

# JOURNAL OF ACCOUNTING AND STRATEGIC FINANCE

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## **Do Environmental Performance, Feminism in Commissioner, Female Audit Committee, and Corporate Visibility Affect Corporate Environmental Disclosure?**

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### **Abstract**

*The company should not separate developing business activities from society's external environment. Instead, the companies should protect the external environment, so many companies need to improve the sustainability of their companies to be better through corporate environmental disclosure. This study aims to examine and analyze the effect of environmental performance, feminism in commissioners, female audit committees, and corporate visibility towards corporate environmental disclosure, controlled by profitability and liquidity. One hundred samples were obtained from the mining companies listed on the Indonesia Stock Exchange from 2015 to 2019 and analyzed using the multiple linear regression method. This study proved that female audit committee could positively influence corporate environmental disclosure. On the other hand, this study found that environmental performance, feminism in commissioners, and corporate visibility couldn't affect corporate environmental disclosure. This result of study can be used by the company's management to help companies provide more thorough supervision of decisions made by management related to social responsibility activities carried out by the female audit committee and monitor the quality of environmental disclosure more effectively. For investors, the results of this study are expected to provide information to investors about the importance of female audit committee members' existence in supporting the community's welfare.*

**Keywords:** *Environmental Performance, Feminism in Commissioner, Female Audit Committee, Corporate Visibility, Corporate Environmental Disclosure*

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## INTRODUCTION

Companies need to be committed to contributing assistance in economic development by paying attention to corporate environmental disclosure that focuses on economic, social, and environmental aspects of corporate environmental disclosure (Untung, 2015:1). Corporate environmental disclosure activities include activities that can contribute to building villages and community facilities (social service) and provide scholarships and funds to maintain public facilities (Hidayah & Wulandari, 2017: 215). Companies exploring natural resources, such as mining companies, are also part of the environment and the surrounding community. However, mining companies' activities can directly harm the environment, including waste and pollution problems. Therefore, it causes mining companies to have a high industrial and environmental risk (Sekarwigati & Effendi, 2019).

Corporate environmental disclosure is shown as straightforward and moral conduct under the practical turn of events and local area government's assistance, considering partners' interests, as per relevant law and predictable worldwide standards. However, corporate environmental disclosure can also be interpreted as a responsibility issued by the company to preserve the surrounding environment to benefit the community (Widyasyani et al., 2020; Ardillah & Thenia, 2021). The determination of corporate environmental disclosure as an obligation can change the views and behavior of business owners so that corporate environmental disclosure is no longer interpreted as just a moral demand (Pamungkas, 2018). Although the legal basis for the practice of corporate environmental disclosure, the implementation still varies from those who perform well incorporate environmental disclosure to those who violate the practice of corporate environmental disclosure (Amelia, 2019).

The environmental violation phenomenon illustrates that the legal basis is insufficient to motivate companies to conduct good corporate environmental disclosure practices. Some cases of corporate social responsibility in mining companies have resulted in the harmful practice of social responsibility activities, including a case in PT Freeport as one of the biggest mining companies in Papua, Indonesia. PT Freeport has been made the significant issue of corporate social responsibility practices that began in 2011 when PT Freeport made improper salaries to Indonesian citizens workers. As a result, PT Freeport was deemed unable to treat 8.300 workers fairly, especially in salary matters. The employees did a work strike in 2017, and the company has decided to terminate these employees unilaterally. Due to this unilateral termination, the employers and management of PT Freeport Indonesia did not pay salaries, and the company even decided not to provide health insurance for these employees (Devi et al., 2021). According to a press release by the Papuan Legal Aid Institute (LBH) dating 28 November 2021, PT Freeport Indonesia has filed a lawsuit against the three labour representatives to the Industrial Relations Court in Jayapura in 2021. The judges ruled that the termination of work was valid and the labour representatives filed an appeal against the verdict to the supreme court (ICP, 2021). It requires the commitment of management and company shareholders to make social issues a

priority and part of its business strategy. Some companies consider implementing corporate environmental disclosure activities to cause additional costs, but corporate environmental disclosure can bring certain long-term benefits (Lako, 2011: 91).

The theory used to explain corporate environmental disclosure is legitimacy theory that explains the social contract as the formed relationship between organizations and society. A social contract makes companies show various corporate social responsibility activities (Choi et al., 2013; Solikhah & Winarsih, 2016). Legitimacy by the community is a strategic factor for companies to develop in the future. It will be the company's effort to position itself in the middle of an increasingly advanced society (Dewi & Priyadi, 2013). The company must do the operating activities by conforming to stakeholders' needs with the existing provisions and norms (Hapsoro & Sulistrayini, 2019). Based on the legitimacy theory, social responsibility disclosure comprehensively carries out business processes through environmental-social contracts in carrying out activities that support corporate social activities (Brown & Deegan, 1998).

Corporate environmental disclosure, which was initially considered a burden, will turn into an investment because it brings long-term benefits to the company. Based on stakeholder theory, the company needs to operate according to broader community, employees, and customer needs through social responsibility activities (Hah & Freeman, 2013; Freeman & Dmytriye, 2017). These benefits will only occur when the company's management can balance its rights and obligations, both to shareholders and other stakeholders from outside or the public. It is required as one of the implementations of good corporate governance as a form of responsibility for its performance that has been carried out so far (Yuliani, 2019). Implementing corporate environmental disclosure in the company is not only the obligation of internal parties (company leaders and managers), but in practice, every element of the company is also expected to contribute to realizing these goals.

Environmental performance is the natural execution of the organization in establishing a decent climate (Darma, 2019). Legitimate is one of the strategy forms brought out by the public authority through environmental management performance rating program with PROPER's assessment by the Ministry of Environment to support expanded organization execution in environmental management. The companies can feel they are competing to get the best ranking. For this situation, the organization's environmental performance is assembled into five color appraisals, particularly the highest of gold, green, blue, red, and the worst, with a black rating (Ardillah & Chandra, 2021). Parts of the assessment are consistent with guidelines for controlling water contamination, air contamination, overseeing B3 waste, assessing environmental impact, and managing marine contamination. This arrangement is obligatory to be satisfied (Sugiyanto & Sukasih, 2017).

Corporate governance is a set of rules that connect investors, organization directors, banks, government, workers, and other inner and outside partners identifying with their privileges and commitments as a framework that controls the organization (Anggusti, 2019: 43). As indicated by agency theory, the execution of good corporate governance should be upheld by organization organs that should do their capacities following the arrangements and do their obligations, capabilities, and responsibilities exclusively to help the organization (Jensen &

Meckling, 1976). A commissioner is a party within the company that has neither business interests nor kinship with the company, controlling shareholders, members of the board of directors, and commissioners (Jayanti, 2018). A commissioner within the company is a party that has neither business interests nor kinship with the company (Yusuf et al., 2017). Female board members can be more likely than male board members to improve monitoring effectiveness through the quality of reporting practices such as corporate environmental disclosure (Harakeh et al., 2019; Arioglu, 2020). The companies that have a female board of commissioners tend to have educational and professional backgrounds that are different than male commissioners and may have more sensitive personalities, participatory, and democratic in the process of decision-making to prevent actions that cause environmental damages and increase the company's social performance (Diono & Prabowo, 2017).

Another suitable corporate governance mechanism required for companies apart from having an independent board of commissioners is an audit committee. The audit committee is part of the company formed to support accountability to provide better information to stakeholders (Pamungkas, 2018; Leksono, 2018). Companies with an audit committee tend to report earnings with more minor deviations or data manipulation content than those without an audit committee (Yuliani, 2019). In addition, female members can tend to deal with ethical issues and are more helpful for people because of the better communication abilities and meeting preparation that they had, while male members are more concerned about competition and making money in the company (Stewart & Munro, 2007; Krishnan & Parsons, 2008).

Corporate visibility in the media is also an effective way to disclose corporate environmental disclosure. The media has an essential role in social mobilization movements, for example, groups related to the environment (Widiastuti et al., 2018). Corporate visibility is the company's way of communicating identity and activities information by utilizing available media (Darma, 2019). Corporate visibility is a public oversight mechanism that encourages companies to disclose environmental and social issues. Corporate visibility is often used by companies in disclosing corporate environmental disclosure activities and can be used as documentation. Companies can also disclose environmental activities through internet media, and this media is increasingly being supported by internet users (Widiawan et al., 2017). Companies can share their actions by using various media to be known to the public and have values expected from the community (Alfariz & Widiastuti, 2021).

The author used two control variables in this research: profitability and liquidity. Profitability can be defined as the ability of a company to generate income through the operation's activities. The higher the profitability that resulted from the procedure, the company needs to make a higher level of social information disclosure. Liquidity can be defined as the ability of a company to determine worthiness to meet short-term obligations. The higher level of liquidity indicates that the company has a solid financial condition to encourage the company to increase the level of social responsibility disclosures (Almilia & Devi, 2007).

Research that has been conducted on environmental performance produces data that varies, as in the study conducted by Garhadi (2018), Triatmaja et al. (2021), and Lu & Wang (2021), which shows that environmental performance affects corporate environmental disclosure. Meanwhile, Darma (2019) and Handayani & Maharani (2019)'s research found that environmental performance does not affect corporate environmental disclosure. In addition, research that has been conducted in proving the influence of the board of commissioners on the corporate environmental disclosure has varied results, where Fahmi & Adhivina (2019) and Dyah & Isnalita (2019) found that the female board of commissioners has a negative effect on corporate environmental disclosure. On the other hand, in Yusuf et al. (2017) and Setiawan et al. (2018), female commissioners positively affect corporate environmental disclosure.

Several previous studies produced similar results as in the research conducted by Pucheta et al. (2016) and Appuhami & Tashakor (2017), which stated that the audit committee had a significant favorable influence on corporate governance environmental disclosure. However, several studies that reveal the effect of corporate visibility on corporate environmental disclosure produce a different result in Widiastuti et al. (2018), which has summarized corporate visibility does not significantly affect corporate environmental disclosure. Meanwhile, Li et al. (2019), Lubis & Dewi (2020), and Alfariz & Widiastuti (2021), from their research result, show that corporate visibility-influences corporate environmental disclosure. The results of previous inconsistent and different studies became one of the motivations for conducting this research. This research uses the mining sector as research samples because this business sector has participated consistently in PROPER. This research differentiates from previous research by using corporate governance indicators such as female commissioners and committee and corporate environmental disclosure. This study proves the influence of environmental performance, independent commissioners, audit committees, and corporate visibility on the corporate environmental disclosure with profitability and liquidity as control variables.

Environmental performance is the company's performance in creating a suitable environment (Darma & Arza, 2019). Environmental performance is one of the company's steps in achieving business success. The company pays attention to the environment to increase understanding of environmental aspects (Ardillah, 2020). The company's environmental performance is essential for potential investors and the surrounding community. With the higher environmental performance that the company has achieved, the company has maintained the environment well according to environmental assessment criteria. As a result, the management will be motivated more to disclose environmental disclosure to get a better assessment (Solikhah & Maulina, 2020).

**Ha: Environmental performance has a positive effect on corporate environmental disclosure.**

A board of commissioners who are neutral and not affected by management intervention will protect stakeholders' interests in encouraging companies to carry out corporate disclosure (Susilo, 2016). The supervisory process will be more responsive to investors, increase the company's compliance with disclosures, and ultimately improve the disclosure quality. The



board of commissioners supervises the administration and gives detailed information to be presented in the annual report (Fahmi & Adhivina, 2019). The woman has leadership qualities and has become a new paradigm of leader to modify feminine leadership with classical male traits (Book, 2009). The female commissioners can develop more collegial relationships with stakeholders and influence pressure management to disclose social responsibility.

**Ha<sub>2</sub>: Feminism in commissioners has a positive effect on corporate environmental disclosure.**

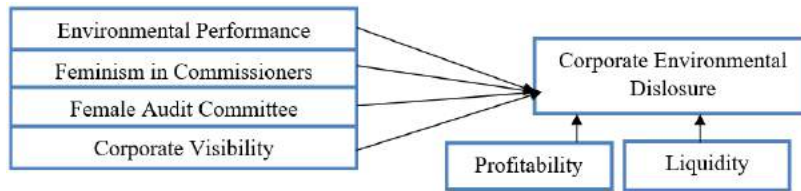
The audit committee is part of the company formed to assist the board of commissioners in carrying out their duties. The existence of an audit committee supports the principle of responsibility in implementing good corporate governance, which requires companies to provide better information to stakeholders (Pamungkas, 2018). Females' conservatism level is higher than males for her ability to avoid exaggerating the good news. An audit committee with female members will influence the corporate environmental disclosure style to disclose more conservatively to prevent financial statement users that could mislead the financial statements' user. A female audit committee member can delay the excellent news and tends to disclose the lousy information or avoid the exaggeration of corporate environmental disclosure (Widyasari & Ayunda, 2020).

**Ha<sub>3</sub>: Female audit committee has a positive effect on corporate environmental disclosure.**

Corporate visibility is a company media used to reveal the excellent value of the company through corporate social responsibility activities (Azizah, 2018). The media has a role as a means for companies to encourage management to disclose corporate social responsibility and companies that want to gain the trust and legitimacy of their social community through corporate social responsibility activities. Therefore companies must have the capacity to meet the needs of stakeholders and be able to communicate with stakeholders. Corporate environmental disclosure through the media will improve the company's reputation in the public's eyes. By disclosing environmental exposure through the media, the company hopes the public will know about the company's social activities so that the company will be known to have values and norms following what the community expects (Agyeman et al., 2019). According to legitimacy theory, corporate environmental disclosure becomes a society's legitimacy strategy that the company will need to increase its reputation and image by offsetting the negative corporate visibility (Alfariz & Widiastuti, 2021).

**Ha<sub>4</sub>: Corporate visibility has a positive effect on corporate environmental disclosure.**

Based on the explanation of the hypothesis above, the author develops the research framework with environmental performance, feminism in commissioners, female audit committee, and corporate visibility as independent variables, corporate environmental disclosure as the dependent variable, and profitability and liquidity as control variables.



**Figure 1. Hypothesized Relationship**

## RESEARCH METHODS

### Research Design

This study uses a quantitative approach with the aim of explanatory-associative research. This method examines specific populations or samples to test predetermined hypotheses (Sugiyono, 2017:8). Explanative-associative research explains the relationship between the independent and dependent variables using a framework of thought first, then formulated in the form of a hypothesis (Suryana, 2010:19). Data collection techniques in this study use the method of documentation. The documentation method used in this research is by collecting, studying, and analyzing secondary data that contains the information needed in this research (Diarista, 2017).

The population in this study were mining sector companies listed on the Indonesia Stock Exchange from 2015 to 2019. The sample selection was carried out using the purposive sampling method to obtain a representative population sample according to the specified criteria. The author chose mining sector companies as the research sample because 482 mining companies have joined PROPER as a participant in 2019-2020. In addition, the participant that reached the gold rank in PROPER contributed from mining companies. Some of the criteria taken in determining the companies to be selected as samples such as (1) mining companies listed on the Indonesia Stock Exchange (IDX) from 2015-2019, (2) the company publishes an annual report for the 2015 to 2019 period, and (3) the company provides information regarding the implementation of corporate environmental disclosure. The purposive sampling method used resulted in 33 companies matching the criteria in this study, with 132 data used in the research period from 2015 to 2019.

**Table 1. Research Sampling Criteria**

No.	Criteria	Amount
1.	Mining companies listed on the Indonesia Stock Exchange (IDX) from 2015 to 2019	46
2.	The companies do not consistently publish annual and sustainability reports for 2015 to 2019.	(12)
3.	The companies do not provide information regarding implementing corporate environmental disclosure through sustainability reports.	(1)
4.	Number of company sample data per year	33
<b>Total company sample data for five years</b>		<b>165</b>

Source: Data Process

## Variable Operational Definition

### Corporate Environmental Disclosure

Corporate environmental disclosure is a company's effort to make business commitments by ethical behavior and existing legal provisions to contribute to economic development (Pamungkas, 2018). Corporate environmental disclosure is measured using the quality of corporate environmental disclosure according to a developed framework by Michelon et al. (2015) with the disclosure criteria using four indices: Relative Quantity Index, Density Index, and Accuracy and managerial Orientation Index.

The Relative Quantity Index (RQT) measures the level of disclosure of a company in the current year compared to the level of exposure of other companies in the same industry.

$$RQT_{it} = \frac{Disc_{it}}{Disc_{it}^*}$$

Density Index (DEN) measures the ratio between the number of sentences containing environmental disclosure to the total sentences presented in the sustainability report. The author counts environmental disclosure data using a score of 1 if the verdict in the company sustainability report provided in the company's sustainability report contains information about environmental disclosure and a score of 0 otherwise.

$$DEN_{it} = \frac{1}{k_{it}} \sum_{j=1}^{k_{it}} ED_{ijt}$$

Accuracy Index (ACC) measures how companies disclose information in their environmental disclosure in sustainable reports based on the qualitative, quantitative, and monetary sentences. The author count in environmental disclosure data using score one if the sentence of environmental disclosure in the company's sustainability report in the current year contains qualitative information. A score of 0 was given if the existing company sustainability report's verdict only provides qualitative environmental disclosure information. A score of 1 was given if the existing company sustainability report's verdict includes quantitative details on environmental disclosure. Finally, a score of two was given if the judgment in the current year's sustainability report has monetary value about environmental disclosure.

$$ACC_{it} = \frac{1}{n_{it}} \sum_{j=1}^{n_{it}} (w * ED_{ijt})$$

The managerial Orientation Index (MAN) measures how companies disclose their environmental information (Andayani, 2021). The author counts the objective data using score one if the sentence in the sustainability report provided by the company in the current year contains information about the company's goals and objectives and scores 0 if not.

$$MAN_{it} = \frac{1}{n_{it}} \sum_{j=1}^{n_{it}} (OBJ_{ijt} + RES_{ijt})$$

After we count each of the four indices, we measure the quality of environmental disclosure using standardized of the four indices that should be synthesized using the following formula.

$$Quality_{it} = \frac{1}{4 (RQT_{it} + DEN_{it} + ACC_{it} + MAN_{it})}$$

### Environmental Performance

Environmental performance is the company's achievement in participating in the Performance Rating Program of PROPER held by the Ministry of the Environment. The PROPER performance rating system includes rating companies in five colors. The rankings are sequentially categorized from Gold, Green, Blue, Red, and Black. This measurement refers to

research conducted by assigning a score to each color in the PROPER assessment using 1-5 from the awful black rank score to the best gold rank score (Aulia, 2018).

### **Feminism in Commissioners**

The board of commissioners plays an essential role in directing the strategy and overseeing the company's development (Yusuf et al., 2017). Board commissioners, mainly consisting of directors from within the company, are considered better because they can objectively set policies related to the company (Palupi, 2019). Feminism in the board of commissioners is proxied by gender diversification in the board of commissioner members using the proportion of women members in the board of commissioners (Anggraeni and Djakman, 2017).

$$\text{FIC} = \frac{\Sigma \text{ Number of female commissioners}}{\text{Total member of board of commissioners}} \times 100\%$$

### **Female Audit Committee**

The female audit committee's role is significant because it places it at a meeting point between directors, independent auditors, internal auditors, and commissioners (Yusran, 2018). Therefore, the size of the female audit committee is measured by counting the number of female members of audit committees.

$$\text{FAC} = \text{number of female members of the audit committee}$$

### **Corporate Visibility**

Corporate visibility puts pressure on companies to pay more attention to environmental and social issues. Corporate visibility is measured by the number of news or articles originating from electronic media covering a company from January 1st to December 31st in the required year. Measurements are made by utilizing the filter of advanced search facility available on the web page of the electronic media in one full year. Unfortunately, due to data limitations, the author cannot eliminate redundant articles, and the nature of each piece is not known. Still, we consider the environmental and social issue that concerns the public's interest in the firm as visibility counts. Another limitation of analyzing the corporate visibility is that the author did not consider the company's social media accessible to the public as a source of electronic media because not all companies have accessible social media to promote their environmental and social activities (Li et al., 2019).

### **Profitability**

Profitability is defined as a company's ability to earn income in a certain period. Profitability can be measured by the ability of the company to generate revenue from the result of the operation (Triatmaja et al., 2021). In this study, the author use Return on Equity as profitability's proxy. The Return on Equity ratio can be formulated by the relationship between net income and total equity (Hapsoro & Sulistyarini, 2019).

$$\text{Return on Equity (ROE)} = \text{Net Income} / \text{Total Equity}$$

### **Liquidity**

Liquidity is defined as a company's ability to meet the company's short-term borrowings. The author uses the current ratio to determine the level of liquidity of a company. The Current Ratio can be formulated as follows (Hapsoro & Sulistyarini, 2019).

$$\text{Current Ratio (CR)} = \text{Current Assets} / \text{Current Liabilities}$$

## Data Analysis Method

The data analysis method used in this study is multiple regression analysis that measures the effect of several independent variables on the dependent variable (Thasya, 2020). It is necessary to do the classical assumption test, which includes normality, multicollinearity, heteroscedasticity, and autocorrelation tests. Then, descriptive analysis is used to analyze and present data accompanied by calculations to clarify the circumstances and characteristics of the data in question. This study helps determine the quantitative measure of the data obtained using the minimum, maximum, average (mean), and standard deviation measurements (Pamungkas, 2018). The coefficient of determination ( $R^2$ ) test was carried out to measure how far the ability of the independent variable could explain the dependent variable. Finally, partial testing was conducted to determine whether the independent variables in the equation affect the dependent variable (Ghozali, 2016).

## RESULTS AND DISCUSSION

### Result

#### Descriptive Statistics

The results of descriptive statistics based on minimum, maximum, mean, and standard deviation values can be explained in table 2 below.

**Table 2. Descriptive Statistics Test Results**

	Minimum	Maximum	Mean	Std. Deviation
Corporate Environmental Disclosure	0.09	0.92	0.5729	0.24
Environmental Performance	1	5	4	0.8852
Feminism in Commissioner	0	2	0	0.2187
Corporate Visibility	1	25	9	6.021
Profitability	0.0111	0.5525	0.084	0.121
Liquidity	0.68	9,2	2.2462	1.5543

Source: Data Process

The company with the highest corporate environmental disclosure value is PT. Timah Tbk. The company with the corporate environmental disclosure value is PT. Vale Indonesia Tbk. The average value (mean) indicates that the sample in this study discloses 54,48% of the total points, which have resulted in the companies having more consideration with the environmental impact that resulted from their operation. The companies with high environmental performance are the Bukit Asam Coal Mining company and Medco Energi Internasional, which received PROPER with gold rank for four consecutive years. The average value (mean) shows that the average rating was good for the sample companies in this study, namely the blue PROPER rating. With

the average value (mean) higher than the standard deviation value, it can be interpreted that the average value (mean) can represent the overall data.

The average value (mean) indicates that the sample companies in this study have an average female commissioner member compared to the entire board of commissioners only of 6,15 %, with the result obtained from two companies that only have one female member commissioners. The female audit committee's descriptive analysis results received the lowest score of 0 and the highest value of 1, while the average value (mean) obtained was 0.3077 (close to zero value) with a standard deviation of 0.466. Finally, the average value (mean) shows that the sample companies in this study have an average number of female audit committees, only zero people, with the result obtained from four companies that only have one female member of the audit committee. The company with the highest corporate visibility value is PT Bukit Asam Tbk. The company with the lowest value is PT. Bayan Resources Tbk. The average value (mean) shows that the sample of companies has considered publicizing the environmental and social activities in electronic media to give awareness to the public and impact stakeholders. With the corporate visibility mean value is higher than the standard deviation value, a more significant average deviation value indicates that the corporate visibility has a considerable variation in data, so the mean value of corporate visibility is a good representation of the overall data.

The company with the highest profitability value of Return on Equity is PT Baramulti Suksessarana Tbk. The company with the lowest profitability value of Return on Equity is PT. Vale Indonesia Tbk. The average value shows that the sample of companies has a low average value of Return on Equity with less than 10%. The company with the highest liquidity of Current Ratio is PT Harum Energy Tbk. The company with the lowest liquidity of the Current Ratio is PT. Surya Esa Perkasa Tbk. The average value shows that the sample of companies has high liquidity with an average current ratio of more than 1. With the profitability and liquidity represent value being higher than the standard deviation value, a more significant average value indicates that the liquidity has a considerable variation in data, so the average value of profitability and liquidity is a good representation of the overall data.

#### **Classic Assumption Test**

The normality test results with the Kolmogorov-Smirnov test showed a sig. value of 0.200 that above 0.05. Thus, the environmental performance, feminism in commissioners, female audit committees, corporate visibility, profitability, liquidity, and corporate environmental disclosure have a normal distribution. The results of the multicollinearity test show that in the regression model, there is no correlation between the independent variables used in this study, such as environmental performance, feminism in commissioners, female audit committees, corporate visibility, profitability, and liquidity. It can be seen from the VIF value of each independent variable which is smaller than ten, and the tolerance value is more significant than 0.1. Therefore, the environmental performance, feminism in commissioners, female audit committees, corporate visibility, profitability, and liquidity do not have multicollinearity problems.

The results of the heteroscedasticity test show that environmental performance, feminism in commissioners, female audit committees, and corporate visibility have a sig. values above 0.05. These results indicate that environmental performance, feminism in commissioners, female audit committees, corporate visibility, profitability, and liquidity do not experience heteroscedasticity problems and can be used in research. The results of the autocorrelation test show that the residual data has a sig. value of 0.525 which means the sig. value was obtained above 0.05. It means that  $H_0$  cannot be rejected, indicating no autocorrelation between environmental performance, feminism in commissioners, female audit committees, corporate visibility, profitability, and liquidity with absolute residual value. These results indicate that the regression model is free from autocorrelation problems and can be used in research.

### **Coefficient of Determination Test**

The results of the coefficient determination test can be explained in table 3 below.

**Table 3. Coefficient of Determination Test Result**

<b>R</b>	<b>R-square</b>	<b>Adjusted R-Square</b>
0.335	0.112	0.129

Source: Data Process

Based on table 3, it can be seen that the R number is 0.335, so the relationship value between the independent and dependent variables is 33.5%. From this number, it can be concluded that the relationship between environmental performance, feminism in commissioners, female audit committees, corporate visibility, profitability, and liquidity on the corporate environmental disclosure is weak because the value is less than 0.5. R Square value of 0.112 means that the contribution of environmental performance, feminism in commissioners, female audit committees, corporate visibility, profitability, and liquidity on the corporate environmental disclosure is 11,2%. The value of  $R^2$  obtained from the results of the coefficient of determination test shows a value of 0.129. Therefore, this equation model can explain the independent variables such as environmental performance, feminism in commissioners, female audit committees, corporate visibility, profitability, and liquidity on the corporate environmental disclosure of 12,9 %. In contrast, the remaining 87,1 % is explained by other variables not included in this research model.

### **Hypothesis Test**

The results of the hypothesis-test in table 4 prove the effect of environmental performance, feminism in commissioners, female audit committees, corporate visibility, profitability, and liquidity on corporate environmental disclosure.

**Table 4. Hypothesis Test Results**

Model		Unstandardized Coefficients		Sig.
		B	Std. Error	
1	(Constant)	0.322	0.090	0.022
	Environmental Performance	0.005	0.022	0.658
	Feminism in Commissioners	0.023	0.093	0.429
	Female Audit Committees	0.041	0.010	0.028
	Corporate Visibility	0.010	0.003	0.767
	Profitability	0.122	0.136	0.002
	Liquidity	0.054	0.011	0.016

Source: Data Process

The form of the regression equation used in this study is as follows.

$$Y = \alpha_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6$$

$$CSR = 0.322 + 0.005 EP + 0.023 FIC + 0.041 FAC + 0.01 CV + 0.122 ROE + 0.054 CR$$

The environmental performance shows the sig. value of 0,658 is higher than the significance value of 0.05 and positive regression coefficient of 0.005. These results indicate that H1 is rejected, so the environmental performance doesn't affect the corporate environmental disclosure. The feminism in commissioners shows the sig. value of 0.429 is higher than the significance value of 0.05 and positive regression coefficient of 0.023. These results indicate that H2 is rejected, so feminism in commissioners doesn't affect the corporate environmental disclosure. The female audit committee shows the sig. 0.028 is less than the significance value of 0.05 and a positive regression coefficient of 0.041. These results indicate that H3 is accepted, so female audit committees positively affect corporate environmental disclosure.

The corporate visibility shows the sig. 0.767 is higher than the significance value of 0.05 and a positive regression coefficient of 0.010. These results indicate that H4 is rejected, so corporate visibility doesn't affect corporate environmental disclosure. The profitability shows the sig. 0.002 is less than the significance value of 0.05 and a positive regression coefficient of 0.122. These results indicate that profitability positively affects corporate environmental disclosure. The liquidity shows the sig. 0.016 is less than the significance value of 0.05 and a positive regression coefficient of 0.054. These results indicate that liquidity positively affects corporate environmental disclosure.

## Discussion

### The Effect of Environmental Performance on Corporate Environmental Disclosure

This research result rejected hypothesis 1 (H<sub>1</sub>) that stated there wasn't any effect of the environmental performance on corporate environmental disclosure. This research aligns with the study conducted by Darma (2019) and Handayani & Maharani (2019), which shows that environmental performance does not affect corporate environmental disclosure. This research is not in line with the research undertaken by Garhadi (2018), Triatmaja et al. (2021), and Lu & Wang (2021), which shows that environmental performance affects corporate environmental disclosure. It is failed to meet the legitimacy theory, which explains that an entity needs



recognition by society from the operation in which the company is located. The insignificant results indicate that the company's environmental performance does not significantly make the company disclose more corporate environmental disclosure information.

The mining companies that participated in the Ministry of Environment's environmental management performance rating programs through PROPER were not generally mentioned in the financial report. The mining companies that get high-ranking evaluations from PROPER awards do not necessarily consider environmental aspects to be assessed, so they need not necessarily disclose corporate social responsibility activities. The company's environmental performance couldn't entirely be extended by corporate social responsibility disclosure because many companies only tend to do corporate social responsibility activities to meet the minimum requirement required by Indonesia's government. The company only made the awareness of the importance of corporate social responsibility activities that will benefit the company's long-term benefit.

### **The Effect of Feminism in Commissioners on Corporate Environmental Disclosure**

This research result rejected hypothesis 2 (H<sub>2</sub>) that stated there wasn't any effect of feminism in commissioners on corporate environmental disclosure. The research result is in line with Anggraeni (2020), which shows that feminism in commissioners didn't have a significant effect on corporate environmental disclosure. The results of this study are not in line with the results of research from Yusuf et al. (2017), Setiawan et al. (2018), Adhivina (2019), and Dyah & Isnalita (2019), which states that female commissioners have a significant effect to the corporate environmental disclosure. It shows that female independent commissioners have nothing related to their corporate environmental disclosure quality. The amounts of female commissioner in public mining companies are relatively deficient with the total members of the board of commissioners because most of the public mining companies have dominated with male commissioners other than female commissioners.

The difference in attitudes between women who tend to avoid risk (risk-averse) and men who take risks are caused by natural traits and innate traits due to parenting patterns. It makes it possible that the prudence of women in acting and acting, which affects the decisions taken, coupled with the minority of women in the company, has resulted in a slight influence of women's boards of directors and commissioners in determining corporate environmental disclosure decisions. The role of commissioners is always given priority to male commissioners because there is no proven result that female commissioners can do monitoring more effectively on quality reporting practices, especially for increasing the quality of corporate environmental disclosure's information.

### **The Effect of the Female Audit Committee on Corporate Environmental Disclosure**

This research result accepted hypothesis 3 (H<sub>3</sub>) that stated a positive effect of female audit committees on corporate environmental disclosure. The results of this study are consistent with the results of research conducted by Pucheta et al. (2016) and Appuhami & Tashakor (2017), which found that the female audit committee has affected corporate environmental disclosure.

The reason that can explain the results of this study is that the company formed an audit committee only to comply with regulations and is limited to carrying out a supervisory function on company performance related to checking internal control and the quality of financial reports. A good internal control system makes the organs within the company integrated to overcome problems related to agents. The research results are relevant to agency theory because when agency problems in the company can be minimized, investors' information related to social values can be fully disclosed.

The female representation in the audit committee can reduce the inherent risk of misstatements in its financial statement through its desire to do the job correctly. The female committee member can strategically use corporate environmental disclosure as a conservative way to reduce her opportunistic behavior. Companies can increase supervision related to corporate social activities by increasing the number of audit committees. The company which had more audit committees, the better in carrying out supervision so that corporate social activities and legitimacy can be well maintained. The female committee member can make ethical decisions such as corporate environmental disclosure to improve the company's image. So, many investors who care about social and ecological issues can invest in the company.

#### **The Effect of Corporate Visibility on Corporate Environmental Disclosure**

This research result rejected Hypothesis 4 ( $H_4$ ) that stated there wasn't any effect of corporate visibility on corporate environmental disclosure. The results of this study are in line with the results of research conducted by Widiastuti et al. (2018), which found that corporate visibility did not significantly affect corporate environmental disclosure. However, this result is not inconsistent with the research conducted by Li et al. (2019), Lubis & Dewi (2020), and Alvarez & Widiastuti (2021), which resulted in corporate visibility having a significant effect on corporate environmental disclosure. This research is not expected to confirm the legitimacy theory as a motivation for corporate environmental disclosure to encourage managers to increase corporate environmental disclosure to eliminate negative coverage and maintain their legitimacy.

Some media publications are positive news (good news) and negative news (bad news). Positive coverage by the media may be due to the company's request, so it is not a measure of media exposure. Adverse reporting may be a better measure of media exposure because it reflects public pressure or scrutiny of social responsibility activities through the media. This result has shown that the environmental information through the company's media or website failed to make a positive response from stakeholders to increase the influence of management's actions to disclose corporate environmental disclosure. Therefore, the company's high corporate visibility has no impact on increasing or decreasing the level of corporate environmental disclosure by the company.

#### **The Effect of Profitability and Liquidity on Corporate Environmental Disclosure**

The profitability and liquidity positively as control variables affect corporate environmental disclosure. It indicates that the higher the company's profitability and liquidity, the companies will disclose more social responsibility activities to support corporate environmental disclosure. Firms with stable economic conditions show better social performance because they are more willing to invest in social and environmental fields by broadly considering their social

responsibility disclosure. If the companies have profitable operations and more substantial liquidity to meet the obligations and do the usual operating activities, the higher the demand for the companies to disclose corporate environmental disclosure compared to other companies that have suffered loss and weak liquidity. By revealing more information about the environmental aspect of social responsibility activities, the company tries to indicate that the company has implemented the corporate environmental disclosure to be well maintained.

## CONCLUSIONS

Environmental performance does not affect corporate environmental disclosure. The results show that the company's high or low environmental performance did not impact corporate environmental disclosure. Female commissioners do not affect corporate environmental disclosure. The study results indicate that the more significant or lower amount of commissioner members in the commissioner's board didn't give anything meaningful to incorporate environmental disclosure. On the other hand, the female audit committee influences corporate environmental disclosure positively. The study results indicate that the number of female members in audit committees within the company can increase the quality of corporate environmental disclosure. Corporate visibility does not affect corporate environmental disclosure. The results showed that the higher the company's corporate visibility, it didn't involve increasing or decreasing its corporate environmental disclosure.

Based on the conclusions that have been described previously, some suggestions can be given to be used by various parties. For the company's management, this study is expected to help companies provide more thorough supervision of decisions made by management related to social responsibility activities carried out by the female audit committee. As a result, the female audit committee can monitor the quality of environmental disclosure more effectively. For investors, the results of this study are expected to provide information to investors about the importance of female audit committee members' existence in supporting the community's welfare. The investor can also consider the environment around the company's operating locations through corporate environmental disclosure carried out by companies that can be regarded as investors making investments.

Further study is expected to increase the number of samples used to get more samples to be generalized and expand the research population in other business sectors such as manufacturing and service companies. In addition, further study is expected to use a minimum period of more than five years to obtain data that can describe the actual situation. Different researchers can also consider looking for other independent variables, especially other corporate governance indicators that affect the corporate environmental disclosure that can significantly influence corporate environmental disclosure.

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There are no abbreviations in this paper article.

### **Authors Contribution**

The author with initials of KA has done all the process that needed to write this paper article.

### **Authors Information**

You can contact the author with full name of Kenny Ardillah by email l20617@lecturer.kalbis.ac.id. I have an interest in doing research with management accounting, environmental accounting, and taxation topics.

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The author declared no competing interests.

### **Availability of Data and Materials**

The author will give you link to download the data by sending the data request to the email to l20617@lecturer.kalbis.ac.id. The author will provide the original data of environmental performance, feminism in commissioners, and female audit committee. The author will not provide the data of the corporate environmental disclosure and corporate visibility due from the subjective assessment by the author to measure and input the data.

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## Interpreting the Concept of Debt Based on Indonesian Patron-Client Perspective

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### Abstract

*This study aims to interpret the concept of debt based on social phenomenon on Patron-Client's fishermen working-relationship in Pantai Sungai Bakau, Serayu, East Kalimantan. By using an interpretive paradigm, this study tries to interpret debt with a a case study research design. The data was obtained by conducting in-depth interviews with community of fishermen and fish collector (the owner of shipyard) who were the key informants. the method uses snowballing system for additional informants. The results of the interviews were grouped and data reduction was carried out before being analyzed and drawing conclusions or verification. Triangulation was also carried out with different question techniques that were asked to confirm the validity of the data to the surrounding community as additional informants. By using the triangulation technique, the researcher believes that the data obtained is valid. The results of this study found that the concept of debt have been interpreted as an obligation, family and trust relationship, and a mutually beneficial relationship on the context of Patron-Client working-relationship. Empirically, on the broader meaning of debt, debt does not only as a form of obligation between the capital owner and the recipient of capital in the context of Patron-Client's working-relationship, but debt should also be able to make familial relationship with the element of trust between them.*

**Keywords:** *Debt, Obligation, Family and Trust, Working-relationship, Patron-Client relationship*

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## INTRODUCTION

Theoretically, In the Big Indonesian Dictionary, Liability is transactions of money borrowed from other people and lent to other people. If interpreted more broadly, Liability according to FASB in SFAC no. 6 states that liability is a sacrifice of economic benefits in the future that can result in an entity's obligation to deliver assets or services to other entities in the future as a result of past transactions. In PSAK 2002:130, it is also interpreted that debt or liability is a current company debt arising from past events. The settlement results in cash outflows from a company's resources that contain economic benefits.

Debt is a transaction activity that is usually carried out at all levels of society in order to obtain additional capital. In accordance with the concept of liability in accounting theory, a liability is an obligation that arises as a result of past events, the settlement of which results in an outflow from the entity of resources embodying economic benefits. In economics, humans will always try to fulfill their needs to the maximum and always act rationally. Debt is one way to meet their needs by borrowing some money as capital for work. People will tend to choose debt because it is considered the fastest way to fulfill what they want. Although debt creates an obligation to pay and carries risks, debt is still the main choice in society.

The relationship between Patrons and Clients often occurs in the working relationship between owners and workers, capital owners and employees and so on. Working, the need for capital, and the bonding relationship between worker and the owners of capital are human dignity in life. Work could not be separated from the need for capital and bonds between worker and other workers, worker with business owner and business owner with the other business owners. From the diversity of jobs occupied by humans, they are engaged in all fields, ranging from trade, fisheries, plantations, agriculture, mining and others. There is an attachment scheme that present in a job. For example, in the trade sector, there will be a relationship between the seller and the buyer. Then in the fields of agriculture, animal husbandry and agriculture, a social relationship that is more closely related to the owners of capital and workers will be created. The working relation between owners and workers, leaders and staff and others are the relation between Patron and Klien. The owners or leaders as Patron, and the workers or staff as Client. Working relationship must be mutually beneficial so that the relationship will be permanent and lasting.

The profession as fishermen is a job that could not generate income every day. This is because fishermen are jobs that depend on natural climate conditions. Therefore, the income of fishermen could be said to be less or still not stable. Because of that, to restart fishing activities, fishermen need capital to be able to meet their needs at sea. Muhartono & Nurlaili (2019) in their research states that the pattern of cooperative relationships between fishermen and owners who

provide debt for capital has developed. The relationship between Patron and Client also occurs with fishermen and shipyard owners. Fishermen as client and shipyard owners as Patron. The fishermen (client) need capital to be able to go to sea and the shipyard owners (patron) give debt to facilitate the fishermen's needs. The positive side of this collaboration is to have a mutual sense of help in the fishery business, whether it is in terms of capital or in terms of selling the fish catch of fishermen. On the other hand, the negative side of this relationship is fishermen unable to freely determine the price so that the price of fish sold relatively lower than the market price. Putri, (2020) stated that if the pattern of working relationships between owners of the shipyard and fishermen occurs for several reasons such as fishermen do not have capital to go to sea. They do not have enough money so they borrow to the owners for their need in sea (Suleman et al., 2019); (Rusydi et al., 2021). As consequence, the owners have right to buy their fish catch as price stated between the other owners of shipyard The debt will be deducted from the amount of fish catch of the fishermen (Wulandari et al., 2020); (Sayful, 2020).

The phenomenon related to the concept of debt in this study are happened to fishermen in Sungai Bakau, central Kalimantan (Winarti, 2016). Fishermen obtain fishing capital from the collectors, and fishermen have an obligation to return the capital by selling their fish catch to the fish collectors/owners. This relates to the Patron-Client theory which explains that if the work pattern relationship occurs between people who have capital and those who receive capital, then there must be someone who acts as the giver of capital and who receives the capital (Rokhmah, 2015); (Juraida et al., 2021); (Kolstø, 2020); (Firzan & Erawan, 2020).

The focus of this study is to analyze the concept of debt in the working relationship that occurs in these fishermen. The difference between this study and previous research lies in the process of repaying the debt (Muhartono & Nurlaili, 2019) If the previous research only examined the process and benefits of the debt for fishermen for fishing purposes, this study will discuss what debt means for fishermen in Pantai Sungai Bakau and what social conditions affect the process of repaying the debt. While the difference between this study and Putri (2020) lies in the purpose of the research. If this research focuses more on the meaning of debt, the other research conducted focuses on the reasons for capital owners and fishermen in working relationships (Rizal et al., 2020).

The novelty of the study focuses on interpreting the concept of the debt related with local values in frame of Patron-Client Perspective. The local values close to social accounting. Social accounting is a branch of accounting that tries to measure the social benefits provided by an organization and the social costs incurred by an organization, with the aim of using that information to provide information that will improve the proper allocation of scarce resources for the benefit of the organization and society (Noorhayati & Amosh, 2018); (Bezerra, 2019); (Mook, 2020). Companies are required to be able to access the interests of the surrounding social environment by disclosing and reporting to parties deemed interested so as to produce an output in the form of a report that explains all aspects concerned and supports the life of a company. In

this case, the role of accounting can respond to its social environment as a manifestation of the responsibility, concern and sensitivity of business entities to their environment (Hatane et al., 2020).

Related with this study, Patron-Client theory is used to describe a reciprocal relationship, whether it is a vertical or horizontal relationship. However, specifically for Patron-Client, this is a social interaction rooted in vertical relationships which there will be a higher role than other roles (Drury O'Neill et al., 2019); (Carney, 1989). Patron-Client relationship is a sociological term that describes a special case between two people that presents an instrumental friendship side, which someone with a higher social position (Patron) uses all the capital to provide benefits or protection or both to a lower person (client) who cooperates with himself which will one day repay the benefits and protection by providing general support and assistance including personal services to the Patron.

In order for this relationship to work well, there must be elements that support it. The first element is that something must be given by one party to the other. This gift can take various forms, whether it is in goods, services, or it could be in various other forms. Then the second element that must exist is the obligation to make reciprocal relationships in the form of replies to those who have given at the beginning. If these two elements have occurred then the Patron-Client relationship will occur and run well. The relationships generally relate to the following three things, a) The relationship between actors who control the resource is not the same, b) A special relationship which is a personal and intimate relationship, c) The relationship based on the principle of mutual benefit.

The object of the research is Sungai Bakau, East Kalimantan. The beach is one of the beaches in Seruyan Regency. The beach, which is located 15 km from Kuala Pembuang, which is the capital of Seruyan Regency, can be reached by two-wheeled or four-wheeled vehicles in about 20 minutes. The beach which has a unique meeting between the river estuary and the shoreline results in the formation of two types of water contained in one coastal area, namely freshwater and saltwater rivers. In this beach area there is a fishing village located at the mouth of the river which goes directly to the shoreline. This fishing village sells a wide variety of marine catches, especially salted fish and processed sea prawns which are made into local shrimp paste. Based on the observation, the working relationship between the fishermen and owners of the shipyard who lending money for the capital for fishing is unique and different with the existing concept of debt in accounting. There are the local values in this village that “colloring” the existing concept of debt nowadays.

On the basis of the uniqueness of the local values of the people in Pantai Sungai Bakau, East Kalimantan in interpreting the debt, the researcher is interested in conducting research to analyze the meaning of debt in fishermen working-relationship in this village. This study is

hoped to give contribution to existing accounting theory increasing a pattern of debt concepts in a broader context. Debt is not an obligation but debt is interpreted considering the local values in one region. Besides, this study could give practical contribution to the company or business to give suggestion to make a policy related with the concept of debt implemented in corporate or business. Even further, this concept could be practiced in the life of a businessman or company as a form of corporate responsibility towards its employees (people).

## RESEARCH METHOD

This study uses an interpretive paradigm of case study research design with a qualitative approach. This paradigm tries to naturally interpret the phenomenon that occur in Pantai Sungai Bakau Village, Seruyan Regency, East Kalimantan Province which is used as the object of research. The sources of data used in this study are primary data in the form of interviews with owners of shipyard (fish collectors) and fishermen. Secondary data in the form of documentation of accounting records carried out by fish collectors to record debts from fishermen. The unit of analysis in this study is the fishermen in Pantai Sungai Bakau who work and borrow capital from the collectors in the area. There were 10 informants in this study, consisting of 2 people who worked as collectors/shipyard owners and 8 others who worked as fishermen. Data were obtained from in-depth interviews with key informants selected based on purposive sampling, namely fishermen and shipyard owners who have a working relationship in the area. With the snowballing system, it is hoped that the data could meet validity with data from additional informants in addition to data from key informants. The selected informants are as follows (the name is not the real name):

**Table 1. Key Informants**

No	Name	Age (years)	Working as
1	Asma	52	shipyard owner
2	Cahaya	43	shipyard owners
3	Yamin	58	Fishermen
4	Eson	41	Fishermen
5	Sidiq	27	Fishermen
6	Usup	50	Fishermen
7	Arul	53	Fishermen
8	Dani	26	Fishermen
9	Ancah	55	Fishermen
10	Udin	47	Fishermen

Source: Data collected from the interviews

The selection of the informants above is a recommendation from each collector to his subordinates and it can be ascertained that the informants interviewed are society who know and who are directly involved with the research problem. The data collection technique used in this study is observation which in this research it is carried out using the participant observation method, namely the researcher is directly involved in the community because the researcher is native who grew up in a fishing family in the area (Mackellar, 2013). The researcher as participant observation observes the lives of fishermen where they work to take fish in the sea with money or other non-financial needs that they borrow from shipyard owners. Borrowing money paid for with fish from the sea is a hereditary tradition and has been going on since their ancestors. high trust in fishermen, commitment and forms of debt payment that are not only paid with money but with fish catch, and can also be paid not with money but services or labor are interesting things to be investigated further, especially related to the concept of debt in in a company that still assumes debt is paid in money.

In-depth interviews with key informants are considered able to provide information with the snowballing system so that the data is strengthened by additional informants in the area (Prasetyo, 2021). The main target of informants who will be interviewed are owners of shipyard and fishermen. Information is obtained by providing several questions that are posed to informants with question guidelines such as related to the working-relationship between fishermen and shipyard owners, mechanisms for giving and repaying debt, and the risks of the working-relationship and other questions related to the local values of the community in the area that can be used as data to strengthen the Patron-Client relationship in the community.

The technical steps of data analysis consist of several stages, namely, first, Grouping and data reduction is summarizing, choosing the main things and focusing on the important things, determining themes and patterns and removing things that are not needed. This is done because the data obtained from the field may be too much so that a reduction is needed to make it easier. The second is analyze the data that has been provided by fishermen by relating it to the Patron-Client theory. This can facilitate and assist researchers in compiling data and finding patterns and relationships in the data and making it easier to draw conclusions.

The third is triangulation of data to test the validity of the data. Triangulation can be interpreted as checking data from various sources in various ways and at various times such as a) Triangulation of Sources to test the credibility of the data by checking the data that has been obtained through several sources. In this study, researchers compared the answers between collectors and fishermen by asking the same question to different sources. By giving the same question to different objects, a tested or valid answer will be found, b) Triangulation of Method, is done by asking the same question with a different question form method that has the same meaning so that it could give the researcher confidence to the consistency of the answer whether it is valid or not, c) Triangulation of Time, is done by asking the same question in a time lag determined by the researcher to see the consistency of the data, and d) The snowballing system

was carried out to strengthen the data obtained from key informants by asking surrounding additional informants.

The fourth is drawing conclusions on the meaning of debt according to fishermen that occurs in local community values based on the Patron-Client theory. Conclusion is the stage which the researcher considers the explanation of the patterns and relationships studied or makes contrasts and comparisons in order to answer the formulation of the problem in the study.

## **RESULTS AND DISCUSSION**

### **Result**

Empirically, it is found that debt is interpreted become 3 (three) meanings, namely a) Debt is interpreted as an obligation, b) Debt is interpreted as family and trust relationship, and c) Debt is interpreted as a mutually beneficial relationship. The coding of empirical data uses the deep interview to informants as follow:

#### **Debt is interpreted as an obligation**

Every fish collector (shipyard) in Sungai Bakau Beach has almost the same system of providing debt to fishermen who will go to the sea. In general, fishermen will borrow money from fish collectors (owner of the shipyard) for sailing purposes and gasoline to refuel ships. Empirically it is found that there is a unique treatment in the concept of debt between the Patron (owner of the shipyard) and the Client (fisherman). Similar to the concept of debt in general, debt must be returned. There is an obligation to repay the debt. Gasoline and borrowed money must be returned shortly after the fisherman returns from fishing. The catch obtained (fish) will be weighed and calculated based on the price agreed upon by the fish collectors in the Pantai Sungai Bakau so that it will be known how much money each fisherman gets. Empirically, fishermen are considered profitable if the nominal amount of fish they catch exceeds the debt they borrow from the collectors. Vice versa. If the amount of catch (fishes) exceeds the borrowed money and gasoline, it is said that the fisherman gets a profit. The fisherman's debt is deducted directly from the money and the remainder is considered as profit which becomes the fisherman's income at that time. On the other hand, if the catch (fishes) does not exceed the nominal debt they borrow/less then the debt will be accumulated with the next catch of fish.

In this situation, usually the collectors provide convenience to the fishermen by only paying the fuel debt, while the money owed by the fishermen will be accumulated in the next fish catch. so there is an accumulation of debt. The concept of Patron-Client also provides benefits for fishermen to still be able to bring money (income) from fishing. This is a family concept that is implemented in this Client Patron debt concept.

So there is a different treatment for the gasoline lent by the shipyard which is used to fuel ships, wherein the gasoline for fishing will be directly deducted at the beginning after the fishermen receive their fishing income. The consideration is that gasoline is a liquid asset and



the circulation of money to buy it will be needed at any time and cannot be postponed. Cahaya (43 years) as below,

“After the fishermen came home from fishing. I didn't collect their debt directly, except for the fuel debt for the ship. I immediately cut the money in advance because the money was spinning continuously for our needs to buy more oil, so we only cut the gasoline debt at the beginning. As for the cash loan, we calculated the catch of fish. For example, if we calculate how much the fish is valued at. If it exceeds the amount owed, it is immediately deducted. But if the nominal fish catch is less than the money owed, then we will not collect the debt at that time. We provide fishermen with the convenience of repaying debts where they can pay when the fishermen go out to sea again the next day. The accumulated debt is still being recorded. Likewise, with the profit or loss”

The collector (shipyard) only records the amount of fisherman's debt that has not been paid if they cannot make a profit. So, If the catch (fish) is more than the borrowed money , the fisherman will get a profit, but on the other hand, if the catch (fish) does not reach the amount of money borrowed, the fisherman will owe it to the shipyard and try to pay it off at the next fishing process as a statement from informant, Mr. Eson (41 years old),

“We often get a lot of results so we profit and very rarely do we lose. There is only money / profit that is taken home as our income. But if we lose, we will owe it first to our boss and later if we go to sea the next day then we will owe our previous and current debt. Hopefully we catch too much fish so that it can be used to pay our debt to the boss.”

According to the informant, Mr. Eson, fishermen, they mostly and more often get the results of profit than loss. There is always income/money that is brought home after fishing is complete. And if there is a debt, it will be paid from the results of the next sea as stated by Mr. Udin (47 years old) in his interview,

“We don't just owe the boss to go to sea but we owe as much as we need to go to sea. We always count so we don't borrow too much when we go to sea. we calculated depending on how far and how long to sail. Usually the ship's fuel needs are the first to be calculated. As for the amount, we usually owe one hundred thousand to two hundred thousand rupiahs for each trip to the sea.”

So that the amount of debt is calculated by fishermen sufficiently and not excessively so that it will minimize the losses experienced by fishermen. So fishermen will not borrow too high and

there is a calculation that they estimate based on their experience at sea for the informant, Pak Yamin (58 years), fisherman as follows,

"This is fortunately if we work with the boss, we don't need to think about capital to go to sea because we can borrow it from the boss. Luckily again, we can get profit per day if we catch a lot of fish. Usually I only borrow one hundred thousand to two hundred thousand rupiah to buy ship fuel. but if I catch a lot of fish then I can owe up to five hundred thousand rupiahs per day and the debt is directly deducted from the fish caught. So I still get a profit of around three hundred thousand to four hundred thousand rupiahs. the fish are few so we only bring home around one hundred thousand to two hundred thousand rupiah as our profit per day"

With the fishing system per day, fishermen can immediately bring their catch to be sold to fish collectors (shipyards). After the fish catches are sorted and grouped, then they are weighed and valued in rupiahs. The selling price is based on the existing market price that has been agreed upon by the collectors. each collector has a commitment to provide the same market price so that a good working relationship is established between collectors and fishermen.

### **Debt is interpreted as family and trust relationship**

Empirically, the concept of debt applied between Patrons (fish collectors / shipyard) and fishermen (clients) is not considered a burden by fishermen. They consider debt as a family relationship between the shipyard and fishermen. Fishermen prefer to borrow money for their working capital from fishing to fish collectors/shipyards rather than lenders outside of a working relationship, as stated by the informant, Pak Usup (50 years old), fisherman as follows,

"For fishing needs, we borrow from our boss. So the boss provides everything from boats, fuel, bait, and fishing equipment because we can't afford it if we buy everything ourselves. It's very expensive. So borrowing is the most convenient way for us. We can work equally profitable. I am fortuna to be given a loan to go to sea and the boss is also profitable because I only sell our fish catch to the boss according to the commitment. I do not sell to other collectors because I am already bound by a working relationship with the boss. Boss give me a loan and we also have to commit to selling our fish catch only to the boss"

From the statement above, it can be analyzed that there is comfort when they are in debt with a patron because there is a symbiotic relationship of mutualism in which fishermen feel benefited because they can work at sea without initial capital and even they are given a boat loan, gasoline and even money for fishing purposes and will be paid with the catch. they. So they assume that this debt is not a burden because the payment is also family-friendly which does not harm them at all and even benefits both parties. The shipyard gets fish from fishermen which will soon be sold to the city and fishermen can earn income by working for collectors that can be said without

capital. The calculation of debt will be calculated when they get a profit. Most fishermen who are members of fishing groups do expect debts given by the shipyard/patron because the shipyard is considered to have a better economic capacity than them. Fishermen admit that they are unable to fulfill their need to go to sea because of uncertain income from fishing.

In addition, debt is also interpreted as a relationship of trust between the shipyard and fishermen in a working relationship. The trust in question is a sense of trust that the debt can be returned and the fishing equipment will not be taken away, removed or damaged. This is important considering that fishermen can cheat for their personal interests in fulfilling or satisfying their needs. However, this can be guaranteed by the informant, Dani (26 years old), as the son of Mrs. Asmah (52 years old) who also works as a fisherman as in his interview,

“We just believe, there is no fear that our boat will be taken away or the money we borrowed will not be returned. Because the fishermen we work with are all family. So we just believe. We have cousins, nephews, uncles who work with us. For example, if they want to cheat, we just need to go to their house. My house is close to theirs and I know all the members of his family. So it's impossible if they don't want to pay their debts or cheat.”

On the basis of trust, because of the kinship ties, Ibu Asmah, a fish collector, dares to give loans to fishermen. This trust is important because it is related to honesty in the working relationship between collectors and fishermen. This sense of trust is also felt by the fishermen. Fishermen believe that they will be helped and will not be pressured by collectors to pay off their debts quickly. They also realize that they have an obligation to be able to pay off their debts to collectors. This is also supported by the interview with the informant, Mr. Sidiq (27 years), the fisherman as follows,

“We repay the debt in installments little by little. Fortunately, the boss did not give a time limit to pay our debts. We worked hard to pay off our debt because we felt that the boss had really helped us a lot. We trust each other”

From the statement above, it can be analyzed that the relationship of kinship and trust that is formed in the working relationship of fishermen and collectors is based on a sense of awareness. Fishermen feel that they have been helped a lot by the collectors because of the ease in getting into debt. While the collectors believe and believe the fishermen will pay their debts. Collectors are just waiting for awareness from fishermen to return the debt automatically after getting the fish caught. On the basis of this belief, fishermen have the desire to work harder in order to pay their debts as quickly as possible as a thank you for the convenience provided by the collectors.

### **Debt is interpreted as a mutually beneficial relationship**

Fishing is a job that can be said to be risky. Fishing can bring a very large income if the fishing season has come in a certain month. However, going to sea can also bring big losses because there are certain months that are not the season for fishing. Most of the fishermen on the Sungai

Bakau Beach still use the sea work system per day. Usually, they will go to sea in the morning around 06.00 am and will return at 12.00 after the fish catch is enough. They never go to sea for days or spend the night at sea because the boat used is small and does not allow it to be used for days and nights.

One of the principles of their working relationship is mutual benefit. This happens to fishermen who work for fish collectors. All fishermen's needs are met by collectors by means of loans. Even if there is an incident such as damage to the boat or fishing gear, the repair costs will be borne by the owner, the fish collector. but sometimes fishermen with their own awareness make repairs to the damage, so that collectors no longer need to spend money to pay for damage repair services because the fishermen will directly do it voluntarily, as said Mr. Ancah (55 years) fisherman in his interview,

“If there is damage to the boat or fishing equipment, we don't need to think about the money to repair it. Boss gave us money to repair. but sometimes I personally do not count. I consciously repair the boat voluntarily. Because if the boat is damaged then I can't go to sea and I also lose because I can't work”

So all risks during the fishing process can be shared between fishermen and collectors. Not only one side is burdened, but all of them work together for the common good. Due to limited money, a fisherman will mostly choose to borrow money to be able to go to sea, as in an interview with Pak Arul (53 years old) as follows,

“Where do we have the money to go fishing if we don't borrow it from the boss? Too much money is needed if you want to be a fisherman, so it's better to just borrow it for capital to go to sea. As long as we are diligent in our work, there must be some profit for us. The catch of fish can be used to pay our debts to the boss”

Being a fisherman is not an easy and cheap job. A fisherman must at least have a boat and fishing equipment to be able to carry out activities as a fisherman. It takes a lot of time to raise money to prepare it all. Not to mention other operational needs such as the need for fuel oil, bait when fishing and consumption while going to sea.

As mentioned above, the working relationship between fishermen and the shipyard is mutually beneficial where fishermen are given loans by the shipyard such as ships, ship fuel, even money while sailing and the fishermen must repay the debt with their fish catches. If it is profitable, the fisherman can take the rest home as income, but if not, the fisherman is given the opportunity to pay it off on the next work.

Not only that, fishermen do not only rely on their fish catch to pay their debts, but fishermen can also pay their debts by providing additional work services such as drying fish, sorting fish and preserving fish. Wages from odd jobs can be deducted from their debt to the shipyard. This is done as the responsibility of the working relationship between employees and business owner if they still do not get profit from fishing because of certain seasons where there are not many fish in the sea.

Meanwhile, from the shipyard side, it also clearly benefits. They will get fish from fishermen which can later be sold in the city at a higher price than what is bought at the fishermen. Fishermen who work at the shipyard have an obligation to deposit their fish to the shipyard as a form of symbiotic mutualism because they have been lent money, ships, and ship fuel. There is a mutually beneficial relationship for both parties. There is no risk in this case because for example the fisherman has an accident, for example at sea so that he cannot return, the family will bear all the debts by working in the fish collector. Everything is done with a system of trust between the two parties and the belief in each other. The recording is not done in detail like a company and there is no written agreement. Everything works with trust. Trust, kinship, mutual benefit in the Patron-Client pattern is what makes the system and concept of debt different from the concept of debt in general.

## **Discussion**

### **The Concept of Debt, Patron-Client Theory and Implementation**

In Patron-Client theory, the working relationship between the Patron and the client are first, the relationship between actors who control the resource is not the same. It means Patron (in this case, Patron is Shipyard) who have capital control the resources given to Client (in this case, Client is fishermen). The shipyard who consider the capital given to fishermen as receivable and fishermen consider it as debt. The unequal control of resources can be seen in the ownership of capital between shipyards and fishermen in Sungai Bakau Village. The difference in ownership of these resources creates a vertical relationship between shipyards and fishermen. shipyard as people who have more resources than fishermen will lend their resources in the form of capital/money for the needs of fishermen to go to sea. These resources can be in the form of boats for those who do not have boats, fuel oil, nets, bait, and other necessities that are useful for fishing purposes and are considered as receivables that must be returned by fishermen.

There is an agreement that binds both of them, this agreement is simple agreement which the two parties do not make a written agreement as the corporate agreement as usual but both parties need to state if they are ready and agree in establishing a working relationship. According to Agustino (2008), the success of a policy implementation can be measured from the process and the achievement of the end result, namely whether or not the goals could be achieved.

The results of this study in general have been able to answer the research objectives. The purpose of this study was to describe the meaning of debt in local values of fishermen in Sungai Bakau, based on the theory of Patron-Client. The meaning of debt on the local community values are first, the debt as an obligation. In this case, it reflects an investor who is investing in a company. Investors act as shipyard and companies as fishermen. Fishermen will utilize and use the capital to seek profit and as much as possible will try to return the capital money from the shipyard.

Uniquely, the shipyard does not give due dates in payment of receivables and will not ask these receivables from fishermen directly. They are just waiting for the fishermen to pay. This is

the unique treatment of this concept of debt. Empirically, it was found that the shipyard believes and does not determine the due date when fishermen have to pay the debt because there are family relationship between them. Besides, the other reason is that the shipyard realize that the fishermen's income is not much. The income depends on natural conditions of the sea. The shipyard recognizes and understands the state and economic conditions of the fishermen so that they do not ask their debt directly.

The shipyard believes that if fishermen have profit, they will pay it automatically. Fishermen have a responsibility to repay the debt by paying it with their fishes. The fish catch will be taken to the shipyard to be weighed and sold and then calculated for profit. If the catch exceeds the debt, the fisherman will get a profit and the debt can be repaid, but if the catch does not exceed their debt it will be recorded as accumulated debt and will repay the debt in the next catch. If there is still minus, they will try to pay it off in installments at the next catch.

Empirically, this meaning is in accordance with the Patron-Client theory, namely the relationship between actors who control resources is not the same. There are differences in economic status between the owner of capital (shipyard) and the recipient of capital (fishermen). So that the owner (shipyard) provides capital/money received by fishermen and is considered an obligation to be returned. Fishermen consider it an obligation. It is evidenced by the fishermen's confession that they are still required to repay the debts by selling the fish catch only to the shipyard, and working sincerely for the shipyard. The shipyard do not apply specific accounting, they only write down the amount of the fishermen's debt in the usual way, then it will be reduced as usual if they make payments. So that there is no special treatment in the field of accounting and there is only a simple accounting record by entering the amount owed and it will be reduced if there is a payment.

The second is, A special relationship which is a personal and intimate relationship. The shipyard and fishermen have personal closeness and special intimacy, namely having family ties. Sungai Bakau Village, which is not too large in size, causes all residents who inhabit the area to have close family ties. Except for those newcomers who came from outside the Sungai Bakau Village area. Due to this family relationship and having a very close bond of intimacy, it makes the shipyard feel uncomfortable if they have to give dues and collections to fishermen who work for them. They keep family relations from the debt problems. Then they also live in the same village and live as neighbors where the distance between houses is not far apart so that there is a very high intimacy between community.

The emphaty of the economic condition of the fishermen is also a consideration. They do not want to burden them with collecting debts and they choose to wait for the fishermen's awareness to pay off the debt. They believe that the fishermen will pay the debt because they have family ties. This is in accordance with the second patron-client theory, namely a special relationship which is a personal and intimate relationship. This can be seen clearly from all the people involved are one relationship, namely kinship and they live close together. Of course, in working and giving full trust to someone or anyone it is not arbitrary, of course there are things behind it.

**Tabel 2. The Meaning and Implementation The Concept of Debt Based on Patron-Client Perspective**

No	Relation between Patron-Client in the theory	Meaning of debt found empirically	Implementation the concept of debt based on Patron-Client Perspective
1	The relationship between actors who control the resource is not the same	Debt is interpreted as an obligation	The theory says if the relationship occurs between actors who control the resource is not the same. That means there are those who act as owners of capital and who receive capital. Empirically, it was found that fishermen receive capital and consider it an obligation that must be returned.
2	A personal and intimate working relationship	Debt is interpreted as family and trust relationship	The theory says that the relationship that occurs is a personal and intimate relationship. Empirically, it is found that the relationship between fishermen and the shipyard is not only limited as a boss-employee relationship but also personal and familial closeness. No coercion in debt collection and no determination of the due date in the concept of debt because of the familial relationship.
3	The relationship based on the principle of mutual benefit	Debt is interpreted as a mutually beneficial relationship	The theory says that the relationship is based on the principle of mutual benefit. Empirically, it is found that there is a mutually beneficial working relationship between fishermen and shipyards. Fishermen can work sincerely to be able to pay off their debts.

Source: Data process

In this case, the reason behind this trust is the creation of mutual trust between the shipyard and fishermen because they have a close family relationship. Everyone who works in Sungai Bakau

Village all have family ties. This is what causes everything to be based on trust in establishing a working relationship. Personal relationships and intimacy that creates a sense of trust between the shipyard and fishermen is in accordance with the Patron-Client theory.

The third is the relationship based on the principle of mutual benefit. Mutually beneficial relationships occur in the daily lives of fishermen and shipyard. The shipyard provide capital and will get the catch (fishes) from the fishermen and sell it to big middlemen in big cities such as Sampit, Palangka Raya, and Banjarmasin. From the catch of these fishermen, they will definitely get a profit from selling them to big middlemen in big cities.

For fishermen, they get capital to go to sea and work so that they can meet their daily needs from these fishing activities. At least with this capital they can work and earn income from fishing activities. Mutually beneficial work occur not limited in their working but also in their daily life for example, the shipyard could ask the fisherman or his wife to help in their daily activities in exchange for deducted their debt. Fishermen work voluntarily by getting a deducted debt proceeds. Fishermen can work voluntarily without being paid.

In accordance with the third Patron-Client working relationship, namely a relationship based on the principle of mutual benefit, so this can be seen from the fishermen who can repay their debts only by working sincerely for the shipyard and the shipyard do not have to bother paying fee but just deducted the debt from the fishermen. This could be happened because they think this is mutually beneficial and not detrimental. Table 2 describe the pattern of Patron-Client theory in the implementation of the concept of debt.

## CONCLUSIONS

This study shows that the concept of debt in accounting has penetrated into a broader context which debt is not only defined as an obligation but debt is interpreted more broadly according to the social phenomenology that surrounds it. Working relationships framed in the Patron-Client pattern of fishermen from Sungai Bakau in Seruyan, Central Kalimantan interpret debt as a relationship of kinship and trust, and debt is also interpreted as a mutually beneficial relationship for both parties. These meanings are formed because of the social ties between fishermen (clients) and fish collectors (patrons) in a working relationship.

First, debt is interpreted as an obligation which the fishermen (Client) have responsibility to pay the debt to fish collector (Patron). The fishermen pay the debt from the amount of catch (fishes) calculated by the price selling as the collector stated together. The second is, debt is interpreted as a relationship of family which there is still family tolerance from fish collectors (Patron) who lend money to fishermen (Client) in paying the debts. The fisherment could pay their debt if they have profit calculated from the amount of the fishes catch deducted with debt. But if they loss, they could pay the debt when they work sea in the next days. There is no pressure from the fish collector (Patron) to fishermen (Client) pay the debt immediately if they have loss. All was arranged as flexible as possible in family working-relationship. Then debt is interpreted as a relationship of trust in Patron-Client working relationship. There is a belief that



fishermen will repay their debts if they already have a profit from their fishes catch. The guarantee is fishermen (Client) in the village have family ties that makes each party work with full responsibility and high awareness of their respective rights and obligations.

The third is debt is interpreted as a mutually beneficial relationship. Collectors provide debt for the needs of fishermen to work and likewise the fishermen will commit to provide their fishes catch to the collectors which they work. The ease of paying debts that considers family and trust factors also makes fishermen feel comfortable at work. This family, trust, and belief relationship even makes them work harder to be able to pay off their debts because they feel the collector (Patron) have been helped to earn income by giving them a loan of money and needs at work.

The study gives theoretical and practical contributions. The study could give a broader meaning of debt than existing accounting theory nowadays. The various meaning of debt in the social phenomenon founded in this study could open the mindset practical or business actors in making a policy related with the concept of debt in implementation of their working. Besides, the limitation of this study is only analyzes social phenomenon that exist in Sungai Bakau Beach, Seruyan, Central Kalimantan with a binding culture in it. For further research, research can be carried out in other areas in the context of different social phenomena. Suggestion for further research, it could focus more on researching the meaning of debt based on the perspective of the collectors (Patron) because this research focuses on the meaning of debt from the perspective of fishermen (clients) so further research is also needed from the perspective of collectors.

### **List of Abbreviations**

FASB: Financial Accounting Standard Board; PSAK: Pernyataan Standar Akuntansi Keuangan

### **Authors' Contribution**

DL, AW, RS analyzed and interpreted the data. SWL, FDM give sharpen data analysis and finishing the final manuscript.

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The author declare no competing interests.

### **Availability of Data and Materials**

The data and materials needs could be contact to [driana@umm.ac.id](mailto:driana@umm.ac.id)

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## Corporate Secretary Professional Expertise and Annual Report Readability

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### Abstract

*This paper aims to examine the relationship between professional corporate secretary expertise and annual report readability of 1,476 observations from all companies listed in the Indonesia Stock Exchange from 2014-2018 using OLS Regression with STATA 15.0. The findings obtained from this research are the legal expertise possessed by the corporate secretary will make the company's financial statements easier to understand. Meanwhile, the accounting expertise of the corporate secretary has no significant effect on the annual report readability. However, the annual report readability of firms with a corporate secretary with international expertise will be more readable. For company management, the results of this study have implications for consideration to involve professional expertise, such as legal expertise and international experience, as a part of qualifications in appointing corporate secretaries to improve the quality of information disclosure. Furthermore, this paper increases the understanding of the corporate secretary's characteristics and its effect on the company's annual report readability as a tool to measure the quality of information disclosure to reduce problems related to asymmetric information.*

**Keywords:** *Corporate Secretary, Legal Expertise, Accounting Expertise, International Experience, Readability.*

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## INTRODUCTION

The problem of information asymmetry related to company performance is very urgent to be resolved so as not to have a negative effect on the decision-making process. Research by Harakeh et al. (2020) stated that companies with high information asymmetry conditions will tend to pay and disburse dividends in smaller amounts. Momtaz (2021) stated the results of his research that information asymmetry between management and investors causes agency costs that reduce CEO loyalty. Omran & El-Galfy (2014) and Omran et al. (2021) stated that information asymmetry can

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be a problem that impacts the allocation of company resources. Momtaz (2021) stated that if the information asymmetry is not resolved, the company will bear higher costs when undertaking external funding efforts through shares or debt. This information asymmetry occurs because the company's management knows more information about its performance and intricacies. In contrast, investors who do not participate directly in running the company do not get balanced or equal information to management. The risk of uncertainty from the existence of this information asymmetry causes investors to try to protect themselves by reducing the company's value in their perspective when considering their decisions.

Signaling theory explains the company's efforts in overcoming the problem of information asymmetry. First, the company's management tries to provide information (signaling) to investors to increase the company's value (Zhao et al., 2022). The annual financial report is one of the media for companies to provide this signal. More profoundly, this signaling effort is carried out by disclosing more information to the public or investors, usually conveyed in company reports.

According to Ong et al. (2020), there are two forms of information disclosure. Quantitative disclosure is carried out by providing financial information directly, and qualitative disclosure is translated into narrative form. Much research on quantitative disclosure has been carried out, but the accounting repertoire still lacks literacy about qualitative disclosure (Merkly, 2011). In qualitative disclosure, Chakraborty & Bhattacharjee (2020) stated that disclosure of information by companies, including the submission of annual financial reports, contains significant amounts of textual information or in the form of unstructured narratives. Although it can increase transparency, disclosing information in a narrative form risk having the opposite impact because of the writing style, grammar, and complicated terms that can distract and confuse those who read it (Lim et al., 2018). Chakraborty & Bhattacharjee (2020) stated that by borrowing instruments from studies in linguistics, the quality of this qualitative disclosure can be measured by readability. The ease of understanding a form of textual information related to writing style is the definition of readability (Jang & Rho, 2016).

However, certain factors that impact the annual report readability, affecting the quality of disclosure and the company's value. Lo et al. (2017) found that companies with high levels of earnings management were positively related to high readability, which means that reports are increasingly difficult to understand. Chakraborty & Bhattacharjee (2020) found that companies with low-income levels have reports that are difficult to understand. Habib & Hasan (2020) found that companies that use a prospector business strategy have financial statements that are more difficult to understand. Moreno & Casasola (2016) found that firm size affects readability. Dempsey et al. (2012) stated that the company's low performance is related to the company's annual financial statements' difficulty understanding.

Many studies have investigated the factors that affect readability in terms of company performance. However, not many have investigated the characteristics of management as the party operating the company. Previously, Ginesti et al. (2018) have examined the relationship between women's participation in the ranks of company leaders and readability. Moreno & Casasola (2016) also found that management leadership turnover was related to readability. Hasan (2020) found that managerial ability affects readability.

The corporate secretary is among the company's management, which has not been studied empirically, and its influence on readability. Whereas the corporate secretary influences the

practice of corporate governance, disclosure, and financial reporting of companies (Nowland et al., 2021; Peng et al., 2019). Financial Services Authority Regulation Number 35/POJK.04/2014 dated 8 December 2014 concerning Corporate Secretary of Issuers or Public Companies stipulates that every public company in Indonesia is required to appoint a company secretary carried out by the Board of Directors and reported to OJK and the Indonesia Stock Exchange.

Although there are some companies that use third parties in writing their annual reports, with their legal, financial and international expertise, company secretary can assist company in compiling components of their financial statements. This is because company secretaries have a vital coordination function with managers in making decisions that conform to applicable principles, standards, and regulations and influence corporate governance practices. According to OJK regulations, in addition to following capital market developments and providing input to libraries and the issuer's board of commissioners to comply with laws and regulations in the capital market sector, the company secretary also assists in providing information to the public, submitting reports and liaising between the company and shareholders and other stakeholders. Therefore, the corporate secretary should be among the management who influences disclosure as measured by the readability of the company's annual report.

According to the regulations in Indonesia, in carrying out their duties, the corporate secretary is expected to master several abilities. Namely law, finance, and corporate governance (OJK, 2014). Nowland et al. (2021) found a relationship between the corporate secretary's professional expertise (expertise) and the quality of information disclosure. The legal expertise of the corporate secretary makes them more timely in submitting financial reports (Nowland et al., 2021). This expertise has also been proven to support management earnings forecasts (Xing et al., 2019). Then Xing et al. (2019) also found that the accounting expertise of the corporate secretary is positively related to these activities. In addition to legal and accounting skills, the quality of information disclosure and corporate governance can also be better when the top management has international experience (Giannetti et al., 2015; Xing et al., 2019). Following resource dependence theory, these three pieces of knowledge are expertise that is part of the resources needed by companies to improve the quality of information disclosure.

Resource dependence theory explains that in achieving its goals, companies must try to get resources from the surrounding environment (Salancik & Pfeffer, 1978). Based on this theory, that directors will experience limitations when carrying out their role in disclosure efforts if they do not or lack accounting expertise. This expertise is a form of resource that helps companies to increase disclosure which will later add value to the company. Corporate secretary is a bridge between the company and the public which also affects the quality of disclosure (Nowland et al., 2021; Peng et al., 2019). In carrying out this role, the corporate secretary also needs the same resources. So, in line with resource dependence theory, companies also need a corporate secretary with certain expertise who is able to increase the quality of disclosure, in this study measured by readability, so that information asymmetry problems can be minimized which in turn increases company value.

From here, it emerges how the corporate secretary's expertise on legibility as a benchmark for the quality of narrative disclosure by the company to signal to the public to increase its value. The research sample to answer these questions was taken from companies that went public and were listed on the Indonesia Stock Exchange (IDX) for 2014 to 2018.

The measurement of narrative disclosure in this study is carried out in the Management Discussion and Analysis (MD&A) section because it contains management's explanation of its performance in one period and its views for the next period. In addition to financial information, the explanations in this section are a source of information used by investors to assess and consider decisions that will be made afterward. This section represents how transparent the company is in conveying a signal to the public through word choice and narrative writing style that readers can measure the level of ease of understanding (Chakraborty & Bhattacharjee, 2020; Lo et al., 2017).

Many have researched the variables that affect the readability of the company's annual financial statements. Among them are Subramanian et al. (1993), Curtis (1995), Clatworthy & Jones (2001), Lo et al. (2017), Chakraborty & Bhattacharjee (2020), Hasan (2020), Ajina et al. (2016), Moreno & Casasola (2016), Lim et al. (2018), and many more. However, all of these studies examine the related variables in terms of company performance. As for the implementing side of the company's activities, there are still not many research. There are only a few, such as Ginesti et al. (2018), Hasan (2020), and Drago et al. (2018), which discusses the criteria for corporate leaders, such as the board of directors, commissioners or managers. However, no one has examined how the influence of the corporate secretary on the readability of the company's annual financial statements. At the same time, the corporate secretary is part of the management who knows a lot of information about the company and is in charge of connecting the company with outside parties such as investors through various forms of reporting, including financial reporting.

McNulty & Stewart (2015) found that the corporate secretary can link executive and non-executive directors to develop corporate governance and the effectiveness of their roles. Sigauke et al. (2015) later confirmed that the corporate secretary plays a significant role in improving corporate governance practices and providing input to the board of directors and commissioners. Peng et al. (2019) found that companies that provide high compensation to the corporate secretary will have good disclosure quality. Then the research results of Nowland et al. (2021) strengthen the corporate secretary's significant role in corporate governance and information disclosure. Xing et al. (2019) also found that expertise (professional expertise), duality (multiple positions), equity holding (share ownership), and political connection (political connections) in the corporate secretary affect the course of corporate governance and company disclosure. However, there is not much literature that examines the influence of the corporate secretary, especially in terms of expertise on readability as a measure of the quality of information disclosure. From here, research is needed to determine whether the expertise attached to the corporate secretary affects readability to measure the quality of disclosure empirically and systematically.

Information asymmetry related to company performance can be overcome by signaling (Omran et al., 2021; Omran & El-Galfy, 2014). Namely, the company tries to convey information (signal) its performance through various ways, the most important of which is financial reporting and the disclosure of certain information to stakeholders. The quality of information disclosure in financial statements can be measured, one of which is readability (Chakraborty & Bhattacharjee, 2020). Readability or the level of readability of financial statements describes how easily the reader can understand the report. Thus, affecting the effectiveness of absorption of information conveyed by the company's management to stakeholders. However, the readability of the company's annual financial statements is influenced by various factors. One of them is the inherent character of the

company's management, such as members of the board of directors (Ginesti et al., 2018). In addition to members of the board of directors, the corporate secretary is also part of the management that influences the disclosure of the company's performance. Nowland et al. (2021) stated that the corporate secretary who doubles as CFO is related to the lack of earnings management practices and the tendency to get a reasonable audit opinion, while the corporate secretary who doubles as legal counsel is timelier in submitting the company's financial statements. This study wants to find out whether there is a relationship between the characteristics of the corporate secretary as a form of resource needed by the company and the readability of the company's annual financial statements. Xing et al. (2019) stated that the corporate secretary who has legal expertise is more sensitive to litigation risks related to information asymmetry and improves the quality of information disclosure due to his capability in advising managers regarding legislation and compliance with regulations. A corporate secretary who has accounting expertise can understand the company's financial condition better. A corporate secretary with international expertise (experience working or studying abroad) improves management earnings forecasts because of his knowledge and experience. Therefore, researchers expect that a corporate secretary with legal expertise, accounting, or international experience can improve the readability to make the company's annual financial reports easier to understand. The researcher proposes the following hypothesis:

**H1: Companies with corporate secretaries who have legal expertise (H1a), accounting expertise (H1b), or international expertise (H1c) will have a more readable annual report.**

## RESEARCH METHOD

### Data and Sample

This study uses a mixed-method approach, which is a mixture of quantitative and qualitative approaches. At the same time, the type of data used in this study is panel data, a combination of cross-section and time-series data types. The data sources of this research are secondary data sources obtained from the company's annual reports obtained from the Indonesia Stock Exchange website ([www.idx.co.id](http://www.idx.co.id)), ORBIS, and FR.

The population in this study are all companies listed on the Indonesia Stock Exchange for 2014-2018, except for financial sector companies that have the SIC 6 code. Companies with these sectors are excluded because they have a different financial reporting character from companies in other sectors. STATA carried out the sample of this research after being given a command in the form of coding to eliminate missing data and companies whose sector coded SIC 6. Observations were carried out starting in 2014 because, since that year, the OJK has mandated the existence of a corporate secretary in public companies in Indonesia. It is limited to 2018 because, in the following year, there was a major political event (Presidential Election) that could affect the economy and company performance in Indonesia, leading to bias in research. This study observes all industries to get a general idea because there is not much empirical evidence for similar research with case studies in Indonesia. However, the financial industry is excluded so as not to be biased due to differences in regulations with other industries.



**Table 1. Sample Selection Criteria**

Description	Total
Total research population	3,505 observations
Excluded:	
Companies with SIC code 6	831 observations
Incomplete data	1,198 observations
Total research sample	1,476 observations

**Variable Operational Definition****Readability**

Readability is the level of readability that states how easily a text can be understood. This study measures readability in the Management Discussion and Analysis (MD&A) section in the company's annual report. This section reflects how management makes disclosures and rationalizes its steps and performance (Chakraborty & Bhattacharjee, 2020). This section is also required to be included in the annual report with the structure and content determined by the regulations (Lo et al., 2017) including the newer OJK regulation which is sustainability report is a part of annual report. So, it can be said that MD&A is a crucial part of information disclosure through the company's annual report. Readability in this study was measured by Flesch-Kincaid Grade Level, Flesch-Kincaid Readability Index, Gunning-Fog Readability Index, SMOG Index, and Coleman-Liau Readability Index. This study uses these five indices because they are the most commonly used indices in research, especially the Flesch and Fog indexes which are often used as proxies in the accounting field (Smeuninx et al., 2020).

The Flesch-Kincaid Grade Level measures the level of education required to understand a text. The higher the value, the higher the level of education required, the more difficult the text will be to understand. Scores can be deciphered as displayed in table 2 beneath (Flesch, 2016).

**Table 2. The Flesch-Kincaid Grade Level Scores**

Score	School Level in (Grade)	Means
90-100	5 <sup>th</sup>	Very easy to read and understood by an average 11-year-old student.
80-90	6 <sup>th</sup>	Easy to read.
70-80	7 <sup>th</sup>	Quite easy to read.
60-70	8 <sup>th</sup> & 9 <sup>th</sup>	Plain English and easily understood by 13-15-year-old student.
50-60	10 <sup>th</sup> -12 <sup>th</sup>	Quite hard to read.
30-50	College	Hard to read.
10-30	College graduate	Very hard to read. Best understood by university graduates.
0-10	Professional	Extremely hard to read.

The Flesch-Kincaid Grade Level (FLESCH) is calculated by:

$$FLESCH = 0.39 \left( \frac{\text{total words}}{\text{total sentences}} \right) + 11.8 \left( \frac{\text{total syllables}}{\text{total words}} \right) - 15.59$$

The Flesch-Kincaid Readability Index or Flesch Reading Ease Test states that the higher the value of a text, the easier it is to understand. The Flesch-Kincaid Readability Index (KINCAID) is calculated by:

$$KINCAID = 206.835 - 1.015 \left( \frac{total\ words}{total\ sentences} \right) - 84.6 \left( \frac{total\ syllables}{total\ words} \right)$$

Based on research Sucahyati et al. (2020), the following is the meaning of the resulting KINCAID score:

90 – 100 is easy to understand for the average 11-year-old student.

60 – 70 is easy to understand for the average 11 until 15-year-old.

0 – 30 is mostly understood by the average university graduate.

Gunning-Fog Readability Index (GUNNING) is calculated by:

$$GUNNING = 0.4 \times \left( \left( \frac{total\ words}{total\ sentences} \right) - 100 \left( \frac{complex\ words}{total\ words} \right) \right)$$

For GUNNING, the readability states for this measurement are score  $\geq 18$  means the text is very difficult to read and understand; 14-18 (difficult); 12-14 (ideal); 10 -12 (quite easy) and 8-10 (very easy). So, the higher the gunning-fog index, the more difficult an article is to read and understand (Rahman & Wahyuni, 2020).

SMOG (Simple Measure of Gobbledygook) Index is calculated by:

$$SMOG = 1.043 \sqrt{30 \times \frac{total\ polysyllables}{total\ sentences}} - 3.1291$$

The result approximates the U.S. grade level that readers need to comprehend the text. For example, if the output score is 7.1, then the text is appropriate for a 7<sup>th</sup> grade student.

Coleman-Liau Readability Index is calculated by:

$$CL = 5.89 \left( \frac{total\ characters}{total\ words} \right) - 29.5 \left( \frac{total\ sentences}{total\ words} \right) - 15.8$$

Same as SMOG index, the result of Coleman-Liau Readability Index scores approximates the U.S. grade level that readers need to comprehend the text.

A complex word is a word that has three or more syllables (syllables). The Flesch-Kincaid Grade Level, Gunning-Fog Readability Index, SMOG Index, and Coleman-Liau Readability Index also state that the higher the score, the more difficult the text is to understand.

The readability score calculation for each index is done by copying all the words in the MD&A section of the Notepad application, so the file.txt format is obtained and then inputted into the Readability application, which is often used in the linguistic field to get the readability value.

### ***The expertise of Corporate Secretary***

The expertise or expertise of the corporate secretary is the dependent variable used as a variable in this study. Expertise in this research includes legal expertise, accounting expertise, and international expertise.

The definition of all expertise in this study uses a dummy variable because this study wants to see the existence of professional expertise in the corporate secretary in Indonesia. Legal expertise (LAW) is a dummy variable with a value of 1 if the corporate secretary has at least an academic law degree, has a legal license, or has worked as a lawyer or legal counsel (Syofyan et al., 2021). Accounting expertise (ACCT) is a dummy variable with a value of 1 if the corporate secretary has at least an accounting profession certification or has worked as a controller/treasurer/auditor/tax professional (Chychyla et al., 2019) or an accounting education background and 0 if not. International expertise (INTER) is a dummy variable with a value of 1 if the corporate secretary has worked or studied abroad (Xing et al., 2019).

This study uses firm size, leverage, profitability, loss, firm age, and corporate governance as control variables. Firm size (SIZE) is the company's size as measured by the natural logarithm of the company's total assets (Chakraborty & Bhattacharjee, 2020). Leverage (LEV) is measured by total long-term debt divided by total assets (Ginesti et al., 2018). Profitability (EARN) is measured by earnings before tax divided by total assets (Lo et al., 2017). Loss (LOSS) is a loss measured by a dummy variable, given a value of 1 if profitability is less than 0 and 0 if profitability is more than equal to 0 (Lo et al., 2017). Firm age (AGE) is the company's age as measured by the natural logarithm of the number of years since the company was founded (Chakraborty & Bhattacharjee, 2020). Finally, the percentage of independent directors to the number of directors (INDDIR) and the percentage of independent commissioners to the number of commissioners (INDCOM) are defined as corporate governance variables (Ginesti et al., 2018).

### Research Design

This study uses analytical techniques that include descriptive statistical analysis test, Pearson correlation test, and multiple linear regression analysis tests with the help of STATA 15.0 software. Before all the analytical tests were carried out, the author did a Winsorize first. Winsorize pulls the lowest outlier data to the 1% level and the highest outlier data to 99% so that there is no bias. Previously, the anti-heteroscedasticity command was also carried out to avoid heteroscedasticity problems.

The Ordinary Least Square Regression test was carried out in this study to determine the magnitude of the influence between two or more independent variables on the dependent variable. The regression model used to test the hypothesis in this study is formulated as follows:

$$READ_{i,t} = \beta_0 + \beta_1LAW_{i,t} + \beta_2ACCT_{i,t} + \beta_3INTER_{i,t} + \beta_4SIZE_{i,t} + \beta_5LEV_{i,t} + \beta_6EARN_{i,t} + \beta_7LOSS_{i,t} + \beta_8AGE_{i,t} + \beta_9INDCOM_{i,t} + \beta_{10}INDDIR_{i,t} + \beta_{11}YEAR_{i,t} + \beta_{12}INDUSTRY_{i,t} + \varepsilon_{i,t} \dots\dots\dots (1)$$

## RESULTS AND DISCUSSION

### Results

The distribution of this research sample is depicted in table 2, which is based on industry groups. Panel A stated that the corporate secretary who has legal expertise is 26.08%. Panel B stated that the corporate secretary who has accounting expertise is 38.75%. Panel C stated that the corporate

secretary who has international expertise is 26.08%. Table 2 shows that the largest sample distribution is in the manufacturing industry (SIC code 2).

**Table 2. Sample Distribution by Industry**

Panel A: <i>Legal Expertise (LAW)</i>							
SIC	Industry	With LAW		Without LAW		Total	
		n	%	n	%	n	%
0	Agriculture, Forestry and Fisheries	15	26.79	41	73.21	56	100
1	Mining and Construction	64	28.44	161	71.56	225	100
2	Manufacture (1)	96	24.43	297	75.57	393	100
3	Manufacture (2)	60	23.81	192	76.19	252	100
4	Transportation, Communications and Utilities	75	30.74	169	69.26	244	100
5	Wholesale & Retail Trade	43	30.50	98	69.50	141	100
7	Service Industries	27	20.45	105	79.55	132	100
8	Health, Legal, and Educational Services and Consulting	5	15.15	28	84.85	33	100
	Total	385	26.08	1,091	73.92	1,476	100
Panel B: <i>Accounting Expertise (ACCT)</i>							
SIC	Industry	With ACCT		Without ACCT		Total	
		n	%	n	%	n	%
0	Agriculture, Forestry and Fisheries	26	46.43	30	53.57	56	100
1	Mining and Construction	50	22.22	175	77.78	225	100
2	Manufacture (1)	182	46.31	211	53.69	393	100
3	Manufacture (2)	85	33.73	167	66.27	252	100
4	Transportation, Communications and Utilities	88	36.07	156	63.93	244	100
5	Wholesale & Retail Trade	60	42.55	81	57.45	141	100
7	Service Industries	60	45.45	72	54.55	132	100
8	Health, Legal, and Educational Services and Consulting	21	63.64	12	36.36	33	100
	Total	572	38.75	904	61.25	1,476	100
Panel C: <i>International Expertise (INTER)</i>							
SIC	Industry	With INTER		Without INTER		Total	
		n	%	n	%	n	%
0	Agriculture, Forestry and Fisheries	13	23.21	43	76.79	56	100
1	Mining and Construction	78	34.67	147	65.33	225	100
2	Manufacture (1)	95	24.17	298	75.83	393	100
3	Manufacture (2)	56	22.22	196	77.78	252	100
4	Transportation, Communications and Utilities	56	22.95	188	77.05	244	100
5	Wholesale & Retail Trade	45	31.91	96	68.09	141	100
7	Service Industries	25	18.94	107	81.06	132	100
8	Health, Legal, and Educational Services and Consulting	17	51.52	16	48.48	33	100
	Total	385	26.08	1,091	73.92	1,476	100

Table 3 provides descriptive statistical information of the study, including the mean, median, minimum, and maximum values of each research variable. In this study, readability was measured using five indices. Based on table 3, LAW has an average value of 0.261. This means, as many as 26.1% of the research sample have a corporate secretary with expertise in the field of law. ACCT shows an average value of 0.388. This means that 38.8% of the entire research sample has a corporate secretary with accounting expertise. While INTER in this research sample has an average value of 0.261. This means that 26.1% of the entire research sample has a corporate secretary who has worked or studied abroad (international expertise).

**Table 3. Statistic Descriptive**

Variable	Mean	Median	Minimum	Maximum	Standard Deviation
LAW	0.261	0.000	0.000	1.000	0.440
ACCT	0.388	0.000	0.000	1.000	0.487
INTER	0.261	0.000	0.000	1.000	0.440
FLESCH	21.961	22.024	17.451	26.157	1.573
KINCAID	26.576	27.147	7.985	43.815	6.599
GUNNING	25.775	25.805	21.010	30.356	1.764
SMOG	20.118	20.207	15.271	24.141	1.609
CL	23.620	23.600	20.971	26.467	1.097
SIZE	28.652	28.650	24.899	32.274	1.589
LEV	0.493	0.478	0.033	1.823	0.268
EARN	0.067	0.059	-0.212	0.505	0.101
LOSS	0.191	0.000	0.000	1.000	0.393
AGE	3.290	3.401	1.609	4.454	0.556
INDCOM	37.890	33.333	0.000	66.667	12.675
INDDIR	17.010	16.667	0.000	50.000	13.864

The results of the Pearson correlation test listed in table 4 show that LAW was significantly negatively related to KINCAID and CL but not significant to FLESCH, GUNNING, and SMOG. This means that the annual reports of companies that have a corporate secretary with legal expertise will be easier to understand than those without a corporate secretary with legal expertise. ACCT was not significantly positively related to all readability variables, namely FLESCH, KINCAID, GUNNING, SMOG, and CL. This is because the corporate secretary with accounting expertise does not make the annual report easier to understand. Finally, INTER was significantly negative with CL but significantly positive with FLESCH and SMOG, and not significant for KINCAID and GUNNING.

**Table 4. Pearson Correlation**

Panel A: From LAW to SMOG							
	[1]	[2]	[3]	[4]	[5]	[6]	[7]
[1] LAW	1.000						
[2] ACCT	-0.397*** (0.000)	1.000					
[3] INTER	-0.068*** (0.009)	-0.080*** (0.002)	1.000				
[4] FLESCHE	-0.013 (0.607)	0.018 (0.487)	0.059** (0.023)	1.000			
[5] KINCAID	-0.055** (0.034)	0.033 (0.201)	0.018 (0.479)	0.833*** (0.000)	1.000		
[6] GUNNING	-0.031 (0.228)	0.007 (0.795)	0.029 (0.268)	0.962*** (0.000)	0.858*** (0.000)	1.000	
[7] SMOG	-0.002 (0.945)	0.008 (0.765)	0.057** (0.030)	0.963*** (0.000)	0.711*** (0.000)	0.936*** (0.000)	1.000
[8] CL	-0.069*** (0.008)	0.012 (0.653)	-0.050* (0.053)	0.370*** (0.000)	0.585*** (0.000)	0.431*** (0.000)	0.251*** (0.000)
[9] SIZE	0.145*** (0.000)	-0.082*** (0.002)	0.100*** (0.000)	0.174*** (0.000)	0.065** (0.012)	0.123*** (0.000)	0.202*** (0.000)
[10] LEV	-0.002 (0.931)	-0.034 (0.193)	0.051* (0.052)	-0.021 (0.423)	-0.045* (0.086)	-0.033 (0.206)	-0.010 (0.694)
[11] EARN	-0.020 (0.449)	0.086*** (0.001)	0.001 (0.957)	0.074*** (0.005)	0.074*** (0.004)	0.081*** (0.002)	0.073*** (0.005)
[12] LOSS	0.002 (0.947)	-0.040 (0.125)	0.045* (0.085)	-0.031 (0.230)	-0.061** (0.018)	-0.043 (0.101)	-0.024 (0.356)
[13] AGE	0.039 (0.132)	-0.016 (0.538)	0.010 (0.696)	-0.026 (0.318)	-0.047* (0.068)	-0.052** (0.047)	-0.026 (0.323)
[14] INDCOM	-0.023 (0.387)	0.015 (0.567)	-0.009 (0.735)	0.046* (0.074)	0.056** (0.032)	0.049* (0.062)	0.026 (0.309)
[15] INDDIR	0.058** (0.026)	0.043* (0.097)	-0.036 (0.163)	0.063** (0.015)	0.066** (0.012)	0.073*** (0.005)	0.055** (0.035)

Panel B: From CL to INDDIR

	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
[8] CL	1.000							
[9] SIZE	-0.073*** (0.005)	1.000						
[10] LEV	-0.101*** (0.000)	0.127*** (0.000)	1.000					
[11] EARN	0.021 (0.419)	0.173*** (0.000)	-0.129*** (0.000)	1.000				
[12] LOSS	-0.075*** (0.004)	-0.172*** (0.000)	0.082*** (0.002)	-0.586*** (0.000)	1.000			
[13] AGE	-0.041 (0.118)	0.078*** (0.003)	0.060** (0.012)	0.091*** (0.000)	-0.092*** (0.000)	1.000		
[14] INDCOM	0.018 (0.482)	0.033 (0.203)	0.014 (0.591)	0.003 (0.900)	-0.001 (0.957)	-0.039 (0.135)	1.000	
[15] INDDIR	0.020 (0.447)	-0.186*** (0.000)	-0.093*** (0.000)	-0.084*** (0.001)	0.082*** (0.002)	-0.164*** (0.000)	0.198*** (0.000)	1.000

*p*-value in parentheses

\*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$

Based on table 5, LAW has a significant negative relationship with three readability indices: KINCAID, GUNNING, and CL. At KINCAID significant level 5% ( $t$ -value -2.29) and regression

coefficient -1.006. This means that for every 1-point increase in LAW, the KINCAID value will decrease by 1.006, which means that the financial statements will be easier to understand. Likewise, GUNNING is significant at the 10% level (t-value -1.96), and the regression coefficient is -0.235. It shows that for every 1-point increase in LAW, the GUNNING value will decrease by 0.235, making the financial statements easier to understand. It also applies to CL which has a significant level of 1% (t-value -2.65) and a regression coefficient of -0.180. This indicates that for every 1-point increase in LAW, the CL value will decrease by 0.180, making the financial statements easier to understand. The FLSECH and SMOG regressions result with t-values of -1.25 and -1.09, respectively, and regression coefficients of -0.132 and -0.117. So, in general, the results of this regression state that the company's financial statements with a corporate secretary who has legal expertise will be easier to understand. This is following H1a.

**Table 5. OLS Results: Expertise of Corporate Secretary and Readability**

Variable	Direction Prediction	Readability				
		FLESCH	KINCAID	GUNNING	SMOG	CL
LAW	-	-0.132 (-1.25)	-1.006** (-2.29)	-0.235* (-1.96)	-0.117 (-1.09)	-0.180*** (-2.65)
ACCT	-	0.048 (0.50)	0.059 (0.15)	-0.044 (-0.40)	0.035 (0.35)	-0.083 (-1.25)
INTER	-	0.125 (1.45)	0.073 (0.20)	0.036 (0.36)	0.107 (1.22)	-0.116* (-1.83)
SIZE	+	0.190*** (6.86)	0.300*** (2.65)	0.158*** (4.97)	0.228*** (7.95)	-0.050*** (-2.66)
LEV	-	-0.187 (-1.15)	-0.923 (-1.42)	-0.220 (-1.22)	-0.162 (-0.96)	-0.311*** (-3.10)
EARN	+	0.952** (2.04)	3.168* (1.73)	1.255** (2.33)	1.035** (2.11)	-0.259 (-0.82)
LOSS	-	0.067 (0.52)	-0.664 (-1.25)	0.010 (0.07)	0.134 (1.03)	-0.283*** (-3.03)
AGE	+	0.050 (0.67)	0.058 (0.18)	-0.046 (-0.55)	0.022 (0.28)	-0.073 (-1.31)
INDCOM	+	0.003 (0.79)	0.018 (1.30)	0.003 (0.89)	0.000 (0.03)	0.002 (0.76)
INDDIR	+	0.010*** (3.04)	0.029** (2.13)	0.012*** (3.00)	0.011*** (3.16)	-0.002 (-0.85)
Constant		15.826*** (18.65)	15.461*** (4.23)	20.886*** (21.62)	13.131*** (15.04)	25.390*** (43.10)
Year Dummy		Yes	Yes	Yes	Yes	Yes
Industry Dummy		Yes	Yes	Yes	Yes	Yes
r <sup>2</sup>		0.079	0.063	0.060	0.082	0.069
N		1,476	1,476	1,476	1,476	1,476

t statistik in parentheses

\* p < 0.1; \*\* p < 0.05; \*\*\* p < 0.01

The results of the ACCT regression in table 5 illustrate the insignificant relationship with the five readability indices. FLESCH has a regression coefficient of 0.048 (*t*-value 0.50), KINCAID has a regression coefficient of 0.059 (*t*-value 0.15), and SMOG has a regression coefficient of 0.035 (*t*-value 0.35), which means that every 1 point increase in ACCT will increase FLESCH by 0.048, KINCAID was 0.059 and SMOG was 0.035. The GUNNING and CL coefficient values are -0.044 (*t*-value -0.40) and -0.083 (*t*-value -1.25), respectively, which means that every 1point increase in ACCT will decrease GUNNING by 0.044 and CL by 0.083. So the results of the ACCT regression on the five readability indices generally state that the accounting expertise possessed by the corporate secretary does not make the company's financial statements easier to understand. This contradicts H1b.

Table 5 also shows that INTER is significantly negatively related to CL. The significant level of CL is 10%, with a regression coefficient of -0.116 and a *t*-value of -1.83. For every 1point increase in INTER, the CL value will decrease by 0.116, which means that financial statements will be easier to understand. While the regression coefficients for the other four readability indices are FLESCH 0.125 (*t*-value 1.45), KINCAID at 0.073 (*t*-value 0.20), GUNNING at 0.036 (*t*-value 0.36) and SMOG at 0.107 (*t*-value 1.22). This shows that every 1point increase in INTER will be followed by an increase in FLESCH by 0.125, KINCAID by 0.073, GUNNING by 0.036, and SMOG by 0.107. The regression results between INTER and the five readability indices state that, in general, the annual financial statements of companies with corporate secretaries who have international expertise will be easier to understand. This corresponds to H1c. So, it can be concluded that companies with corporate secretaries who have the expertise (legal / accounting / international) will have annual financial reports that are more readable (easier to understand). This is appropriate and confirms the hypothesis (H1) proposed in this study.

For the control variable, SIZE has a significant positive relationship with FLESCH, KINCAID, GUNNING, and SMOG, all at a significance level of 1%. However, SIZE is also significantly negatively related to CL at a significance level of 1%. This follows the results of previous research conducted by Lim et al. (2018) and Ginesti et al. (2018). LEV had a significant negative relationship with CL (at a significance level of 1%), but it was not significantly negative with the other four readability indices, namely FLESCH, KINCAID, GUNNING, and SMOG. This is following previous research conducted by Ginesti et al. (2018). EARN has a significant positive relationship with FLESCH, KINCAID, GUNNING, and SMOG. With a significance level of 5% on FLESCH, GUNNING, and SMOG and 10% on KINCAID. However, EARN has an insignificant negative relationship with CL. This is following previous research conducted by Ginesti et al. (2018). LOSS had a significant negative relationship with CL at the 1% significance level, insignificant negative with KINCAID, and insignificant positive with FLESCH, GUNNING, and SMOG. This is in line with research conducted by Lo et al. (2017). Finally, AGE had an insignificant positive relationship with FLESCH, KINCAID, and SMOG, and an insignificant negative relationship with GUNNING and CL. This follows previous research conducted by Lim et al. (2018) and Drago et al. (2018). INDCOM has an insignificant positive relationship with the five readability indices, namely FLESCH, KINCAID, GUNNING, SMOG, and CL. This is following previous research conducted by Ginesti et al. (2018). INDDIR has a significant positive relationship with FLESCH, KINCAID, GUNNING, and SMOG. With a significance level of 1% on FLESCH, GUNNING, and SMOG, and 5% on KINCAID. However, INDDIR was not



significantly negatively related to CL. This is following previous research conducted by Ginesti et al. (2018).

The value of  $r^2$  in table 4.4 shows that the regression results between the independent and dependent variables are each able to represent 7.9% of the data from a total of 1,476 samples for FLESCHE, 6.3% of data from a total of 1,476 samples for KINCAID, 6% of data from a total of 1,476 samples for GUNNING, 8.2% of the data from 1,476 samples for SMOG, and 6.9% of data from a total of 1,476 samples for CL.

## Discussion

Based on table 5, the regression results show that the company's annual financial statements with the corporate secretary with legal expertise are easier to understand (more readable), so H1a is accepted. This may be because the corporate secretary with legal expertise is more sensitive to litigation risk due to information asymmetry and because his capability in advising managers regarding legislation and compliance with regulations makes the corporate secretary able to improve the quality of information disclosure, one of which is through company financial reporting that is easier to understand (Xing et al., 2019). Nowland's research results (2020) also state that the corporate secretary, who is also legal counsel (meaning he has legal expertise), emphasizes the compliance aspect when reporting financially.

The results of the regression test (table 5) state that the presence of accounting expertise in the corporate secretary does not make the company's financial statements easier to understand, so H1b is rejected. This is probably because even though the corporate secretary is responsible for information disclosure, his accounting expertise is more used to provide advice on operational matters and strategic management. Therefore, it does not affect the readability of the company's financial statements. This is as the results of the study of Chychyla et al. (2019), who found that the accounting expertise of the board of directors and the audit committee was positively related to the company's financial reporting complexity.

Then, the regression results in table 5 also state that the corporate secretary's international expertise makes the company's financial statements easier to understand, so H1c is accepted. This is probably because the experience and knowledge gained by corporate secretaries abroad will be used to improve the quality of corporate governance, including company disclosures, to make financial reports easier to understand. This result is also in line with Xing et al. (2019), who found that international expertise possessed by management will improve the quality of company activities.

From this, it can be concluded that the corporate secretary's expertise (legal and international) affects the readability of the company's financial statements, making the report more readable so that H1 is accepted. These results align with previous studies (Nowland et al., 2021; Xing et al., 2019). This adds to empirical evidence about the effect of management characteristics on the readability of the company's financial statements. This study also adds to empirical evidence, which states that the expertise of the company's management will improve the quality of disclosure to reduce the impact of information asymmetry between management and company investors. Concerning signaling theory and resource dependence theory, the results of this study prove that when a company tries to avoid a decrease in value due to information asymmetry by giving a signal to the public through disclosure, the company needs qualified resources to achieve

it optimally (Myers & Majluf, 1984). One vital resource that significantly affects this signaling process is the expertise attached to the corporate secretary as a bridge between management and the public and one of the parties responsible for disclosing company information.

## CONCLUSIONS

This study aims to determine the effect of the expertise possessed by the corporate secretary on the readability of the company's annual financial statements. The findings obtained from this research are the legal expertise possessed by the corporate secretary will make the company's financial statements easier to understand. This is because the legal expertise makes the corporate secretary more sensitive to risks due to information asymmetry, and his capability in advising managers on legislation and compliance with regulations can improve the quality of information disclosure. But then, the results of this study also show that the accounting expertise possessed by the corporate secretary does not affect readability. It does not make the company's financial statements easier to understand. This is because the accounting expertise possessed by the company's management, including the corporate secretary, is more likely to be used for operational issues and company management strategies to reduce the complexity of the company's financial statements. But then, this study also found that the corporate secretary's international expertise makes the company's financial reports easier to understand. This is because the experience and knowledge gained by corporate secretaries abroad improve the quality of corporate governance, including disclosure of information to make the company's financial statements easier to understand. Finally, this research finds that the expertise possessed by the corporate secretary – legal and international expertise – can affect the readability of the company's annual financial statements, namely making them more readable.

There are limitations in this study that can be used as a basis for further in-depth research in the future. These limitations include the fact that all companies listed on IDX in the 2014-2018 period were used as the population of this study. This means that the test results of the relationship between the expertise possessed by the corporate secretary and the readability of the company's annual financial statements can only be generalized in that period.

For policymakers, in choosing a corporate secretary, it is necessary to consider various characteristics possessed and needed, such as legal expertise, accounting, or experience from abroad, to be applied to the information disclosure process and improve corporate governance practices. As for academics, this research is still relatively new in Indonesia, so it is necessary to conduct more in-depth research to explore further the characteristics of the corporate secretary and the readability and condition of information disclosure in Indonesia. In addition, further research can include other factors that are usually attached to the corporate secretary, such as duality, equity holding, or political connection, such as the research conducted by Xing et al. (2019).

### List of Abbreviations

ACCT: Accounting expertise; CEO: Chief Executive Officer; INDDIR: number of directors; INDCOM number of commissioners; IDX: Indonesia Stock Exchange; MD&A: Management Discussion and Analysis; OJK: Otoritas Jasa Keuangan (Financial Services Authority); SIC: Standard Industrial Classification.

### Authors' Contribution

I.H. provided direction for the entire project, develop research ideas, supervise data collection, analyse and contribute to the writing of articles. M.O. developed research ideas and provided input on proposed research, as well as performed data processing and developed article writing.

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## Cosmology of Labuhan Larung Sesaji Ritual Meaning the Homogeneity Strategic Cost Concept in Blue Sea Fisheries Accounting

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### Abstract

*Research to reveal the formation of fishermen's income based on homogeneity strategic cost concept is shown in the labuhan larung sesaji ritual cosmology. This concept gives meaning to the presence of blue sea fisheries accounting. Qualitative methods with a phenomenological approach are used in this study. The results show the homogeneity strategic cost that all stages of labuhan larung sesaji ritual activity or the elements in it (represented by costs) have the same position or importance in generating income. On the basis of this idea, all stages of ritual activities contribute or contribute to fishermen's income creation of in proportion to costs. So, if amount of costs for ritual activities have occurred, then in fact amount of revenues have been formed or collected, the amount of which is in accordance with income and costs ratio. The homogeneity strategic costs concept contributes to interpreting the presence of blue sea fisheries accounting based on sustainability of marine living resources and fish catches. Accounting based on open access resources, and marine sustainability as marine biota for logistical growth of fish stocks or populations without operating costs for pisciculture.*

**Keywords:** *Blue Sea Fisheries Accounting, Labuhan Larung Sesaji Ritual, and Homogeneity Strategic Cost*

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## INTRODUCTION

The traditional ceremony of larung sesaji is a joint cost activity of fishermen for the catch. This activity is a manifestation for the income obtained from fish obtained from maintaining the marine habitats preservation (Sawiji et al., 2017).

The results of the research above show that the traditional *ritual* activities of *labuhan larung sesaji* have become a fisherman's *ritual* tradition, so that the problem of financing is shared. Togetherness fulfills the need for implementation as a series of shared responsibilities with

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fishermen. The joint financing of the offerings, both in the form of sacrificial animals and cooking spices, and equipment or supplies for the purposes of *labuhan* ceremony, has never had a problem until the present day. For this purpose, jointly voluntarily provide assistance in order to fulfill the requirements for the ceremony. There are 2 (two) types of activities prepared, namely *sesaji* that are anchored and *sesaji* of salvation after *labuhan* ceremony. This *sesaji* refers to Sulistiyono (2016), Endraswara (2017) and Yuliamalia (2019) as a series of beliefs in symbols that contain meaning. By offering the dish to God, Deity, or the spirits of the inhabitants of the ocean which is intended to communicate as an expression of gratitude for the catch that has been given.

The manifestation of gratitude shows the close relationship between fishing activities and ocean conditions. These two things became the main meeting point for *labuhan* ceremony to be carried out, as referred to in the explanations of Sawiji, Mauludiyah & Munir (2017) and Sulistyorini (2020) that *labuhan* activity is a natural harmonization of fishermen as a manifestation of gratitude for marine sustainability which results in abundant catches. The means of embodiment in the ceremony show general harmony or total marine sustainability with fishermen. Awareness that makes fishermen pay attention to the sea as a source of survival. This is in line with Triyanto (2017) and Hidayah et al. (2020) who explain that the relationship between marine sustainability as a place for fish to live is the main focus of the *labuhan sesaji* event, namely the catch as a token of gratitude for the availability of existing fish resources. The availability of fish in the sea as referred to by the results of research by Bueger (2015), Anita (2015) and Rees et.al (2018) that the economic aspect is based on the population growth of fish catches is assumed to be constant, meaning that the value of food supply is limited. A function that describes the total population as connectedness. According to McGilliard et.al (2015), Davis et.al (2015), Sulistiyono (2016), Montero-Serra et.al (2018), Kroeker et.al (2020) and Pellowe & Leslie (2021) depend on on the awareness efforts of fishermen to preserve and preserve biological resources. Awareness is manifested in marine maintenance activities through offering ceremonies or rituals of gratitude embodiment on the coast. This activity is a symbol of the preservation of marine biodata as the availability of fish food sources. In areas along the southern coast, fishermen hold a sea festival by bring *sesajen* in the shape of a buffalo head to be floated in the middle of the sea, carried in decorated boats. The sea thanks giving ceremony is a manifestation of a harmonious relationship with gratitude for the abundance of marine products they catch (Fauziah & Bustomi, 2019).

The *larung sesaji* ceremony provides a tradition as a myth (*mitos*) of natural preservation of marine conservation as revealed by Anita (2015). Furthermore, Sawiji, Mauludiyah & Munir (2017) and Yuliamalia (2019) stated the myth of the *labuhan larung sesaji* ceremony about catches and prohibitions against destroying sustainability, as well as maintaining the growth and development of fish both in the fishing process and the use of fishing fleets. This myth has a strong emotional connection with the sea where life is guaranteed by an abundance of catch.



Conditions that according to Sulistiyono (2016) maintain good relations with sustainability by not doing despicable acts, acting rudely, and damaging the marine environment. Therefore, it provides norms that are more scientifically based than the *larung sesaji* ceremony. Collectively, these scientifically based norms are called genius local wisdom. Wisdom as stated by Triyanto (2017) and Hidayah, Nuzula, & Wiyanto (2020) efforts to ensure the welfare of fishermen and abandon beliefs that damage the sea, maintain a culture of sustainability on the coast and the sea, coordinate fishing efforts to achieve fish selling prices that can prosper fishermen. The selling price of fish has a seasonal value and is perishability depending on the condition of the waters for the growth and development of fish. This condition provides a cosmological<sup>1</sup> value that has been agreed upon to realize that the catch is strongly influenced by sea conditions. By manifesting this, giving a sea thanks giving *ritual* means being grateful for the abundance of fish (Triyanto, 2017; Fauziah & Bustomi, 2019; Yuliamalia, 2019; Sulistyorini, 2020).

The *labuhan larung sesaji* activity became the logo of the sea principle and human knowledge in performances study in text and context (Endraswara, 2017). This gives attention to how the daily activities of individuals and groups of fishing communities provide a form of appreciation of values (feeled deeply) to be artistic and meaningful. The embodiment of conditions that cannot be separated between the text and the context, between what happens and what is obtained, namely cost-income. This relationship is a form of awareness of the cost of ceremonial financing as gratitude for the acquisition of income (income) from fish catches. Beliefs that bring fishermen harmonious relationships about traditions and fish catches (Anita, 2015; Triyanto, 2017; Fauziah & Bustomi, 2019). This is in line with Burritt & Christ (2016), Vassallo et.al (2017), Kroeker et.al (2020), and Susilowati et.al (2020) which state that these environmental and fisherman characteristics make the formation of the average cost equal to the average income. Also on average, the result of calculating the total cost is the same as the total revenue. This kind of behavior does not mean that fishermen do not benefit.

Furthermore, the formation of fishermen's income makes efforts to maximize their catch. However, this condition as referred to the research results McGilliard et.al (2015), Burritt & Christ (2016), Vachon & Hajmohammad (2016), Triyanto (2017), Kroeker et.al (2020), Prasetyo (2020) and Pellowe & Leslie (2021). They stated that the environmental biota preservation costs biological of fish is the main supporter of fish availability, so that it has a direct impact on the rise and fall of fishermen's income. This has resulted in as if fishermen in certain areas produce more abundantly than others, so they are unable to maximize their income. Empirical evidence

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<sup>1</sup> Cosmology is etymologically derived from the words cosmos and logos. Cosmos, meaning arrangement or order, logos meaning science, study, and research. Cosmology is concerned with the Javanese belief in a controlling power, in the context of universe maintaining (Endraswara, 2017).

that makes fishermen's behavior on the catch or collective, and at the same time contradicts the behavior of maximizing profits from producers (firm). Therefore, the environmental biota preservation costs of marine biota has the same position or importance in generating income for fishermen. In other words, as Suwardjono (2016) states that once the costs are processed (following the physical flow of activities) income has begun to be created. This relationship is the means of the **problem and purpose of research**, namely how the cosmology of the *labuhan larung sesaji* ritual interprets the homogeneity strategic cost in blue sea fisheries accounting.

The homogeneity strategic cost shows that fishing results do not depend on prices in the same cost period, but are determined by the marine biological resources sustainability. Therefore, the model made in the calculation of costs depends on price and sifter to maintain environmental sustainability. This condition makes the economic analysis of fishermen's income (income) calculations emphasize more on the cost-income aspects and biodiversity. The relationship between cost-income and sustainability aspects is linearly related to the economic benefits of fishermen's catches so that they are not related to losses (Anita, 2015; Triyanto, 2017; Montero-Serra et.al, 2018; Susilowati et.al, 2020). This is in line with what Suwardjono (2016) explains that the cost of a potential business will immediately be recognized as a cost or loss if it is proven that the economic benefits have disappeared or been reduced (loss or lack of future benefits). Finally, the difference in recognizing reduced benefits as costs or losses lies in the cause or economic feasibility. In terms of costs, the reduction in economic benefits is generally caused by the utilization of potential activities in the context of income generation. In terms of losses, the reduced benefits are caused by things that are peripheral and incidental to the earning income process.

## RESEARCH METHOD

The *labuhan larung sesaji* ritual for fishermen in Tambakrejo, Wonotirto District, Blitar Regency, East Java, which makes this qualitative research instrument uses a phenomenological approach. An approach that involving value (value bond) of a fisherman as a reality catcher, cannot be separated from the view of his belief (his value) presents the homogeneity strategic cost concept. The concept is related to the formation of fishermen's income, both at the level of observing, collecting data, analyzing and making conclusions. This income formation shows that all stages of the offer, or the elements in them (represented by costs) have the same position or significance in generating income. Therefore, the study of this phenomenon seeks to provide evidence and an explanation of the homogeneity strategic cost concept, thus providing input in the development of blue sea fisheries accounting science.

The research was conducted in two ways, namely in-depth interviews to reveal the real condition of object and direct observation (Prasetyo, 2017). These two methods are to reveal the *labuhan larung sesaji* cosmology ritual of fishermen for the homogeneity strategic cost concept.

Interaction with fishermen, namely Ahmad Suraidi (Fisherman and Head of *Tambakrejo* Fisherman Group) and Soejono (Fisherman and Community Leader of *labuhan larung sesaji* Ritual Leader of *Tambakrejo*) for seven months, from 09 August 2020 to 20 March 2021. Interaction through the involvement of researchers in fishing activities and rituals, as well as interviews conducted in person and by telephone (Video Call) to reveal the homogeneity strategic cost concept phenomenon. Activities like this provide an intimate atmosphere and spontaneous answers, this is the "unique humility" value and is very valuable for this research.

## RESULTS AND DISCUSSION

### Result

The calculation of fishermen's catches is based on fish number. Conditions make the commodity prices of fish caught by fishermen always fluctuate, due to three reasons, namely due to fluctuations (up-down) catches, fluctuations in determining buyers, and experiments in the process of determining prices by fishermen and buyers. This causes the determination of costs and income to be adjusted to desire conditions between fishermen and buyers, there is no fixed price standard, as referred to by Ahmad Suraidi's explanation below:

*Kondisi...kita nelayan di tambakrejo memang dari ikan yang ditangkap. Tangkapan yang membuat naik...terkadang turun dibandingkan hari sebelumnya...hasil kami...ya...dari interaksi antara pembeli. Pembeli menetapkan dan...kami coba menghitung dalam taksiran sesuai dengan ongkos yang telah kami keluarkan untuk melaut...ada solar, makan, keperluan selama melaut...ini kasaran yang kita gunakan...baru...setelah di darat kita mendapatkan kembali dari hasilnya...pembeli sudah tahu dan tahu apa yang kami keluarkan ini.*[Conditions...we are fishermen in Tambakrejo indeed from the fish that are caught. Catches that make up...sometimes down compared to the previous day...our result...yes...from interactions between buyers. The buyer determines and...we try to calculate in the estimate according to *ongkos* [cost] that we have spent to go to sea...there is diesel, food, necessities while at sea...this is a rough *kasaran* [estimate] that we use...only...after being on land we get back from the results...buyers already know and know what we issue this.]

This explanation provides the basis that income-cost shows two close relationships for fishermen. The relationship reflects as a calculation of the exchange ability of the goods produced against the ability of fishermen, which is directly proportional to catch and fish price. This requirement is correlated with efforts to preserve the marine environment and supporting

infrastructure for marine or capture fisheries. Thus, the calculation of the costs they set is based on the estimated allocation that the fishermen have previously determined compared to the income that will be received. The cost allocation has calculated the costs incurred and added a number of *rupiah* as their income. This calculation is a transaction fee, as stated by Soejono:

*Kalau...tadi hubunganya hasil...yang ada dari ongkos yang digantikan oleh pembeli...kami bukan penentuan rega tapi...ya...sudah menjadi laku doltinuku[aktivitas jual beli] yang telah diterima...transaksi...ya...itu..lah memang terjadi selama ini.[If...earlier the relationship was the result...that was from ongkos[cost] that was replaced by the buyer...we didn't determine rega[price] but...yes...it has become a doltinuku [buying and selling activity] that has been accepted...the transaction...yes...that...has indeed happened during this.]*

The statement above shows that fishermen's transaction costs that the costs incurred when there is a transaction. Transactions occur when fish products move from fishermen to buyers through direct activities. This is also clarified again by Ahmad Suraidi that:

*Pertemuan hasil kami...ya...ketika di darat barang yang telah kami peroleh menjadi perebutan para pembeli untuk diterima...kami ada keluarga yang di darat...jadi ya...kami pasrahkan...kami tugasnya hanya di laut untuk kaki didarat...ya...keluarga...bisa...istri atau menantu bahkan anak-anak kami. Oleh karenanya kami para nelayan hanya mempasrahkan hasil berjualan sebagai hasil keluarga.[The result of our meeting...yes...when on land the goods that we have obtained become a struggle for buyers to accept...we have a family on land...so yes...we leave it...our job is only at sea to walk on land...yes...family...can...wife or daughter-in-law even our children. Therefore, we fishermen only leave the results of selling as a family product.]*

Soejono also conveyed the same thing:

*Aktivitas kami melaut untuk penjualan sebagai hasilnya kami...ya keluarga penentu piro khasil yang ada. Kami menghitungnya bukan dari hasil perkiraan tapi dari situasi atau...ya...kondisi ketika para keluarga kami ngeculke...ongkos ngelaut jelas...sudah ditentukan oleh keluarga kami...Mas...mung ngelaut ora mikir pira sing ditampa.[Our activity is fishing for sales as hasilnya [result] we are... yes, the existing family of piro khasil[how many results] are there. We calculate it not from an estimate but from the situation or...yes...the condition when our family ngeculke[sells it]...ongkos ngelaut[cost of going to sea]...it has been determined by our family...Son...mung ngelaut ora mikir pira sing ditampa[only going out to sea, not thinking about how much income they earn received.]*

Determination of transaction costs providing catches is the main factor in determining fishermen's earnings. The situation is a direct calculation of fishermen's expenses with the income received. Therefore, the transaction relationship to being a fisherman gets fishing results equal to the number of catches obtained. This realization relationship shows that welfare can be measured through the Fisherman's Exchange Rate (FER), namely the process of cost allocation at the level of exchangeability for goods (products) produced by fishermen for goods and or services needed for household consumption.

The main focus of calculating FER is to increase the catch of fishermen. This is calculation of FER is directly proportional to catch and fish price. This condition increases the welfare or fishermen's income. Efforts to improve fishermen's welfare means examining how marine products can provide welfare for cost-income allocation for determining transaction costs. Cost-income allocation as stated by Soejono that:

*Ya...apapun yang saya terima sudah terdapat ongkose ngelaut khabehe dadi pikulan...mas...ya selama ini saya anggap merupakan ongkos...bukan karena saya sudah lulus STM namun karena aktivitas rutin yang kami lakukan...berapapun ongkose ngelaut wis dadi pikulanne...nelayan...tanpa ngitungake sing dadi khasile...aneh...ya...berangkat melaut sebagai kerjo tapi belum tahu khasile...ha..ha...ya...itulah makaryo sing dadi laku urip sako ngelaut...untuk laut kami berharap[Yes...whatever I receive, there is already a cost fishing for ongkose ngelaut khabehe dadi pikulan [all of them are borne]...son...yes, so far I consider it a cost...not because I have graduated from STM but because of the routine activities we do...how much is the cost of going to sea with wis dadi pikulanne[already a responsibility]...fisherman...without ngitungake sing dadi khasile[counting the results of the process]...odd...yes...going out to sea as a job but not yet aware of the typical job...ha..ha...yes...that's makaryo sing dadi laku urip sako ngelaut[work which is a living activity from the sea]...for the sea we wish.*

Cost calculations that have become routine make the use of allocations the basis for cost-income linkages. This condition shows that fishermen never have an idea of the income they will get because all of them are estimates and are uncertain. Furthermore, the uncertainty that shows the correlation between efforts to preserve the marine environment and its supporting infrastructure.

The correlation shows the relationship between marine biological resources sustainability as a fish environment and fishermen catch. Sustainability that provides efforts to protect and maintain the environment becomes carrying capacity of the catches acquisition. Therefore, the preservation of marine biological environmental resources maintains the biological balance of

fish. This means that the fishing business is capturing the surplus of fish growth, not capturing the population. This explanation refers to Ahmad Suraidi's statement that:

*laut sebagai tempat hidup tersediannya iwak menjadi ukuran untuk dapat berhasilnya jumlah tangkapan yang saya dan semua nelayan dapatkan. Iwak merupakan sumber pemberian bukan pemeliharaan. Kalau ini tidak disadari berarti kita ini...ya tidak dan bukan nelayan.[sea as a place to live, the availability of iwak[fish] is a measure for the success of the number of catches that I and all fishermen get. Fish is a source of gift, not maintenance. If this is not realized, it means that we are...yes no and not fishermen.]*

In line with Mr Ahmad's statement, Soejono further stated:

*Kondisi nelayan seperti ini...mas...ya sebagai aktivitas yang hidup tergantung pada kondisi laut. Mboten...kejadian kita geger di laut dengan nelayan dari daerah lain bukan karena alat tangkapnya...karena lumbunge iwak ora ana. Lumbung iwak bertahun-tahun itu ya wis suasanane sing dadiake urip aman. Mungkin kita isa awujud kerjo mung nampi atas kemurahan Gusti yang menjaga laut tetap terjaga...tiap hari kita tangkap (sambil melihat ke atas)...tiap hari kita dapatkan tanpa memelihara (sambil kedua tanggannya didekapkan menutupi wajahnya)...rejeki sing wis dadi khabeeh saka Gusti.[The condition of fishermen like this...son...yes, as an activity that lives depends on sea conditions. Mboten [No]...the incident happened when we were in geger[a fight] at sea with fishermen from other areas, not because of the fishing gear...because lumbunge iwak ora ana[fish source is not available]. The fish barn for many years ya wis suasanane sing dadiake urip aman[yes the environment in which it lives is safe]. Maybe we are a isa awujud kerjo mung nampi[it can be said that we got a job] for the generosity of Gusti[God] who keeps the sea awake...every day we catch (while looking up)...every day we get it without caring (while both of his hands are clasped to cover his face)... fortune sing wis dadi khabeeh saka Gusti[who has become everything from God].*

Both of these explanations indicate that the fishing goal is to maximize long-term income while maintaining maximum sustainable yields from marine conditions. The interest for fish resources preservation is related to fishermen income. Therefore, if you maintain the sustainability of fish resources, then the fish supply is equal to the number of catches as income.

The real reality is based on reality as stated in the following dialogue:

Whedy Prasetyo : *wah...ini lanjutnya saya menggunakan bahasa campuran gih...ajreh kelintu...menarik gih aktivitas ini ketika menjadi serangkaian perwujudan syukur[wah...this continues, I use a mixed language...ajreh kelintu[fear of being wrong]...how interesting this activity is when it becomes a series of manifestations of gratitude]*

- Ahmad Suraidi : *keluh kesah apa pun Mas...semua tangkapan kita ini berasal dari pemberian laut. Saya bisa hidup dan menyekolahkan anak dari ikan yang datangnya dari laut tanpa perlu pemeliharaan. Ini kan nikmat disana mungkin harus keluar untuk memelihara dan menjaga. Lha...disini kita hanya menjaga laut tanpa memelihara untuk membeli makan.*[whatever complaints Son...all of our catch comes from the sea. I can live and educate my children from fish that come from the sea without the need for maintenance. It's a pleasure there may have to go out to maintain and maintain. Well...here we only look after the sea without caring for it to buy food.]
- Soejono : *ngelaut...tambakrejo duduhake maringi gesang sedaya...Mas...kalau mboten menjaga kelestariannya berarti...ya...gih sampun mboten isah gesang ing mriki*[Ngelaut[go to sea]...tambakrejo duduhake maringi gesang sedaya[shows the gift of life to all]...Son...if mboten[doesn't] maintain its sustainability means...yes...gih sampun mboten isah gesang ing mriki[no need to live here]
- Whedy Prasetyo : *kesadaran lestariannya laut menjadikan prioritas*[awareness of marine sustainability is a priority]
- Soejono : *iya...lha...olehe iwak sing iso nyangkut mung kasile iso digawe...ya...sebagai urip awujud syukur nikmat yang diberikan Gusti melalui kerja kita memperhatikan keberadaan laut...tinggal nampi mawon kok ngih mboten dijogo...*[yes...lha...the result is fish that was caught as a result that is enjoyed...yes...as urip awujud syukur [live to be grateful] the favors given by Gusti[God] through our work to pay attention to the existence of the sea ... just accept why not take care of it...]
- Whedy Prasetyo : *dijaga melalui syukur atas hasil tangkapan atau tersediannya ikan*[protected through gratitude for the catch or the availability of fish]
- Soejono : *ya mung...wontennipun iwak...Mas...hasil tangkapan sing iso dikasile...*[maybe...wontennipun iwak[there are fish]...Son...the catch of sing iso dikasile...[that can be produced...]
- Ahmad Suraidi : *hanya merupakan awujud nampi syukur Gusti kepada kita untuk menerima yang telah diberikan dari wujud ikan kepada kami...iya kan (sambil tatap-menatap dengan Pak Jono)*[it is only a awujud nampi syukur[the form of receiving gratitude] Gusti[God] for us to accept what has been given from the form of a fish to us...right (while gazing at Mr Jono)]
- Soejono : *wontenipun arti kula inggih marang pendidikan...seperti ini saya juga sampai STM lho...ya...dari laut...hidup ada sehat bergizi dari ikan dan pendapatan*

*sampai mempunyai tempat teduh...ya...dari ikan di laut.[wontenipun arti kula inggih marang [meaning my meaning about] education... like this I also reached STM lho... yes...from the sea...life is healthy and nutritious from fish and income to have a shady place...yes...from fish in the sea]*

Ahmad Suraidi : *menghitung-hitung apapun jumlah pendapatan tidak bisa karena pendapatan yang kita ya...dari laut[calculating any income amount can't be because income we get...from the sea]*

Whedy Prasetyo : *menginspirasi lho ini antara kesatuan hidup untuk bersyukur[inspiring lho this is between the unity of life to be grateful]*

Soejono : *Mas...Whedy...asalinipun maem kalau wau inggih saking laut...kok ndak bersyukur berarti ya...duduk awake...awake urip saka ngelaut bahkan ngombe...ini juga saka ngelaut...kopinya bukan tapi uangnya dari laut...ha..ha..ha...ayo di ombe Mas (sambal menghisap rokoknya). Opo maneh ing mangsa pademi iki awake isih diwenehi nikmat...iwak dan jumlah tangkapan serta pembeli tetap bahkan mundak.[Son...Whedy...asalinipun maem kalau wau inggih saking laut [from eating earlier also from the sea]...kok not grateful that means yes...duduk awake[not us]...awake urip saka ngelaut [we live from the sea] even ngombe [drinking]...this too saka ngelaut[from sea]...not the coffee but the money from the sea...ha..ha..ha...let's go di ombe[drink] Son (while smokes his cigarette). Opo maneh ing mangsa pademi iki awake isih diwenehi nikmat [especially during this pandemic season, we are still given favors... fish and fish catches and buyers are still mundak[rising]].*

Whedy Prasetyo : *nikmat dari hasil ikan gih[enjoy the fish gih]*

Ahmad Suraidi : *ikan untuk selamanya mas...lautlah yang memberikan kita hidup sebagai perjalanan hasil hidup yang panjang.[fish forever son...it is the sea that gives us life as a long journey of life results].*

Soejono : *benar tho...iki khasile urip ora ona mandheke...[that's right, tho...this is the result of life that never stops...].*

Therefore, fishermen's income depends on the availability and amount of fish caught. Conditions that depend on the marine life preservation. This is economic income of fishermen is formed by the economic consequences of maintaining biodiversity as a income guarantee. This guarantee is a routine income for fishermen.

The income is formed from the total routine costs incurred. Expenses should be consequent income deductions. However, the reality of this income calculation was never included, as stated by Soejono:

*...ya...iku...ongkos khabehe ora ona itungane nanging yo ditokne...ya...rutin mung untuk mbudal ngelaut. Kerjo bareng tanpa ngetokne ongkos...ndak tahu*



*ya...yok opo iki dadine...tapi rumah tetep nampa khasile ngelaut...karena kesadaran bahwa laut memberikan hasil ingkang duwoooo lan ombo...aamiin.[...yes...this...ongkos khabehe ora ona itungane nanging yo ditokne[all costs are not calculated but incurred]...yes...routinely mung untuk mbudal ngelaut[possible to go out to sea]. Kerjo bareng tanpa ngetokne ongkos[Working together without spending money]...i don't know...yok opo iki dadine[how this can happen]...but the house still nampa khasile ngelaut [receiving the results go to sea]...because of the awareness that the sea gives the result of ingkang duwoooo lan ombo[which is long and wide ]...amiin.*

Furthermore, Soejono's statement above shows the same costs as the income generation process. This explanation shows the income process approach or activities approach is based on the basic concepts of efforts and results or achievements and business continuity. Cost represents effort and income represents achievement. Every time people carry out business activities, they always picture in their minds a result, the amount of which depends on the business type and the risk inherent level in it. This explanation is in line with Soejono's statement that:

*...yaiku...nopone...ya...ongkose mung awujud usaha bareng...ongkose dhisik baru kasille yang sing tak tampa...e...e...keluarga mas...ha...ha...[...that is...nopone[what]...yes...ongkose mung awujud[the cost is only] a bareng[joint] effort...ongkose dhisik baru kasille[cost first than results] that is sing tak tampa[i received]...e...e...my family...ha...ha...*

A statement that confirms that income can be interpreted as a rate of return or a certain percentage of expenses. Activity as a result of energy, thought and economic risk makes the rate of return or reward higher than expenditure.

Therefore, fishing activities represent efforts while the resulting catch is an achievement. The exchange value of the product (which ultimately measures income) must of course be more than the total effort to produce fish represented by the accumulated costs of all activities. So, every cost incurred in fishing activities, a certain amount of income has been formed directly with the costs incurred (occurs). This is also stated by Soejono as follows:

*...inggih kolauwau...sudah saya umpan bahwa ya...itu kita ini nelayan nyadari bahwa iwak ing laut sahingga perjalanan ke sana dadosake gantipun hasil ingkang kita tampi. Nyadare laku urip mung pasrah ngelaut mung memberikan hasil kepada kami dengan tangkapan yang diperoleh.[...inggih kolauwau[yes just now]...i have umpan [say] that yes...we are fishermen aware that iwak ing laut[fish in the sea] so that the trip there dadosake gantipun hasil ingkang kita tampi[as a substitute for the results we get]. Nyadare laku urip mung pasrah*

[Awareness of living activities is only resigned] going to sea may give result with the catch we get.]

The amount of income (yield) will be in accordance with the expected level or number of catches. In other words, that once the costs are calculated (following the physical activity of going to sea) income has already started to be created immediately. Otherwise, if the fisherman has not carried out any activities, then the income has not been formed. This approach is income formation process based on the homogeneity strategic cost concept (homogeneity strategic costs in relation to income), namely that every activity or element in it (represented by cost) has the same position or importance in generating income. The explanation goes along with the following dialogue:

Soejono : ...yo...*iku khasile yo...khasile itungan ngetokake ngelaut...Mas*[yes...this is the result, right...the result of calculating fishing expenses...Son]

Whedy Prasetyo : *Jadi...perhitungan yang panjenengan maksud untuk perhitungan hasil yang diterima?*[So...do you mean the calculation for the calculation of the results received?]

Soejono : *khabehe ongkose...kan yang saya gunakan untuk ngelaut dan mendapatkan iwak. Khabeh inglaku tanpa menyadari bagaimana hasilnya ngelaut...kan tanpa ngelaut saya tidak mendapatkan iwak. Iwak ini...sebagai khasile yo sing mung ditampa.*[*khabehe ongkose*[all expenses]...that's what I use to go fishing and get *iwak*[fish]. *Khabeh ing laku*[All activities] without realizing how the result is going to sea...I don't get fish without going to sea. This fish...*khasile yo sing mung ditampa*[the result which is only accepted].

Whedy Prasetyo : *perolehaan kerja melaut dengan pengeluaran yang ada*[income of work at sea with existing expenses]

Soejono : *lho...yo bareng-bareng mlakune...mas...sebagai khasile kerja sing ditampo...ya...oleh iwak.*[*lho...yo bareng-bareng mlakune* [yes walk together]...son...as a *khasile kerja sing ditampo...ya...oleh iwak*[work received...yes...gets fish].

The dialogue shows the importance of the cost of going out to sea with the fish availability. Both factors are important to produce the number of fish catches, so they have the same importance and cannot be ranked (preferential order). That is, the cost is more important than the fish availability or otherwise. Or, the fish availability is essential and the cost of fishing is not essential in relation to the catch or otherwise. Indeed, as referring to the cost is different but its contribution is proportional (on cost basis) in generating income cannot be denied or ignored. This relationship is the calculation of costs incurred in fishing activities is proportional to the fish availability. So, if a number of costs have been incurred, then the income expected by fishermen has actually been formed, which is the amount in accordance with the ratio of income and costs. The same explanation as Soejono's statement, that:

...ngitung ya...namun ngitunge ora rijit karena sesuai khasile sing mung dadi pengharapane sing utama...awujud dedongo lan niat menjadi kepasrahan nopo iwak yo sing ditampa...napo lestarine laut sebagai pemberian Gusti...sadar...upaya khabeh lelak ritual labuhan larung sesaji yang taat kita lakukan...sebagai bentuk...ya...awujud syukur kita[...calculate yes...but ngitunge ora rijit[counting is not detailed] because it is in accordance with khasile sing mung dadi pengharapane sing utama[result which is only the main hope]... awujud dedongo[a form of prayer] and the intention to become surrendered nopo iwak yo sing ditampa[accept fish yes received]...which sustainable sea as a gift from Gusti[God]...aware...the efforts of khabeh lelaku[all activities] the obedient labuhan larung sesaji ritual we do...as a form of...yes...a form of our gratitude.]

The realization of income that is positively correlated with the availability of fish. This condition makes fishermen active in awareness and belief that sea provides the fish. Awareness and belief that is manifested through the *labuhan larung sesaji* ritual as an activity to preserve the fish availability. Why is that? the *larung sesaji* ritual shows cosmological awareness of the dependence of fishermen's income on the preservation of the sea as a place of life for fish to grow and develop. This relationship is the awareness formation of the sustainability of fish resources in relation to fishing business, as a manifestation of fish growth surplus, not catching fish populations so that the value of fish is related to marine biodiversity (biological balance).

This relationship is manifested in the *labuhan larung sesaji* ritual activities. Rituals based on the *slametan* tradition. *Slametan labuhan larung sesaji* is a symbolic request for a mystical vehicle of gratitude to God for His blessings. This blessing makes fishermen unite between costs and income as an element of integration. Conditions that make sea products the main factor in obtaining unit costs and income, as referred to in Ahmad Suraidi's explanation:

*Slametan...larung sesaji perwujudan keyakinan kami saling menunjang dan jalinan kesatuan pada budaya spiritual hakiki antara kami dengan laut. Laut sumber penghasilan kami yang dianugerahkan Tuhan...Gusti yang maha besar untuk hidup ini[Slametan...labuhan larung sesaji embodiment of our beliefs support each other and unity fabric in the true spiritual culture between us and the sea. The sea is our source of income, which is given by God...the great God for this life]*

Therefore, this *slametan* can be said to be a form of ritual action "bridge" that embodies the manifestation of God's grace. An atmosphere that unites humans with God. Only mutual preservation can realize this closeness of gratitude, referring to Ahmad Suraidi's statement:

*Piro-piro...ongkose ada nyata dalam khasile yang diperoleh. Keyakinan membawa slametan larung sesaji untuk meletakkan syukur dan rasa berserah diri kepada Tuhan secara total...ya...kan bukan kita yang memelihara hanya...langsung mendapatkan, ini simbol kesadaran batin dan lahir kita...Gusti.*[Piro-piro[Anything]...ongkose[cost] is real in the yields obtained. Confidence brings *slametan larung sesaji* to place gratitude and a sense of total surrender to God...yes...it's not we who maintain it just... get it right away, this is a symbol of our inner and outer awareness...God.]

This manifestation is shown in the provision of *slametan* facilities together. This condition is a form of full awareness that all costs incurred are the individual and collective responsibility, so that the determination is determined in forum (*rundingan*). Togetherness which details the implementation until the *sesaji* are brought, as stated by Ahmad Suraidi, that:

*Slametan larung sesaji...yang dilaksanakan kemarin tanggal 21 Agustus sebagai runtutan syukur yang ditanggung bersama. Ini...memang diberikan untuk blokro dalam menetapi semua sesaji yang diperlukan, dari kewan, gedang, nasi, ayam, sayuran sampai yang bukan makan misal umbul-umbul, karpet, kertas lan semuanya sudah menjadi hitungan kami dalam udar gelung larung sesaji ben taun.*[*Slametan larung sesaji...which was held yesterday on August 21 as a series of shared gratitude. This...is indeed given to blokro[open] in making all the necessary offerings, from kewan [animal], gedang [banana], rice, chicken, vegetables to non-eaters, for example pennant, carpet, paper lan[and] everything has been calculated by us udar gelung larung sesaji ben taun [forum of larung sesaji every year].*

The determination based on forum is in line with what Soejono said:

*Ukuran kewan kanggo slametan selawe juta ditanggung bareng lan sing liyane awujud gedang, nasi, pitik lan sak kabehe sopo sing iso nyediane lan sadar marang hasil tangkapane ora dipeksa..pokoke kabeh podho mlaku awujud gumatunge rukun slamet syukur marang Gusti...nak dihitung-itung dhekwingi tembus patangpuluhan juta, nannging ukuran sak mono kuwi ditanggung bareng.*[Determination of animals for the *slametan* twenty-five million shared responsibility and others for bananas, rice, chicken and all who are willing and aware of the catch does not force it...mainly all the same as a manifestation of the harmony of salvation to God...if calculated yesterday it reached forty million, but the amount is shared]

Awareness as referred to by Soejono and Ahmad Suraidi shows the same position or importance in generating income. So, if a number of costs for *slametan labuhan larung sesaji* are a manifestation of the income received by fishermen. On the basis of this idea, all stages of the *labuhan larung sesaji* activity contribute to the income received by fishermen. This is certain

amount of activity costs occur, then in fact, income has been formed or collected. the amount is in accordance with the ratio of income to costs.

The position of the meaning of the income-cost represents the fishermen's efforts results while the fish produced is an achievement of gratitude to God. Therefore implementing cost the *slametan labuhan larung sesaji* was a joint cost that was formed from awareness of the results obtained. Soejono also stated this cost concept as follows:

*Umba rampe larung sesaji hanya memberikan awujud kebersamaan antara kita yang hidupnya dijamin laut. Situasi yang membuat adat ritual larung sesaji dadiake syukur mbareng jadi...ya...jangkepi sing dietokne kacatet dadi khasile...jadi ya...khasile lan mettune podha dalam menghasilkan iwak. Kalau ngelaut lestari...ya...jelas iwak'e ana.[Umba rampe larung sesaji[larung sesaji materials] only provide a form of togetherness between us whose lives are guaranteed by the sea. The situation that makes the traditional ritual of larung sesaji dadiake syukur mbareng[make gratitude together] so...yes...jangkepi sing dietokne kacatet dadi khasile[fulfillment issued is recorded as a result]...so yes...khasile lan mettune padha[equal income and expenses] in producing fish. If you go to sea sustainably...yes...it's clear that the iwak'e ana[fish is there].*

Sustainability makes fishermen's efforts to maintain and even increase the catches number. Without the hope of this results catch (income form) fishermen are not willing to do the *labuhan larung sesaji* business intentionally and happily. As this is stated in the following dialogue:

Ahmad Suraidi : *ya...ritual ini menjadi dasar nelayan...kami diri untuk menggiring jiwa yang berada pada syukur Gusti...ini yang ada disini*[yes... this ritual is the basis of fishermen...we ourselves are to lead the soul that is in gratitude to God... this is what is here]

Soejono : *dadiake anasir jiwa untuk jaga laut dadi sumber lan berkah Gusti*[Dadiake anasir jiwa[make the soul's belief] to guard the sea dadi [become] the source and blessing of God]

Ahmad Suraidi : *berkah atas pemberian laut beserta ikannya dan sumber yang lainnya...mensyukuri ini menggiring jiwa nelayan pada titik pusat kepasrahan kekuatan Gusti...agar kita mampu menyelaskan diri...selaras diri dalam ritual yang terjaga*[blessings for gift of the sea and its fish and other sources...this gratitude leads the fishermen's soul to the center point of surrendering to God's power...so that we are able to forgive ourselves...in harmony with the ritual that is maintained]

Soejono : *ritual menehi bareng urip kami marang ngelaut...iki sing utama utawa gong'e kenapa ongkose pelaksanaan ritual dadi adedasar banggane iso nyukupi...ya...podha karo yen ona uyah lan iwak. Ketika loro ukara nyatu dadi iwak goreng enak...kalau itu ada iwaknya kalau ora ana ya uyahe...jelas asinnya...ha...ha..ha...[ritual menehi bareng urip kami marang ngelaut [The ritual gives us togetherness of life by going to sea]...iki sing utama utawa gong'e [this is the main thing] why is the cost of carrying out the ritual dadi adedasar banggane iso nyukupi[become the basis of our pride in being able to fulfill]...yes... podha karo yen ona uyah lan iwak[same as if there is salt and fish]. When loro ukara[two things] come together iwak goreng enak [fried fish is delicious]...if it has fish, if it doesn't have fish, then yes salt...obviously salty...ha...ha..ha...]*

Whedy Prasetyo : *ini menjadikan ritual sebagai hubungan syukur tanpa ngitung ongkose...[this makes the ritual a gratitude relationship without ngitung ongkose [counting the costs]...*

Soejono : *ya..tetap ngitung mas...namun ya...kuwi sing acatet dadiake sarana kita ngrumat syukur...syukur andedeg urip marang ngelaut...dalam mettune ongkose dadiake ya...wis nilai sing luwih...ya upaya kita mendapatkan tangkapan...mettune patangpuluh yuta dadi enteng kalau ingat khasile...[yes.. keep counting mas...but yes...kuwi sing acatet dadiake sarana kita ngrumat syukur [previously recorded as a means for us to care for gratitude]...gratitude andedeg urip marang ngelaut[given life from the sea]...in mettune ongkose[expenses] becomes yes...wis nilai sing luwih[becomes more value]...yes our efforts to get the catch...mettune patangpuluh yuta [come out forty million] be lightly if you remember the result...]*

Whedy Prasetyo : *untuk dadiake ongkose dadi siji lekat dengan iwak gih...[untuk dadiake ongkose dadi siji[make the cost into one] it's attached to fish ya...]*

Ahmad Suraidi : *iya...menjadi cermin bahwa kita tidak terlepas dari laut...[yes...be a mirror that we are inseparable from the sea...]*

Soejono : *ya...juga uyah lan iwak'e[yes...also uyah lan iwak'e[salt and fish]]*

The terminology of *uyah lan iwak* [salt and fish] is gain that make up the cost and income functions effect of set price and increasing demand sifter. This situation proves that income is formed when the catch is obtained and is sold directly or when it is sold on the basis of kilogram weight, as stated by Ahmad Suraidi:

*...menjadikan berkah larung sesaji yang selalu memberikan hasil tangkapan ikan yang ora iso entek lan mudun. Berkah ini menjadi hidup dengan laut menjadi syarat murni untuk dapatnya pendapatan kami...gimana ya...mas...saya menyakini ini sebagai sarana untuk melestarikan tempat hasil*

*kami dengan berkah ritual sing dadi ongkose ditanggung bareng...hidup kan menjadi kebersamaan[...make the blessing of larung sesaji that always give fish results of catches that ora iso entek lan mudun[never run out and decrease]. This blessing of being alive with the sea is a pure condition for our income...how do you do it...son...I believe this is a means to preserve our place of production with ritual sing dadi ongkose ditanggung bareng [rituals that are shared costs]...life is to be together]*

Based on Ahmad Suraidi's explanation, the income of fishermen is actually a relationship between maintaining marine sustainability and transactions. This explanation is fishermen's income formation activities are completed when the activity of selling the catch, excluding the calculation of costs incurred. Activities that represent costs as operational effort. Why is that? that every fisherman receives income from the natural growth of fish with the rate of fish growth depending on the preservation of marine life.

Based on this study, the importance of preserving fish resources is imperative. Activities that generate a one-way economic relationship with substantial income generation processes. This formation process occurs when sales transactions are realized as fishermen's income, as stated in the dialogue below:

Whedy Prasetyo : *pendapatan....ini kan terhitung bukan karena aktivitas larung sesaji?[income....isn't it calculated because of the larung sesaji activity?]*

Ahmad Suraidi : *larung sesaji wahana menjaga kelestarian tempat hidup dan syukur hasil tangkapan ada semakin meningkat.[larung sesaji of rides to preserve life place and thankfully the results of catch is increasing.]*

Soejono : *abotte timbangan nampone khabeh awake dhewe yo...saka pas timbangan khasile dadi khasile.[weight of the scales accepts it for all of us, right...the results are weighed into income.]*

Ahmad Suraidi : *artinya mas... waktu ditimbang itulah pendapatan kami...jadi ditimbang untuk mendapatkan khasile ngelaut dadi pendapatan hidup kami.[that means son...when we weigh it, that's our income...so it's weighed to get a fishing sea becomes as our living income.]*

The realization of the dialogue income above is reality of the exchange of goods produced with cash or claims for cash. Technically, a sales transaction is an actual exchange transaction. This is income earned by fishermen provides a real reality of fishermen dependence in their overall activities, from environmental care to results of catches.

## Discussion

### ***Labuhan Larung Sesaji Ritual: Cosmology of Fishermen's Strategic Cost Homogeneity***

The spirit to preserve fish life is an harmony activity of our unity with the sea to be grateful for the catch as our gain, towards the awareness that the sea is protected and our income is also awake. This explanation above shows that awareness of sea biodiversity is the embodiment of a balance between growth rate and catch and yield. The relationship according to Montero-Serra et.al (2018) indicates that actions for marine sustainability are a determining factor in the acquisition of fish numbers. Therefore, according to Anita (2015), Triyanto (2017), along with Sawiji, Mauludiyah & Munir (2017) stated that fishermen pay attention to maintaining catch sources by carrying out routine offerings. This activity creates a mystical experience of fishermen with the sea, meaning that the income from fishing is a gift from the sea by maintaining its population.

The fish population provides a relationship between the calculation of costs and income of fishermen's activities. The activity of the unity of the soul to realize that the catch is a gift from *Gusti*[God] through the maintenance of the fish population. The situation makes the activity a form of gratitude always carried out, namely through *labuhan larung sesaji*. A ceremony that reflects the harmony of fishermen with the preservation of the sea to give the power of the *kosmos*[cosmos], save our lives. This awareness directs the soul to manage the sea as a fish bionomic to be maintained. The condition as stated by Sawiji, Mauludiyah & Munir (2017) regarding the amount of fish caught depends on the availability of fish in the sea. Therefore, the calculation of all costs is the maintenance of the marine environment. The relationship makes fishing activities safe and fish acquisition is maintained. This relationship is manifested in the *labuhan larung sesaji* ritual activities. Rituals based on the *slametan* tradition. *Slametan labuhan larung sesaji* according to Endraswara (2017) and Yuliamalia (2019) is a symbolic request for a mystical vehicle of gratitude to God for His blessings. This blessing makes fishermen unite between costs and income as an element of integration.

This manifestation is shown in the provision of *slametan* facilities together. This condition, as explained by Endraswara (2017) is a form of full awareness that all costs incurred are the individual and collective responsibility, so that the determination is determined in forum (*rundingan*). Awareness as referred to shows the same position or importance in generating income. So, if a number of costs for *slametan labuhan larung sesaji* are a manifestation of the income received by fishermen. On the basis of this idea, all stages of the *labuhan larung sesaji* activity contribute to the income received by fishermen. This is in line with the explanations of Suwardjono (2016), Venegas-Li et.al (2018), Montero-Serra et.al (2018) and Susilowati et.al (2020) that if a certain amount of activity costs occur, then in fact, income has been formed or collected. the amount is in accordance with the ratio of income to costs.

The position of the meaning of the income-cost represents the fishermen's efforts results while the fish produced is an achievement of gratitude to God. This explanation is as stated by



Anita (2015), Triyanto (2017), Fauziah & Bustomi (2019), Yuliamalia (2019), Hidayah, Nuzula & Wiyanto (2020) and Sulistyorini (2020). They stated that the cost of implementing the *slametan labuhan larung sesaji* was a joint cost that was formed from awareness of the results obtained. This situation proves that expenditures (costs) are the responsibility of determining the fishermen's self-awareness to fulfill. Why is that? Because the cost is income (income) received from the catch. So that the formation of income from awareness to provide the *umba rampe* (materials) used in the *slametan* becomes pride. If this belief is as stated by Suwardjono (2016) that all stages of activities contribute or contribute to the creation of income in proportion to cost. So, if a certain number of costs of certain activities have occurred, then a number of actual revenues have been formed or collected in accordance with the ratio of income and costs.

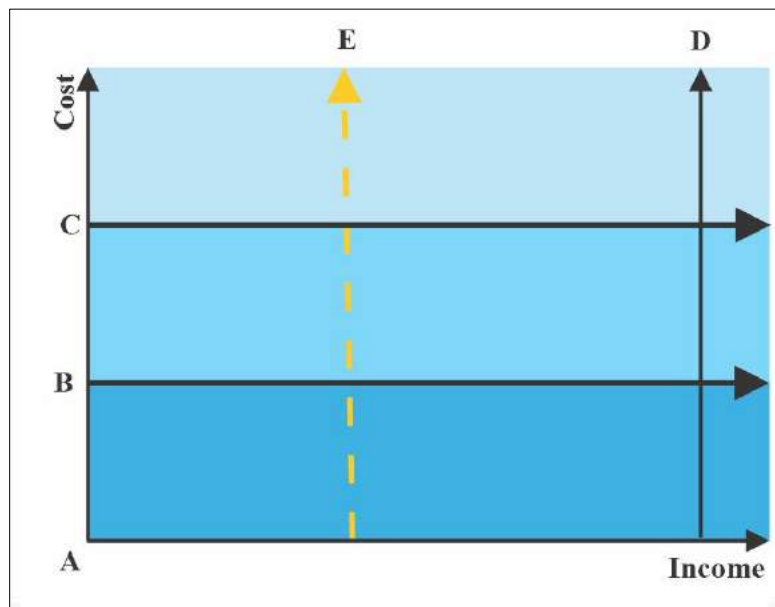
The comparison of income and costs makes the implementation of *slametan larung sesaji* as a form of income for fishermen. *Slametan* cost represents the effort and income of the fishermen themselves. This condition is a manifestation of fish scientific characteristics, referring to the research of Triyanto (2017), Venegas-Li et.al (2018), Rees et.al (2018) and Pellowe & Leslie (2021), that fish products produced by fishermen are a sustainability representation. The relationship that causes the sea and fish factors to be the focus of income generation. Achievements based on the basic concept of paying attention to marine sustainability and the results or achievements and continuity of fishermen. These achievements, as stated by Prasetyo (2020) as an embodiment of gratitude for the preservation of the sea as marine biota for fish production, are:

Biodiversity Conservation	xxx
Results of Catch	xxx

Based on this journal, it shows that the sacrifice of economic resources for ecosystems preservation that support biodiversity is matching with the fishermen catch. The mechanism for preserving fish ecosystems is maintained and optimal, so that the sustainability of tuna, shrimp and other fish resources can be maintained. Sustainability of fish sources will increase production and supply nutrients to fish. This understanding became the awareness of Tambakrejo-Wonotirto District fishermen to carry out the *slametan labuhan larung sesaji*. Blessing that shows the components of the fish food chain in the sea as a gift from God (Yuliamalia, 2019; Sawiji, Mauludiyah & Munir, 2017). Why is that, as stated by Anita (2015), Triyanto (2017) and Rees et.al (2018) that marine diversity is a guarantee for the gathering of fish influenced by the activities of local fishermen's lives. Activities have a major influence on the availability of marine fish that are free (open access resources). The number of fish that remain after the fishing effort is carried out is equal to the business multiple of the proportion of fish habitat lost by each business unit. This equation means that the cost of marine conservation is a guarantee of fishermen's income. The same thing is explained by Kroeker et.al (2020),

namely the catch of fish is not influenced separately by fish stocks and fishing effort, but is influenced by the interaction between marine sustainability and business (the interaction is indicated by fish stocks raised to the level of effort).

Sustainability makes fishermen's efforts to maintain and even increase the number of catches. Without the hope of this results catch (income form) fishermen are not willing to do the *labuhan larung sesaji* business intentionally and happily. This natural situation according to Davis et.al (2015), Kroeker et.al (2020), Prasetyo (2020) and Pellowe & Leslie (2021) that the concept costs homogeneity. This concept is further explained by Suwardjono (2016) is the concept costs homogeneity as referred to the concept of Paton and Liitleton that “in their essential relation to revenue, as in their essential relation to assets, all costs are homogeneous and rank abreast; this is a basic principle in the development of a reasonable scheme of matching charges and revenues. Costs, in other words, are not recovered through revenues in preferential order...”. This explanation is analogous to the parable of the important factors to produce delicious fried chicken, namely salt and chicken. These two factors have the same importance so that their position cannot be ranked (preferential order). That is, chicken is more important than salt or otherwise. Or, chicken is the staple and salt is not the staple in relation to fried chicken or otherwise. Indeed, the cost of the two is different, but their proportional contribution (on cost basis) in producing fried chicken cannot be denied or ignored.



**Figure 1. Fisherman's Income-Cost Relationship**

Source: Author Illustration

The homogeneity strategic cost concept shows costs sequence and income as a single event in the activity of fishermen getting fish, namely fishing as an economic source until the fish is obtained. Fishermen represent the sales stage, starting from the receipt of proceeds from the fish sale. Each of these activities can be referred to or used as a sales transaction event. Therefore, according to McGilliard et.al (2015) and Susilowati et.al (2020) that the recording of fisherman transaction costs occurs with the results catch. The calculation process based on weight and price to determine income. A situation that provides awareness as stated by Rees et.al (2018) as a form of fishermen's income for fishing cost. This process shows that increasing costs and free access to marine resources affect the fishermen's income amount. The relationship between the income formation and the costs of *labuhan larung sesaji* can be illustrated in Figure 1.

This assumption makes each straight line a source of economic activity for fishermen with fishing effort in the dotted line (point E). This relationship represents all costs (points A, B and C) which are ultimately incurred as revenue gains, so it can be said that revenue is formed on each cost line incurred. If the activity has incurred costs, of course, income has been formed and so on until finally all income-generating activities are completed (point D). Therefore, the price of output is equal to its average cost, so it can be considered as a function of income without looking for the average cost data. The soul essence that is passed by *labuhan larung sesaji* is conceptually an acknowledgment of fishermen's income, namely at the point at which the fish are sold. This process makes the expected income rupiah and finally realized. Calculation of all costs that are ultimately sacrificed in an effort to earn income. This income estimate aggregates all fish. The supply function according to Rees et.al (2018) and Montero-Serra et.al (2018) is not directly predicted, but is first determined as the cost and revenue equation.

The supply function is through marginal cost by using the research results indirectly through the fisherman's profit function. The result is that the elasticity of fish supply has a negative slope, which means that it indicates that marine conservation has occurred for fish results of catches. With open access conditions, this study states that the assumption of fishermen's income does not depend on prices in the same period, but is determined by the results of the number of catches obtained. Earnings that make up the cost and income functions effect of set price and increasing demand sifter. This situation proves that fishermen's income is actually a relationship between maintaining marine sustainability and transactions. This explanation is in line with Anita (2015) and Sawiji, Mauludiyah & Munir (2017) that fishermen's income formation activities are completed when the activity of selling the catch, excluding the calculation of costs incurred. Activities that represent costs as operational effort. Why is that? As Prasetyo (2020) research states that every fisherman receives income from the natural growth of fish with the rate of fish growth depending on the preservation of marine life.

Based on this study, the importance of preserving fish resources is imperative. Activities that generate a one-way economic relationship with substantial income generation processes (Vassallo et.al, 2017; Hidayah, Nuzula & Wiyanto, 2020; Pellowe & Leslie, 2021).

The realization of the income above is in line with the statement of Suwardjono (2016), namely the reality of the exchange of goods produced with cash or claims for cash. Technically, a sales transaction is an actual exchange transaction. This is in line with Triyanto (2017) that the income earned by fishermen provides a real reality of fishermen dependence in their overall activities, from environmental care to results of catches. The sale becomes the right of the fisherman if it has been accepted by the buyer and as a result the fisherman gets cash. This condition proves that costs and income have the same position or the same importance in generating fisherman cash. With this premise, through PSAK No. 23, IAI makes provisions to be able to recognize revenue from the sale of goods, namely the costs incurred or to be incurred in connection with the sale transaction can be measured reliably.

This realization is further recorded in the calculation by taking into account the preservation of ecosystems that support biodiversity, such as the cleanliness of the sea, coral reefs, mangroves, estuaries, which is realized as Hidayah, Nuzula & Wiyanto (2020) of 65% of fishermen's participation in sustainability activities, so that the calculation make:

$$\begin{aligned}
 \text{Fisherman's Income} &= \text{Fish Availability} + \text{Marine Sustainability} \\
 &= 35 \% + 65\% \\
 &= 100\%
 \end{aligned}$$

Calculations that are in line with Prasetyo (2020) to show the fishermen's income equation:

$$\text{Production} = \text{QIS}_i = \sum \text{Qt}^{\text{T}_{ij}} + \text{QIT}_{ij}$$

Where:

$\text{QIS}_i$  = Total number of fish species  $i$  caught,

$\text{Qt}^{\text{T}_{ij}}$  = Marine fish of type  $i$  in region  $j$ ,

$\text{QIT}_{ij}$  = The biological environment of type  $i$  fish in region  $j$ .

The results of the two equations show the empirical formula for estimating the blue economy model by considering biodiversity. This diversity ensures that fish production is maintained. Production based on increasing fishermen's income is related to marine sustainability. *Labuhan larung sesaji* marine conservation activities as an effort to achieve socio-cultural and environmental responsibilities. This measurement as the matching principle in the value and comparison of results to costs and revenues, and the achievement of social and

environmental responsibility for the marine life preservation is not only applied in the same accounting period, but also for different periods at a later time if the sacrifice of resources economic and non-economic benefits that are quite certain in the future. The same thing is stated by Lako (2018) that environmental sustainability is a measurable value that provides economically and non-economically measurable costs and revenues in a sustainable period, so that the essence of the value recognition principle is also the basis for the principle of expense recognition and revenue recognition. Furthermore, reporting accounting information must integrate financial/economic, social and environmental objects, transactions and events in a systematic and integrated manner in one reporting package so that users can obtain complete, complete, relevant and reliable and useful accounting information for economic and non-economic decision making.

Based on these assumptions, according to Suwardjono (2016) all stages of activities contribute or contribute to income creation in proportion to cost. So, if a certain number of costs for certain activities occur, then in fact a number of income has been formed or collected, the amount of which is in accordance with the ratio of income and costs. Results that provide the achievement that all stages of the *labuhan larung sesaji* ritual or cultural elements in it have the same position or importance in generating fishermen's income. This concept gives meaning to the understanding of research by Montero-Serra et.al (2018) and Rees et.al (2018) that fishermen's income makes a collection of marine conservation activities as an effort to realize maximum catches as a open access resources.

## CONCLUSIONS

Fishermen's income and costs are in accordance with the culture of marine preserving (Pellowe & Leslie, 2021).

The statement is in line with the results of this study for the existence of ritual cultural activities in *labuhan larung sesaji*. The fisherman culture that shows the formation of the income process is based on the homogeneity strategic cost concept (homogeneity strategic costs in relation to income). This concept is a manifestation of the cosmological activity of *labuhan larung sesaji* in representing strategic costs that have the same position or importance in generating income. The process is based on the preservation of marine life.

On the basis of this idea, all stages of the *labuhan larung sesaji* ritual contribute or contribute to the creation of income in proportion to the costs. So, if a number of costs for ritual activities have occurred, then in fact a number of incomes have been formed or collected, the amount of which is in accordance with the ratio of income and costs. The homogeneity strategic cost concept gives a welcoming meaning to the presence of blue sea fisheries accounting.

Accounting based on open access resources and marine sustainability as marine biota for the production of fish quantities without any effort to maintain them.

This concept can be developed for further research in the calculation of profit and loss, capital growth, and even in the business strategies carried out by fishermen. This development points to allocation as a limitation of this study only focusing on efforts to properly associate costs and income, if there is no basis for direct association on the basis of cause and effect. Therefore, it is necessary to create a method to represent the pattern of cost absorption that is close to causal absorption. Furthermore, the allocation method is based on the considered absorption pattern and the pattern intuitively and normatively makes sense or appears to have economic feasibility, then the allocation can be said to be rational. Economic feasibility is the basis for comparison of costs and income or income is the basis of blue sea fisheries accounting for fishermen (fisher). This focus is the price formation received by fishermen.

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### **List of Abbreviations**

FER: Fisherman's Exchange Rate

### **Authors' Contribution**

Efforts for contribute culture to homogeneity strategic cost concept is shown in the labuhan larung sesaji ritual cosmology in the study of blue sea fisheries accounting.

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The author declare no competing interests.

### **Availability of Data and Materials**

Data are available from interviews.

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## Determinant Factors of Firm Value: Cash Holdings and Dividend Policy as Mediation

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### Abstract

*In times of uncertainty such as a crisis, a company needs to maintain its value for its investors. Theory suggests that for uncertainty, the company needs to have cash holding, but on the other hand, it needs to pay dividends. Therefore, this research aims to prove the relationship between factors that affect firm value with cash holding and dividend policy as mediation. We conduct this research on the manufacturing company from 2015 to 2021 registered on Indonesia Stock Exchange. Using the purposive sampling method, 82 company was chosen and 574 data was studied. To test our hypotheses, we use SmartPLS. The results proved that cash holding can influence firm value, while dividend policy cannot. For the indirect effect, we found that profitability and net working capital indirectly affect firm value through cash holding. We explain the theory and practical implications and describe our study's limitations. For future research, we suggest differentiating firm value before and during a financial crisis, and the industry sector that has the worst, moderate, and light impact from the crisis.*

**Keywords:** *firm value, cash holdings, dividend policy, cash conversion cycle, net working capital, profitability.*

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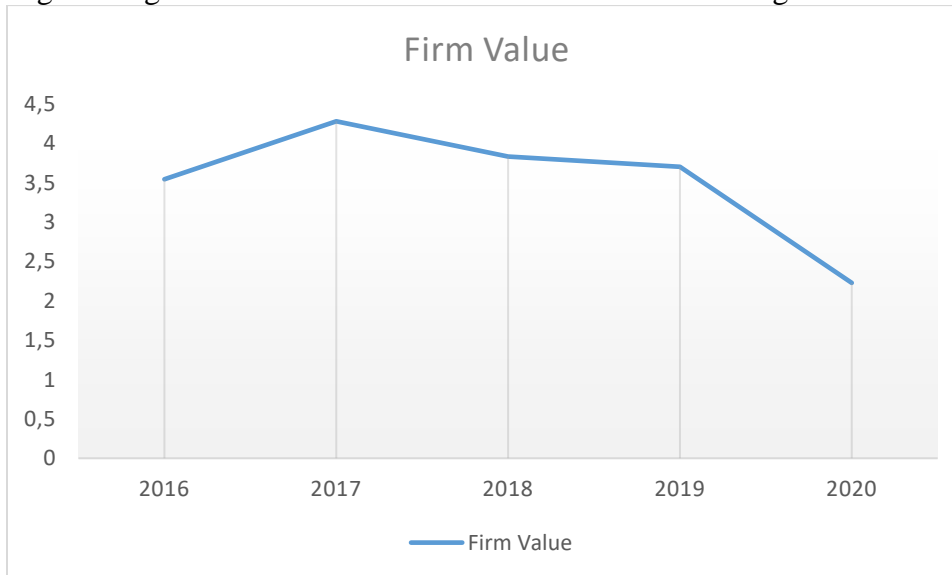
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## INTRODUCTION

The establishment of a company must have a goal, which is not only to gain profits with existing resources but also to improve the financial performance of a company and maximize its value. The firm value will increase when a company has good financial performance to investors. Increasing firm value is the company's hope because it will show the prosperity of shareholders (Khumairoh & Suprihhadi, 2021). The wealth of the owner will be higher, which can be seen from the high share price (Awulle et al., 2018). Firm value is an assessment given by investors related to the performance of a company related to stock prices (Sondakh, 2019) and is the value of the market of outstanding equity and debt securities owned by the company (Husna & Satria, 2019).

In 2019, before the economic crisis occurred due to the Covid-19 pandemic in Indonesia, it had begun to correct slightly and there was a decrease in the value of shares of manufacturing companies in Indonesia. With the Covid-19 pandemic beginning in March 2020, the stock value fell even further in 2020. Figure 1 shows a graph of the 2016-2020 stock value. In 2019 there was a slight decrease in the value of the shares from 3.8343 in 2018 to 3.7041 and decreased drastically at the start of the pandemic to 2.2280.

One of the reasons for the decline in company value in 2020 was due to the covid-19 pandemic. Bareksa (2020) reported that the covid pandemic has an impact on all levels of society, especially on the survival of a business, Chairman of the Board of Commissioners of the Financial Services Authority, Wimboh Santoso, explained that this covid pandemic depressed the economy so that the level of public consumption decreased which caused a decrease in revenue and turnover of a business. Hamesya (2022) stated that the spread of the coronavirus affected capital market trading on the Indonesia Stock Exchange because most share prices had decreased so it was a negative signal that made investors more interested in selling their share ownership.



**Figure 1. Firm Value 2016-2020**

Source: Data firm value processed

Based on previous research, fundamentally, firm value can be influenced by net working capital (Boisjoly et al., 2020; Budi Setyawan, 2021), growth opportunity (Alfira et al., 2021; Wulandari & Setiawan, 2019), capital expenditure (McConnell, 1985; Salimah & Herliansyah, 2019; Ullah et al., 2021), cash conversion cycle (Amelia & Kitri, 2019; Ceylan, 2021; Doğan & Kevser, 2020), and profitability (Akhmadi & Januarsi, 2021; Harahap et al., 2019; Jihadi et al., 2021; Mubyarto, 2020; Tui et al., 2017). However, as far as the author is aware, there are still few studies that use cash holding and dividend policy as intervening or mediating variables. In this study, we use these two variables as intervening variables because some existing research has not proven whether these two variables have a direct impact on the firm value or an indirect impact. Therefore, this research is important to do to make a better model of the factors that affect firm value.

A company's ability to maximize the prosperity of its shareholders can be reflected in its firm value. A crucial aspect that needs to be taken into consideration is the company's value because it is a measure of investors in assessing whether the company is successful in achieving its business goals (Aksan & Gantyowati, 2020; Oyedokun et al., 2020). In addition, a company's prospects may be reflected in its high value. (Suryandani, 2018). Firm value is a measurement used to determine the views or assessments given by investors regarding the performance of a company related to stock prices (Masytari, 2019; McConnell, 1985). Companies that have high share prices can increase the firm value since maximizing the affluence of the company and prospering the stockholders is reflected in the high share prices. The value of the firm is also the market value of equity securities and debt outstanding owned by the company (Jihadi et al., 2021).

Cash Holding is a measurement used to find out the amount of cash or cash equivalents owned company to be able to use it to meet the needs of a company. Cash Holding is also a company policy in managing finances appropriately, namely by holding or keeping cash over the company's costs (Asante-Darko et al., 2018; Habib et al., 2021; Isshaq et al., 2009; Minh HA & Minh TAĬ, 2017). Habib et al. (2021) proved that cash holding positively affects firm value in an unconstrained firm. Ameer (2012), Minh HA & Minh TAĬ (2017), and Chandra & Feliana (2020) also found that cash holding positively affects firm value. In contrast, Isshaq et al. (2009) indicated that cash holding has no effect on the value of the company, as well as the results of Habib et al. (2021), proved that cash holding has a negative effect on firm value in a constrained firm, Ameer (2012) discovered that cash holdings negatively affect the firm value for closely held firms.

Based on agency theory, Jensen & Meckling (1976), agency conflicts arise because of a difference in goals and interests between managers and shareholders share. A high level of cash holding in a company can give rise to an agency conflict between managers and shareholders in managing cash. This is because the manager who has the power to manage cash tends to do actions that can benefit himself and not shareholder interests. Meanwhile, shareholders tend to want to take actions that can increase company profits such as making high investments with returns high too. However, when managers also intend to invest the idle cash on hand, they will increase the firm value. When firms have more cash in hand, it also signals that they have no liquidity problem. Therefore, the first hypothesis is:

**H1: Cash holding positively affects firm value.**

The dividend policy of a company can be seen through the dividend payout ratio. The ratio can show the amount of payment company dividends to shareholders. Through dividend payments, companies can signal to investors that they are paying attention to the welfare of shareholders. In addition, through information regarding the amount of dividend payments, investors can know the good or bad prospects of the company in the future (Chaudry et al., 2015)(Chaudry et al., 2015).

According to the theory of bird in the hand (Angelo, 2013; Chaudry et al., 2015), investors are more like returns in the form of dividends rather than capital gains because they are considered safer. Companies that offer high dividends will attract interested investors because an increasing number of investors interested in a company with high dividend payments will increase stock prices companies (Atmikasari et al., 2020).

Research conducted by Ali (2020) resulted that the dividend policy has a positive effect on the value of the company. This is because the dividend policy is able to anticipate risks that may arise due to corporate bankruptcy and anticipate the solvency of the bank. In contrast, Sondakh (2019) proved that dividend policy negatively affects firm value. However, Results from Atmikasari et al. (2020) and Chaudry et al. (2015) proved that dividend policy positively affects firm value. The second hypothesis is:

## **H2: Dividend policy positively affects firm value**

Net Working Capital is part of the current assets owned by the company to be used for funding operational activities without disturbing the liquidation of the company. The company must have current assets exceed its current liabilities because this net working capital not only includes the number of assets owned. However, it also includes the number of current liabilities to be paid (Autukaite & Molay, 2011; Muharromah et al., 2019).

The Trade-off Theory explains that to be able to maximize the value of the company needs to optimize the management company (Maheshwari & Rao, 2017). So, the company needs to balance between benefits (marginal benefit) and costs incurred (marginal cost) company to have the availability of cash (Sari & Hastuti, 2020). Companies that have great working capital management however if it cannot be managed properly and strategically it will impact the decline in the firm value. This is due to the capital excessive network can cause a company to become an inefficient use of funds. Despite being often termed as a non-earning asset, the firms motivate to hold more cash than their normal working capital requirement (Maheshwari & Rao, 2017).

Net Working Capital basically can act as a substitute for cash owned by a company because it can be changed at any time to cash if companies need it for funding (Opler et al., 1999). This is following the pecking order theory (Myers & Majluf, 1984). They argued that the company will tend to use internal funding first rather than using external funding because it is cheaper and has no risk. However, if the funds are not sufficient will use external funding in the form of issuance of debt and equity.

The research results of Wulandari & Setiawan (2019) explained that net working capital has a positive effect on the cash holding of a company. This is due to net working capital being part of current assets and a substitute for cash owned by a company so that if there is an increase then automatically the cash owned by the company also experienced enhancement. It is the same

with the results of Suci & Susilowati (2021), that is, if the availability of net working capital increases, cash also increases. Cash is a part of current assets and total assets including components used to measure the level of net working capital of a company. Therefore, the third hypotheses are:

**H3a: Net working capital positively affects firm value**

**H3b: Net working capital positively affects cash holding**

**H3c: Net working capital negatively affects dividend policy**

**H3d: Cash holding mediates the relation between net working capital and firm value**

**H3e: Dividend policy mediates the relation between net working capital and firm value**

Growth Opportunity is a signal that the company is in good condition because it has the opportunity to develop (Wulandari & Setiawan, 2019). Every year company also has a goal of growth in order able to maintain the value and sustainability of the company as well can expand its business by making investment opportunities as well as businesses that can benefit the company (Opler et al., 1999).

The signalling theory explained that an act of management in how to manage a company can be a guide or a signal for current or potential investors related to the view of the company's business prospects in the future (Connelly et al., 2011). Growth Opportunity has a positive influence on the value of the firm because the company has high-growth opportunities that will be in the interests of investors to increase the value company. Growth opportunities provide positive signals expected by investors because it shows the company is in good condition to increase its firm value and also obtain the expected rate of return for investors (Wulandari & Setiawan, 2019).

According to Fajaria & Isnalita (2018), a growth opportunity is an opportunity or capability that the company has to be able to expand the company. In taking advantage of opportunities such as growth, the company also needs sufficient funds to be used to fund its activities in carrying out the stages of company growth useful in the future. Muharromah et al. (2019) found that the greater the growth opportunities within a company, the greater the need for funds required by the firm to pay for expansion activities. So that in order to fulfill the need for these growth funds, the company will establish a policy to have a level of cash availability that much first. On the contrary, the results of research from Alfira et al. (2021) indicated that growth opportunity negatively affects cash holdings. A company that owns high growth opportunities will make companies hold back the cash it has. It is based on the speculative motive of cash holding is the company's motive in having cash to use in various business opportunities that can be done to the benefit of the company. Meanwhile, Sualekhhattak & Hussain (2017) found that growth opportunities cannot influence dividend policy.

Therefore, it can be concluded that if a company experienced an increase in the level of growth opportunities owned, the level of the company's cash holding too increased. This is because the available cash will later be used to fund the development activities company, namely by doing business opportunities and investment, and have a guarantee in minimizing financial risk distress that is likely to occur as a result of an investment. The fourth hypotheses are:

**H4a: Growth opportunity positively affects firm value**

**H4b: Growth opportunity negatively affects cash holding**

**H4c: Growth opportunity positively affects dividend policy**

**H4d: Cash holding mediates the relation between growth opportunity and firm value**

**H4e: Dividend policy mediates the relation between growth opportunity and firm value**

Capital expenditure is a measurement used to assess the level of expenditure of the company's capital in funding its investment activities for acquiring and repairing fixed assets or long-term assets that can increase the effectiveness of the company (McConnell, 1985). Capital Expenditure is a relatively large corporate expenditure however not routine that can provide benefits for more than one-period accounting or in the long term.

The decision to use cash for capital expenditures can result in agency conflicts. Following agency theory (Jensen & Meckling, 1976), conflict arises in a corporate relationship from differences in goals and interests between the owner of the company (principal) and the manager of the company (agent). Managers tend to choose to invest with low risk. Meanwhile, shareholders tend to vote for making high-risk investments because they can generate high returns as well (Muharromah et al., 2019). As a result, it is possible to draw the conclusion that the company's value will rise proportionally to the value of its long-term assets and capital expenditures. This is because a company that has high fixed assets or long-term assets can help in increasing optimal productivity so that the level of effectiveness in managing the company was also good. An increase in the value of the company can cause investors to be attracted to invest in companies that result in the demand for stock also going up.

In the Pecking Order Theory (Myers & Majluf, 1984), internal funding is preferred over external funding since internal funding is cheaper and does not have a risk. Cash holding is capable to mediate the role of capital expenditure and company value. This is due to the fact that the company's value can be increased through capital expenditures aimed at optimizing operational and production effectiveness. So, the company requires a large enough fund to be able to do a large capital outlay. Meanwhile, Abor & Bokpin (2010) uncovered that capital expenditure and investment negatively affect dividend policy. The firms must choose whether they will use company resources to invest in capital expenditure or to pay dividends, so dividend policy will mediate the influence of capital expenditure and the value of the firm. Therefore, the fifth hypotheses are:

**H5a: Capital expenditure negatively affects firm value**

**H5b: Capital expenditure negatively affects cash holding**

**H5c: Capital expenditure negatively affects dividend policy**

**H5d: Cash holding mediates the relation between capital expenditure and firm value**

**H5e: Dividend policy mediates the relation between capital expenditure and firm value**

The cash conversion cycle is a measurement used to find out how much time the company to obtain cash from its operational activities starting from purchases to receipt of cash from sales (Chang, 2018). The company must consider the cash conversion cycle because the cycle determines what efforts should be needed to obtain optimal cash according to the target time. The study of Chang (2018) empirically proved that the cash conversion cycle negatively affects firm value.

The results of research conducted by Ceylan (2021), the cycle of cash conversion has a negative effect on firm value. This matter is due to the longer cash conversion cycle received will negatively impact the effectiveness and liquidity of a company so it becomes a signal that is not good for investors. Research by Amelia & Kitri (2019) also explained that companies that have a short cycle give a positive signal to investors because it signifies being able to manage the company's performance efficiently effectively and efficiently by being able to collect receivables quickly and slow down payments to suppliers but still maintain credibility.

In line with the signalling theory, Telly & Ansori (2017), mentioned that the actions taken for managing a company will provide a signal to investors regarding the conditions experienced by the company, whether it is in good or bad conditions that will impact the value company. Therefore, the length of the cash conversion cycle, the longer it will make the company receive the proceeds from the sales that have been made. As a result, it is difficult for the company to make adequate funding causing the company value to decrease. Due to the company experiencing financial difficulties will give a negative signal or bad impression to investors because the company is considered unable to manage the company properly. This signal contributes to the demand for shares decreasing causing the value of the company to get worse. Therefore, the sixth hypotheses are:

**H6a: Cash conversion cycle negatively affects firm value**

**H6b: Cash conversion cycle positively affects cash holding**

**H6c: Cash conversion cycle negatively affects dividend policy**

**H6d: Cash holding mediates the relation between the cash conversion cycle and firm value**

**H6e: Dividend policy mediates the relation between the cash conversion cycle and firm value**

Profitability ratios describe the company's ability to manage its investment funds. One of the uses of profit obtained by the company other than to be kept as retained earnings, it also can be paid as dividends. According to Akhmadi & Januarsi (2021), companies with high profitability ratios will do dividend payments to increase shareholder confidence because it has invested funds in the company which will later be managed by management.

Research conducted by Harahap et al. (2019) and Jihadi et al. (2021) found that companies that own high profitability ratios will show their ability to make dividend payments to their shareholders. Furthermore, if experiencing a loss (minus net profit) then the company will not pay dividends. The company's profitability ratios that describe the capabilities company in obtaining profits are one of the factors that affect investor interest. According to signalling theory, the company will give a signal to the external party that they have made various efforts to maintain performance which is illustrated through the acquisition of stable profits. Stable profit earning means that the company is not experienced a minus profit (loss) so that it can make payments dividends to stockholders. Concerning the ratio of firm profitability increased, the company will increase the amount of payments and dividends so that the value of the firm increases in the view of current and potential investors.

On the contrary, Tamrin et al. (2017) found that profitability negatively affects dividend policy. However, research conducted by Akhmadi & Januarsi (2021) discovered that an increase

in the company's profitability ratios will result in the occurrence increase in the company's dividend policy (Dividend Payout). Cash deposits can mediate the relationship between the cash conversion cycle and company value. This is due to the long cash cycles. It can create the longer the company gets cash receipts, so the company will find it difficult to meet the funding requirements resulting in disruption of operational and production effectiveness or a company discovered that the cause a decrease in value of the company. The increase in profitability will increase the value of the company (Akhmadi & Januarsi, 2021). Cash deposits can mediate the relationship between the cash conversion cycle and company value. This is due to the long cash cycles it can create the longer the company gets cash receipts, so the company will find it difficult to meet the funding requirements resulting in disruption of operational and production effectiveness company and causing a decrease in the value of the company (Wulandari & Setiawan, 2019). The seventh hypotheses are:

**H7a: Profitability positively affects firm value**

**H7b: Profitability positively affects cash holding**

**H7c: Profitability positively affects dividend policy**

**H7d: Cash holding mediates the relation between profitability and firm value**

**H7e: Dividend policy mediates the relation between profitability and firm value**

Figure2 shows the relationship of variables in this study

## RESEARCH METHOD

The population in this study is all manufacturing companies listed on the Indonesia Stock Exchange (IDX) from 2015 to 2021, with 223 companies. We used the purposive sampling method to determine the sampling number. Based on the criteria of the sampling method, the number of data processed is 574 data from 82 companies. The data was derived from the official website of the Indonesia Stock Exchange (IDX) [www.idx.co.id](http://www.idx.co.id) and the company website related to the report of the company's annual financial year 2015 - 2021

### *Measurements*

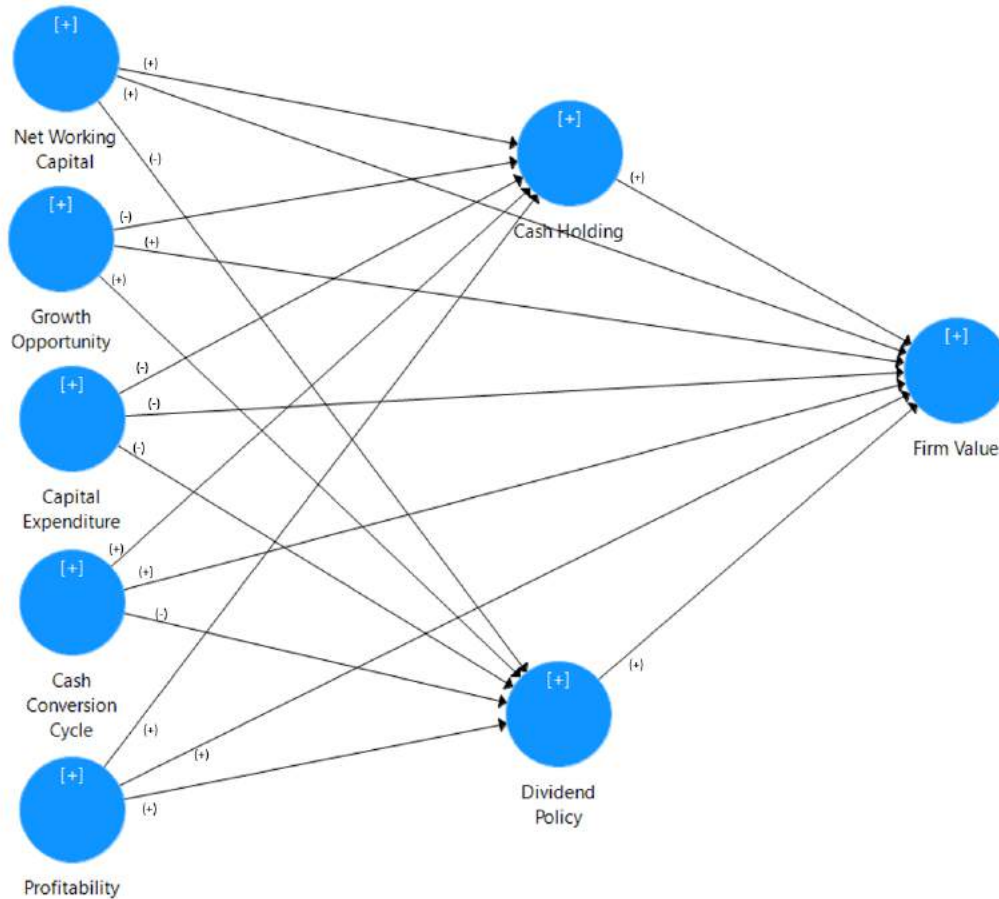
We study five independent variables (capital expenditure, growth opportunity, net working capital, cash conversion cycle, and profitability), two intervening variables (cash holding and dividend policy), and one dependent variable (firm value). Table 1 shows the measurement of each variable.

### *Inner Model Analysis*

After testing for construct reliability and validity, we perform inner model analysis. According to Ghozali & Latan (2015), there are three methods to analyze the Inner Model. First, if the R-Squared or Adjusted (R<sup>2</sup>) value calculated is 0.75 then the model is strong, if the value is equal to 0.50 then the model is moderate, and if the value of 0.25 indicates that the model is weak. Second, if the predictive relevance value (Q<sup>2</sup>) > 0 then it shows that there is predictive relevance in the variable model independent with dependent. Meanwhile, if the predictive value relevance (Q<sup>2</sup>) < 0 then



indicates that there is no predictive relevance in the independent variable model with the dependent. Third, model fit is used to show the results of the fit indicator namely Average R-square (ARS) and Average Path Coefficient (APC) which have a value criterion of  $<0.05$ , and Average Inflation Variance Factor (AVIF) which has criteria  $< 5$ .



**Figure 2. The Extension Model of Firm Value Determinants**

### ***Hypothesis Testing***

The hypothesis testing is done by using the path analysis that can be used to perform direct and indirect testing for intervening variables or mediating relationships between variables independent with dependent (Ghozali & Latan, 2015). The criterion in testing the hypothesis in research is if the value significant or p-value of  $\leq 0.05$  or 5%, the hypothesis in this study is accepted. In addition, it is necessary to look at the direction of the beta coefficient, positive or negative.

**Table 1. Measurement of Variables**

<b>Variables</b>	<b>Description</b>	<b>Measurement</b>
<b>Dependent:</b>		
Firm Value	the company's ability to generate profits can be seen through the investors' willingness to pay its shares.	$FV = \frac{\text{Market Value Share} + \text{Debt}}{\text{Total Assets}}$ (Akhmadi & Januarsi, 2021)
<b>Independent:</b>		
Net Working Capital	The ratio determines the level of current assets that are used to pay its current liabilities with total assets	$NWC = \frac{\text{Current Assets} - \text{Current Liability}}{\text{Total Assets}} \times 100\%$ (Muharromah et al., 2019)
Growth Opportunity	A ratio to determine the level of growth opportunities of the company at that time in the future by taking advantage of investment opportunities.	$SG = \frac{\text{Sales}_t - \text{Sales}_{t-1}}{\text{Sales}_{t-1}}$ (Muharromah et al., 2019)
Capital Expenditure	The capital expenditure to finance its investment activities to acquire and repair assets fixed or long-term assets	$CE = \frac{\text{Fixed Assets}_t - \text{Fixed Assets}_{t-1}}{\text{Total Assets}_{t-1}}$ (Ullah et al., 2021)
Cash Conversion Cycle	Time for the company to get cash from its operational activities starting from purchasing to cash receipts from sales	$CCC = \text{Days Inventory} + \text{Days Receivable} - \text{Days Payable}$ (Muharromah et al., 2019)
Profitability	the company's ability to obtain profit made by utilizing available source	$ROA = \frac{\text{Net profit after tax}}{\text{Total Assets}} \times 100\%$ (Akhmadi & Januarsi, 2021)
<b>Mediation:</b>		
Cash Holding	The amount of cash or equivalent cash owned by the company to be used to fulfill the needs of a company.	$CH = \frac{\text{Cash or equivalent cash}}{\text{Total Assets}}$ (Muharromah et al., 2019)
Dividend policy	The firm's policy in distributing a portion of the profits to shareholders by paying dividends or saving them in retained earnings to finance future investments. Dividend policy is proxied by Dividend Pay-out Ratio (DPR)	$DPR = \frac{\text{Dividend per Share}}{\text{Earning per Share}} \times 100\%$ (Akhmadi & Januarsi, 2021)

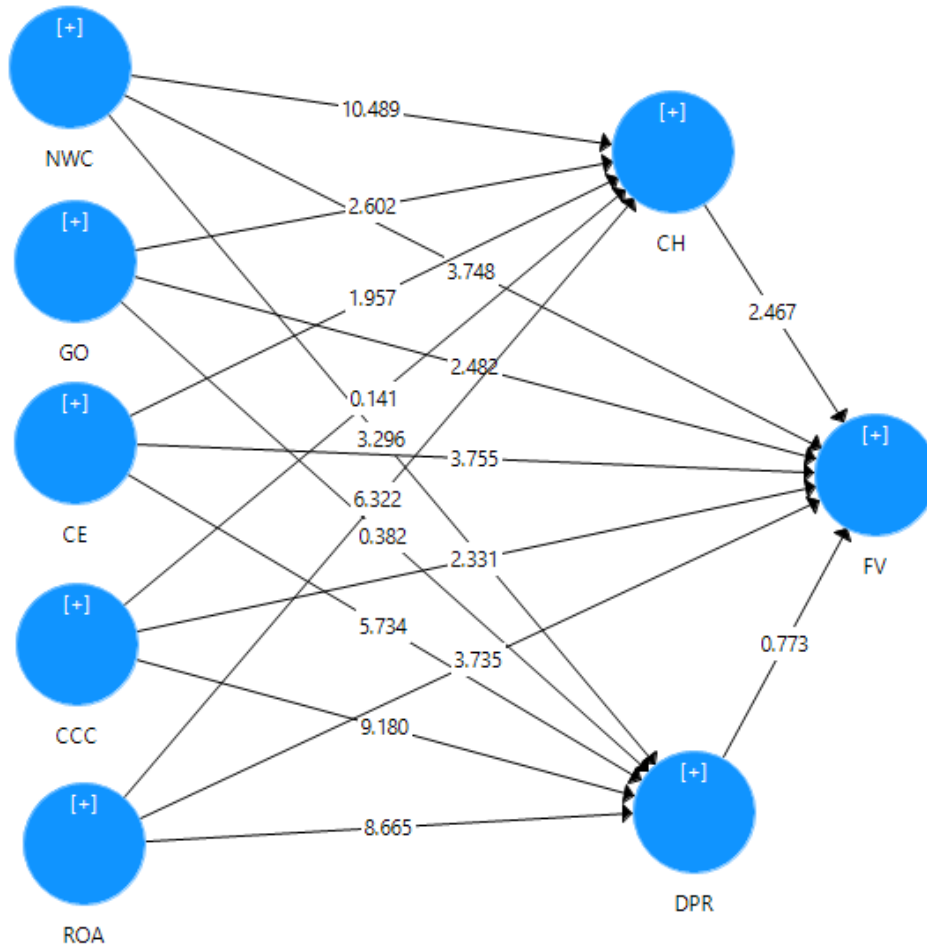
## RESULTS AND DISCUSSION

The estimation for outer loading factor - convergent validity for each variable is  $> 0.7$  indicating that all variables are valid. While the composite reliability and Cronbach Alpha for each variable also  $> 0.7$  indicate that all variables are reliable.

The results of the R-Squared or Adjusted (R<sup>2</sup>) values obtained were used to determine the ability of the variables to affect the relationship between the independent variables on the variables

dependent. The value of the determinant coefficient of R-Squared or Adjusted (R<sup>2</sup>) on the Firm Value is 0.417 (41.7 %) or 0.385 (38.5 %). The determinant coefficient value R-Squared or Adjusted (R<sup>2</sup>) in cash holding, is 0.638 (63.8%) or 0.622 (62.2 %). Finally, the value of the R-square on dividend policy is 0.569 (57%).

The results of the hypothesis testing can be seen in figure 3 and table 2 for direct effects and table 3 for the indirect effect.



**Figure 3. Hypothesis Testing**

The direct effect hypothesis in this study consists of H1, H2, H3abc, H4abc, H5abc, H6abc, and H7abc. The results in table 2 show that only 4 hypotheses have not been proven to be verified, namely H2, H4c, H5b, and H6b. While the indirect effect hypotheses (H2de, H3de, H4de, H5de, H6de, and H7de), only two hypotheses have been proven, namely H3d, dan H7d. It means cash holding mediates the influence of net working capital and profitability on firm value. However, dividend policy cannot be proven as mediation since dividend policy can not influence firm value (H2).

**Table 2. Path Analysis – Direct Effect**

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values	Decision
<b>CE -&gt; CH</b>	-0.150	-0.128	0.079	1.892	<b>0.059</b>	<b>H5b rejected</b>
<b>CE -&gt; DPR</b>	-0.186	-0.198	0.032	5.753	<b>0.000</b>	<b>H5c accepted</b>
<b>CE -&gt; FV</b>	-0.111	-0.115	0.031	3.518	<b>0.000</b>	<b>H5a accepted</b>
<b>CCC -&gt; CH</b>	0.008	0.000	0.057	0.132	<b>0.895</b>	<b>H6b rejected</b>
<b>CCC -&gt; DPR</b>	-0.316	-0.322	0.034	9.220	<b>0.000</b>	<b>H6c accepted</b>
<b>CCC -&gt; FV</b>	0.144	0.136	0.061	2.375	<b>0.018</b>	<b>H6a accepted</b>
<b>CH -&gt; FV</b>	0.155	0.168	0.064	2.411	<b>0.016</b>	<b>H1 accepted</b>
<b>DPR -&gt; FV</b>	-0.026	-0.029	0.034	0.778	<b>0.437</b>	<b>H2 rejected</b>
<b>GO -&gt; CH</b>	-0.071	-0.068	0.026	2.698	<b>0.007</b>	<b>H4b accepted</b>
<b>GO -&gt; DPR</b>	0.009	0.003	0.024	0.373	<b>0.710</b>	<b>H4c rejected</b>
<b>GO -&gt; FV</b>	0.453	0.426	0.176	2.582	<b>0.010</b>	<b>H4a accepted</b>
<b>NWC -&gt; CH</b>	0.608	0.627	0.062	9.872	<b>0.000</b>	<b>H3b accepted</b>
<b>NWC -&gt; DPR</b>	-0.174	0.166	0.053	3.272	<b>0.001</b>	<b>H3c accepted</b>
<b>NWC -&gt; FV</b>	0.203	-0.211	0.051	3.958	<b>0.000</b>	<b>H3a accepted</b>
<b>ROA -&gt; CH</b>	0.119	0.117	0.020	5.850	<b>0.000</b>	<b>H7b accepted</b>
<b>ROA -&gt; DPR</b>	-0.173	-0.173	0.019	8.974	<b>0.000</b>	<b>H7c rejected</b>
<b>ROA -&gt; FV</b>	0.159	0.166	0.039	4.119	<b>0.000</b>	<b>H7a accepted</b>

Note: CH = Cash Holding, DP = Dividend Policy, FV = Firm Value, NWC = Net Working Capital, GO = Growth Opportunity, CE = Capital Expenditure, CCC = Cash Conversion Cycle, and ROA = Profitability.

**Table 3. Path Analysis – Indirect Effect**

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values	Decision
<b>CE -&gt; CH -&gt; FV</b>	-0.023	-0.020	0.016	1.454	<b>0.147</b>	<b>H5d rejected</b>
<b>CCC -&gt; CH -&gt; FV</b>	0.001	0.000	0.010	0.114	<b>0.909</b>	<b>H6d rejected</b>
<b>GO -&gt; CH -&gt; FV</b>	-0.011	-0.011	0.007	1.641	<b>0.101</b>	<b>H4d rejected</b>
<b>NWC -&gt; CH -&gt; FV</b>	0.094	0.107	0.045	2.065	<b>0.039</b>	<b>H3d accepted</b>
<b>ROA -&gt; CH -&gt; FV</b>	0.018	0.019	0.007	2.588	<b>0.010</b>	<b>H7d accepted</b>
<b>CE -&gt; DPR -&gt; FV</b>	0.005	0.006	0.007	0.715	<b>0.475</b>	<b>H5e rejected</b>
<b>CCC -&gt; DPR -&gt; FV</b>	0.008	0.009	0.011	0.745	<b>0.457</b>	<b>H6e rejected</b>
<b>GO -&gt; DPR -&gt; FV</b>	0.000	0.000	0.001	0.238	<b>0.812</b>	<b>H4e rejected</b>
<b>NWC -&gt; DPR -&gt; FV</b>	-0.005	-0.005	0.006	0.731	<b>0.465</b>	<b>H3e rejected</b>
<b>ROA -&gt; DPR -&gt; FV</b>	0.005	0.005	0.006	0.732	<b>0.465</b>	<b>H7e rejected</b>

Note: CH = Cash Holding, DP = Dividend Policy, FV = Firm Value, NWC = Net Working Capital, GO = Growth Opportunity, CE = Capital Expenditure, CCC = Cash Conversion Cycle, and ROA = Profitability

### ***The role of cash holding on firm value***

The first hypothesis was accepted or proven so changes in the increase or decrease in cash holdings are able to affect the value of a company. These results are in line with Habib et al. (2021) proved that cash holding positively affects firm value in an unconstrained firm. Ameer (2012), Minh HA & Minh TAI (2017), and Chandra & Feliana (2020) also found that cash holding positively affects firm value. A high level of cash holding is able to increase the firm value. This is due to the company having high cash can make managers take action in managing the cash owned by the company, by prospering the opportunities in increasing the firm value.

However, the results of this study are not in line with Habib et al. (2021), who proved that cash holding has a negative effect on firm value in a constrained firm, Ameer (2012) discovered that cash holdings negatively affect the firm value for closely held firms., which explained that Cash Holding does not affect the value company. This is due to the level of cash availability owned and controlled by financial managers because companies tend to use cash to meet all needs. So much whether or not the level of cash owned by the company does not affect the value of a company. Based on agency theory, Jensen & Meckling (1976), agency conflicts arise because of a difference in goals and interests between managers and shareholders share. A high level of cash holding in a company can give rise to an agency conflict between managers and shareholders in managing cash. This is because the manager who has the power to manage cash tends to do actions that can benefit himself and not shareholder interests.

### ***The role of dividend policy on firm value***

The second hypothesis states that dividend policy has a positive effect on firm value. The results of the study based on statistical tests indicate that the dividend policy variable has a positive effect on firm value, so H2 is not proven true and cannot be accepted. Based on this, it can be concluded that dividend policy is not a factor that can affect firm value. It means that even though the dividend payout ratio does not affect firm value, it can be interpreted alternatively. During and after some time of crisis, not many companies will pay a dividend to the investors since they need their cash to stay in the business. This result cannot confirm the bird in hand theory (Angelo, 2013).

This research is not in line with research conducted by Atmikasari et al. (2020) which states that dividend policy has a positive effect on the value of the company. High dividend payout by the company to shareholders can be used as a signal to external parties that the welfare of investors is well cared for and good prospects for the company in the future. This will be interesting to the interest of potential new investors because it is following the bird-in-the-hand theory of returns return in the form of dividends is preferred because it is less risky than capital gains (Chaudry et al., 2015).

However, this study's results are following Sondakh (2019) who found that the dividend payout ratio or policy negatively affects company value. This is because the company could deceive shareholders and potential investors regarding performance companies that are not doing well when experiencing losses with pay dividends by withdrawing funds from retained earnings.

### ***The net working capital – direct and indirect effect on firm value***

From all the direct effects of the third hypothesis (H3abc), all hypotheses of direct effect (H3abc) proved and verified as expected. The effect of net working capital on cash holding means that if there is an increase or decrease in net working capital, the cash holding level in a firm will also decrease or increase. The results of this study are in line with the research of Wulandari & Setiawan (2019) which explains that net working capital has a positive effect on the cash holding of a company. This is because net working capital is part of current assets and a substitute for cash owned by a company so if there is an increase, the cash owned by the company will automatically increase.

The indirect effect of H3de and H3d hypotheses in this study are rejected or not proven, while H3e is verified. So, it can be concluded that if there is an increase or decrease in dividend payout, it is not able to mediate its effect on the relationship between net working capital and the value of a company. On the contrary, the change in cash holdings will affect net working capital on firm value. The relationship between net working capital and cash holding is a substitution so that net working capital can be changed at any time into cash if the company needs it (Opler et al, 1999).

This is due to the understanding that an increase or decrease in net working capital may not necessarily affect the value of a company. Because a company using net working capital must be optimal under its operational needs and have no more cash to pay a dividend (Sondakh, 2019). This shows that in relation to dividend policy, the high net working capital owned by a company does not necessarily have a good impact on the value of the company if it is not managed properly.

### ***Growth opportunity – direct and indirect effect on firm value***

From all the direct effects of the fourth hypothesis (H4abc), the hypotheses of direct effect H3ab proved and verified as expected, while H4c has not been verified. The effect of growth opportunity on cash holding and firm value means that if there is an increase or decrease in net growth opportunity, the cash holding level in a firm will also decrease or increase and companies tend to pay a dividend. These results are in keeping with Fajaria & Isnalita (2018). An opportunity or potential for the business to grow is known as a growth opportunity. The business needs adequate funding to carry out the stages of company growth necessary for the future in order to take advantage of chances like expansion.

These results are not following the study of Alfira et al. (2021) and Sualekhhattak & Hussain (2017). According to research by Alfira et al. (2021), growth opportunity has a negative impact on cash holdings. Companies will withhold cash from a company that has significant growth potential. It is founded on the speculative motive of holding cash, which is the company's motive in having the capital to use in a variety of business opportunities that can be done for the company's advantage. Sualekhhattak & Hussain (2017) discovered that growth prospects had little bearing on dividend policy.

All the indirect effects (H4de) are rejected or not proven. Growth opportunities have offered a positive signal as expected by current or potential investors that the company is in good condition so they can acquire the expected rate of return as well can increase the firm value (Connelly et al., 2011). However, companies that have high growth do not guarantee high cash

availability either. This matters due to companies that growth using the available cash to take advantage of the opportunities that are owned to be able to develop the company as well increase the value of a company. So, the companies will choose to invest rather than have available cash to fulfill their operational activities.

#### ***Capital expenditure – direct and indirect effect on firm value***

From all the direct effects of the fifth hypothesis (H5abc), the hypotheses of direct effect H5ac proved and verified as expected, while H5b has not been verified. The effect of capital expenditure on the value of the firm and dividend payout ratio or policy means that if there is a decrease in capital expenditure, the firm value and the level of dividend payout ratio in the firm will increase. These results are in line with the research of Abor & Bokpin (2010) that investors would be more interested in companies that have a high level of capital expenditure because the decision to invest can provide significant benefits in the future. However, Muharromah et al. (2019) found that capital expenditure has a positive influence on firm value. The capital expenditures in a company are used to finance the repair or acquisition of new fixed assets to increase the effectiveness of the company and minimize the risks that occur in operational and production activities.

All the indirect effects (H5de) are rejected or not proven. It means that both cash holding and dividend policy cannot mediate the relationship between capital expenditure on firm value. The increase or decrease in cash holdings as well as the announcement of dividends do not influence the value of a firm in association with capital expenditure. Capital cost to meet the needs of spending funds does not only come from the availability of cash held in a company since companies can also use funding from an external source, such as loans from creditors. So, high spending on capital may not necessarily reduce the availability of cash holdings. The increase or decrease in capital expenditure of the company does not guarantee that it influences the value of the company. Capital expenditure paid will be able in increasing the efficiency of a company needs to consider the proper management. Not necessarily those who have large capital expenditures have a good performance and vice versa. So, increasing firm value depends on the decision to pay for capital expenditure that must be managed optimally.

#### ***Cash conversion cycle – direct and indirect effect on firm value***

From all the direct effects of the sixth hypothesis (H6abc), the hypotheses of direct effect H6ac proved and verified as expected, while H6b has not been verified. The path coefficient of the cash conversion cycle on firm value and dividend policy means that if the higher cash conversion cycle, the firm value will increase while the level of cash holding in a firm will decrease. These results are in line with Ceylan (2021) and Amelia & Kitri (2019) that the cycle of cash conversion has a negative effect on firm value. Following the signalling theory, Telly & Ansori (2017) remarked that management decisions made for a company will inform investors about the firm's current conditions, whether they are favourable or unfavourable in terms of how they will affect the value company. Because of this, the longer the cash conversion cycle, the longer it will take for the company to get the money from its sales. As a result, it is challenging for the business to raise enough money, which lowers the company's value.

All the indirect effects (H6de) are rejected or not proven. It means that both cash holding and dividend policy cannot mediate the relationship of the cash conversion cycle on firm value. The increase or decrease in cash holdings as well as the announcement of dividends do not influence the value of a firm in association with the cash conversion cycle. The length of time taken by the company to receive its cash return does not guarantee to reduce the value of a company. The length of the cash cycle can be influenced by the high level of debt for purposes of investment. So, the investment can make investors attracted because they receive a high rate of return as well. The level of cash availability by a company is not certain to influence the length of time obtained in receiving cash return since the company does not only use its cash but can also use debt to meet operational needs. In other words, the level of cash availability can also be arranged following the company's policies.

### ***Profitability – direct and indirect effect on firm value***

From all the direct effects of the seventh hypothesis (H7abc), all hypotheses of direct effect (H7abc) proved and verified as expected, except for H7c with a negative relationship. The effect of profitability on cash holding means that if there is increasing profitability, the cash holding level in a firm will also increase, and the amount of dividend is decreased. These results are in line with Harahap et al. (2019), Jihadi et al. (2021), and Akhmadi & Januarsi (2021) found that companies that own high profitability ratios will show their ability to make dividend payments with cash holdings. The results also follow Tamrin et al. (2017) that found profitability negatively affects dividend policy. Using the signalling hypothesis, the business will indicate to the public world that it has taken several steps to maintain performance, as evidenced by the acquisition of stable earnings. In order to improve the firm's worth in the eyes of potential investors, the corporation will increase payments and dividends concerning the ratio of increased corporate profitability.

The indirect effect of H7e is rejected or not proven while H7d is accepted. It means that dividend policy cannot mediate the relationship between capital expenditure on firm value while cash holding performs as mediation. The increase in cash holdings influences the value of a firm in association with capital expenditure. Companies have various types of businesses with different characters and cultures. Apart from based on the level of profitability, differences in character and culture can be carried over causing differences in decision-making regarding dividend policy (Atmikasari et al., 2020). The company can still distribute dividends to shareholders taken from retained earnings if there are moderate earnings, so that investors may be tricked that the company is in good condition and prevent the company's value from decreasing.

### ***Robustness test***

To test whether the relation of variables in this study is influenced by the company size, we perform the test using the Ln Size of the company. The test indicates that there are similar results for the hypotheses after the robustness test. It means that the relation of variables does not depend on the size of the company (see appendix for the results of this test).



## CONCLUSION

Crisis, such as the covid-19 pandemic, has an impact on all levels of society, especially on the survival of a business. Since 2019, there was a slight correction in the firm value and worsen in 2020 when covid-19 attacked Indonesia in the early year of March 2020. The covid pandemic depressed the economy so the level of public consumption decreased which caused a decrease in revenue and turnover of the business. The capital market trading in the IDX got hit by the pandemic which cause most share prices to decrease and impact the firm value. In a time of uncertainty such as a pandemic crisis, the firm will hold its cash to hedge against the uncertainty. Besides, the firm will also change its dividend policy for the same reason. Therefore, our study aims to prove whether cash holding and dividend policy will mediate factors that affect firm value.

We found that of all the direct effects, firm value is negatively influenced by capital expenditure, and positively influenced by the cash conversion cycle, growth opportunity, net working capital, profitability, and cash holding. Cash holding is negatively affected by growth opportunities and positively affected by net working capital and profitability. Dividend policy is negatively influenced by capital expenditure, net working capital, cash conversion cycle, and profitability. Of all the indirect effects, only two hypotheses have been verified. Cash holding mediates the relationship between net working capital and profitability on firm value, while dividend policy cannot mediate the relation since dividend policy has no direct effect on firm value.

Based on the results, this study contributes, first, to the literature on firm value by filling the gap research of the inconclusive results of whether cash holding and dividend policy can mediate the relation of fundamental factors and firm value. Second, this study implied practically that during a crisis, a company tends to not pay dividends because of some fundamental factors. Therefore, investors and potential investors may not be interested in investing in a firm that impacts the firm value. Limitations of this study include, first, we do not differentiate firm value before and during a financial crisis such as the pandemic Covid-19. We suggest that future research may consider the time range such as before, during, and after the financial crisis. Second, even though we have performed the robustness test using the firm size, future research might consider performing the firm differences based on the industry SIC that is mostly, mediately, and slightly influenced by the crisis.

### List of Abbreviations

IDX: Indonesia Stock Exchange, SIC: Standard Industrial Classification, CH: Cash Holding, DP: Dividend Policy, FV: Firm Value, NWC: Net Working Capital, GO: Growth Opportunity, CE: Capital Expenditure, CCC: Cash Conversion Cycle, and ROA: Return on Assets (Profitability).

### Authors' Contribution

EY provided direction for the entire project, develop research ideas, supervise data collection, and contribute to the writing of articles. The UK developed research ideas and provided input on the

proposed research. FR collected data and performed data processing. ANS collected data and interpretation. NWIK collected data and developed article writing.

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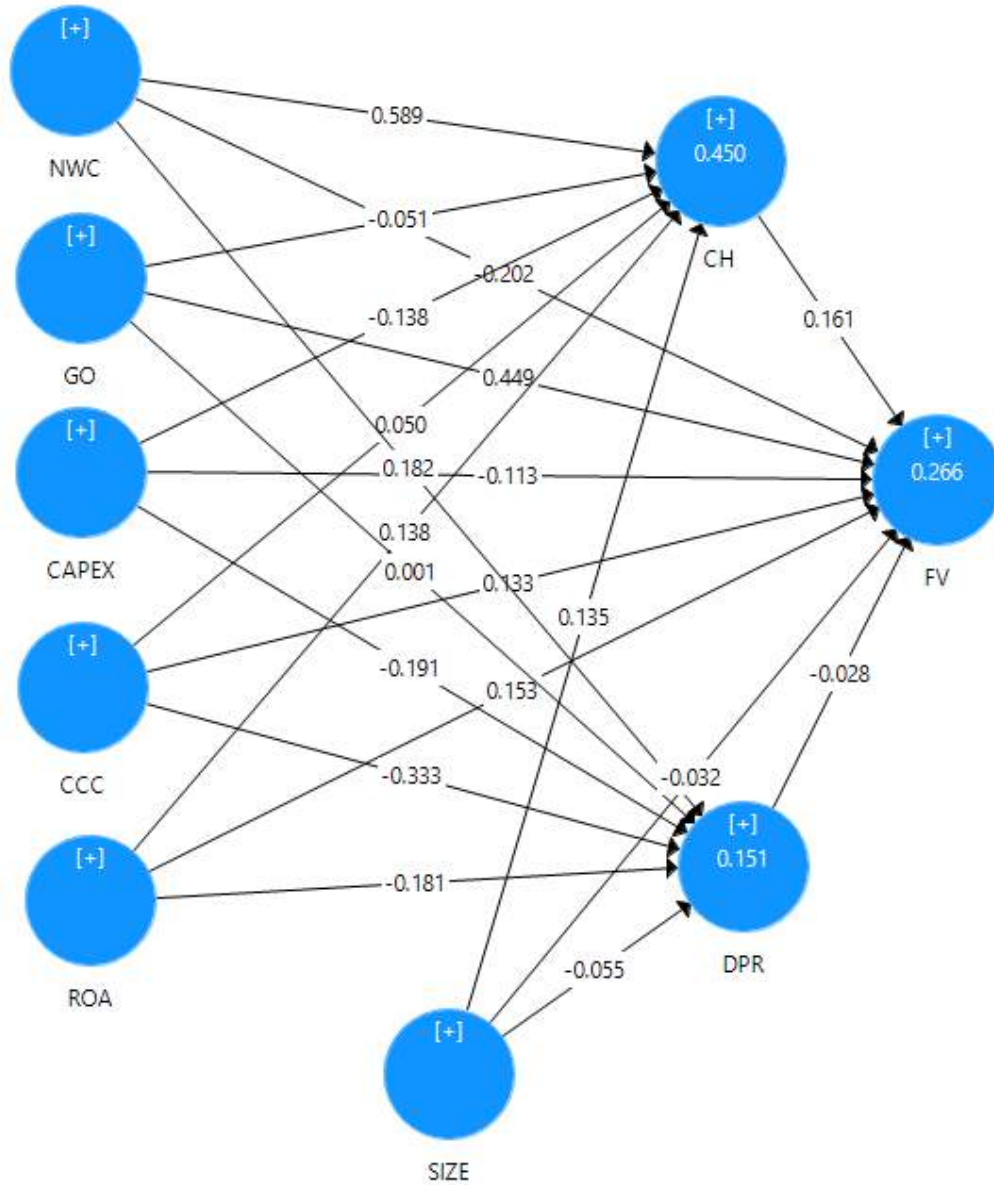
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**APPENDIX**



**Figure 4. Robustness test of hypotheses with firm size**

**Table 4. Robustness test: Path Analysis – Direct Effect**

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
CAPEX -> CH	-0,138	-0,123	0,078	1,765	<b>0,078</b>
CAPEX -> DPR	-0,191	-0,199	0,034	5,628	<b>0,000</b>
CAPEX -> FV	-0,113	-0,118	0,035	3,179	<b>0,002</b>
CCC -> CH	0,050	0,046	0,056	0,906	<b>0,366</b>
CCC -> DPR	-0,333	-0,341	0,030	10,930	<b>0,000</b>
CCC -> FV	0,133	0,123	0,056	2,370	<b>0,018</b>
CH -> FV	0,161	0,176	0,062	2,583	<b>0,010</b>
DPR -> FV	-0,028	-0,033	0,035	0,815	<b>0,415</b>
GO -> CH	-0,051	-0,050	0,027	1,843	<b>0,066</b>
GO -> DPR	0,001	-0,002	0,026	0,026	<b>0,979</b>
GO -> FV	0,449	0,419	0,187	2,402	<b>0,017</b>
NWC -> CH	0,589	0,606	0,061	9,655	<b>0,000</b>
NWC -> DPR	0,182	0,178	0,052	3,524	<b>0,000</b>
NWC -> FV	-0,202	-0,213	0,057	3,556	<b>0,000</b>
ROA -> CH	0,138	0,136	0,019	7,322	<b>0,000</b>
ROA -> DPR	-0,181	-0,183	0,020	9,124	<b>0,000</b>
ROA -> FV	0,153	0,159	0,044	3,503	<b>0,001</b>
SIZE -> CH	0,135	0,138	0,026	5,230	<b>0,000</b>
SIZE -> DPR	-0,055	-0,056	0,038	1,429	<b>0,154</b>
SIZE -> FV	-0,032	-0,034	0,037	0,884	<b>0,377</b>

**Table 5. Robustness test: Path Analysis – Indirect Effect**

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
CAPEX -> CH -> FV	-0,022	-0,021	0,016	1,375	<b>0,170</b>
CCC -> CH -> FV	0,008	0,008	0,010	0,791	<b>0,429</b>
GO -> CH -> FV	-0,008	-0,009	0,006	1,273	<b>0,204</b>
NWC -> CH -> FV	0,095	0,108	0,044	2,163	<b>0,031</b>
ROA -> CH -> FV	0,022	0,024	0,008	2,717	<b>0,007</b>
SIZE -> CH -> FV	0,022	0,024	0,009	2,375	<b>0,018</b>
CAPEX -> DPR -> FV	0,005	0,007	0,007	0,748	<b>0,455</b>
CCC -> DPR -> FV	0,009	0,011	0,012	0,781	<b>0,435</b>
GO -> DPR -> FV	0,000	0,000	0,001	0,015	<b>0,988</b>
NWC -> DPR -> FV	-0,005	-0,006	0,007	0,754	<b>0,451</b>
ROA -> DPR -> FV	0,005	0,006	0,007	0,756	<b>0,450</b>
SIZE -> DPR -> FV	0,002	0,002	0,003	0,584	<b>0,560</b>



## Cash Holdings, Dividend Payout, and Corporate Value: The Role of Institutional Investors

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### Abstract

*This study examines the relationship between cash holdings and dividend payout on corporate value. The moderating effect of institutional investors on the effect of cash holdings and dividend distribution on corporate value is also investigated in this study. This study applied non-financial companies listed on the Indonesia Stock Exchange between 2015 and 2019 and a total of 1269 observations. The data in this study were analyzed using the ordinary least squares method. According to the findings of the study, cash holdings have a positive influence on the value of the company. However, corporate value is unaffected by dividend payout. The findings of this investigation suggest that institutional investors do not moderate the impact of cash holdings on corporate value. However, institutional investors moderate the impact of dividend payout positively. This paper elaborates on institutional investors, a mechanism for agency conflict in relation to cash holdings, dividend payout, and corporate value.*

**Keywords:** *cash holdings, dividend payout, institutional investors, corporate value, agency conflict.*

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## INTRODUCTION

Agency conflict is a fascinating topic of study. The company's cash holdings are one factor that can lead to agency conflicts. Based on Jensen (1986), through the free cash flow hypothesis, It has been discovered that a company's cash reserves may lead its management to invest in projects with a negative net present value. This negligence could contribute to the company's value declining. The results of previous research regarding the negative impact of cash holdings on corporate value were conducted by Toly, Claudya, Santoso, & Grace (2019) and Asante-Darko, Adu Bonsu, Famiyeh, Kwarteng, & Goka (2018). Research conducted by Bhuiyan & Hooks (2019) also found

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that a company's cash holdings positively affect overinvestment. The results of the opposite study were obtained by Ifada, Indriastuti, & Hanafi (2020), Aslam, Kalim, & Fizza (2019), and La Rocca & Cambrea (2019), who discovered that having cash holdings increases a company's value. Cash holdings positively affect corporate value due to investors' perception that the company can manage cash well (Ifada et al., 2020). Another study by Jabbouri & Almustafa (2021) revealed that cash holdings had a positive influence on the firm's performance. La Rocca, Staglianò, La Rocca, Cariola, & Skatova (2019) also revealed that cash holdings positively impacted the company's operating performance. Isshaq et al. (2009) found that cash holdings have no influence on stock prices.

In addition to cash holdings, dividend payout is another aspect that might affect the value of a firm. According to Jensen (1986), this might be overcome by providing dividends to shareholders, allowing firm management to seek alternative funding sources, such as debt, to fund their investments. The dividend payout can enhance the value of the company by minimizing agency conflict. Past research on the impact of dividend payout on the value of corporate companies was carried out by Farrukh et al. (2017), Resti, Purwanto, & Ermawati (2019), and Launtu (2021). They discovered that dividend payout enhances corporate value. Rajverma, Misra, Mohapatra, & Chandra (2019) and Banerjee (2018) also discovered that dividend payout enhances corporate value. The results of the opposite study regarding dividend payout on corporate value were conducted by Aprilyani, Widyarti, & Hamidah (2021) and Odum, Odum, Omeziri, & Egbunike (2019). They discovered that dividend payout has no impact on the company's value.

The number of a company's shares held by financial institutions, insurance companies, securities firms, mutual funds, and other organizations is referred to as institutional investors. Institutional investors, according to Jensen & Meckling's (1976) agency theory, are one of the mechanisms of agency conflict. Preceding studies on the impact of institutional investors on corporate value were conducted by Singh & Kansil (2018), Tee (2019), and Hussain, Abid, Ambreen, Usman, & Rahman (2022), who discovered that institutional investors enhance the value of the company. Yun et al. (2021) found that cash holdings can increase corporate value when there is strong governance.

Gillan & Starks (2005) argue that institutional investors are the dominant players in financial markets. Hanafi & Setiawan (2018) argue that institutional investors differ from individual ownership because institutional investors invest large amounts of funds, so it has incentives for greater monitoring compared to individual ownership. It is hoped that the existence of institutional investors with incentives for more excellent monitoring can reduce agency conflicts that occur in cash holdings to increase corporate value. Institutional investors can also be a substitution mechanism for dividend payout (Karim & Ilyas, 2021). This is supported by the findings of Martono et al. (2020), who discovered that institutional investors negatively influence dividend payout.

Therefore, this study examines and analyzes the influence of cash holdings and dividend payout with institutional investors as a moderating variable, on the corporate value based on the arguments above. This study has a number of contributions, including the role of institutional investors in diminishing agency conflicts. This study offers empirical evidence regarding the moderating impact of institutional investors on the impact of cash holdings and dividend payout

on the value of the company. Third, this study also explores and analyzes foreign institutional investors, local institutional investors, pressure-resistant institutional investors, and pressure-resistive institutional investors.

Cash holdings are cash and cash equivalents owned by the company. According to the agency theory proposed by Jensen (1986), The company's cash and cash equivalents can increase agency conflict. The agency conflict occurs because the company's cash holdings are invested by management in unprofitable investments (Asante-Darko et al., 2018). Unprofitable investment can cause a decrease in corporate value. The statement is supported by research conducted by Toly et al. (2019) and Asante-Darko et al. (2018), who discovered that cash holdings negatively influence the value of the company. Accordingly, this study's first hypothesis is the following:

**H<sub>1</sub>: Cash holdings have a negative influence on corporate value**

Dividend payout is one of the agency conflict mechanisms. According to Jensen (1986), a dividend payout can reduce agency conflicts in the company's cash holdings. Dividends distributed to shareholders cause the company to use debt to fund its investment projects. The management of the company must be cautious when investing due to this debt because it must be repaid with interest. La Porta, Lopez-De-Silanes, Shleifer, & Vishny (2000) also state that companies have pressure to distribute dividends in countries with weak investor protection due to the waste that can occur in the resources owned by the company. The statement is supported by the research findings of Launtu (2021), Resti et al. (2019), Rajverma et al. (2019), and Banerjee (2018), who discovered that dividend payout enhances corporate value. Accordingly, this study's second hypothesis is the following:

**H<sub>2</sub>: Dividend payout has a positive influence on corporate value**

Institutional investors are one of the agency conflict mechanisms (Jensen & Meckling, 1976). Institutional investors can reduce agency conflict through supervision. This improved supervision is due to the expertise possessed by these institutional investors (Gillan & Starks, 2005). The statement is supported by research conducted by Bathala, Moon, & Rao (1994), who found that through monitoring, institutional investors have a considerable impact on agency costs and firm performance. This effectiveness in monitoring is due to institutional investors investing large amounts of funds and having more substantial monitoring incentives. The company's value is expected to increase as a result of the lower agency conflicts in cash holdings due to the larger institutional investors. Research conducted by Tee (2019) discovered that institutional investors positively impacted the company's value. Another study by Hussain et al. (2022) also found that institutional investors positively affect corporate value. Accordingly, this study's third hypothesis is the following:

**H<sub>3</sub>: Institutional investors positively moderate the negative influence of cash holdings on corporate value**

According to the third hypothesis, higher institutional investors can reduce agency conflict so that the influence of cash holdings on corporate value can increase. The higher the institutional

investors of the company, the more effective the dividend payout has on the company's value can be reduced because institutional investors can act as a substitution mechanism with dividend payout. The substitution mechanism can occur because the institutional investors have more substantial monitoring incentives to replace dividend payout as an agency conflict mechanism, so the institutional investors negatively moderate the influence of dividend payout on corporate value. The statement is supported by research by Karim & Ilyas (2021), who discovered that the effect of dividend payout on corporate value increases as foreign institutional investors increase. Accordingly, this study's fourth hypothesis is the following:

**H4: Institutional investors negatively moderate the positive influence of dividend payout on corporate value.**

## RESEARCH METHOD

This study applied secondary data extracted from the annual report of the company. The annual report of the company is acquired via the websites of the Indonesian stock exchange (IDX), the Indonesian central securities depository (KSEI), and the company itself. This study's population consists of non-financial firms listed on the Indonesia Stock Exchange. Financial companies are excluded from this study's population because their rules differ from those of non-financial companies. Purposive sampling was used to select samples for this study, under the criteria: 1) companies listed on the Indonesia Stock Exchange between 2015 and 2019, 2) companies with complete data used in this study, 3) companies using rupiah currency in their financial statements, and 4) companies have positive equity. In total, 1269 observations were collected for this investigation.

Corporate value is the dependent variable in this research. The value of a company is determined by Karim & Ilyas (2021) by dividing market capitalization plus the book value of debt by total assets. Odum et al. (2019) determine the corporate value by dividing its market value by its entire equity. Karim & Ilyas (2021) determine a company's cash holdings by dividing cash and cash equivalents by total assets. Aprilyani et al. (2021) determine the dividend payout by dividing the dividend by the net income of the company. According to Tee (2019), institutional investors are established by dividing the institutional investor's shares by all number of outstanding shares, local institutional investors are established by dividing local institutional investors' shares by all of the outstanding shares, and foreign institutional investors are established by dividing the foreign institutional investor's shares by all of the outstanding shares. Tee (2019) divides the number of shares held by institutions with the potential to have business ties as pressure-sensitive institutional investors, such as financial institutions and insurance companies, by the number of outstanding shares. Tee (2019) determines pressure-resistant institutional investors by dividing the number of shares held by institutions that do not have the potential to have business ties, such as mutual funds and pension funds companies, by the number of shares outstanding. Lin & Fu (2017) calculate firm size by the logarithm of total assets, leverage by dividing total debt by total assets, dividing net income by total assets as profitability, and company age using the company's age since the company was founded. Calculating managerial ownership involves dividing the company's

management number of shares by all number of outstanding shares (Asante-Darko et al., 2018). Aslam et al. (2019) measure the number of commissioners on the company's board of directors to determine the size of the board. The number of commissioners on the board is used as the board size in this study.

The statistical equations in this study are as follows:

**Main Analysis**

$$MBV_{it} = \alpha + \beta_1CHL_{it} + \beta_2DPR_{it} + \beta_3TINS_{it} + \beta_4CHL_{it}*TINS_{it} + \beta_5DPR_{it}*TINS_{it} + \beta_6LEV_{it} + \beta_7SIZE_{it} + \beta_8ROA_{it} + \beta_9*FAGE_{it} + \beta_{10}*MAN\_OWN_{it} + \beta_{11}*BS\_C_{it} + \varepsilon \dots\dots\dots(MA_1)$$

$$MBVA_{it} = \alpha + \beta_1CHL_{it} + \beta_2DPR_{it} + \beta_3TINS_{it} + \beta_4CHL_{it}*TINS_{it} + \beta_5DPR_{it}*TINS_{it} + \beta_6LEV_{it} + \beta_7SIZE_{it} + \beta_8ROA_{it} + \beta_9*FAGE_{it} + \beta_{10}*MAN\_OWN_{it} + \beta_{11}*BS\_C_{it} + \varepsilon \dots\dots\dots(MA_2)$$

**Additional Analysis:**

$$MBV_{it} = \alpha + \beta_1CHL_{it} + \beta_2DPR_{it} + \beta_3PRII_{it} + \beta_4PSII_{it} + \beta_5CHL_{it}*PRII_{it} + \beta_6CHL_{it}*PSII_{it} + \beta_7DPR_{it}*PRII_{it} + \beta_8DPR_{it}*PSII_{it} + \beta_9LEV_{it} + \beta_{10}SIZE_{it} + \beta_{11}ROA_{it} + \beta_{12}*FAGE_{it} + \beta_{13}*MAN\_OWN_{it} + \beta_{14}*BS\_C_{it} + \varepsilon \dots\dots\dots(AA_3)$$

$$MBVA_{it} = \alpha + \beta_1CHL_{it} + \beta_2DPR_{it} + \beta_3PRII_{it} + \beta_4PSII_{it} + \beta_5CHL_{it}*PRII_{it} + \beta_6CHL_{it}*PSII_{it} + \beta_7DPR_{it}*PRII_{it} + \beta_8DPR_{it}*PSII_{it} + \beta_9LEV_{it} + \beta_{10}SIZE_{it} + \beta_{11}ROA_{it} + \beta_{12}*FAGE_{it} + \beta_{13}*MAN\_OWN_{it} + \beta_{14}*BS\_C_{it} + \varepsilon \dots\dots\dots(AA_4)$$

$$MBV_{it} = \alpha + \beta_1CHL_{it} + \beta_2DPR_{it} + \beta_3FINS_{it} + \beta_4LINS_{it} + \beta_5CHL_{it}*FINS_{it} + \beta_6CHL_{it}*LINS_{it} + \beta_7DPR_{it}*FINS_{it} + \beta_8DPR_{it}*LINS_{it} + \beta_9LEV_{it} + \beta_{10}SIZE_{it} + \beta_{11}ROA_{it} + \beta_{12}*FAGE_{it} + \beta_{13}*MAN\_OWN_{it} + \beta_{14}*BS\_C_{it} + \varepsilon \dots\dots\dots(AA_5)$$

$$MBV_{it} = \alpha + \beta_1CHL_{it} + \beta_2DPR_{it} + \beta_3FINS_{it} + \beta_4LINS_{it} + \beta_5CHL_{it}*FINS_{it} + \beta_6CHL_{it}*LINS_{it} + \beta_7DPR_{it}*FINS_{it} + \beta_8DPR_{it}*LINS_{it} + \beta_9LEV_{it} + \beta_{10}SIZE_{it} + \beta_{11}ROA_{it} + \beta_{12}*FAGE_{it} + \beta_{13}*MAN\_OWN_{it} + \beta_{14}*BS\_C_{it} + \varepsilon \dots\dots\dots(AA_6)$$

Where, FV = corporate value; CHL = cash holdings; DPR = dividend payout; TINS= institutional investors; PRII=pressure-resistant institutional investors; PSII=pressure-sensitive institutional investors; FINS=foreign institutional investors; LINS=local institutional investors; LEV= leverage; SIZE= firm size; ROA= profitability; FAGE= firm age; MAN\_OWN= managerial ownership; BS\_C= board size

**Table 1. Research Variables**

<b>Variables</b>	<b>Equation</b>	<b>Sources</b>
<b>Dependent Variables</b>		
MBV	The market value of the firm / total equity of the firm	Odum et al. (2019)
MBVA	Sum of market capitalization plus the book value of debt / total assets.	Karim & Ilyas (2021)
<b>Independent Variables</b>		
CHL	Cash and cash equivalents / total assets	Karim & Ilyas (2021)
DPR	Dividend payout / the company's net income	Aprilyani et al. (2021)
<b>Moderation Variables</b>		
TINS	The number of shares held by institutional investors / the number of outstanding shares	Tee (2019)
PRII	The number of shares held by pressure-resistant institutional investors / the number of outstanding shares.	Tee (2019)
PSII	The number of shares held by pressure-sensitive institutional investors / the number of shares outstanding.	Tee (2019)
FINS	The number of shares held by foreign institutional investors / the number of outstanding shares	Tee (2019)
LINS	The number of shares held by local institutional investors / the number of outstanding shares	Tee (2019)
<b>Control Variables</b>		
LEV	Total debt / total assets	Lin & Fu, (2017)
SIZE	The logarithm of total assets	Lin & Fu, (2017)
ROA	Net income / total assets	Lin & Fu, (2017)
FAGE	Company's age since the company was founded.	Lin & Fu, (2017)
MANOWN	The number of shares held by the company's management / the number of outstanding shares	Asante-Darko et al. (2018)
BS_C	The number of members on the company's board of commissioners	Aslam et al. (2019)

## RESULTS AND DISCUSSION

### Result

The study's descriptive statistics of the data are as follows. The descriptive statistics for the 15 variables used in this study are the mean, standard deviation, minimum, and maximum values as follows:

**Table 1. Descriptive Statistics**

No	Variables	N	Mean	Std. Dev	Maximum	Minimum
1	MBV	1269	1.6977	1.7264	13.9735	0.0547
2	MBVA	1269	1.3878	1.0608	9.0837	0.1228
3	CHL	1269	0.1028	0.1295	2.5695	0.0004
4	DPR	1269	0.1982	0.3333	2.3970	0.0000
5	LEV	1269	0.4395	0.2000	0.9599	0.0076
6	SIZE	1269	28.6675	1.6530	33.4945	24.5683
7	FAGE	1269	33.1710	13.5056	106.0000	6.0000
8	ROA	1269	0.0364	0.0870	0.9210	-0.6003
9	MAN_OWN	1269	4.9348	14.2199	89.4400	0.0000
10	BS_C	1269	4.2561	1.9549	22.0000	2.0000
11	TINS	1269	0.1430	0.1556	0.9524	0.0000
12	PRII	1269	0.0552	0.0781	0.4724	0.0000
13	PSII	1269	0.0889	0.1296	0.9204	0.0000
14	FINS	1269	0.0913	0.1319	0.8912	0.0000
15	LINS	1269	0.0517	0.0772	0.6237	0.0000

According to the descriptive statistics presented in Table 1, the average market-to-book value is 1.6977. The number shows that the average market price of the company is 1.6977 of the company's total equity. The average market-to-book value of assets is 1.3878. The number shows that the average market capitalization plus debt is 1.3878 of the company's total assets. According to the descriptive statistics in Table 1, the companies that are the sample in this study have an average cash holding of 10.28 percent of the total assets held by the company. On average, the companies that are the sample in this study distribute dividends of 19.82 percent of the net income earned by the company. Of the company's total outstanding shares, an average of 14.30 percent is held by institutional investors. According to domicile location, the average company ownership is held by foreign institutional investors at 9.13 percent and 5.17 percent by local institutional investors. According to potential business ties, the average company ownership is held by pressure-resistive institutional investors at 5.52 percent and 8.89 percent by pressure-resistant institutional investors.

**Table 2. Regression Analysis**

Variables	MA_1 MBV	MA_2 MBVA	AA_3 MBV	AA_4 MBVA	AA_5 MBV	AA_6 MBVA
Constant	3.6083*** (3,71)	2.4711*** (4,20)	3.4767*** (3,45)	2.4508*** (4,02)	3.5567*** (3,65)	2.4578*** (4,16)
CHL	1.4268*** (2,88)	0.9416*** (3,14)	1.4677*** (2,84)	0.9508*** (3,05)	1.4309*** (2,89)	0.9424*** (3,14)
DPR	0.2398 (1,07)	0.1974 (1,45)	0.2284 (1,01)	0.1974 (1,45)	0.2953 (1,30)	0.2173 (1,58)
TINS	1.3190*** (3,10)	0.8157*** (3,17)				
CHL*TINS	-3.2325 (-1,33)	-1.7609 (-1,19)				
DPR*TINS	2.5784** (2,16)	1.3946* (1,93)				
PRII			0.6084 (0,67)	0.4560 (0,83)		
PSII			1.5168*** (3,05)	0.9409*** (3,13)		
CHL*PRII			-4.2665 (-0,95)	-2.1086 (-0,78)		
CHL*PSII			-2.8736 (-0,93)	-1.7681 (-0,95)		
DPR*PRII			5.7359*** (3,04)	3.4569*** (3,03)		
DPR*PSII			-0.3793 (-0,20)	-0.6882 (-0,59)		
FINS					1.5021*** (2,97)	0.7911** (2,58)
LINS					0.8898 (1,10)	0.8995* (1,84)
CHL*FINS					-4.1948 (-1,26)	-1.7396 (-0,86)
CHL*LINS					-1.3419 (-0,33)	-1.7613 (-0,72)
DPR*FINS					3.5774*** (2,63)	1.7272** (2,09)
DPR*LINS					-0.4444 (-0,19)	0.3523 (0,24)
LEV	1.0098*** (4,04)	-0.0892 (-0,59)	0.9886*** (3,95)	-0.1008 (-0,67)	1.0043*** (4,02)	-0.0896 (-0,59)



Variables	MA_1 MBV	MA_2 MBVA	AA_3 MBV	AA_4 MBVA	AA_5 MBV	AA_6 MBVA
SIZE	-0.0949*** (-2.60)	-0.0488** (-2.21)	-0.0888** (-2.34)	-0.0474** (-2.06)	-0.0932** (-2.54)	-0.0488** (-2.20)
FAGE	-0.0172*** (-4.93)	-0.0073*** (-3.48)	-0.0174*** (-4.99)	-0.0074*** (-3.52)	-0.0167*** (-4.74)	-0.0071*** (-3.33)
ROA	5.1204*** (8.79)	3.3092*** (9.39)	5.1246*** (8.77)	3.3133*** (9.37)	5.0815*** (8.72)	3.2989*** (9.34)
MAN_OWN	-0.0035 (-1.06)	-0.0012 (-0.61)	-0.0038 (-1.13)	-0.0014 (-0.68)	-0.0037 (-1.10)	-0.0012 (-0.62)
BS_C	0.0838*** (3.00)	0.0512*** (3.02)	0.0816*** (2.92)	0.0500*** (2.94)	0.0830*** (2.95)	0.0518*** (3.04)
r2_a	0.1227	0.1490	0.1238	0.1506	0.1231	0.1474
N	1269	1269	1269	1269	1269	1269

The regression analysis results presented in Table 2 indicate that cash holdings positively and statistically significantly affect the value of the company, rejecting the initial hypothesis of this study. The dividend payout does not influence the company's value, as shown by Table 2's regression analysis results; thus, the second hypothesis of the study is rejected. Table 2 shows that institutional investors do not moderate the influence of cash holdings on corporate value, rejecting the third hypothesis of the study. Table 2 further indicates that institutional investors positively moderate the dividend payout's impact on corporate value, rejecting the fourth hypothesis of this study.

## Discussion

The findings of this study indicate that a larger quantity of cash holdings can raise the value of a company. This study's findings contradict the agency theory, which indicates that cash holdings might lead to overinvestment and diminish the value of the company. Companies have higher financial flexibility when they have more significant cash holdings. The higher the cash holdings owned by the company, the more financial flexibility the company has. Financial flexibility is crucial because financial flexibility enables the company to finance positive net present value investment opportunities, hence increasing the value of the company. As stated by previous studies, Ifada et al. (2020) and Aslam et al. (2019) revealed that cash holdings have a beneficial impact on corporate value, which is consistent with the present study's findings.

The findings of this study indicate that the value of the company cannot be influenced by dividend payout. This study's findings also contradict agency theory, which proposes that dividend payout is one of the agency conflict mechanisms that can enhance corporate value. Few corporations continuously pay dividends in Indonesia. Hence the value of the company cannot be influenced by dividend payout. Consistency in dividend distribution is necessary for dividends to decrease agency conflicts successfully. According to previous studies, Aprilyani et al. (2021) and Odum et al. (2019) found that the value of the company cannot be influenced by dividend payout,

which supports the findings of the present study. The results of this study also indicate that dividend payout does not influence corporate value because cash holdings can enhance corporate value. This suggests that internal funds play a significant role in financing investments in Indonesia Stock Exchange-listed non-financial companies.

This study's findings demonstrate that institutional investors do not reduce the impact of cash holdings on corporate value. These results contradict the agency theory, which argues that institutional investors are one of the mechanisms of agency conflict. According to this study's descriptive statistics, the average number of institutional investors is 14.30%, indicating that institutional investors are still relatively low. Therefore, monitoring cannot enhance corporate value. According to previous studies, Purba & Africa (2019) dan Sukmawardini & Ardiansari (2018) found that institutional investors do not affect corporate value, which supports the findings of the present study. Pertiwi & Hermanto's (2017) research also finds that institutional investors do not affect corporate value.

According to the findings of this study, institutional investors moderate the influence of dividend payout on corporate value. These results suggest that dividend payout and institutional investors' policies are complementary. This indicates that institutional investors improve a company's dividend payout in order to eliminate agency conflicts and raise corporate value. According to previous studies, Tee (2019) and Hussain et al. (2022) found that institutional investors positively affect corporate value, which supports the findings of the present study. The findings of this study contradict the findings of Karim & Ilyas (2021), who discovered that dividend payout and institutional investors are substitutes; hence, the beneficial effect of dividend payout on the value of the company will diminish as institutional investors increases.

Additional analysis in this study was conducted by dividing institutional investors into two groups. The first group is foreign and local institutional investors, while the second group is pressure-resistive and pressure-sensitive institutional investors. The findings of this study reveal that foreign institutional investors and pressure-resistant institutional investors positively moderate the effect of dividend payout on corporate value. It also shows that foreign institutional and pressure-resistant institutional investors are effective complementary mechanisms for dividend payout increasing corporate value. Both institutional investor types indicate that independence from institutional investors is essential to increase corporate value. The results of this study are supported by Tee (2019), who found that pressure-resistant institutional investors have a positive effect on corporate value, and Hussain et al. (2022), who found that foreign institutional investors positively influence corporate value in non-financial companies.

## CONCLUSIONS

This study explores the link between cash holdings, dividend payments, and the value of the company. This study also explores the moderating influence of institutional investors on the influence of cash holdings and dividend payout on corporate value. This study was conducted on Indonesia Stock Exchange-listed non-financial companies from 2015 to 2019. First, Cash holdings positively influence corporate value; second, dividend payout does not influence corporate value;

third, the influence of cash holdings on the value of the company is not moderated by institutional investors; and fourth, the impact of dividend payout on the corporate value is positively moderated by institutional investors. The results of this study do not confirm the hypothesis of free cash flow put forward by Jensen (1986) and indicate that dividend payout and institutional investors are complementary policies in increasing corporate value.

The limitations of this study include, first, focusing solely on the impact of cash holdings, dividend payout, and institutional investors' moderation on corporate value. The value of a company is its market performance. The additional study can evaluate the accounting performance of the company. Second, only institutional investors are used in this analysis to complement or replace the company's dividend payout. Additional research may employ managerial ownership or debt, which may serve as an alternative to or complement to dividend payout. This research does not include sample corporations that have paid dividends for three consecutive years. Additional research can be conducted on non-financial companies that have been listed on the Indonesia Stock Exchange and have paid dividends for three consecutive years. The conclusions of this study can serve as a basis for investors to make investment decisions, given that cash flow is a crucial asset for increasing corporate value and the governance system is essential for investors to assure a return on their capital. This study's findings are also applicable to future research on agency conflict in cash holdings and dividends and institutional investors as an agency conflict mechanism.

### **Abbreviations**

IDX: Indonesian Stock Exchange; KSEI: Indonesian Central Securities Depository

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## Board Diversity and Audit Quality among Selected Listed Food and Beverage Firms on the Nigeria Exchange Group

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### Abstract

*This study aims to determine the effect of ethnicity diversity, skill, expertise, and experience diversity and interaction of ethnicity diversity and skill, expertise, and experience diversity on the audit quality of listed food and beverage firms in Nigeria. The study used an Ex-Post Facto research design. Five beverage companies as of December 2019 that were listed on the Nigerian Exchange Group make up the study's population. A purposive sampling technique was adopted in selecting the three listed food and beverage firms that form the unit of analysis for this study. The panel data were derived from annual reports and accounts with the Nigeria Stock Exchange Factbook for the period of ten years spanning from 2010 to 2019. The Ordinary Least Square statistical technique was adopted in the analysis of data. The statistical procedures were programmed using SPSS 20.0 software. The study discovered that ethnicity diversity and skill, expertise, and experience diversity do not significantly affect audit quality while the interaction of ethnicity diversity and skill, expertise, and experience diversity affects audit quality. Therefore, the study recommends among others that ethnic diversity need not consider in corporate board composition and it should not be made compulsory for board members to have certificates. Related to accounting, have experience in financial reporting or auditing.*

**Keywords:** *ethnicity diversity, skill, expertise and experience diversity, audit quality.*

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## INTRODUCTION

The board of directors of the company is the most crucial internal control mechanism for managing and supervising the management team in order to prevent management from acting opportunistically (Rose, 2007). The board performs supervision and advisory duties. As part of its advisory role, the board helps the management make decisions about the strategic and tactical

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course of the business. Monitoring management is how the oversight job is carried out, ensuring that the board reflects and maintains the interests of the company's shareholders (Akpotor et al., 2018; Otuedon & Comfort, 2019). Afterward, the shareholders hired an external auditor to give assurance, ensuring that the financial reports put together by Management provide an accurate and equitable perspective of the organization's financial activities for the specified period. The assurance of users' confidence in the given information is one of the auditors' primary tasks.

The heterogeneity (diversity) of directors is a significant, yet frequently disregarded, an aspect that impacts a board's capacity to carry out its oversight and advisory functions. Investors and authorities from all over the world have recently demanded a more diverse board of directors. The term "board diversity" refers to the composition of the board as a whole, including the skills, traits, and qualities of each board member (Ibrahim & Samad, 2011).

Board diversity has drawn more attention in recent years. The term "board diversity" refers to the composition of the board as a whole, including the skills, traits, and qualities of each board member (Owolabi & Babarinde, 2020). Board diversity is defined by Coffey & Wang (1998) as the differences among a board's directors and members. These distinctions range from more subtle ones like ethnicity, experience, and creed to more obvious ones like age, gender, or skin color. These differences include observable differences such as age, gender, or skin color, as well as less observable differences such as ethnicity, experience, and creed. Recent company failures and the reduction in shareholder wealth have led to harsh criticism of the Board of Directors. The board was in the limelight due to the failure of major companies such as Enron, WorldCom, Cadbury Nigeria Plc, and Oceanic bank plc among others. Some of the monitored arguments for these failings are the absence of efficient control mechanisms. The hypothesis that board diversity offers better management supervision, resulting in a balanced board that is likely to prevent the emergence of information asymmetry, extends the agency theory (Tan & Taufik, 2022).

Diversity in the boardroom has been an issue in recent years. Although it is widely acknowledged that diversity is a desirable board attribute, research on the effects of board diversity on audit quality has not yet produced any definitive results due to the disparities in diversity's measurement and conceptualization. For example, according to Beasley (1996), the size of the board is positively correlated with the likelihood of financial statement fraud. According to studies by Lipton & Lorsch (1992) and Monks & Minow (1995), greater boards are better able to devote more time and energy to management oversight. Meanwhile, Harymawan & Nismara (2022) discover that gender diversity among board directors of family firm positively impact firm performance in innovation. Also, Marimuthu (2008), Carter et al. (2003), Kartika & Pramuka (2019), and Oriakhi et al. (2021) discovered an association between audit quality and audit committee size that was both favorable and substantial.

In a similar tone, Uzun et al. (2004) and found a negative relationship between audit quality and board size. Lipton and Lorsch (1992) said large boards of directors are less amenable to effective monitoring and easier to be controlled by the CEO. Studies by Xie et al. (2003), document an inverse relationship between the size of the board and the quality of audit reports. Yermack (1996) and Eisenberg et al. (1998) also found a negative relationship between the size of the board and the value of the company. The reasons influencing the decision of board size and structure in this class of organizations may be different from those driving board size in large public firms,



making studies of board-size impacts in smaller firms of interest. Khan & Abdul Subhan (2019) reveal that even though female board members improved the performance of the company, however, there is no correlation between the number of female board members and the firm profitability.

Even more concerning is the fact that, as far as we are aware, there is little research on the subject in Nigeria, despite the fact that the majority of studies are taking place in industrialized nations. This severely restricts our ability to comprehend how company board diversity could positively or negatively influence the audit quality of informative qualities. Most of these studies focus on the relationship between board size, gender diversity, audit committee composition, and audit quality while neglecting skills, expertise and experience, and ethnicity diversity of board members. As a result, this study has been influenced by the inconsistent and contradictory findings in earlier research as well as the paucity of empirical studies on corporate board diversity and audit quality in Nigeria. Therefore, the purpose of this study is to close the knowledge gap, close the gap in the evidence, and strengthen the empirical evidence from Nigeria related to the abovementioned.

This study has specific objectives, first, to confirm the effect of ethnicity diversity on the audit quality of listed beverage firms on the Nigeria Exchange Group. Second, to confirm the effect of skill, expertise, and experience diversity on the audit quality of listed beverage firms on the Nigeria Exchange Group. Third, to confirm the effect of the interaction of ethnicity diversity and skill, expertise, and experience diversity on the audit quality of listed beverage firms on the Nigeria Exchange Group.

This study will be guided by the following null hypotheses:

H<sub>01</sub>: Ethnicity diversity has no significant impact on the audit quality of Nigeria's listed beverage firms.

H<sub>02</sub>: Skill, expertise, and experience diversity have no significant impact on the audit quality of Nigeria's listed beverage firms.

H<sub>03</sub>: Interaction of ethnicity diversity and skill, expertise, and experience diversity does not affect audit quality.

This study focuses on the influence of ethnicity diversity, skill, expertise, and experience diversity on audit quality listed food and beverage firms on the Nigerian Exchange Group. The study covers the period from 2010 to 2019. The choice of this period is based on the fact that there are several financial crises between these periods which have led to clamoring for audit quality of listed firms in Nigeria.

The study will assist the management of manufacturing firms to strengthen board diversity among their board members since board diversity is rapidly evolving with many stakeholders demanding for diversity among board members. It will help in enhancing the understanding and knowledge of regulatory authorities like the Corporate Affairs Commission and the Financial Reporting Council of Nigeria in making regulations that will encourage diversity in the board composition of listed firms.

## RESEARCH METHOD

This study used an Ex-Post Facto research design because data for the analysis was derived from published annual financial reports and accounts of selected food and beverage firms. However, the data to be used is already in existence and cannot be influenced by the researcher.

Five beverage companies as of December 2019 that were listed on the Nigerian Exchange Group make up the study's population. The companies include Champion Breweries Plc, Golden Guinea Breweries Plc, Guinness Nigeria Plc, International Breweries Plc, Nigerian Breweries Plc,

A purposive sampling technique was adopted in selecting three brewery firms that form the unit of analysis for this study. This technique enables the researcher to conveniently select food and beverage firms that have complete data in the annual report and account for the period of ten years spanning from 2010 to 2019; firms whose stocks are actively traded on the floor of the Stock Exchange for the period of study; firms that consistently filed their annual report and accounts for the study period. The selected firms are International Breweries Plc, Guinness Nigeria Plc, and Nigerian Breweries Plc,

This study adapts Akpotor et al. (2018) model stated:

$$AUDQUA_{it} = \beta_0 + \beta_2 ETHDI_{it} + \beta_3 SEEDI_{it} + U_{it} \dots \dots \dots (1)$$

**Table 1. Measurement of Variables**

Variable type	Indicators	Measurement unit	Variable symbol
<b>Independent variables (Corporate board diversity)</b>			
	ethnicity diversity	The number of foreign Nationalities on board is Divided by the total board size.	ETHDI
	skill, expertise, and experience diversity	The percentage or proportion of board members who have an accounting, financial, or related certificate to the total number of members.	SEEDI
<b>Dependent variables (Audit Quality)</b>			
	Audit Fees	Money is paid to the external auditor for their service.	AUQT

Source: Researcher, 2022

They used variables such as discretionary accrual as a proxy for audit quality while Ethnic Diversity of the board and foreign board members were used to proxy board diversity. Our study modified the study as follows:

$$AUQT_{it} = \beta_0 + \beta_1 ETHDI_{it} + \beta_2 SEEDI_{it} + \beta_3 INTETHSEEDI_{it} + U_{it} \dots \dots \dots (2)$$

Where:

AUQT = Audit Quality

ETHDI = Ethnicity Diversity

SEEDI = Skill, Expertise, and Experience Diversity

INTETHSEED = interaction of Ethnicity Diversity and Skill, Expertise, and Experience Diversity  
 $\beta_0$  = Intercept Coefficient  
 $\beta_1, \beta_2$ , = slope of coefficient  
t = Time dimension of the variant

## RESULTS AND DISCUSSION

### Results

#### *Hypothesis One*

The first goal of our study is to confirm and prove the effect of ethnicity diversity on the audit quality of listed beverage firms on the Nigeria Exchange Group. To achieve this objective, the first hypothesis test is as follows:

H<sub>a1</sub>: Ethnicity diversity has a significant impact on the audit quality of Nigeria's selected listed food and beverage firms.

H<sub>o1</sub>: Ethnicity diversity has no significant impact on the audit quality of Nigeria's selected listed food and beverage firms.

**Table 2. ANOVA<sup>a</sup> The Ethnicity diversity and audit quality**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	162257094.910	1	162257094.910	.782	.384 <sup>b</sup>
	Residual	5809956260.057	28	207498437.859		
	Total	5972213354.967	29			

a. Dependent Variable: Audit fees

b. Predictors: (Constant), Ethnicity diversity

Source: Data processed (SPSS 20.0)

**Table 3. The Ethnicity diversity and audit quality regression coefficient**

Model		Unstandardized		Standardized	t	Sig.
		Coefficients		Coefficients		
		B	Std. Error	Beta		
1	(Constant)	45584.056	14119.278		3.228	.003
	Ethnicity diversity	-24897.549	28155.430	-.165	-.884	.384

Source: Data processed (SPSS 20.0)

The R square and the corrected R square are 0.165 and 0.027, respectively, according to Table 4's model summary. This suggests that ethnic diversity accounted for the 02.7% variance in audit quality that was observed across the sampled group. Furthermore, it can be seen from Table 2 (ANOVA Table) that ethnic diversity is not statistically significant in predicting the audit quality of certain listed food and beverage enterprises because the probability value obtained (p-value),

which is 0.38, is higher than 0.05 ( $P > 0.05$ ). This was further supported by Table 3, where the ethnic diversity coefficient showed a negative ( $t, -0.884$ ) impact on the audit quality of particular listed food and beverage enterprises.

**Decision:** Based on the analysis in the tables, we reject the alternative hypothesis that claims that ethnic diversity has no appreciable impact on the audit quality of certain listed food and beverage enterprises in Nigeria and accept the null hypothesis.

**Table 4. Model Summary for Ethnicity diversity and audit quality**

Model	R	R Square	Adjusted R Square	Std. The error in the Estimate	Durbin-Watson
1	.165 <sup>a</sup>	.027	-.008	14404.80607	.506

Note:  $R^2 = .027$ ,  $f(1, 28) = 0.384$ ,  $p = 0.38$

Source: Data processed (SPSS 20.0)

*Hypothesis Two*

The second goal of our study is to confirm and prove the effect of skill, expertise, and experience diversity on the audit quality of listed beverage firms on the Nigeria Exchange Group. To achieve this objective, the first hypothesis test is as follows:

$H_{a2}$ : Skill, expertise, and experience diversity have a significant impact on the audit quality of Nigeria's selected listed food and beverage firms.

$H_{o2}$ : Skill, expertise, and experience diversity have no significant impact on the audit quality of Nigeria's selected listed food and beverage firms.

**Table 5. ANOVA<sup>a</sup> Skill, expertise, and experience diversity and audit quality**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	391396057.288	1	391396057.288	1.964	.172 <sup>b</sup>
	Residual	5580817297.679	28	199314903.489		
	Total	5972213354.967	29			

a. Dependent Variable: Audit fees

b. Predictors: (Constant), skill, expertise, and experience diversity

Source: Data processed (SPSS 20.0)

**Table 6. The Skill, expertise, and experience in diversity and audit quality regression coefficient**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
		1	(Constant)	51809.300		
	skill, expertise, and experience diversity	-67869.832	48432.673	-.256	-1.401	.172

Source: Data processed (SPSS 20.0)

**Table 7. Model Summary for Skill, expertise, and experience diversity and audit quality**

Model	R	R Square	Adjusted R Square	Std. The error in the Estimate	Durbin-Watson
1	.256 <sup>a</sup>	.066	.032	14117.89303	.511

Note:  $R^2 = .066$ ,  $f(1, 28) = 1.964$ ,  $p = 0.17$

Source: Data processed (SPSS 20.0)

The R square and the corrected R square are 0.259 and 0.066 respectively, as can be seen by looking at Table 7's model summary. This suggests that the diversity of board talent, expertise, and the experience was responsible for the 06.6% difference in audit quality seen among the sampled population. The fact that the probability value obtained (p-value), which is 0.17, is larger than 0.05 ( $P > 0.05$ ), further supports the finding from Table 5 (ANOVA Table), which shows that board skill, knowledge, and experience diversity are not statistically significant to predict audit quality. Table 6's coefficient of board skill, knowledge, and experience diversity showed a negative (t, -1.401) influence of board skill, expertise, and experience diversity on the audit quality of chosen listed food and beverage enterprises, which provided more evidence of this.

**Decision:** Based on the analysis in the tables, we support the null hypothesis and reject the alternative hypothesis, which states that the diversity of the board's skill, competence, and experience has no appreciable influence on the audit quality of Nigerian listed food and beverage companies.

### *Hypothesis Three*

The third goal of our study is to confirm and prove the interaction of ethnicity diversity and skill, expertise, and experience diversity on the audit quality of listed beverage firms on the Nigeria Exchange Group. To achieve this objective, the first hypothesis test is as follows:

H<sub>a3</sub>: Interaction of ethnicity diversity and skill, expertise, and experience diversity affects audit quality

H<sub>o3</sub>: Interaction of ethnicity diversity and skill, expertise, and experience diversity does not affect audit quality

**Table 8. ANOVA<sup>a</sup> Interaction of ethnicity diversity and skill, expertise and experience diversity and audit quality**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1179371255.411	2	589685627.706	3.322	.051 <sup>b</sup>
	Residual	4792842099.556	27	177512670.354		
	Total	5972213354.967	29			

a. Dependent Variable: Audit fees

b. Predictors: (Constant), Ethnicity diversity, skill, expertise, and experience diversity

Source: Data processed (SPSS 20.0)

**Table 9. The Interaction of ethnicity diversity and skill, expertise and experience diversity and audit quality regression coefficient**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	101135.277	26629.327		3.798	.001
1	skill, expertise, and experience diversity	-130533.128	54531.893	-.492	-2.394	.024
	Ethnicity diversity	-65460.356	31069.679	-.433	-2.107	.045

Source: Data processed (SPSS 20.0)

**Table 10. Model Summary for Interaction of ethnicity diversity and skill, expertise and experience diversity and audit quality**

Model	R	R Square	Adjusted R Square	Std. The error in the Estimate	Durbin-Watson
1	.444 <sup>a</sup>	.197	.138	13323.38810	.595

Note:  $R^2 = .139$ ,  $f(2,27) = 3.322$ ,  $p = 0.05$

Source: Data processed (SPSS 20.0)

The R square and the corrected R square are 0.444 and 0.197, respectively, according to Table 10's model summary. This suggests that the interaction of ethnic diversity and skill, knowledge, and experience variety was responsible for the 19.7% difference in audit quality seen within the sampled population. Furthermore, Table 8 (ANOVA Table) showed that the interaction of ethnic diversity and skill, expertise, and experience diversity is statistically significant to forecast the audit quality of Nigeria's chosen listed food and beverage firms because the probability value obtained (p-value), which is 0.05, is not greater than 0.05. The coefficient of the interaction between ethnic diversity and skill, knowledge, and experience diversity was more evidence of this in Table 9.

**Decision:** We accept the alternate hypothesis and reject the null hypothesis, which states that the interaction of ethnic diversity and skill, expertise, and experience diversity affects the audit quality of particular listed food and beverage firms in Nigeria. This conclusion is based on the analysis in the tables.

## Discussion

The finding of the first hypothesis shows that the audit quality of Nigeria's listed food and beverage companies is not significantly impacted by ethnic diversity. This study is not consistent with the studies that observed a negative relationship between ethnic diversity and earning management (Enofe et al., 2017), firm performance (Omoye & Eriki, 2013), and market performance (Ogboi et al., 2018). This current study is consistent with the study that no relationship between board

ethnicity to audit quality (Otuedon & Comfort, 2019; Saidu & Aifuwa, 2020). These findings imply that the ethnic affiliation of board members is not significant to the audit quality or negatively influences the company's financial or market performance.

On the positive relation, Garba & Abubakar (2014) and Khan & Subhan (2019) proved that the gender diversity of board members determined the business performance. According to agency theory, which Jensen & Meckling (1976) developed, the board serves as a control mechanism for balancing the interests of managers and shareholders with regard to financial information (Vitolla et al., 2020). The finding in this study indicates no relationship between board diversity to audit quality which means the diversity cannot serve as interest balancing of managers and shareholders. Alternatively, the mechanism of control may be using other factors besides ethnicity board diversity such as other components of corporate governance. As mentioned by Alhababsah & Yekini (2021), who studied in Jordan family firms. Their outcome can be primarily explained by the prevalence of family enterprises in Jordan, where the female directors may be hesitant or unable to exert effective supervision because they are linked to the ruling families. The Nigerian food and beverage business may use a similar rationale.

The results of the second hypothesis show that variety in ability, expertise, and experience does not significantly affect the audit quality of Nigerian-listed food and beverage companies. This study is not consistent with the studies that revealed a negative relationship between expertise diversity on financial performance (Tarigan et al., 2018) and corporate investment (Harjoto et al., 2018). However, some studies have a similar result to the current study such as Hassan et al. (2020) and Oriakhi et al. (2021). They observed no significant relationship between skill, expertise and experience diversity, and audit quality. The implication of this finding is that skill, expertise, and experience diversity of board members are not relevant to the audit quality of their firms. It signifies that diversified boards are more successful at monitoring corporate performance and information quality than homogenous boards in terms of functional expertise and firm-specific knowledge.

On the positive relation, the board with master's degree holders (Mustafa et al., 2020), audit team diversity of senior, managers, and partners (Cameran et al., 2018), audit committee industry expertise (Alhababsah & Yekini, 2021), and audit committee financial expertise (Sharhan & Bora, 2020), ensuring high audit quality. Following agency theory, in order to eliminate asymmetric information and, as a result, agency costs, it is crucial that the board not only encourages managers to adopt quality reporting—which might be only a formal choice—but also ensures that good quality data is delivered (Vitolla et al., 2020). In this regard, some board attributes, such as size, independence, degree of activity, and diversity, may serve as a way to raise the level of control over managers' work while enhancing the caliber of the information presented.

The findings of the third hypothesis reveal that the interaction of ethnicity diversity and skill, expertise, and experience diversity affects the audit quality of listed brewery firms in Nigeria. This is not consistent with studies of negative interaction between ethnicity diversity and skill, expertise, and experience diversity affects firm performance (Garba & Abubakar, 2014; Omoye & Eriki, 2013).

On the positive relation, (Harjoto et al., 2018) and (Oriakhi et al., 2021) studies observed a significant relationship between the interaction of ethnicity diversity and skill, expertise, and experience diversity affects audit quality. This finding implies that mixing ethnicity diversity and skill, expertise, and experience diversity affect audit quality. It shows that the synergy of ethnicity diversity and skill, expertise, and experience diversity will induce audit quality among our listed firms. Under agency theory, control by the board is a strategy for fostering the distribution of higher-quality information, which reduces information asymmetry and the agency issues that follow. However, the board must have certain qualities in order to efficiently perform its monitoring role. Such qualities include the intersection between diversity in ethnicity with diversity in knowledge, expertise, and experience.

## CONCLUSIONS

Previous research has studied corporate board diversity on audit quality. However, the issue of board members in Nigeria has come to our attention since many cases involve the company's performance, especially food and beverage companies. This study assesses audit quality as the proxy of corporate performance. Considering the results of this study, it can be observed that ethnicity diversity and skill, expertise, and experience diversity do not significantly affect audit quality while the interaction of ethnicity diversity and skill, expertise, and experience diversity affect audit quality.

Based on these results, this study contributes to the management of manufacturing companies to increase the diversity of their board members, as demand for diversity on boards is growing among stakeholders and board diversity is changing quickly. It will aid in improving the comprehension and expertise of regulatory agencies like the Corporate Affairs Commission and the Financial Reporting Council of Nigeria in order to enable them to create policies that would promote diversity in the board composition of listed companies.

Some limitations must be noted in this current study. First, we only studied food and beverage companies with purposive sampling, three companies are selected to be studied. The small sample might hinder the generalization of our findings. Second, even though we chose the years 2010 through 2019 based on the fact that there have been multiple financial crises in the intervening years, which have fueled calls for improved audit standards for listed companies in Nigeria, it is imperative to gather data during the pandemic crisis that starts in early 2020. Therefore, future studies might include not only the food and beverage industry but also other industries that were impacted by the pandemic crisis.

Given our findings and limitations, the following recommendations are made. First, the study reveals that the ethnic mix of individuals from various racial, cultural, and religious backgrounds in a board does not significantly affect audit quality therefore ethnic diversity need not be considered in corporate board composition. Second, the study reveals that skill, expertise, and experience diversity have no significant effect on audit quality therefore it should not be made compulsory for board members to have a certificate in accounting, or have experience in financial reporting or auditing. Third, the study shows that the synergy of ethnicity diversity and skill,



expertise, and experience diversity will induce audit quality therefore in the composing board of directors; ethnicity diversity should be mixed with skill, expertise, and experience diversity to enhance audit quality.

### **List of Abbreviations**

AUQT: Audit Quality, ETHDI: Ethnicity Diversity, SEEDI: Skill, Expertise, and Experience Diversity, INTETHSEED: interaction of Ethnicity Diversity and Skill, Expertise, and Experience Diversity

### **Authors' Contribution**

SIA provided direction for the entire project, develop research ideas, supervise data collection, and contribute to the writing of articles. VAA collected data and performed data processing and interpretation.

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### **Availability of Data and Materials**

Data are available from the public sources cited in the text.

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## APPENDIX

<b>International Breweries plc</b>				
<b>s/n</b>	<b>Years</b>	<b>Audit quality (audit fees)</b>	<b>skill, expertise and experience diversity</b>	<b>ethnicity diversity</b>
1	2010	10,840	0.325	0.416
2	2011	10,964	0.325	0.416
3	2012	12,490	0.325	0.583
4	2013	12,490	0.325	0.583
5	2014	18,796	0.327	0.538
6	2015	21,618	0.325	0.416
7	2016	21,618	0.325	0.416
8	2017	23,780	0.328	0.454
9	2018	28,838	0.325	0.416
10	2019	59,609	0.307	0.384
11	2010	30,306	0.276	0.454
12	2011	33,264	0.276	0.446
13	2012	45,801	0.276	0.455
14	2013	40,043	0.230	0.454
15	2014	43,692	0.233	0.451
16	2015	46,239	0.233	0.456
17	2016	49,591	0.233	0.460
18	2017	56,534	0.276	0.454
19	2018	56,534	0.384	0.447
20	2019	61,440	0.272	0.454
21	2010	24,162	0.272	0.454
22	2011	26, 578	0.272	0.454
23	2012	28, 595	0.272	0.454
24	2013	31,575	0.166	0.750
25	2014	33,470	0.166	0.750
26	2015	35,144	0.250	0.583
27	2016	30,000	0.250	0.583
28	2017	32,500	0.200	0.600
29	2018	35,000	0.200	0.600
30	2019	38,000	0.200	0.400

Source: Researcher, 2022

## The Moderating Effect of Goodwill and Goodwill Impairment on Global Energy Crisis and Corporate Cash Holding

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### Abstract

*The global energy crisis caused the price spike of various operational inputs for the company, sufficient cash is required to ensure the company's operations continue. This study aims to analyse the casual effect of the energy crisis on corporate cash-holdings in Indonesia and the role of goodwill and impairment of goodwill in moderating this effect. Goodwill and goodwill impairment are indicators of corporate risk related to the synergy of business combinations. This study use differences in differences method. There are 564 companies listed on the Indonesia Stock Exchange include as the sample of this study with a quarterly research period from the 4th quarter of 2020 until the 2nd quarter of 2022. The hypotheses were tested using the linier regression analysis and robustness test. This study found that the global energy crisis has a positive effect on corporate cash holdings for the impacted sub-industry. However, goodwill and goodwill impairment are not moderate that influence. We describe our study's limitations. For further research, we are expected to add more control variables, use another robustness test and increase the observed period until the global energy crisis is over.*

**Keywords:** *global energy crisis, cash holding, goodwill, goodwill impairment, difference in differences.*

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## INTRODUCTION

The global energy crisis, which began in the fourth quarter of 2021, was sparked by significant shifts in the supply and demand for energy commodities. Several nations' decisions to reduce their production of fossil fuels and a disruption in the oil and natural gas supply chain as a result of the invasion of Ukraine by Russia contributed to the decrease in the supply of energy commodities.

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The implementation of a global agreement in France regarding the net zero emission policy has resulted in a decrease in the supply of oil and fossil fuels. This has caused several nations to gradually begin switching to renewable energy and reducing their production of non-renewable energy; however, renewable energy is insufficient to meet the global demand for energy by households and businesses (Ozili & Ozen, 2022).

At the same time, there is an increase in energy demand caused by the post-pandemic economic recovery. The pandemic caused energy consumption to decrease by 4.5 percent in 2020, but it suddenly increased to 4.6 percent in 2021 (IEA, 2021). Additionally, when extreme weather occurs as a result of global warming, heating and cooling equipment consume more energy. The mechanism that causes demand to rise when supply decreases have led to an increase in global energy prices. The global energy index's price will rise by 63.37 percent as a result in 2022. According to Singh (2021), the expansion of fossil fuels is a significant driver of economic growth, industrialization, and human health management. As a consequence of this, it is anticipated that inflation will continue to be high in 2022, reaching an average of 3.9% in developed countries and 5.9% in developing countries (IMF, 2022).

This motivates a variety of businesses to maintain and enhance their financial performance, particularly in terms of liquidity. One of the most crucial aspects of surviving a crisis is controlling the company's liquidity. Planning and analysis of liquidity will enable the company to survive the crisis (Alao et al., 2020). The most liquid asset is cash, so the company needs it to complete daily operations, pay suppliers, compensate employees, and fund projects (Faque, 2022). Thus in times of crisis, management tends to hold more cash under the precautionary motives to anticipate unexpected events.

Previous research in the field of cash has demonstrated a positive correlation between the level of the company's cash holdings and a crisis (Qin et al., 2020; Tran, 2019; Lozano & Yaman, 2020; Zhang et al., 2020; Shiau et al., 2018). These studies were carried out with various kinds of crises, such as financial crises (Tran, 2019; Lozano & Yaman, 2020; Shiau et al., 2018), COVID-19 (Qin et al., 2020), and the volatility of the oil price (Wu et al., 2021; Zhang et al., 2020). However, there is still a lack of research on how the global energy crisis affects cash holdings. Although, the global energy crisis has occurred numerous times in history. In addition, Lozano & Yaman (2020) stated is important to understand whether firms will react similarly (increase their cash holding) during other crisis periods. Thus, this study tends to focus on how the global energy crisis affects corporate cash holdings.

The majority of these studies were carried out in Industrial countries. According to Sriram (1999), only a few studies have been conducted on cash holdings in developing nations, with the majority of those studies focusing on the industrialized country. Meanwhile, the characteristics of companies in industrialized countries and developing countries are very different. Unlike prior studies, this study is carried out in a developing nation like Indonesia. In Indonesia generally, empirical research on corporate cash holdings is limited to specific stock indexes or sectors. Therefore, this research was conducted to add to the literature on cash holdings policies in times of crisis caused by economic conditions, especially in developing countries such as Indonesia. In addition, this research contributes to the Indonesian government in making crisis-related financial

policies. Additionally, for investors, this study provides direction in making investment decisions in times of crisis.

The phenomenon of the global energy crisis has positive or negative impacts on Indonesia. The positive impact of this energy crisis in Indonesia is a trade balance surplus due to the increase in the value of Indonesia's non-oil and gas energy commodities exported such as coal, crude palm oil, and others. Meanwhile, the negative impact of the global energy crisis in Indonesia was the rise in oil and gas commodity prices such as cooking oil due to high global demand which directly boosted prices. As a result, inflation for cooking oil in Indonesia is around 7% in 2021 (Bank Indonesia, 2022). The increased demand caused by a high demand for crude palm oil from various countries that previously consumed sunflower and canola seed oils has returned to consume palm oil due to the crisis. The increase in demand indirectly pushed up the price of cooking oil in Indonesia due to limited supply.



**Figure 1. Cooking oil price spike in Indonesia**

Source: Bank Indonesia 2021

Since the impact of the global energy crisis in Indonesia varies across industries. It makes various optimal levels of cash holdings for each industry's characteristics. Holding cash protects the company from threats related to liquidity, but spending cash allows the company to take advantage of new opportunities (Nason & Patel, 2016). This study takes the advantage of various optimal cash holdings by different sector industries who seriously impacted and were not seriously impacted caused by the crisis to navigate the casual effects of the global energy crisis on corporate cash holding in Indonesia.

However, goodwill may impede the expansion of cash reserves. A company with a high goodwill value faces a significant risk, necessitating restrictions on external financing. After a business combination, goodwill impairment as a result of bad synergy performance will send a negative message to stakeholders and the market. Thus, banks or other creditors will use various information to control and limit financing for companies (Qin et al., 2020). Based on the previous explanation, this paper aims to fill the existing gap by analyzing whether Indonesia's listed



companies' cash holdings are affected by the global energy crisis and the role of goodwill and impairment of goodwill in moderating those effects.

A previous study investigated the effect of cash holdings on controlling the negative risk posed by oil price uncertainty in China-based businesses by all non-state-owned manufacturing companies on the China Stock Exchange from 2008 to 2018 (Wu et al., 2021). According to the findings of this study, the uncertain price of oil positively impacts cash holdings. The company increases its cash holdings to control the negative effects of oil price uncertainty by avoiding funding costs when the cost of funding from outside the company is higher than the cost of funding from within the company due to the crisis.

**H1: Ceteris paribus, the global energy crisis has a positive effect on the corporate cash holdings in Indonesia.**

Qin et al. (2020), conducted research on the Shanghai and Shenzhen stock exchanges in the first quarter of 2014 to 2020 regarding the pandemic's influence on cash holdings level within the company and the role of goodwill in moderating this effect. This study uses the difference in differences (did) method. The results of this study indicate that goodwill reduces COVID-19's impact on increasing cash holdings. Where high goodwill identifies high business integration risks, this makes creditors limit their finance. Due to limitations imposed by debt and scale, businesses cannot increase their cash ownership beyond a certain point.

**H2: Ceteris paribus, goodwill weakens the positive effects of the global energy crisis on the cash holdings of Indonesian corporations.**

According to Li et al. (2011), goodwill impairment can serve as the main indicator of reduced profitability in the future. Because goodwill impairment indicates that the benefits expected from the previous acquisition are overstated on the balance sheet. Also, this could happen if the synergies from previous acquisitions didn't work out. Economic or industry factors that have an impact on the business as a whole, a segment, or a reporting unit can also cause impairment.

Fu & Shen (2020), conducted research on Chinese companies from 2014 to 2020 regarding the effect of a pandemic on company performance with goodwill impairment as a moderating variable. This study uses the difference in differences (did) model. This study demonstrates that the covid negatively impacted a company's performance and that businesses with goodwill impairments perform worse.

Thus, compared to other companies, companies with impaired goodwill have a higher unique risk, and their performance will fluctuate more during a crisis. Qin et al. (2020), found that goodwill impairment was able to diminish the pandemic covid impact on the increase of cash holdings.

**H3: Ceteris paribus, goodwill impairment weakens the positive effects of the global energy crisis on the cash holdings of Indonesian corporations.**

## RESEARCH METHOD

This study employs a quasi-experimental research design in a quantitative research methodology. The difference in differences (DID) method is used to analyze the data. The DID method is a strategy for modeling the role of pre-treatment outcomes. Since the crisis effects are generally distinctive, it is challenging to ensure that the sample distribution between the groups with high and low impacts is completely random. Qin et al. (2020), make inquiries about the effects of the Pandemic Covid-19 outbreak on listed companies in the Shanghai and Shenzhen stock exchanges using the DID model. The results from the natural experiment serve as the exact foundation for the DID model. The DID model can successfully isolate the true impact of the crisis and successfully regulate the ex-ante differences between research subjects (i.e., treated and control groups).

### Sampling Method

All of the companies listed on the Indonesia Stock Exchange (IDX) between 2020 and 2022 were the subjects of this study. There are 564 sample companies obtained through the purposive sampling technique.

**Table 1. Research Sampling Criteria**

No.	Criteria	Total
1	Companies on Indonesia Stock Exchange 2020-2022	773
2	Companies delisting from Indonesia Stock Exchange 2020-2022	(65)
3	Companies that do not present financial balance sheets in Rupiah	(90)
4	Companies that present incomplete financial statement information	(54)
Total Sample		564
Total Sample data for 7 periods (564 x 7)		3.948

Source: Secondary data processed (2022)

We consider there is a different impact received by every industry depending on their unique characteristic. By several theories, we identified 8 industries as seriously impacted industry. That is the oil, gas & coal industry, food & beverage industry, cigarettes industry, clothing & luxury goods industry, retail trade industry, pharmaceutical & health research industry, banks industry, holding & investment industry. We classify those 8 industries as a treatment group. Other industries are classified as a control group. Also, there is a different performance before and after the global energy crisis, thus we classified the periods quarterly as before and after the global energy crisis which is the fourth quarter of 2020 until the fourth quarter of 2021—referred to as the "before" period—and the fourth quarter of 2021 until the second quarter of 2022—referred to as the "after" period.

### Measurement

The variables in this study are measured by a ratio and dummy scale. This study's dependent variable is the cash holding level. The independent variables are time variables and group

variables. This study's control (explanatory) variables are size, leverage, growth, return on assets, cash flow returns on assets, and net working capital. And the moderating variables in this study are goodwill and goodwill impairment. Table 2 shows the definition and measurement of each variable.

**Table 2. Variables Measurement**

Variables	Equation	Sources
<b>Dependent Variables</b>		
Cash Holding	The corporate cash holdings level, measured by cash/operating income	Zhang et al. (2020) Ranajee & Pathak, (2019)
<b>Independent Variables</b>		
Treated	The dummy variable "global energy crisis impacted industries degree". If the company is in a serious impact industry, is set to 1, otherwise, it is set to 0.	
Period	The "global energy crisis time" dummy variable. If the global energy crisis occurs after the fourth quarter of 2021, the value is 1, otherwise, it is 0.	
<b>Control Variables</b>		
Size	The log of total assets	Hartono (2012:14)
Leverage	The debt ratio is calculated as the ratio of total assets to total liabilities.	Sudana (2015:23)
Grow	The difference between the company's current and previous operating incomes is used to calculate the operating income growth rate, which is then divided by the previous operating income.	Fu & Shen (2020)
Return on Asset	The company's profitability is determined by dividing net income by average total assets.	Sudana (2015:25)
Cash return on Asset	Cash from operating activities is divided by total assets.	Bhandari & Iyer (2013)
Net Working Capital	Also known as the company's liquidity level. Net working capital is determined by assets minus liabilities divided by total assets	Weidemann (2018)
<b>Moderating Variables</b>		
GW	Company goodwill, existence is 1, otherwise is 0.	
GWIM	Company of goodwill impairment, existence is 1, otherwise is 0.	

## Hypothesis Testing Method

Since there is a different impact degree in various industries caused by global energy. We proposed the difference-in-differences model to obtain the casual effect between the global energy crisis and corporate cash holding. The did model was used to estimate certain treatments by comparing changes in outcomes over time between populations enrolled in a program (treatment group) and populations who are not (control group). Thereby, using did effectively measure the global energy crisis effect on corporate cash holding because it's not ignored the role of outcome pre-treatment and it used a control group as a counterfactual to measure the impact precisely.

There are two main assumption tests before applying the difference-in-differences model. First, unit rooting test. In the method proposed by Levin, Lin, and Chu unit root is conducted to make sure that data are stationer. Three criteria of stationer data: The variance (covariance) between two-time series data only depends on the lag between the two time periods; the mean (average) and its variance are constant over time. Second, parallel trend test. It assumes that the treated and control groups before treatment had identical trends in the dependent variable over time.

We used the Z statistical test as a hypothesis test. The tests were carried out with two multiple linear regression models, it is without and with moderation. The following are the models used in this study:

$$\text{Cashholdings}_{it} = \beta_0 + \beta_1 \text{Treated}_{it} \cdot \text{Period}_{it} + \beta_2 \text{Treated}_{it} + \beta_3 \text{Period}_{it} + \beta_4 \text{SIZE}_{it} + \beta_5 \text{LEV}_{it} + \beta_6 \text{GROWTH}_{it} + \beta_7 \text{ROA}_{it} + \beta_8 \text{CFTA}_{it} + \beta_9 \text{NWC}_{it} + \varepsilon_{it} \dots \dots \dots (1)$$

$$\text{Cashholdings}_{it} = \beta_0 + \beta_1 \text{GW.Treated}_{it} \cdot \text{Period}_{it} + \beta_2 \text{Treated}_{it} \cdot \text{Period}_{it} + \beta_3 \text{Treated}_{it} + \beta_4 \text{Period}_{it} + \beta_5 \text{GW}_{it} + \beta_6 \text{SIZE}_{it} + \beta_7 \text{LEV}_{it} + \beta_8 \text{GROW}_{it} + \beta_9 \text{ROA}_{it} + \beta_{10} \text{CFTA}_{it} + \beta_{11} \text{NWC}_{it} + \varepsilon_{it} \dots \dots \dots (2)$$

$$\text{Cashholdings}_{it} = \beta_0 + \beta_1 \text{GWIM.Treated}_{it} \cdot \text{Period}_{it} + \beta_2 \text{Treated}_{it} \cdot \text{Period}_{it} + \beta_3 \text{Treated}_{it} + \beta_4 \text{Period}_{it} + \beta_5 \text{GWIM}_{it} + \beta_6 \text{SIZE}_{it} + \beta_7 \text{LEV}_{it} + \beta_8 \text{GROW}_{it} + \beta_9 \text{ROA}_{it} + \beta_{10} \text{CFTA}_{it} + \beta_{11} \text{NWC}_{it} + \varepsilon_{it} \dots \dots \dots (3)$$

## Robustness Test Method

In this study, kernel propensity score matching was used as a model for the robust regression model. There is two main assumption tests before applying propensity score matching regression. First, selection on observables means that the treatment group characteristic determines entirely by observable characteristics. Second, common support means that there are control individuals with similar characteristics as the treatment individuals. Then a weighting scheme is carried out in which estimates for each covariate (control variable) are formed using a parametric model, probit, or logit. The probit or logit regression result is a propensity score for each treatment and control individual. Later, the treatment and control individuals are matched based on their propensity scores. Those improve the quality of the matches used to obtain the average treatment effect (ATE). Furthermore, the significance of the ATE results can be determined by the Z test, which is significant if the p-value is < 1%, 5%, or 10%.

## RESULT AND DISCUSSION

### Result

Table 3 shows the descriptive statistical analysis test result. The Variable of cash holding has an average of 0.089 and a standard deviation value of 0.118. This shows that the variation/distribution of the variable data on the level of cash ownership is diverse from the average. Meanwhile, the average (standard deviation) for size is 28.455 (1.961), this shows that the variation/distribution of the variable data is diverse from the average. The average (standard deviation) for leverage is 0.489927 (0.329262), this shows that the variation/distribution of the variable data is diverse from the average.

The average (standard deviation) for growth is 0.603711 (8.377061), this shows that the variation/distribution of the variable data is diverse from the average. The average (standard deviation) for return on asset is 0.011211 (0.080511), this shows that the variation/distribution of the variable data is diverse from the average. The average (standard deviation) for cash flow return on asset is 0.026575 (0.096778), this shows that the variation/distribution of the variable data is diverse from the average. The average (standard deviation) for net working capital is 0.310939 (0.37746), This shows that the variation/distribution of the variable data is diverse from the average.

Based on table 3, The cash holdings level has a minimum value of 0.0000000108 and a maximum value of 0.968216. This minimum value shows that less than 1% of some company assets are in the form of cash, which shows a high level of liquidity risk. And the maximum value shows that 96% of some company assets are in the form of cash. It shows the high level of company liquidity.

**Table 3. Descriptive Statistic Tests**

Variable	N	Mean	Std. Deviation	Minimum	Maximum
<i>Cash holding</i>	3,948	0.089249	0.118994	1.08E-07	0.968216
<i>Size</i>	3,948	28.45518	1.961241	22.57565	35.11859
<i>Leverage</i>	3,948	0.489927	0.329262	8.00E-06	3.138601
<i>Growth</i>	3,948	0.603711	8.377061	-22.2462	298.1355
<i>Return on Asset</i>	3,948	0.011211	0.080511	-1.04252	1.932827
<i>Cash return on asset</i>	3,948	0.026575	0.096778	-0.66639	1.928885
<i>Net Working Capital</i>	3,948	0.310939	0.37746	-2.86442	0.994987
<i>Goodwill</i>	3,948	0.247214	0.431447	0	1
<i>Goodwill Impairment</i>	3,948	0.018744	0.135636	0	1

Source: Secondary data processed (2022)

### Assumption Test

The unit rooting test results using the Levin, Lin, and Chu model are presented in Table 4. It demonstrates that research variables remain stable below 1%. As a result, every variable is stationary. This indicates that the data already has a constant variance and mean (average) value over time and that the covariance between two-time series only depends on the time lag between the two periods.

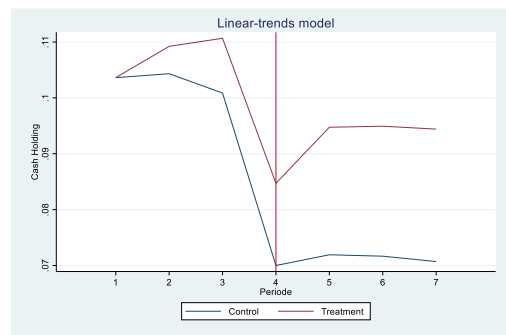
**Table 4. Levin, Lin & Chu Unit Rooting Test**

Variable	Levin, Lin & Chu	Stationary
Cash holding	-82,3975***	Stable
Size	-61,8254***	Stable
Leverage	-8,1e+02***	Stable
Growth	-67,7755***	Stable
Return on Asset	-46,8779***	Stable
Cf return on asset	-53,1195***	Stable
Net Working Capital	-53,2395***	Stable

\*  $p < 10\%$ , \*\*  $p < 5\%$ , dan \*\*\*  $p < 1\%$ .

Source: Secondary data processed (2022)

Figure 2 shows the graphic results of the linear trend test. It can be seen that the treatment and control groups before the treatment period (from the 4<sup>th</sup> quarter of 2020 until the beginning of the global energy crisis-quarter 4<sup>th</sup> of 2021) have the same variation in trends and then the trend changed drastically after receiving treatment (after the 4<sup>th</sup> quarter of 2021). That means, this model passed the linear trend test, hence, the difference in differences estimation model is suitable for our analysis.



**Figure 2. Parallel trend test**

Source: Secondary data processed (2022)

### Hypotheses Tests

After passing all the assumptions, we estimate the difference in the differences model using regression and report the result in table 5. There are 3 columns, and each column shows the result

of the regression models using model 1, 2, and 3 which has been mentioned before in the research method part.

**Table 5. The Regression Result**

	1	2	3
	Base	Goodwill	Goodwill Impairment
<i>Treated*Period</i>	0.0158** 2.39	0.0155** 1.93	0.0159** 2.38
<i>GW*Treated*Period</i>		0.0009 0.09	
<i>GWIM*Treated*Period</i>			-0.0059 -0.55
<i>Goodwill</i>		-0.0012 -0.09	
<i>Goodwill Impairment</i>			0.0004 0.07
<i>Treat</i>	-0.2914** (-2.01)	-0.2909** (-2.02)	-0.2916* (-1.9)
<i>Period</i>	-0.005*** (-3.7)	-0.005*** (-3.68)	-0.005*** (-4.24)
<i>Size</i>	0.0049 (-0.35)	0.005 (0.4)	-0.0313* (-1.88)
<i>Leverage</i>	-0.0313** (-2.2)	-0.0314* (-1.77)	0.0049 (0.31)
<i>Growth</i>	0.0001 (-0.26)	0.0001 (0.24)	-0.0585*** (-5.16)
<i>Return on Asset</i>	0.0105 (-0.82)	0.0105 (0.67)	0.0104 (0.72)
<i>Cash return on asset</i>	0.0924*** (-3.79)	0.0924*** (3.39)	0.0924*** (4.28)
<i>Net Working Capital</i>	-0.0585*** (-4.86)	-0.0585*** (-4.76)	0.0001 (0.2)
<i>Constant</i>	0.2322 (-0.56)	0.2295 (-0.59)	0.2334 (-0.61)
<i>Adjusted - R2</i>	0.8714	0.8714	0.8714

In parentheses, a Z-statistic is mentioned. \*, \*\*, and \*\*\* signify significance levels of 10%, 5%, and 1%, respectively.

Source: Secondary data processed (2022)

Table 5 column 1, reported the global energy crisis effect on corporate cash holding without any moderation. The  $\beta_1$  ( $Treated*Period$ ) coefficient is the value of the difference in differences estimate. The value of  $\beta_1$  is 0.0158 that significant at the 0.05 level. It indicates that every company that belongs to the treatment group has a higher level of cash holdings than companies engaged in the control group after the global energy crisis occurred. This result supports the first research hypothesis.

Table 5 column 2, reported the result of the goodwill on moderating the global energy crisis effect on corporate cash holding. The coefficient  $\beta_1(GW*Treated*Period)$  is the estimated moderating effect of goodwill. The value of the regression coefficient  $\beta_1$  is 0.0009. However, given that the p-value was greater than 10%, this result is insignificant. It suggests that form-level cash holding is not diminished by the global energy crisis because of goodwill. This result does not support the second hypothesis of the study.

Table 5 column 3, reported the result of the impairment of goodwill on moderating the global energy crisis effect on corporate cash holding. The  $\beta_1$  ( $GWIM*Treated*Period$ ) is the value of the estimated moderating effect by the impairment of goodwill. The  $\beta_1$  is -0.0059. However, given that the p-value was greater than 10%, this result is insignificant. It indicates that the effect of the global energy crisis on form-level cash holding is not diminished by goodwill impairment. This result does not support the second hypothesis of the study.

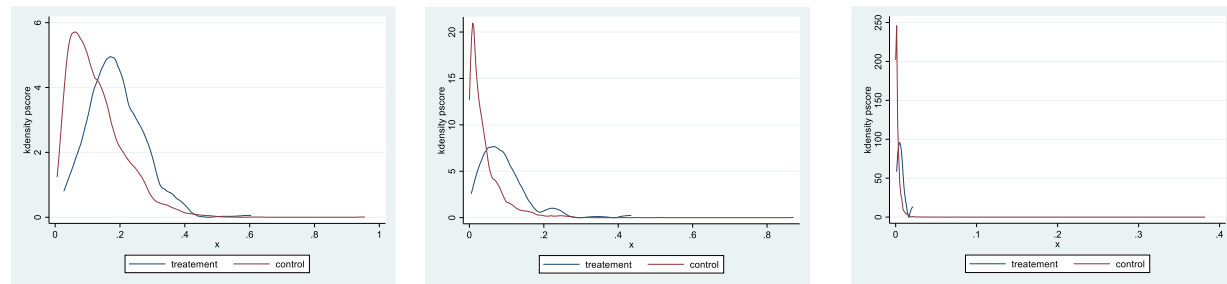
### Robustness Test

Assumption 1, selection on observables. Since the treatment group must be matched with the control group based on the observed covariates (control variables), the control variable that describes the characteristics of the treatment variable must be observable.

**Table 6. Pseudo R2 value of co-variate probit regression**

Variable	1 - base	2 - GW	3 - GWIM
Pseudo-R <sup>2</sup>	0,0785	0,1262	0,0938

Source: Secondary data processed (2022)



K-density model graph 1

K-density model graph 2

K-density model graph 3

### Figure 3. Score Matching Graph

Source: Secondary data processed (2022)



The probit regression results are presented in Table 6, which reveals that the pseudo-R2 values of models 1, 2, and 3 were just 7%, 12%, and 9%, respectively. This means that if the control variable is included in the regression model, the impact is only 7%, 12%, and 9% outperform of regression model without a control variable. It indicates that the character of the control variable for the treatment group in this study is not fully observable. Thus, the first assumption was rejected.

Assumption 2, common support. Where the k-density value between the treatment group and the non-treatment group overlaps. The common support area represents the similarity of characteristics between the 2 groups based on the similarity of the distribution of the propensity values so that the model is suitable or matched based on the trend score.

**Table 7. Kernel-Propensity Score Matching Regression Result**

Variable	1 - Base	2 - GW	3 - GWIM
<i>Treated*Period</i>	0,0002257 (0,964)		
<i>GW*Treated*Period</i>		0,0104834 (1,42)	
<i>GWIM*Treated*Period</i>			0,0115181 (0,41)
<i>Size</i>	0,1279*** (9,45)	0,1780*** (9,02)	0,1204*** (2,21)
<i>Leverage</i>	-0,2502** (-2,55)	-0,1951*** (-1,39)	-0,3498 (-0,94)
<i>Growth</i>	0,0013 (0,46)	-0,0074 (-0,41)	0,0008 (-,0,04)
<i>Return on Asset</i>	0,8824*** (2,57)	1,3846*** 3,04	-16,468 (-1,23)
<i>Cash return on asset</i>	-0,4156 (-1,38)	-1.1555 (-2,32)	0,7840 (-0,04)
<i>Net Working Capital</i>	-0,9398*** (-11,08)	-1,035*** (-8,07)	-0,8009*** (-2,83)
<i>Constant</i>	-4,4161*** (-11,59)	-6,5717*** (-11,6)	-5,9782 (-3,82)
R <sup>2</sup>	0,0785	0,1262	0,0938

In parentheses, a Z-statistic is mentioned. \*, \*\*, and \*\*\* signify significance levels of 10%, 5%, and 1%, respectively.

Source: Secondary data processed (2022)

Figure 3, shows there is an overlap between the k-density probability scores for the treatment and control groups. This indicates that there are control individuals with similar characteristics as the

treatment individual for every treatment individual. Thus, assumption 2 is accepted. However, because assumption 1 is rejected, the results of the probability score matching are likely to be biased.

Based on table 7 column 1, the *Treated\*Period* value is 0.000225672 and has a significance value greater than 10% so the results are not significant. This indicates that the global energy crisis does not affect Indonesia's corporate cash holdings. These results are inconsistent with the hypothesis test which states that the energy crisis has a positive effect on cash holding level. However, this result is also biased because during the first assumption test (selection on observables) the pseudo-R<sup>2</sup> value's only 7% which means the first assumption test is rejected. So using the PSM model to robust this model is not effective and we can't trust the result

Based on table 7 column 2, the *GW\*Treated\*Period* value is 0.010483 with a significance value greater than 0.1 so the results are not significant. This indicates that goodwill does not moderate the global energy crisis effect on the increase in sensitive corporate cash holdings. These results are consistent with the model 2 hypothesis test. However, these results are also biased because during the first assumption test (selection on observables) the pseudo-R<sup>2</sup> value's only 12% which means the first assumption test is rejected. Therefore, using the PSM model to robust this model is not effective and we can't trust the result

Based on table 7 column 3, the *GWIM\*Treated\*Period* value is 0.0115 with a significance value greater than 0.1 so the results are not significant. This indicates, that goodwill impairment does not moderate the global energy crisis effect on the increase in sensitive corporate cash holdings. These results are consistent with the model 3 hypothesis test. These results supported the model 3 result. However, these results are also biased because during the first assumption test (selection on observables) the pseudo-R<sup>2</sup> value's only 9% which means the first assumption test is rejected. So, using the PSM model to robust this model is not effective and we can't trust the result.

## Discussion

### *The global energy crisis affects the level of cash holdings*

Based on table 5 column 1, the *Treated\* Period* value is positive at 0.0158. With a significance level of less than 0.05, these findings are significant. This means that the global energy crisis has caused the companies that are classified as the treatment group to have more cash rather than the companies classified as the control group. But these results were not supported by the robustness test that was conducted using the PSM method which showed that the coefficient of the positive treatment effect was 0.000225672 with a significance value greater than 0.1 so the results were not significant. However, we ignore the result of the PSM model to robust this model because it does not pass the first assumption test (selection on observable). Therefore, the study's test results suggest that cash holdings are positively impacted by the global energy crisis. As a result, we agreed with the study's first hypothesis.

The results of this test are consistent with the cash holding theory of the precautionary motive, Keynes (1936), which stated that the company needs a certain amount of cash to deal with emergencies to ensure the continued operation of the company. The food & beverage, clothing & luxury goods, retail trade, pharmaceutical & health research typically increase their cash holdings in response to the global energy crisis to reduce the risk of rising operating costs and falling

consumer purchasing power due to inflation. The results of this study are supported by Qin et al. (2020), which stated that pandemic has a significant positive effect on the level of cash holdings. Thus, businesses in China typically increase their cash holdings as a precaution to lessen the potential economic effects of the pandemic. Several studies have confirmed that the increases in corporate cash holding are under precautionary motives (Honda & Uesugi, 2022)

The increase in production operational costs in the food and beverage sector due to rising cooking oil prices and rising prices of other foods makes the food and beverage industry increase its cash so that the company's operations could continue. This is supported by Zhang et al. (2020), in their research, which demonstrates that cash holdings rise as oil prices become more uncertain. Also, Wu et al. (2021), demonstrate a positive correlation between cash holdings and exposure to oil price uncertainty, as businesses typically increase cash holdings as a hedge against rising oil prices. Also, a number of recent research have supported the positive effect of oil price uncertainty on company cash holdings. (Bugshan, 2022; Alomran & Alsubaiei, 2022)

The results of this test are also consistent with Keynes' theory of money demand related to transaction motives, Keynes (1936), in which the company's cash holdings are driven by the need for cash for current business and exchange transactions. Thus, in the company's operational process, additional cash is needed to manage or purchase additional raw materials, equipment, and pay wages, and pay for increases in other utility costs due to increased production or increased sales. So, the companies that experience increased sales due to increased market demand due to the energy crisis, such as companies engaged in the energy sector, will increase their level of cash ownership. This finding is in line with Jamil et al. (2016) who state that the drivers of cash holdings for Pakistani companies may be explained by transaction motives.

This result is also consistent with the transaction cost theory proposed by Coase (1937). Where in the concept of transaction cost theory there are non-operational costs needed for the coordination, control, and manage the transaction. This includes costs such as fees for negotiating and renegotiating contracts, as well as costs for contract enforcement. When the global energy crisis occurred, there is also uncertainty about economic policies taken by each country. The global energy crisis triggers global uncertainty which could generate transaction costs outside of operational costs. So, the companies that depend on imports, such as companies engaged in the pharmaceutical & health, and clothing & luxury goods sectors, may experience changes in contracts or negotiations with outside parties that encourage companies in these sectors to increase their cash holdings level.

The finding is in line with the theory of money as an asset approach proposed by Tobin (1958) which explains that money is needed by individuals as an asset for liquidity preference in their wealth portfolio because other investment assets tend to have risks that are dependent on market volatility. So that companies engaged in the banking sector, holding & investment companies will increase their cash holdings as a form of liquidity preference amid global uncertainty. This is supported by Tran (2019) in his research that a culture of avoiding uncertainty positively affects the company's cash holdings.

*The role of goodwill in moderating the global energy crisis effect on corporate cash holdings*

Based on table 5 column 2, the  $GW* Treated* Period$  is positive at 0.0008665. With a significance level greater than 0.05, these findings are not significant. This means that goodwill does not moderate the global energy crisis effect on the level of cash holdings. Using the PSM method, we carry out a robustness test which showed that the coefficient of the treatment effect value was 0.000225672 with a significance value greater than 0.05 so the results were not statistically significant. Therefore, it can be deduced that the global energy crisis's positive effect on corporate cash holdings is not moderated by goodwill. As a result, the study's second hypothesis was rejected.

The acquirer's overpayment of the acquired company's fair value is known as goodwill. According to a lot of literature, a company's goodwill poses a risk. where there is a possibility that mergers and acquisitions will not work out as planned due to a lack of synergies. This has an impact on the assessment of creditors or banks related to financing which can reduce the level of company cash ownership. However, in this study, it was found that goodwill did not affect corporate cash holding because the significance value of the goodwill variable was greater than 0.05.

Based on signaling theory, companies with goodwill tend to show an overvaluation of business combination activities where there is a potential risk of a business combination that can signal to banks or other creditors. However, this study's findings indicate that cash holding is unaffected by the goodwill variable. Thus, the signal theory cannot be supported by this result. This can happen because goodwill may not be seen as something bad for investors or creditors. This statement is in line with Lee (2011) who found that, contrary to the general view based on the opportunistic reporting hypothesis, discretionary reporting caused by SFAS 142 was not used opportunistically.

According to Aprilia & Budhidharma (2022), the positive impact of the COVID-19 pandemic on corporate cash holdings is not diminished by goodwill, which is consistent with the findings of this study. the positive impact of the COVID-19 pandemic on corporate cash holdings is not diminished by goodwill, which is consistent with the findings of this study. The researcher explained that only a few Indonesian companies have entered into business combinations with goodwill, so the analysis shows that goodwill moderation does not weaken the positive influence of COVID-19 on the level of corporate cash holdings in Indonesia.

However, this study's findings do not align with previous research work by Qin et al., (2020) which asserts that the effect of covid on cash holding level increases within the company will be diminished by goodwill. The researcher explains that high goodwill indicates a high risk of business integration, which will ultimately affect (decrease) corporate cash holdings and cause banks and credit unions to limit finance credit.

*The role of goodwill impairment in moderating the global energy crisis effect on cash holdings*

Based on table 5 column 3, the value of  $GWIM* Treated * Period$  is positive at 0.0058962. With a significance level greater than 0.05, these findings are not significant. This means that goodwill impairment does not moderate the global energy crisis effect on cash holding. This test was also strengthened by a robustness test conducted using the PSM method which showed that the

treatment effect coefficient was 0.0115 with a significance value greater than 0.1 so this result was not statistically significant. It can be deduced that the global energy crisis's positive effect on corporate cash holdings is not moderated by goodwill impairment. As a result, this study's third hypothesis was rejected.

Goodwill impairment is an adjustment to the carrying amount of goodwill by reducing its value due to several reasons, such as the acquisition being overestimated, or because of macroeconomic factors. Based on the signal theory, Spence (1973), there is asymmetry information between internal and external parties and only management (internal party) knows detailed information regarding the condition and prospects of the company. Management hides information about various factors behind the decrease in goodwill to maintain the company value. But the decline in the value of goodwill is the main indicator of a failure of synergy in a business combination that causes investors or creditors to limit their credit. Thus, cash holdings owned by companies that experience goodwill impairment are predicted to decrease due to financing constraints. However, in this study, it was found that goodwill impairment did not affect the company's cash holdings where the significance value of the goodwill variable was greater than 0.05.

This can happen because the information on the value of goodwill impairment is irrelevant to business analysts (investors, banks, or creditors). This assertion is supported by Schatt et al. (2016) in their research results which concluded that the impairment of goodwill is ineffective due to the fact that users cannot rely on accounting figures or additional information provided by management in impairment test notes, but they can adjust their expectations based on public information. Additionally, a number of studies demonstrate that avoiding goodwill impairment has long-lasting effects on a company's future performance and stock price (Han & Tang, 2020). Thereby, Investors and creditors are not forced to limit their credit as a result of goodwill impairment. Thus, the crisis's impact on company cash holdings was not affected by the impairment of goodwill.

However, this study's findings do not align with previous research work by Qin et al., (2020) which asserts that the effect of covid on cash holding level increases within the company will be diminished by the impairment of goodwill. The impairment of goodwill, according to the researcher, is a warning sign that the company's profitability will decline in the future. Consequently, creditors will restrict their credit, and the company's cash holdings will eventually lose value.

## CONCLUSIONS

This paper examines the global energy crisis's casual effect on the cash holding level in Indonesian companies due to the absence of cash-related research that examines the effect of the global energy crisis and research conducted in a developing country. We compare two types of corporate: seriously impacted and not seriously impacted to determine whether cash holdings are affected by the global energy crisis. Our results find that the global energy crisis has a positive effect on

corporate cash holding. However, goodwill and the impairment of goodwill, as indicators of corporate risk related to the synergy of business combinations, were found not moderate this effect.

This paper contributes to cash holding literature by providing information and bridging the gap between various crisis impacts on cash holding. This research makes several implications. First, this study can be used by the government to obtain information about different exposure on seriously and not seriously impacted industries caused by a global energy crisis on cash holding. This is important to make better financing policies and other macroeconomic policies. Second, investors can use this study's findings to decide how to diversify their portfolios in light of the liquidity risk associated with each industry.

This paper limitations include, first, the study's limited use of control variables. We try to focus only on how the global energy crisis affects cash holdings, but since cash holdings are influenced by many other variables (factors), the regression model should include all explanatory variables. However, only a few explanatory variables were included because of the limitations of the existing literature. Second, the model's robustness cannot be assessed using the kernel propensity score matching. Thus, suggestions for further research are expected to add more control variables, use another robustness test and increase the observed period until the global energy crisis is over.

### **List of Abbreviations**

USA: United States of America, GW: Goodwill, GWIM: Goodwill Impairment, PSM: Propensity Score Matching.

### **Authors' Contribution**

GRS developed research conceptual and collect data input on the proposed research, as well as performed data processing and developed article writing. DHS provided direction for the entire project, develop research ideas, supervise data collection, and analyse and contribute to the writing of articles.

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## Availability of Data and Materials

Data are available from the public sources cited in the text.

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