunistic motivation is where management reports financial reports with higher profits to get incentives, while signal motivation is where management reports quality financial reports to give positive signals to investors.

As a result of managers' activities to hide this negative information, Daniel [20] substantiated that the company's share price is valued above its fundamental value for some time depending on how far the share price is as long as the actual average return is greater than the interest rate. At the point where managers are no longer able to increase the actual average rate of return and hidden negative information is released to the public, then the market response is shown by a sudden drop in the share price known as the risk of a share price crash.

Based on this, agency theory has a relationship with tax avoidance by companies. Where this situation is caused by differences in interests caused by information asymmetry between the principal and the agent.

## **2.2. Tax avoidance and the stock price crash risk**

Delgado et al. [21] showed that tax avoidance is a form of effort to streamline and reduce the tax burden by avoiding the imposition of taxes and placing profits on transactions that are not tax objects. In carrying out tax avoidance practices, the technical strategy carried out must be legal and safe for taxpayers and does not conflict with the provisions of tax regulations. In carrying out tax avoidance practices can be done in several ways.

According to researchers Jati & Bhat-tacharjee [22; 23], there are several ways that companies generally use to avoid taxes while still complying with the laws and regulations: utilizing tax treaty, maxi-

zing fixed assets by expecting depreciation expense (capital intensity), choosing capital from debt that is higher than the company's capital, and transfer pricing. All these methods aim to increase investor valuation and obtain more profit. Tax avoidance is done to increase the value of the company, so that management performance can look good in the eyes of investors.

Ritsatos [24] stated that because tax evasion includes the act of eliminating the tax burden in an illegal way, leading to escape in tax payments. The method that can be done is certainly by supporting various rules so that it is against the law.

Blaylock [25] showed that tax evasion is the means or efforts used with the aim of reducing the tax burden by using unlawful means, while tax avoidance is the steps to avoid taxes in a legal way. However, both acts against tax, namely tax avoidance and tax evasion, are unjustified acts, because they hinder the government in realizing the purpose of tax regulations made (the spirit of law). Both are actions that can harm morals or morals, so that it can cause harm to many parties.

Bird & Bird [26; 27] substantiated that companies do tax avoidance to enjoy benefits in the form of cost savings, increased profits, and increased shareholder wealth. However, it is undeniable that tax avoidance activities also carry potential costs that are not cheap, namely Ligon [28] in the form of litigation risk and reputation risk.

Lee [29] stated that the complexity of the design of tax avoidance transactions is deliberately designed to prevent detection by the tax authorities. Abubakar et al. [30] stated that Companies' involvement in tax avoidance activities with different levels of aggressiveness indicates their different tastes in potential cost risks. In a country with a society that views tax obligations as a form of social responsibility.

Alvionita [31] stated that considering the high tax avoidance in Indonesia which is reflected in the low tax ratio below 15 percent and research results which show that when tax planning is carried out effectively there is no effect on the risk of a stock price crash.

Hotho [32] stated that whereas if a company implements an aggressive tax strategy, the company is faced with the risk of future crashes. This research is intended to confirm the relationship between tax evasion and stock price crash risk in Indonesia.

Chen [33] stated that increased tax avoidance activities have an impact on increasing the risk of stock price crashes. Based on the theoretical explanation and some previous similar literature, the following hypothesis is prepared.

*H1: Tax avoidance has a positive effect on the stock price crash risk.*

### 2.3. Tax avoidance has a positive effect on the stock price crash risk

Tax avoidance can be caused by internal factors of corporate governance, namely the CEO. Harymawan [34] stated that because a CEO is the highest leader in a company's management and is fully responsible for the company's operations. CEOs in making decisions are influenced by several factors such as personality and power.

Saona [35] stated that a manager's decision to engage in opportunistic behavior is more driven by reasons to maintain a career related to poor performance in managing the company. Gul [36] stated that a highly skilled manager is not concerned about the risk of being fired given his long and varied career experience, as well as his ability to move jobs across industries to pursue a career. In addition, Qiao [37] stated that a manager with higher ability is usually compensated more highly. Given their superior capabilities are highly sought after in the labor market to guide companies during a constantly changing business environment, Healy [38] stated that such as changes in industry deregulation, changes in market dynamics, increasing global competition, rapid changes in technology, and changes in managerial practices. Because of their lack of concern about compensation issues, highly skilled CEOs are not motivated to hide bad news to prevent the risk of falling stock prices. Previous studies have proven that the significant positive effect of CEO power

and stock price crash risk mainly occurs in companies with low-skilled CEOs. Zhang [39] stated that highly skilled managers deliver better quality earnings thereby reducing the likelihood of crashes.

By looking at the results of previous research Ali & Bryan [40; 41] on the influence of manager abilities or skills on manager behavior and the implications for companies, this study predicts that managers with high skills tend to behave in harmony with the interests of shareholders and are not motivated to hide bad news. This study hypothesizes that the presence of highly skilled managers can prevent the use of tax evasion to cover up negative information in order to reduce the risk of stock price crashes. This study formulates the following hypothesis.

*H2: CEOs with high skills weaken the positive relationship between tax avoidance and the risk of falling stock prices.*

Next, we will explain the research methods consisting of population, sample, data collection techniques, variables, and data analysis techniques used in this study.

## 3. Research Method

This study uses the ordinary least square regression model with stock price crash risk as the dependent variable and tax avoidance as the variable of interest. Meanwhile, CEO skill is a moderating variable. Data obtained from the website of the Indonesia Stock Exchange in the form of annual reports and financial statements of companies listed on the Kompas-100 Index.

Kim [42] measured of stock price crash risk in this study uses two measures, namely down to up volatility (*DUVOL*) and Negative Conditional Skewness (*NCSKEW*). As in equation (1) below:

$$r_{it} = \alpha_j + \beta_{1jrm,\tau-2} + \beta_{2jrm,\tau-1} + \beta_{3jrm,\tau} + \beta_{4jrm,\tau+1} + \beta_{5jrm,\tau+2} + \varepsilon_{jt} \quad (1)$$

where  $r_{jt}$  is the stock return  $j$  in week  $r$  while  $rm$  is the stock return based on the market value index for that week. While,  $\alpha$  is the constant and  $\beta$  is beta.

*DUVOL* is measured by Kim [43] by calculating the natural logarithm of the ra-

ratio of the standard deviation on the week down to the standard deviation on the week up, equation (2) below:

$$DUVIL_t = \log \left\{ \frac{(n-1) \sum \text{down } w_2}{(n-1) \sum \text{up } w_2} \right\}; \quad (2)$$

$$NCSKEW_{jt} = - \frac{n(n-1)^{\frac{3}{2}} \sum w_{3jt}}{(n-1)(n-2) (\sum w_{2jt})^{\frac{3}{2}}}, \quad (3)$$

where  $W_{jt}$  is the company-specific weekly return as described above;  $n$  is the number of weekly returns in a year; and the negative sign in front of the equation indicates that a higher  $NCSKEW$  value indicates a higher accident risk.

This study uses predictions about the likelihood of involvement in tax evasion as the main measure Wilson [44] that focuses on a strong tendency to commit extreme forms of tax evasion by using two measurements, namely the tendency of companies to carry out aggressive tax evasion: *SHELTER* and long-term effective tax rate *LETR*:

$$\begin{aligned} SHELTER = & -4.86 + 5.20 \times BTD + \\ & + 4.08 \times |DAP| - 1.41 \times LEV + \\ & + 0.76 \times AT + 3.51 \times ROA + \\ & + 1.72 \times FOREIGN INCOME + \\ & + 2.43 \times R \& D, \end{aligned} \quad (4)$$

where *BTD* (book-tax difference) is book income minus taxable income divided by assets. Book Income is income before tax in year  $t$ . Taxable income is calculated by adding up the current domestic tax expense and the current foreign tax expense divided by the tax rate, then deducting the net operating loss.  $|DAP|$  is the absolute value of discretionary accrual performance which is the residual value of the following cross-sectional modification of the Jones [45]:

$$TA_{it} = \delta_0 ASSET_{it-1} + \delta_1 \Delta SALES_{it} + \delta_2 PPE_{it} + \delta_3 ROA_{it-1} + v_{it}, \quad (5)$$

where *TA* is the total accrual which is defined as the change in non-cash current assets minus current liabilities excluding the long-term debt portion due to deducting depreciation and amortization;  $ASSET_{it-1}$

is an asset in the previous period; *SALE* is a sales change; *PPE* is property, plant and equipment;  $ROA_{it-1}$  is the return on assets at  $t-1$ .

*LEV* is long-term debt divided by total assets, *AT* is the log value of total assets, *ROA* is profit before tax divided by total assets, *FOREIGN INCOME* is a dummy variable that is assigned a value of 1 if the company reports its overseas income and is assigned a value of 0 otherwise, *R&D* is research and development costs divided by total assets.

The second method for measuring tax evasion is measuring the long-term cash effective tax rate (*LETR*):

$$LETR_{it} = \frac{\sum_{k=t-4}^t \text{cash tax paid}}{\sum_{k=t-4}^t \text{pretax income} - \text{special item}}, \quad (6)$$

where *cash tax paid* is cash tax paid by the company. Income before tax is income before tax. Special items are extraordinary income items that are usually hidden by management for tax avoidance purposes such as extraordinary expenses, restructuring costs, profits from debt relief, and so on.

Measuring CEO skills, namely using the General Ability Index (*GAI*) developed by Al Mamun [10]. *GAI* shows the ability and work experience of the CEO in the company prior to occupying the current position as measured by the following equation:

$$\begin{aligned} GAI_{it} = & 0.268X1_{it} + 0.312X2_{it} + \\ & + 0.309X3_{it} + 0.218X4_{it} + 0.153X5_{it}, \end{aligned} \quad (7)$$

where ( $X1$ ) is the number of different positions held by a CEO during his career, ( $X2$ ) is the number of companies where the CEO previously worked, ( $X3$ ) is the number of industrial fields where the CEO has worked, and ( $X4$ ) is a dummy variable that is given a value of 1 if the CEO has served as CEO in another company and 0 otherwise, ( $X5$ ) is a dummy variable that is given a value of 1 if the CEO works for a multi-division company and 0 otherwise.

To test hypothesis 1, this study uses a regression equation that relates each measurement of stock price crash risk



in year  $t$  with each measurement of tax avoidance in year  $t-1$  and a set of control variables in year  $t-1$ .

$$SPCR_t = \alpha_0 + \alpha_1 TAXVAR_{t-1} + \sum_{q=2}^m \alpha_3 Control\ variable_{t-1} + \varepsilon_{t-1}, \quad (8)$$

where  $SPCR_t$  is one of the two stock price crash risk measurements in year  $t$ ;  $TAXVAR_{t-1}$  is one of two measures of tax avoidance in year  $t-1$ .

The control variables used in this study consisted of  $DTURN_{t-1}$ ,  $SIGMA_{t-1}$ ,  $RET_{t-1}$ ,  $SIZE_{t-1}$ ,  $MB_{t-1}$ ,  $LEV_{t-1}$ ,  $ROA_{t-1}$ ,  $ACCM_{t-1}$ . The variable  $DTURN_{t-1}$  is the average outstanding shares in year  $t$  minus the average outstanding shares in year  $t-1$ . The variable  $SIGMA_{t-1}$  is the standard deviation of company-specific weekly returns throughout the fiscal year by Chen [33].

The variable  $RET_{t-1}$  is the company's specific weekly average return in year  $t-1$ . The variable  $SIZE_{t-1}$  is the logarithm of the market value of equity in year  $t-1$ . The  $MB_{t-1}$  variable is the market value of equity divided by the book value of equity in year  $t-1$ . The variable  $ROA_{t-1}$  is the return on investment in the form of company assets in year  $t-1$ . The  $LEV_{t-1}$  variable is the company's leverage ratio in year  $t-1$ . The variable  $ACCM_{t-1}$  is the number of previ-

ous 3 year moves of  $|DAP|$ , the value described above.

To test hypothesis 2, this study adds equation (8) with the CEO skill variable as measured using the general ability index (GAI) and the interaction of this variable with the tax avoidance variable which is formulated in the following equation:

$$SPCR_t = \alpha_0 + \alpha_1 TAXVAR_{t-1} + \alpha_2 SKILL_{t-1} + \alpha_3 SKILL_{t-1} \cdot TAXVAR_{t-1} + \sum_{q=2}^m \alpha_3 Control\ variable_{t-1} + \varepsilon_{t-1}, \quad (9)$$

$SKILL_{t-1}$  is the general ability index of a CEO in year  $t-1$ ;  $SKILL_{t-1} \cdot TAXVAR_{t-1}$  is the interaction of skill variables and tax avoidance in year  $t-1$ .

The next section is an explanation of the data test results and discussion which is analyzed for compatibility with the results of similar studies. In the discussion section, there will also be a summary of arguments to confirm the hypothesis that has been built before.

#### 4. Results

Table 1 presents descriptive statistics for all variables used in the regression analysis. The average value of  $NCSKEW$  is 0.632 and  $DUVOL$  is -0.0613 as shown

Table 1  
Descriptive statistics for stock price crash risk, tax evasion, CEO skills, and control variables

	Minimum	Maximum	Means	std. Deviation	N
NCSKW	-3.16	10.93	0.6322	1,481	436
DUVOL	-9.90	9.59	-0.0613	1668	436
ETR	-7.68	1.95	0.1527	0697	436
SHELTER	-689.6	435.5	-503.3	97.51	436
GAI	-4.43	14.05	2,631	1,431	436
GAI_ETR	-5.60	34	0.802	2,472	436
GAI_SHELTER	99.71	7703	1343	747.1	436
ACCM	-843.9	879	0.181	78.61	436
LEV	-642.9	794	68.9	135.3	436
ROA	-55.10	60.54	5.94	12,882	436
SIZE	2.83	22.92	12.59	1,788	436
DTURN	-19.48	10	0.0006	2,637	436
SIGMA	-19.44	10	0.0536	2,638	436
RET	-884	896	-0.619	78.58	436

in Table 1, which is higher than the average value of previous studies [43], this can mean that the sample in this study has a greater risk of accidents compared to the sample used in previous studies.

Likewise, the average *ETR* value of 0.1527 is lower than the average *ETR* in the previous study and the *SHELTER* average is -503.3 higher than the previous study, which means that tax avoidance activities in the sample companies in this study are more aggressive.

Table 2 shows that *NCSKEW* and *DUVOL* have a strong correlation coefficient of 0.558. *ETR* has a negative correlation coefficient for *NCSKEW* and *DUVOL*, and *SHELTER* has a positive correlation coefficient for *NCSKEW* and *DUVOL*. These results show that the lower the company's *ETR* value and the higher the *SHELTER*, the higher the *NCSKEW* and *DUVOL*. Meanwhile, *GAI*, which is a measure of CEO skills, has a negative correlation with *NCSKEW* and *DUVOL*, which means that the higher the skills of the CEO, the lower the *NCSKEW* and *DUVOL*.

In Table 3 Panel A, there are two columns, each column showing the results of the *NCSKEW* regression with the two tax avoidance proxies used in this study, namely *ETR* and *SHELTER*. In Panel A Column 1, it shows that the tax avoidance variable measured using  $ETR_{t-1}$  has a negative effect with a significance level of 5% on stock price crash risk as measured using *NCSKEW*, this can be seen from the coefficient of -0.193 and t-value -2.274. Meanwhile, Panel A Column 2 shows that the tax avoidance variable measured using  $SHELTER_{t-1}$  has a positive effect with a significance level of 1% on stock price crash risk as measured using *NCSKEW*, this can be seen from the coefficient of 0.002 and t-value of 2.577.

While in Table 3 Panel B shows *OLS* regression with  $DUVOL_t$  as the dependent variable and tax avoidance proxy as the independent variable. In Panel B Column 1, it shows that the tax avoidance variable measured using  $ETR_{t-1}$  has a negative effect at the 5% significance level on stock price crash risk as measured using *DUVOL*, this can be seen from the coefficient of -0.115 and t-value of -2.550. And in Panel B Column 2, it shows that the tax avoidance variable measured using  $SHELTER_{t-1}$  has a positive effect with a significance level of 1% on stock price crash risk as measured using *DUVOL*, this can be seen from the coefficient of 0.002 and t-value of 2.851.

The results as shown in Table 3 prove that the more aggressively the company engages in tax avoidance activities, which is reflected in the higher *SHELTER* value or lower *ETR* value, the more vulnerable the company is to experiencing stock price crashes as measured by both *NCSKEW* and *DUVOL*.

The existence of a significant influence between tax avoidance activities on stock price crash risk supports Hypothesis 1, which states that tax avoidance has a positive effect on stock price crash risk. This finding is also consistent with Mazur & Rudiawarni [7; 8] research which states that tax avoidance increases the possibility of companies experiencing stock price crashes in the future.

While the coefficients of the control variables are generally consistent with the results of previous studies. First, according to Chen [33], this study shows that *DTURN* shows a positive and significant coefficient. Meanwhile, *LEV* and *ROA* show a significant negative coefficient. Meanwhile, the *ACCM* variable is consistent with the Hutton [46]. This research shows that *ACCM* has a significant positive coefficient.

Table 4 reports the results of the *OLS* regression of tax avoidance, CEO skills, and the interaction of tax avoidance with CEO skills, on stock price crash risk. In Table 4 there are 2 panels, namely Panel A and Panel B, and in each Panel, there are 3 Columns. Panel A displays the results of the tax avoidance regression variable proxied by *ETR* against the stock price crash risk variable proxied by *NCSKEW*.

Meanwhile, Panel B displays the regression results of the tax avoidance variable proxied by *SHELTER* against the stock price crash risk variable proxied by *NCSKEW*. Column 1 in Panels A and B shows the results of the regression of the tax avoidance variable on the stock price



Table 2

Correlation matrix of stock price crash risk, tax evasion, CEO skills, and control variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
<i>NCSKEW</i>	1													
<i>DUVOL</i>	0.558**	1												
<i>ETR</i>	-0.186**	-0.195**	1											
<i>SHELTER</i>	0.123*	0.136**	-0.30	1										
<i>GAI</i>	-0.138**	-0.187**	0.402**	0.003	1									
<i>ETR-GAI</i>	-0.251**	-0.211**	0.078	-0.049	0.235**	1								
<i>SHL-GAI</i>	-0.199**	-0.229**	0.226**	-0.261**	0.901**	0.452**	1							
<i>ACCM</i>	0.239**	0.424**	-0.155**	0.403**	-0.078	-0.137**	-0.143**	1						
<i>LEV</i>	-0.053	-0.025	0.013	-0.036	0.004	0.053	-0.001	-0.124	1					
<i>ROA</i>	-0.060	0.007	0.075	0.029	-0.008	0.002	-0.016	0.017	-0.068	1				
<i>SIZE</i>	0.480**	0.874**	-0.141**	0.158**	-0.173**	-0.199**	-0.227**	0.370**	-0.037	0.224**	1			
<i>DTURN</i>	0.191**	0.790**	-0.090	0.047	-0.158**	-0.123*	-0.172**	0.327**	0.017	0.029	0.709**	1		
<i>SIGMA</i>	0.189**	0.789**	0.088	0.046	-0.157**	-0.122*	-0.171**	0.326**	0.019	0.027	0.708**	1,000**	1	
<i>RET</i>	0.236**	0.423**	-0.156**	0.405**	-0.083**	-0.137**	-0.147**	1,000**	-0.123**	0.017**	0.369**	0.326**	0.325**	1

Note. \*\* significant correlation at the 0.01 level (2-tailed); \* significant correlation at the 0.05 level (2-tailed)

crash risk variable without involving CEO skills. Column 2 shows the regression results when the CEO skill variable is included in the OLS regression equation model. And Column 3 shows the regression results when the CEO skill variable and the interaction variable of tax avoidance and CEO skill are included in the regression equation model.

As a result, in Table 4 Panel A, the first row changes the coefficient value and t-value of each equation model shown in columns one (1) to column three (3). By looking at the coefficients and t-values in the first row, when the GAI variable is in-

cluded in the model as shown in columns two (2) and three (3), the coefficients and t-values are lower than when the model does not involve the GAI variable as shown in column one (1). And when the GAI variable and the interaction variables measuring tax avoidance and GAI are entered into the model as shown in columns two (2) and three (3), the coefficient and t value are negative, which means the higher the GAI index and the more intensive the role of the CEO with skills, it reduces the company's chances of experiencing stock price crash risk. In line with the regression results shown in Table 4 Panel A,

Table 3

**Effect of Tax Avoidance on Stock Price Crash Risk (H1)**

<b>Panel A: OLS regression of tax avoidance on NCSKEW</b>		
$NCSKEW_t = \alpha_0 + \alpha_1 TAXVAR_{t-1} + \sum \alpha_2 Control\ variables_{t-1} + \epsilon_t$		
<b>TAXVAR:</b>		
$ETR_{t-1}$	-0.193** (-2.274) 0.023	
$SHELTER_{t-1}$		0.002*** (2.577) 0.010
<b>Control Variables:</b>		
$ACCM_{t-1}$	0.127*** (3.568) 0.000	0.123*** (3.445) 0.001
$LEV_{t-1}$	0.000 (-0.223) 0.824	-8.998*** (-0.205) 0.838
$ROA_{t-1}$	-0.024*** (-5.173) 0.000	-0.026*** (-5.435) 0.000
$SIZE_{t-1}$	0.601*** (12.171) 0.000	0.614*** (12.368) 0.000
$DTURN_{t-1}$	1.377 (1.222) 0.222	1.558*** (12.368) 0.000
$SIGMA_{t-1}$	-1.575 (-1.400) 0.162	-1.759 (-1.558) 0.120
$RET_{t-1}$	-0.125*** (-3,532) 0.000	-0.006*** (-4,790) 0.000
<i>Intercepts</i>	-6.778*** (-10.874) .000	-0.122*** (-3.403) 0.001
<i>N</i>	436	436
<i>Adj. R<sup>2</sup></i>	0.344	0.336
<i>Intercepts</i>	-6.778*** (-10.874) 0.000	-6.937*** (-9.423) 0.000

End Table 3

<b>Panel B: OLS regression of tax avoidance on DUVOL</b>		
$DUVOL_t = \alpha_0 + \alpha_1 TAXVAR_{t-1} + \sum \alpha_2 Control\ variables_{t-1} + \varepsilon_t$		
<b>TAXVAR:</b>		
$ETR_{t-1}$	-0.115** (-2.550) 0.011	
$SHELTER_{t-1}$		0.002* (2.851) 0.005
<b>Control variables:</b>		
$ACCM_{t-1}$	0.002** (-0.086) 0.932	0.005** (-0.250) 0.803
$LEV_{t-1}$	-0.235 (-0.001) 1.000	9.435 (0.040) 0.968
$ROA_{t-1}$	-0.019*** (-7.755) 0.000	-0.020*** (-8.050) 0.000
$SIZE_{t-1}$	0.615*** (23.397) 0.000	0.626*** (23.650) 0.000
$DTURN_{t-1}$	1.572*** (2.620) 0.009	1.690*** (2.803) 0.005
$SIGMA_{t-1}$	-1.383** (-2.309) 0.021	-1.505** (-2.501) 0.013
$RET_{t-1}$	0.003 (0.171) 0.864	0.007 (0.349) 0.727
<i>Intercepts</i>	-7.606*** (-4.138) 0.000	-7.892*** (-20.120) 0.000
<i>N</i>	436	436
<i>Adj. R<sup>2</sup></i>	0.853	0.851

Note: the first row for each variable represents the coefficient, the parentheses contain the t-values, and the third row contains the p-values; \*, \*\*, \*\*\* represent the level of significance at 0.1, 0.05 and 0.01 respectively

the results shown in Panel B also show results that are not much different. When the model includes the GAI variable and the interaction variables of tax avoidance and GAI as shown in column three (3) panel B, the effect of tax avoidance on SPCR is not significant.

Interpretation of the results as shown in Tables 4 supports the second research hypothesis that CEOs who have high general ability index scores weaken the positive relationship between tax avoidance and SPCR. These results prove Al Mamun & Custódio [10; 11] that high-skilled CEOs are not concerned about career and com-

pensation issues, therefore they are not motivated to hide bad news, thus reducing the possible risk of falling stock prices.

The positive effect of tax avoidance on the stock price crash risk depends on whether or not there is activity withholding negative information. Attempts to disguise this negative information can be done either by Habibie [47] who designed special-purpose transactions or by using discretionary accruals to manipulate earnings. For this reason, this study also analyzes the effect of other variables that have similar characteristics on tax avoidance, namely earnings management.

Table 4

**Effect of CEO Skills on the Relationship between Tax Avoidance and Stock Price Crash Risk (H2)**

	(1)	(2)	(3)
<b>Panel A: OLS regression of tax avoidance, CEO skill, and interaction of tax avoidance with CEO skill on SPCR</b>			
$DUVOL_t = \alpha_0 + \alpha_1 ETR_{t-1} + \alpha_2 GAI_{t-1} + \alpha_3 ETR \cdot GAI_{t-1} + \sum \alpha_4 Control\ variables_{t-1} + \varepsilon_t$			
<b>Independent variables:</b>			
$ETR_{t-1}$	-0.115** (-2.550) 0.011	-0.116** (2.368) 0.018	-0.120** (-2.447) 0.015
$GAI_{t-1}$		0.001 (0.054) 0.957	0.009 (0.373) 0.709
$ETR_{t-1} \cdot GAI_{t-1}$			-0.121*** (-3.786) 0.000
<b>Control variables:</b>			
$ACCM_{t-1}$	-0.002 (-0.086) 0.932	-0.002 (-0.095) 0.924	-0.002 (-0.115) 0.909
$LEV_{t-1}$	-1.235 (-0.001) 1.000	-3.755 (-0.002) 0.999	-1.206 (0.052) 0.959
$ROA_{t-1}$	-0.019*** (-7.755) 0.000	-0.019*** (-7.744) 0.000	-0.019*** (-7.658) 0.000
$SIZE_{t-1}$	0.615*** (23.397) 0.000	0.616*** (23.322) 0.000	0.610*** (22.938) 0.000
$DTURN_{t-1}$	1.572*** (2.620) 0.009	1.571** (2.612) 0.022	1.544** (2.571) 0.010
$SIGMA_{t-1}$	-1.383** (-2.309) 0.021	-1.382** (-2.301) 0.022	-1.354** (-2.258) 0.024
$RET_{t-1}$	0.003 (0.171) 0.864	0.003 (0.179) 0.858	0.004 (0.196) 0.845
<i>Intercepts</i>	-7.606*** (-4.138) 0.000	-7.611*** (-22.249) 0.000	-7.549*** (-21.591) 0.000
<i>N</i>	436	436	436
<i>Adj. R<sup>2</sup></i>	0.853	0.853	0.853
<b>Panel B: OLS regression of tax avoidance, CEO skill, and interaction of tax avoidance with CEO skill on SPCR</b>			
$DUVOL_t = \alpha_0 + \alpha_1 SHELTER_{t-1} + \alpha_2 GAI_{t-1} + \alpha_3 SHELTER \cdot GAI_{t-1} + \sum \alpha_4 Control\ variables_{t-1} + \varepsilon_t$			
<b>Independent variables:</b>			
$SHELTER_{t-1}$	0.002*** (2.851) 0.005	0.002*** (2.912) 0.004	0.001 (1.353) 0.177
$GAI_{t-1}$		-0.218*** (-4.000) 0.000	0.007 (0.046) 0.963

End Table 4

	(1)	(2)	(3)
$SHELTER_{t-1} \cdot GAI_{t-1}$			0.000 (-1.572) 0.117
<b>Control variables:</b>			
$ACCM_{t-1}$	-0.005 (-0.250) 0.803	-0.001 (-0.048) 0962	-0.001 (-0.041) 0967
$LEV_{t-1}$	9.435 (0.040) 0968	1.242 (0.053) 0.958	8.357 (0.036) 0.972
$ROA_{t-1}$	-0.020*** (-8.050) 0.000	-0.020*** (-8.020) 0.000	-0.020*** (-7.994) 0.000
$SIZE_{t-1}$	0.626*** (23.650) 0.000	0.623*** (23.402) 0.000	0.621*** (23.211) 0.000
$DTURN_{t-1}$	1.690*** (2.803) 0.005	1.696*** (2.813) 0.005	1.689*** (2.799) 0.005
$SIGMA_{t-1}$	-1.505** (-2.501) 0.013	-1.511** (-2.511) 0.012	-1.505** (-2.498) 0.013
$RET_{t-1}$	0.007 (0.349) 0.727	0.003 (0.144) 0.885	0.003 (0.139) 0.889
<i>Intercepts</i>	-7.892*** (-20.120) 0.000	-7.802*** (-19.250) 0.000	-7.853*** (-18.944) 0.000
<i>N</i>	436	436	436
<i>Adj. R<sup>2</sup></i>	0.851	851	0.851

Note: the first row for each variable represents the coefficient, the parentheses contain the t-values, and the third row contains the p-values. \*, \*\*, \*\*\* represent the level of significance at 0.1, 0.05 and 0.01 respectively

Al-Natsheh [48] stated that Earnings management is an intervention carried out in the process of presenting financial statements for personal gain, considering that managers control personal information disproportionately compared to shareholders or investors.

Hutton [46] studies have proven that there is a relationship between earnings management and the risk of stock price crashes, that companies with more opaque financial reports are more vulnerable to falling stock prices. Thus, real earnings management (REM) in a company is vulnerable to a stock collapse.

Based on these arguments, this study uses accrual manipulation as a measurement of earnings management (ACCM)

which was developed by Campa [49], accrual quality (AQ) developed by Dechow [50], and *F-SCORE* to control for the effect of tax avoidance on stock price crash risk.

Table 5 shows the results of the regression of the tax avoidance variable on the stock price crash risk controlled by the earning management variable. In Table 5 Panel A Column one (1) to column four (4) shows the significant negative effect of *ETR* on *NCSKEW* by controlling for various variations of earning management measurements. And in Panel A Column five (5) the results of the *ETR* regression on *NCSKEW* without being controlled by the earning management variable also show a significant negative effect.

Meanwhile, in Panel B Column one (1) to column five (5) presents the results of the *ETR* regression to *DUVOL* either with or without involving the earnings management variable, which is consistent with the results in panel A. This result is consistent with previous research that low *ETR* values further increase stock price crash risk. The information in Table 5 shows the robustness of the model that explains the effect of tax avoidance on stock price crash risk, either directly or indirectly.

Furthermore, this study also seeks to conduct a subgroup analysis as an alternative method to examine the moderating effect of CEO skills on the relationship between tax avoidance and stock price crash risk. Using a modified method developed by Testa et al (2018), this study grouped the sample into 2 groups, namely the sample group with high GAI scores and low GAI scores. For the high GAI score group, samples are taken that are included in the top 75<sup>th</sup> percentile of the companies with

Table 5

**Tax avoidance, earnings management, and stock price crash risk**

Model	(1)	(2)	(3)	(4)	(5)
<b>Panel A: OLS regression from NCSKEW</b>					
<i>TAXVAR</i>	-0.325***	-0.402***	-0.393***	-0.334***	-0.396***
<i>ETR</i> <sub><i>t</i>-1</sub>	(-3.281)	(-4.008)	(-4.090)	(-3.506)	(-3.955)
	0.001	0.000	0.000	0.001	0.000
<i>Earnings management</i>	0.004***			0.004***	
<i>ACCM</i> <sub><i>t</i>-1</sub>	(4.626)			(4,343)	
	0.000			0.000	
<i>AQ</i> <sub><i>t</i>-1</sub>		-0.010		-0.008	
		(-1.236)		(-1.032)	
		0.217		0.303	
<i>F_SCORE</i> <sub><i>t</i>-1</sub>			0.272**	0.253	
			(1.858)	(1.760)	
			0.064	0.303	
<i>Intercept</i>	0.681***	1.269***		-0.680	0.693***
	(9.748)	(2.691)		(-0.617)	(9.695)
	0.000	0.007		0.537	0.000
<i>N</i>	436	421		421	421
<i>Adj. R</i> <sup>2</sup>	0.076	0.034		0.081	0.033
<b>Panel B: OLS Panel Regression from DUVOL</b>					
<i>TAXVAR</i>	-0.317***	-0.472***	-0.466***		-0.466***
<i>ETR</i> <sub><i>t</i>-1</sub>	(-3.037)	(-4.183)	(-4.078)		(-4.138)
	0.003	0.000	0.000		0.000
<i>Earnings management</i>	0.009***				
<i>ACCM</i> <sub><i>t</i>-1</sub>	(9.249)				
	0.000				
<i>AQ</i> <sub><i>t</i>-1</sub>		-0.010			
		(-1.080)			
		0.281			
<i>F_SCORE</i> <sub><i>t</i>-1</sub>			0.105		
			(0.600)		
			0.549		
<i>Intercept</i>	-0.014	0.576			0.010
	(-0.197)	(1.087)			(0.123)
	0.844	0.278			0.902
<i>N</i>	436	436			421
<i>Adj. R</i> <sup>2</sup>	0.197	0.041			0.054

Note: the first row for each variable represents the coefficient, the parentheses contain the t-values, and the third row contains the p-values; \*, \*\*, \*\*\* represent the level of significance at 0.1, 0.05 and 0.01 respectively



the highest GAI scores. While the sample group with low GAI scores includes the lowest 25<sup>th</sup> percentile of companies with the lowest GAI scores.

These results are consistent with Hutton [46] research that low ETR values further increasing the risk of a stock price crash.

## 5. Discussion

In Indonesia, the practice of tax avoidance is considered valid if it is an effort to minimize the tax burden of the company or individual without violating tax rules. In Indonesia there is still no comprehensive system for preventing and detecting tax avoidance practices, so there are still opportunities for companies to carry out transaction schemes and take advantage of weaknesses in the tax system.

In fact, the use of tax avoidance practices also causes state losses because state tax revenues are always reduced, thus causing an obstacle to state spending.

### 5.1. Tax avoidance has a positive effect on the stock price crash risk

The test results found that tax evasion has a positive effect on the stock price crash risk of companies included in the Kompas 100 index on the Indonesia Stock Exchange. This test result means that the first hypothesis is accepted. Thus, when there is an increase in the level of tax avoidance by the company's management, there is also a high possibility of the risk of falling stock prices of the company.

This finding is also in accordance with the findings of Kim [43] and has proven to be strong with the use of alternative tax avoidance measures and alternative stock price crash risk measurements. The findings of this study are also in the perspective of agency theory in looking at tax avoidance, where tax avoidance is considered to provide a tool for opportunistic managers to disguise negative information, thereby increasing the risk of falling stock prices in the market future.

Vallascas [51] stated that the characteristics of taxpayers who carry out tax avoidance can be distinguished according to the taxpayer group, ranging from large

taxpayers to mediocre taxpayers. Large taxpayers tend to take advantage of their large financial capabilities to hire reliable people who know the loopholes in tax laws while ordinary taxpayers usually refrain from buying, using, working on something to avoid taxation.

Tax avoidance practices are still carried out because of the old saying that "no one likes to pay taxes". Many ways are done by taxpayers in avoiding taxes.

First, a loan to a bank with a large nominal value, the taxpayer borrows from the bank with a large nominal value so that the loan interest is even greater, this loan interest is charged in the taxpayer's fiscal financial statements, but Kulapo [52] stated that the loan is not to increase the taxpayer's capital so that sales do not grow and make profits do not increase.

Second, the provision of natura and enjoyment, the provision of natura (except for the provision of food and beverages for all employees and reimbursement or compensation in the form of natura and enjoyment in certain areas may not be charged as a deductible expense. This practice is for example employees are given rice allowances (natura) in areas that are not certain areas in the form of whole rice.

This practice actually should not be expensed in the company's fiscal financial statements because the rice is not income for the employee. The company is looking for a way to make the in-kind provision allowable by giving the rice allowance in the form of money. For employees, the allowance is an income that is taxable, while for the company the allowance is an expense that can be expensed in the fiscal financial statements.

This expense can still be expensed because the company gives money to the rice distribution foundation (this can be a cost that can be deducted from the company's gross income. Third, grants, that donated assets received by blood relatives in a straight line of descent of one degree are exempted from the tax object. Grant assets such as land and buildings given by a grandfather to his grandson are tax objects because the grant assets received are not in a straight line of descent of one degree.

### 5.2. CEOs with high skills weaken the positive relationship between tax avoidance and the risk of falling stock prices

Second, this study finds evidence that highly skilled CEOs weaken the relationship between tax evasion and the risk of a stock price crash. This result means that the second hypothesis is accepted, and it can be stated that when a CEO in the company has better expertise and skills, then they will tend not to perform tax avoidance actions to avoid an increase in the possibility of the risk of falling company stock prices in the futures.

This finding is consistent with [10] that CEO general skills have a negative effect on stock price crash risk, both measured using *NCSKEW* and *DUVOL*. This result is also in line with Custódio [11] who argue that highly skilled CEOs do not care about career continuity and compensation issues because the labor market values their high skills with higher compensation than they do, and CEOs with above-average skills are more flexible in moving from one industry to another in which they work.

A CEO in the company has a different character, there are CEOs who can accept risks, and some are not. A CEO with a strong character, able to accept active and courageous risks in terms of tax avoidance, because he has a dominant position in the company. This makes the characteristics of a reliable CEO who is able to decide all matters of decision in company policy and plays an important role for the company in terms of tax avoidance because of the highest executive position.

According to Huang [53] as a CEO who has financial expertise experience in the company or a financial background at work is an active manager who has less cash, more debt, and is involved in more buybacks. Kim [54] stated that to the extent that tax avoidance can be viewed as an alternative investment opportunity.

The CEO holds the highest position in the company, so the CEO is included in the top-level manager category. Thus, the CEO has a very important role for the journey of a company and can determine

whether the company is successful or otherwise.

Therefore, the position should not be managed carelessly, it must be run by someone who is professional in that position. Directly or indirectly, being a leader will have an influence on all decision-making in solving every company problem, including making decisions in tax policy. A CEO who has financial expertise will be more likely to do tax avoidance well, such as tax calculations.

Then the final part of this study is closed with conclusions and limitations on this study which are expected to be refined by subsequent researchers in the future.

## 6. Conclusion

This study found 2 things.

*First*, tax evasion has a positive effect on the stock price crash risk of companies included in the Kompas 100 index on the Indonesia Stock Exchange. The findings of this study are also in the perspective of agency theory in looking at tax avoidance, where tax avoidance is considered to provide a tool for opportunistic managers to disguise negative information, thereby increasing the risk of falling stock prices in the market future.

*Second*, this study finds evidence that highly skilled CEOs weaken the relationship between tax evasion and the risk of a stock price crash.

This study enriches the literature by demonstrating the role of highly skilled CEOs in influencing the intensity of the relationship between tax avoidance and stock price crash risk. Second, this study demonstrates the uniqueness of incorporating the human aspect, in the form of CEO characteristics, into the model linking tax avoidance with stock price crash risk.

Because of that, the findings of this study have implications for all stakeholders regarding the understanding of managerial behavior, where the presence of a highly skilled CEO can increase the effectiveness of corporate tax policies without being overshadowed by concerns over the risk of falling stock prices. The charac-

teristics of a reliable CEO are CEOs who are able to make all decisions in company policy and become an important role for the company in terms of tax avoidance because of the highest executive position.

The limitation of this study lies in the lack of disclosure regarding the competency characteristics of a CEO that should be owned, to have reliable expertise in

managing tax reporting, so that company owners remain orderly in paying taxes every period. Next, the fundamental analysis presented in this study seems to make it difficult for readers who do not understand the basics of the capital market, so future research should provide a complete description to make it easier for readers in general.

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### Information about the authors

Mustika Winedar – MM., Ak., SE., Senior lecture at accounting department, Universitas Dr. Soetomo, Surabaya and Doctoral student at accounting department, Universitas Airlangga, Surabaya, Indonesia (Jl. Semolowaru No. 84, Menur Pumpungan, Kec. Sukolilo, Surabaya, Jawa Timur 60118), ORCID: <https://orcid.org/0000-0001-8143-6284>; e-mail: mustika.winedar-2019@feb-unair.ac.id

Iman Harymawan – Ph.D., MBA, SE., Senior lecture at accounting department, Faculty of Business and Economics, Universitas Airlangga, Surabaya, Indonesia (Jl. Airlangga No. 4-6, Airlangga, Kec. Gubeng, Kota SBY, Jawa Timur 60115), ORCID: <https://orcid.org/0000-0001-7621-6252>; e-mail: harymawan.iman@feb.unair.ac.id

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### **Информация об авторах**

Винедар Мустика – ММ., Ак., SE., старший преподаватель кафедры бухгалтерского учета, Университет доктора Созтомо, и докторант кафедры бухгалтерского учета, Университет Аирлангга, г. Сурабая, Индонезия (Jl. Semolowaru No. 84, Menur Pumpungan, Kec. Sukolilo, Surabaya, Jawa Timur 60118), ORCID: <https://orcid.org/0000-0001-8143-6284>; e-mail: mustika.winedar-2019@feb-unair.ac.id

Харимаван Иман – Ph.D., MBA, SE., старший преподаватель кафедры бухгалтерского учета, факультет бизнеса и экономики, Университет Аирлангга, г. Сурабая, Индонезия (Jl. Airlangga No. 4-6, Airlangga, Kec. Gubeng, Kota SBY, Jawa Timur 60115), ORCID: <https://orcid.org/0000-0001-8143-6284>; e-mail: mustika.winedar-2019@feb-unair.ac.id

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