“Association between fraudulent financial reporting, readability of annual reports, and abusive earnings management: A case of Indonesia”

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ASSOCIATION BETWEEN FRAUDULENT FINANCIAL REPORTING, READABILITY OF ANNUAL REPORTS, AND ABUSIVE EARNINGS MANAGEMENT: A CASE OF INDONESIA

Abstract

In practice, auditors sometimes have a hard time detecting false financial statements since they only look at the figures on the financial statements. Consequently, they ignore the red flags in the annual reports' wording. This study aims to analyze how the level of readability of annual reports and abusive earnings management affects fraudulent financial reporting. A total of 240 annual reports from publicly traded industrial businesses were used. The paper used data from the Indonesia Stock Exchange (IDX) and each sampled companies' official website. A multiple linear regression analysis was used to test the hypotheses. Falsified financial statements are the dependent variable, while annual report readability and abusive earnings management are independent variables. The Dechow F-Score is used to assess whether financial statements are false. The annual report's readability is assessed using the Flesch Reading Ease, Length, Flesch-Kincaid, and Lasbarhets Indexes. Finally, accrual discretionary and real earnings management are used to uncover earnings management misuse. According to the findings, dishonest earnings management has a significant influence on financial statement fraud. Moreover, abusive earnings management can aid in the detection of falsified financial statements.

Keywords abusive earnings management, financial reporting, fraudulent, readability

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INTRODUCTION

Corruption is the most frequent sort of fraud in Indonesia, according to the 2019 Indonesia Fraud Survey, accounting for 64.4% of all instances surveyed and resulting in a total loss of more than 373 billion IDR (ACFE, 2019). Furthermore, private businesses lose between 500 million and one billion IDR every year (ACFE, 2019). The ACFE (2019) survey findings raise concerns about financial statement quality. Auditors can theoretically utilize financial statements as one of the tools for detecting fraudulent financial reporting (FFR) (Omar et al., 2017). However, the quantity of professional terminology and specific and non-financial recordings of information has deteriorated the readability of corporate annual reports (El-Sayed et al., 2021). Readability is defined as a collection of reader interest, legibility, and ease of comprehension (Luo et al., 2018). Since annual reports contain only 20% quantitative information and the remaining 80% is in the form of qualitative information, readability is an important attribute in textual content (Lo et al., 2017).

Annual report readability has been proven to play a variety of roles, including detecting FFR (Humpherys et al., 2011) and translating com-

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pany performance (Dalwai et al., 2021; Du Toit, 2017; Seifzadeh et al., 2021). According to empirical evidence, companies in financial difficulties produce annual reports that are difficult to understand (Hasan & Habib, 2020; Li, 2008; Pajuste et al., 2021). Furthermore, FFR-performing organizations have low readability (Cheng et al., 2018; Tarjo & Anggono, 2020). The intricacy of annual statements could indicate the presence of FFR; the more complicated the company annual reports are, the more frequently FFR occurs (Moffitt & Burns, 2009; Sukotjo & Soenarno, 2018). In addition to annual report readability, Ramírez-Orellana et al. (2017) and Tarjo and Anggono (2020) claim that abusive profits management can be utilized to detect the presence of FFR practices. However, according to Price et al. (2011) and Zhong et al. (2017), abusive earnings management cannot be utilized as a criterion for determining whether or not FFR practices exist.

In Indonesia, detecting fraudulent reports using annual report readability and abusive earnings management is rare (Soepriyanto et al., 2021). In addition, the previous studies prove that there are severe problems with annual report readability and abusive earnings management (Soepriyanto et al., 2021). Therefore, it is necessary to examine more deeply and at the same time prove that both can be a red flag of fraudulent financial statements. This study uses 240 manufacturing companies in Indonesia because the manufacturing sector often occurs in fraud cases in Indonesia (ACFE, 2019).

1. LITERATURE REVIEW AND HYPOTHESES

The information asymmetry issue is one of the factors that led to the development of the agency theory (Jensen & Meckling, 1976). Information gaps are one source of information asymmetry (Jensen & Meckling, 1976). The firm's annual report is one of the tools used by management to convey financial and non-financial information to shareholders and stakeholders (Ezat, 2019). The annual report's information is usually numbered and includes narratives. More than 80% of the material offered in an annual report is text-based narrative information, according to Lo et al. (2017). As a result, annual report readability is required to comprehend all information pertaining to operational activities (Jayasree & Shette, 2021). In addition, the readability of a financial statement in an annual report can encompass concerns that the firm is facing, such as liquidation issues and fraudulent financial reporting (Li, 2008; Humpherys et al., 2011; Pajuste et al., 2021).

The influence of annual report readability on audit fees has been studied by Seifzadeh et al. (2021) and Xu et al. (2020). In addition, Dalwai et al. (2021) researched the cost of capital; Blanco et al. (2021) considered audit delayed; Xu et al. (2020) analyzed the ability to obtain trade credit; Bacha and Ajina (2020) studied corporate social responsibility performance; Bonsall and Miller (2017) and Fang-Klingler (2019) viewed going-concerns. However, few studies looked at the impact of annual report readability on FFR.

Since readability can forecast FFR not reflected in financial statements, it can be an effective FFR detection method (Goel et al., 2010). Furthermore, readability has a high degree of accuracy in detecting FFR (Dong et al., 2016). Several prior studies have found that yearly report readability has a positive influence on detecting FFR behaviors (Bhardwaj & Gupta, 2018; Kamaruddin et al., 2015; Minhas & Hussain, 2016; Othman et al., 2012; Yadav & Sora, 2021).

One of the causes of information asymmetry is the management of earnings (Jones, 1991). For academics and practitioners alike, earnings management is a critical accounting issue. Many academic publications have examined the reasons and effects of earning management (Mnif & Kchaou, 2021). The most prevalent technique of calculating earnings management is distinguishing the "discretionary" element of accrual earnings (Dechow et al., 2012). Earnings management is a technique that management frequently employs to bolster financial statements, yet auditors sometimes regard it as ordinary practice (Schilit et al., 2018). If earnings management practices fall into the abusive category, the action might be characterized as FFR (Ramírez-Orellana et al., 2017). This is backed up by Perols and Lougee (2011) and Md Nasir et al. (2018), who showed that the higher the level of abusive earnings management, the more likely FFR is to be used. The intricacy of the firm and

committed earnings management define the impact of annual report readability (Liu & Liu, 2021).

According to the prior premise, detecting false financial statements requires more than a cursory examination of the figures. Understanding readability can help comprehend all of the data in yearly reports. Typically, firms purposefully provide yearly reports with a high level of complexity so that financial statement readers are unaware that the company is concealing fraud. One of the red flags is readability complexity. As a result, readers can only discover indications of false financial statements by examining the level of complexity.

On the other hand, detecting abusive earnings management can detect fraudulent financial statements. As previously said, spotting numbers in financial reports might be difficult at times while looking for fraud. Therefore, it is critical to look for FFR by utilizing detection technology to spot potential exploitation. In addition, manipulation strategies as well as earnings management may be detected using abusive earnings management detection.

As a result, the purpose of this study is to determine whether annual report readability and profits manipulation can be utilized to detect FFR. Therefore, this study looks into the impact of annual report readability and abusive profits management on FFR. The following research hypotheses have been developed:

H1: Readability of annual reports positively affects the detection of false financial reporting methods.

H2: Unethical earnings management positively improves the detection of false financial reporting techniques.

2. METHODS

2.1. Data and sample

All manufacturing businesses listed on the Indonesia Stock Exchange (IDX) between 2014 and 2018 are included in a sample. A purposive sample was chosen based on the criterion of providing yearly reports and financial statements, as well as all of the information and data needed for this study. The company's website and IDX provided annual and financial reports.

2.1.1. Variables operationalization

F-scores, widely used to predict FRR, were utilized to quantify the dependent variables in this investigation (Dechow et al., 2012; Ratmono et al., 2020). F-scores are highly accurate in predicting FFR, according to Aghghaleh et al. (2016), Hung et al. (2017), Harris et al. (2018), Sakti et al. (2020), and Aviantara (2021). Hence, the F-score is calculated by:

$$F = Accrual\,Quality + \\ + Financial\,Performance \quad (1)$$

$$Accrual\,Quality = \frac{WC + NCO + FIN}{Average\,Total\,Asset} \quad (2)$$

$$Financial\,Performance = \\ = \Delta Receivable + \Delta Inventory + \\ + \Delta Cash\,Sales + \Delta Earnings. \quad (3)$$

The Gunning Fog Index was initially used to assess annual report readability (Liu & Liu, 2021). Using formula 4, the Gunning Fog Index is computed:

$$Fog = 0.4 \cdot (Word\,Per\,Sentance + \\ + Percent\,of\,Complex Word). \quad (4)$$

To calculate the Fog Index, divide the total number of words in the management annual discussion and analysis report by the total number of English sentences (Buchholz et al., 2020; Habib & Hasan, 2020). The number of syllables in a word determines its complexity. A term is considered complicated if it has three or more syllables (Jayasree & Shette, 2021). The Gunning Fog Index reading score indicates how difficult the content is for readers to comprehend (Kawada & Wang, 2020). The lower the Gunning Fog Index readability score, the easier the content is to comprehend for text readers (Wong, 1999).

Second, popular readability proxies include the Flesch-Kincaid and Flesch Reading Ease Indexes (Dalwai et al., 2021). The Gunning Fog Index is reported to be equal to the Flesch-Kincaid and Flesch Reading Ease Indexes (Morris et al., 2014).

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The Flesch Reading Ease Index was used to determine readability (Morris et al., 2014). A text is simpler to read if the Flesch Reading Ease Index value is more than 100, but the Flesch-Kincaid Index measures readability at the educational level. The following formulae are used to compute the Flesch-Kincaid and the Flesch Reading Ease Indexes:

$$Flesch\ Reading\ Ease\ Index = \\ = 206.835 - \left(1.015 \cdot \frac{syllables}{sentence}\right) - \\ - \left(84.6 \cdot \frac{syllables}{word}\right), \tag{5}$$

$$Flesch - Kincaid\ Index = \\ = \left(11.8 \cdot \frac{syllables}{word}\right) + \\ + \left(0.39 \cdot \frac{syllables}{sentence}\right) - 15.59. \tag{6}$$

Third, some extreme variables, for example, the number of words in a company's annual report, are determined by length (Li, 2008), as formulated in the following equation:

$$LENGTH = Log\left(word\right). \tag{7}$$

Fourth, the Lasbarhets Index (LIX) is highly recommended (Ezat, 2019). In yearly reports, LIX is employed to determine the complexity of words. If the LIX value is less than 50, the company's annual report is simple. If the LIX number exceeds 50, the annual report is more complex. The number of characters in a single word was used to determine the difficulty level. A word is classified as difficult if it contains six or more characters. The LIX formula is:

$$LIX = 100\left(\frac{difficult}{word}\right) + \left(\frac{sentence}{word}\right). \tag{8}$$

This study employed accrual discretionary (Jones, 1991) and actual earnings management as a proxy for abusive earnings management (Roychowdhury, 2006). However, the accrual discretionary measurement is the first.

$$NDA_t = \alpha_1\left(\frac{1}{TA_{t-1}}\right) + \alpha_2\left(\frac{\Delta REV_t}{TA_{t-1}}\right) + \\ + \alpha_3\left(\frac{\Delta PPE_t}{TA_{t-1}}\right). \tag{9}$$

To estimate α_1, α_2, and α_3, the following models are used:

$$\frac{TAC_t}{TA_{i,t-1}} = \alpha_1\left(\frac{1}{TA_{t-1}}\right) + \alpha_2\left(\frac{\Delta REV_t}{TA_{t-1}}\right) + \\ + \alpha_3\left(\frac{\Delta PPE_t}{TA_{t-1}}\right) + \varepsilon, \tag{10}$$

where the variables are defined as: TAC_t – total accrual of firm i in year t; NDA_t – non-discretionary accrual of firm i in year t; TA_{t-1} – total assets of firm i in year t – 1; ΔREV_t – revenues of firm i in year t less revenues in year t – 1; ΔPPE_t gross property, plant and equipment of firm i in year t; α_1, α_2 and α_3, – regression coefficients.

The second metric is the management of real earnings. The formula (Roychowdhury, 2006) is as follows:

$$\frac{DISEXP_t}{A_{t-1}} = \alpha_0 + \alpha_1\left(\frac{1}{A_{t-1}}\right) + \\ + \beta_1\left(\frac{S_t}{A_{t-1}}\right) + \varepsilon_t, \tag{11}$$

where the variables are defined as: $DISEXP_t$ – discretionary expense of firm i in year t; A_{t-1} total assets of firm i in year t; S_t sales of firm i in year t; α_0 – constant; α_1, β_1 – regression coefficients; ε_t – error term in year t.

GROWTH and *ROA* were used as control variables in the study. Sales changes are divided by prior year's sales to determine growth. Then, the proportion of net income divided by total assets is used to determine the return on assets (*ROA*).

2.2. Empirical model

The following equation was used to do multiple regression analysis:

$$FFR = \alpha + \beta_1 FOG + \beta_2 FLESCH + \\ + \beta_3 KINCAID + \beta_4 LENGTH + \\ + \beta_5 LIX + \beta_6 AD + \beta_7 REM + \\ + \beta_8 GROWTH + \beta_9 ROA + e. \tag{12}$$

3. RESULTS AND DISCUSSION

3.1. Descriptive statistics

Table 1 displays the descriptive statistics for the models. According to *FOG*, the average annual report readability value is 16.859, implying that the annual report is difficult to comprehend (any value over 3 is considered difficult). *FLESCH* and *KINCAID* have average values of 2.233 and 10.903, respectively. The figures also demonstrate that the corporation's annual report is hard to read (any values less than 100 indicate difficulty). As measured by *LIX* and *LENGTH*, annual report readability was 26.821 (less than 50) and 3.533 (less than 6), respectively, indicating that the company's annual reports were generally simple to read. These findings reveal that annual report readability is uneven in general. The average values for abusive earnings management variables, as measured by *AD* and *REM*, are 0.021 and –1.046, respectively. It suggests that earnings management is practiced. On average, the values for the control variables *GROWTH* (0.045) and *ROA* (0.066) imply that a company is growing and profiting.

3.2. Multiple regression

Table 2 shows the results of regression analysis tests in detail. Overall, the model fits and is statistically significant (F-statistic = 24.623, p = 0.000) according to the multiple regression analysis. The adjusted R2 of the regression is 47.1%. The beneficial effect of annual report readability in detecting FFR is not substantiated by hypothesis testing. None of the proxies for the annual report readabil-

Table 1. Variable descriptive statistics

Variable	Minimum	Maximum	Mean	Std. deviation
FFR	–2.520	2.180	0.999	0.617
FOG	13.170	25.190	16.859	1.899
FLESCH	2.170	2.250	2.223	0.012
KINCAID	7.510	19.210	10.903	1.679
LENGTH (log)	2.810	4.450	3.533	0.306
LIX	17.300	49.470	26.821	4.622
AD	–1.150	1.380	0.021	0.157
REM	–8.240	–0.200	–1.046	0.877
GROWTH	–0.790	0.860	0.045	0.202
ROA	–0.180	1.080	0.066	0.123

Note: FFR = fraudulent financial reporting; *FOG* = Fog index; *FLESCH* = Flesch reading ease index; *KINCAID* = Flesch Kincaid index; *LENGTH* = log (word); *LIX* = Lasbarhets index; *AD* = accrual discretionary; *REM* = real earnings management; *GROWTH* = growth; *ROA* = return on assets.

Table 2. Multiple regression results

Variable	Unstandardized coefficients		t	*p*-value	Collinearity statistics	
	B	Std. error			Tolerance	VIF
Constant	0.904	0.862	1.050	0.295	–	–
FOG	0.004	0.704	0.005	0.996	0.996	1.004
FLESCH	0.332	2.701	0.123	0.902	0.998	1.002
KENCAID	–0.014	0.020	–0.719	0.473	0.999	1.001
LIX	–0.009	0.007	–1.196	0.233	0.999	1.001
LENGTH	0.060	0.113	0.527	0.599	0.908	1.101
AD	–1.746	0.215	–8.107	0.000***	0.741	1.350
REM	0.185	0.036	5.073	0.000***	0.969	1.032
GROWTH	2.404	0.169	14.258	0.000***	0.735	1.361
ROA	0.294	0.257	1.140	0.255	0.982	1.018
Adjusted R^2	–	–	0.471	–	–	–
F	–	–	24.623	–	–	–
p-value	–	–	0.000	–	–	–

Note: FFR = fraudulent financial reporting; *FOG* = Fog index; *FLESCH* = Flesch reading ease index; *KINCAID* = Flesch Kincaid index; *LENGTH* = log (word); *LIX* = Lasbarhets index; *AD* = accrual discretionary; *REM* = real earnings management; *GROWTH* = growth; ROA = return on assets. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$.

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ity variable (*FOG*, *FLESCH*, *KINCAID*, *LIX*, and *LENGTH*) have a p-value less than 0.05.

Second, the *AD* (accrual discretionary) proxy rejects the favorable effect of abusive earnings management on *FFR*, with a coefficient of –1.746 ($p = 0.000$). According to the findings of this study, abuse of earnings management, as evaluated by *AD*, has a significant negative influence on *FFR*. The finding for the *REM* proxy, on the other hand, is supported (coefficient = 0.185, $p = 0.000$). The contribution of *GROWTH* control factors, which have a favorable and considerable influence on FFR, supports this conclusion. These findings suggest that REM in firms that are growing strongly indicates that they control their earnings primarily through increasing the sales growth.

3.3. Hypothesis testing results

Each hypothesis was tested in this investigation, as shown in Table 2. The results reveal that annual report readability has minimal influence on financial statement fraud, meaning *H1* is not supported by the evidence. This finding is consistent with Soepriyanto et al. (2021), who claimed readability is ineffective as a technique for detecting falsified financial statements. This study shows that readability cannot be used as a guide or a warning sign for fake financial statements. Table 1 also illustrates that the average company produces annual reports and financial statements that are simple to read for financial statement consumers. This evidence shows that annual report readability is ineffective as a detection method.

On the other hand, abusive earnings management was found to have a considerable impact on financial statement fraud in this study. Thus, *H2* is permitted. Fraud may be detected through abusive earnings management (Ramírez-Orellana et al., 2017; Tarjo & Anggono, 2020). These findings show that shady earnings management can be a warning sign. Table 1 clearly shows that the two proxies for abusive earnings management are highly variable and abusive. As a result, spotting fake financial statements requires an understanding of abusive earnings management.

CONCLUSION

This study aims to put annual report readability and abusive earnings management to the test as a method for detecting fake financial reporting. All companies in the manufacturing sector listed in the IDX are the subject of this study. This analysis used 240 annual report data as its sample. The outcomes of this study imply that annual report readability does not influence the likelihood of financial reporting fraud. However, according to the findings, misuse of earnings management has an impact on false financial reporting. As a result, one may infer that abusive earnings management can be valuable for detecting dishonest financial reporting. On the other hand, annual report readability is ineffective in detecting fake financial reporting.

The study also has some limitations. To begin with, the study sample did not include organizations that conducted FFR, instead relying on F-score proxies as indicators of FFR incidence. Second, the proxies employed to determine annual readability were inconclusive. Third, when evaluating annual report readability and FFR, the study did not consider the impact of the industry sector. As a result, future studies should investigate organizations that engage in FFR activities. Fourth, other annual report readability metrics, such as the Simple Measure of Gobbledygook (SMOG) index, should be explored in future research to ensure that the results are robust. Finally, future studies should look at variances in industry features when it comes to readability and false financial reporting levels.

AUTHOR CONTRIBUTIONS

Conceptualization: Tarjo Tarjo, Eklamsia Sakti.
Data curation: Tarjo Tarjo, Eklamsia Sakti.
Formal analysis: Tarjo Tarjo, Rita Yuliana, Eklamsia Sakti.

Funding acquisition: Tarjo Tarjo.
Investigation: Tarjo Tarjo.
Methodology: Tarjo Tarjo, Prasetyono Prasetyono, Rita Yuliana.
Project administration: Prasetyono Prasetyono, Eklamsia Sakti.
Resources: Tarjo Tarjo, Prasetyono Prasetyono, Eklamsia Sakti.
Software: Rita Yuliana, Eklamsia Sakti.
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Validation: Tarjo Tarjo, Alexander Anggono, Rita Yuliana.
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Writing – original draft: Tarjo Tarjo, Alexander Anggono.
Writing – review & editing: Tarjo Tarjo, Alexander Anggono, Rita Yuliana.

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