COMPANY OWNERSHIP STRUCTURE IN LEVERAGE CONTROL AS OPTIMIZATION OF FINANCIAL FRAUD SUPERVISION: A BOARD OF DIRECTORS OUTLOOK

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Abstract

High leverage will cost the company to achieve its given targets. So, the target that is not completed will make the management meet the target by various ways, namely by financial fraud. This study aims to identify the effect of ownership structure on leverage and financial fraud. The ownership structure in this study stands for foreign, managerial, and institutional ownership. Leverage is used with debt to total asset proxies, while financial fraud uses the categorization of 0 for a non-manipulator, and 1 for a manipulator with a Beneish M-score model. This research uses manufacturing companies registered in Bursa Efek Indonesia for 2016–2020. The sample used was 40 companies with 200 observational data. The method used is purposive sampling, and SPSS software is used to analyze the data with linear regression models and path analysis. The findings showed that foreign ownership did not significantly affect leverage. Managerial and institutional ownership had a significant effect on leverage. In contrast, indirect leverage did not mediate foreign and institutional ownership against financial fraud and mediated significantly between managerial ownership and financial fraud.

Keywords: Financial Leverage, Fraud Financial, Ownership Structure, Beneish Model

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1. INTRODUCTION

Financial fraud is an act by companies to distort their profits to suit the company's needs. Profit is a critical factor in compiling financial information because it can be used to predict the profit that investors will obtain. It is realized that company management will always try to meet the expectations of principals and investors even though performance has yet to reach targets (Darsani & Sukartha, 2021). They will try to manipulate reported profits to exceed predetermined targets. They will try to manipulate reported earnings to exceed predetermined targets for the benefit of

management in providing a positive impact on company performance. This problem occurs because the interests of agents and principals conflict with the company's internal relations (Bebchuk et al., 2017). If stakeholders reach optimal company decisions, profit management and financial decisions become effective. Management will be under pressure from various factors, including analyst estimates, access to debt markets, competition, etc. (Sahasranamam et al., 2020). The more outstanding debt the company has compared to equity capital, the more the manager is expected to generate income.

Fraud in a company or country will be detrimental to that company or government. In addition, it will be able to have a direct impact on companies affected by fraud, both for an employee, stakeholders, and creditors considered harmful for investors (Fahmi, 2023; Haroon & Zaka, 2023). Financial report fraud has a broader indirect negative effect on market participants by building a wrong view or trust about the credibility of informed financial statements and in the financial markets themselves (Jha, 2019). This action will also result in high premiums and inefficient capital markets. However, the presence of foreign investors will carry out more effective supervision and have high standards of corporate governance (Yiu et al., 2019), will make the quality of the information in financial statements better and not cause fraud and misstatement so that companies do not commit financial fraud (Nene, 2024; Chen et al., 2019). This research contributed to the literature, as no one has built this model, but concerning this model, some research found that acquiring foreign investors will reduce the debt ratio as the company's target significantly and stably (Bamiatzi et al., 2017). Companies dominated by foreign investors will have a more significant impact and a lower tendency to behave corruptly (Hanousek et al., 2019).

Studies in the context of ownership structure, as well as leverage in Indonesia, still need to be more widely researched, and there are several studies that correlate with this study, stating that capital structure affects profit management (Sadjiarto et al., 2019). However, according to Achmad, Ghozali, and Pamungkas (2022), financial stability and external pressures affect financial fraud due to ineffective supervision, arrogance, and collusion, which causes this to occur. Increased leverage impels managers to manipulate profits (Jaswadi et al., 2024; Nalarreason et al., 2019; Setiawan, 2019). The existence of companies that detected fraud will receive more substantial pressure within the company (Andriani et al., 2022; Medlar & Umar, 2023; Uttari Premananda et al., 2019; Putra, 2019; Safiq & Seles, 2019). Another variable, foreign ownership, negatively impacts the cost of debt, which is stronger in companies with financial limitations. Managerial ownership states that there is a significant positive relationship to debt policy (Albart et al., 2020). Debt decision-making must consider economic characteristics and ownership, especially if there is institutional or government ownership in the company, because the company's characteristics significantly affect the company's capital structure (Albart et al., 2020). However, different results were shown in the study by Handoko et al. (2019). Debt to equity ratio has no

significant effect on fraud detection. Furthermore, external pressure does not impact financial fraud (Utami & Pusparini, 2019). Meanwhile, according to other research, corporate governance does not affect external pressure (Putra, 2019). So, it can be concluded from the results of research that there are inconsistent and unclear results in explaining the relationship between ownership structure, leverage, and fraud because of the lack of research related to the same model as this study.

In addition to the methodology of financial fraud, the literature found is not the same as this study. According to Oyerogba (2021), forensic auditor skills and techniques are significant predictors of fraud detection. According to Tang et al. (2022), financial fraud can be seen from the announcement of documentation issued by the capital market with dummy variables as proxies, namely 1) committing financial fraud and 2) not committing fraud. Several other studies were conducted in determining financial fraud with 1) insider trading cases, 2) stock price manipulation, 3) accounting fraud, 4) misleading statements, which will then be concluded with a dummy proxy between 1 and 0 (Lin et al., 2020), and 5) earnings management using discretionary earnings management (Nazir & Afza, 2018). However, this study uses the Beneish M-score compared to the Alman Z-score or total accrual, which is considered more illustrative in detecting financial fraud on the Beneish M-score because it is seen as an element that represents in more detail the factors that put pressure on management. According to Mavengere (2015), the Altman Z-score can be used to assess bankruptcy and financial manipulation, while Beneish M-model is only used to determine the financial manipulation of companies. However, Beneish M-model is more precise in measuring financial fraud than the Altman Z-score because the factors used are more detailed in its measurement. So, it can be said that the contribution of this research provides benefits in developing a financial fraud model as an intervening variable because this model has not been found as a previous research model and the elements in the Beneish M-score have not been used.

Several case studies in Indonesia study fraud mostly using Altman Z-score (Andriani et al., 2022; Indriyanto et al., 2021), using primary data distributed to auditors (Ikbal et al., 2020; Maulidi, 2020; Widyanto et al., 2022; Utami et al., 2020), leverage index (Sukmadilaga et al., 2022), Dechow F-score (Handayani et al., 2023; Medlar & Umar, 2023; Ratmono et al., 2020; Tarjo et al., 2022), earnings management (Anisykurlillah et al., 2020; Jaya et al., 2021; Mukhibad et al., 2021). It can be said that this study is different from previous research conducted in Indonesian studies.

This research tries to fill this gap. This research focuses on how ownership structure can control leverage and prevent financial fraud in the Indonesian capital market. This research is essential to measure the level of corporate governance in regulating financial fraud. The developing capital market is attractive to research because various policies and market conditions at home and internationally can influence the company's financial condition. In addition, this research contributes to the growing literature on

the economic consequences of ownership structure and its influence on financial fraud. The implications of this research can help investors and company management make good control policies and determine the right proportion of capital to achieve the expected return.

This research consists of literature review in Section 2, followed by research methods in Section 3. Section 4 presents results, and discussion, while Section 5 entails conclusions and opportunities for further research.

2. LITERATURE REVIEW

This research discusses the relationship between principals and agencies in corporate management and stakeholder theory. Stakeholder theory emphasizes the importance of morals and values in the company (Schaltegger et al., 2019). Company managers are responsible for aligning financial interests with stakeholders (Freudenreich et al., 2020; Sridharan et al., 2007; Kostyuk, 2003). Stakeholders include shareholders, employees, creditors, banks, government, and society (AlHares & AlBaker, 2023; Kiliç et al., 2015). Good management behavior can improve relationships with stakeholders. So, in financial reports, views from stakeholders can influence managers' decisions and often create pressure that triggers financial fraud (Baldini, 2023; Bryant & Sigurjonsson, 2023). Changes in a company's capital structure can provide a credible signal, and managers can choose internal funding to lower capital costs (Weiss, 2021). The acquisition of new shares can also cause asymmetric information in the market.

2.1. Beneish model

Manipulation of financial reports is about company earnings and the signals that investors and analysts believe in looking at prospects. This reduces the power of the accounting data, and the resulting data is considered biased towards the projection of possible data that ignores the condition of the company and is considered to be in good condition. Accounting information is limited in detecting earnings manipulation. When manipulating financial statement data, three sources are considered: company prospects, cash flows, and accruals. Beneish's (1999) model uses eight measurement variables to detect earnings manipulation. According to Beneish (1999), eight variables are measured using an index that aims to see the distortion that appears in manipulation compared to the measurement of financial statements in the first year of violating with the previous year. The variable measurement is not carried out simultaneously in the manipulations found.

Eight variables used in the measurement of profit manipulation are: days sales in receivables index (*DSRI*), gross margin index (*GMI*), asset quality index (*AQI*), sales growth index (*SGI*), depreciation index (*DEPI*), sales general and administrative expenses index (*SGAI*), leverage index (*LEVI*), total accruals to total asset (*TATA*).

2.2. Leverage

Leverage is the proportion of debt and equity used by a company in financing its operations. Companies that utilize leverage well will reduce the costs arising from the use of leverage (Admati et al., 2018). Leverage is related to the cost of debt, which will increase if financing also increases. From the perspective of investors who invest their capital, they are expected to gain profits from the company (Busch et al., 2021). Therefore, leverage shows how a company benefits from external funding without reducing its value (Porter & Kramer, 2011). The advantages of leverage include tax protection and overcoming free cash flow shortfalls. Leverage can also prevent a company from experiencing a financial deficit if it has limited financial resources (Sewpersadh, 2022). Leverage can benefit or harm a company depending on the fees charged. Leverage measurement can use the debt-to-total asset ratio (*DART*).

2.3. Structure of good corporate governance

Companies that provide funding to investors hope that investors will get a level of return commensurate with their investment. However, if a manager has control over the company, they may act in their own self-interest rather than the owner's. To protect investors' interests and avoid fraud, a board of directors is formed as a control mechanism in the company. The function of the board of directors is to supervise and obey managers to protect the interests of investors (Nguyen et al., 2017). On the other hand, corporate funding is not only a source of financing, but also as a tool to control managers. High debt levels will increase manager ownership and reduce managerial discretion. Rather than using leverage, the board of directors can monitor effective management in the interests of investors. In particular, good corporate governance can reduce agency costs, increase investor confidence, and access cheaper financial sources (Phuong & An, 2020). Excessive debt will increase financial risks and underinvestment, which is contrary to the interests of stakeholders. Good supervision by directors will reduce the motivation to use debt. The quality of corporate governance is negatively related to leverage. Managers prefer to use less debt because it provides flexibility and reduces performance pressure. Heavy debt will have tighter oversight of the company, limiting managerial discretion. In other words, an incompetent manager will face extreme risks if the company experiences financial difficulties. Good corporate governance will increase leverage positively.

2.4. Research hypotheses

Foreign ownership is shares owned by foreign investors, both individuals and institutions. Most foreign ownership will effectively control the managerial monitoring of policies issued. This illustrates that the company's higher foreign shares will present credible and reliable financial information and lower asymmetric information about finance (Iatridis, 2016). Suppose there is

an increase in financial reporting knowledge and the company's governance system, which is strengthened by the presence of foreign investors. In that case, it will allow management to be more able to be monitored by the financial information reporting system and efficient operational activities so that high foreign investors will have the impact of increased leverage (Samo & Murad, 2019). Coupled with high knowledge from foreign investors, it will help to reduce the level of financial fraud that occurs in the company (Saleem Salem Alzoubi, 2016). There are other studies stating that leverage positively impacts financial distress, so it can be illustrated that leverage will burden the company, which, if not managed properly, will cause the company to go bankrupt. Management will do everything possible to ensure that financial conditions remain good by committing fraud (Hastiarto et al., 2021). According to Gupta et al. (2024), statistically speaking, foreign ownership and leverage have a negative relationship. External pressures from leverage affect financial statement fraud (Achmad, Ghozali, Helmina, et al., 2022). Therefore, foreign institutional investors play an important monitoring role in mitigating agency conflicts between shareholders and managers (An et al., 2021).

H1: Foreign ownership has a significant effect on leverage.

H2: Foreign ownership has a significant effect on financial fraud.

H3: Leverage mediates the relationship of foreign ownership to financial fraud.

Companies with most of their shareholdings owned by managers will optimize the revenue generated rather than increasing debt by conducting operational financing. The source of debt used will make managers not flexible, and the risk of failure to pay is very high (Settembre-Blundo et al., 2021). Debt that fails to be delivered will make the company more difficult to operate and can make the company bankrupt (Flannery, 2016). In the company context, management will try to limit the use of debt, which can result in a high risk of bankruptcy. A low level of managerial ownership will lower agency conflicts, making debt utilization higher. This makes companies with increased use of debt implement supervision of company management tighter. According to Alexander and Hengky (2017), leverage does not affect profit management because the entity does not rely on debt to fund its assets. In addition, leverage information is considered less meaningful to investors and creditors (Hasanuddin et al., 2021; Tulcanaza-Prieto et al., 2020). Several other studies have shown that managerial ownership and leverage do not impact management profits (Harahap, 2019). Managerial ownership does not affect financial distress, and leverage has a negative effect on financial distress (Utami et al., 2023). Managerial ownership does not significantly impact profit resistance, and leverage positively affects profit resistance (Nurdiniah et al., 2021). According to Rahmawati et al. (2018), there is no two-way causality relationship between managerial and leverage nor managerial and dividend policy. According to Utami and Dirman (2022), managerial and institutional ownership have no significant effect on financial distress, and leverage has

a negative impact on financial distress. Different results show that managerial ownership significantly positively affects debt policy (Lumapow, 2018).

H4: Managerial ownership has a significant effect on leverage.

H5: Managerial ownership has a significant effect on financial fraud.

H6: Leverage mediates managerial ownership relationships to financial fraud.

Institutional ownership is shares owned by institutions or institutions where institutions or institutions are more likely to be careful in using financial information provided by the company (Jiang & Yuan, 2018). This action will bring up supervision that can see the performance produced by managers in managing the company. This is expected to make profit management, or managers can reduce fraudulent practices. According to Felicya and Sutrisno (2020), most institutional ownership does not influence because not all institutional investors can process financial information provided by management and do not have sufficient experience, so it is considered that the existence of institutional ownership is not able to reduce profit management actions, in this case, fraudulent behavior. Other results showed that institutional ownership and leverage did not significantly affect profit management. According to Anggraini and Suranta (2023), institutional ownership does not affect leverage. Institutional ownership did not significantly affect final distress (Yuliandriani et al., 2023). So, the company needs to identify strategies for dealing with financial difficulties and increase cash flow and managerial ownership as a tight control.

H7: Institutional ownership has a significant effect on leverage.

*H8: Institutional ownership has a significant effect on financial fraud.*

H9: Leverage mediates institutional ownership relationships to financial fraud.

For a company, having a high level of leverage will make the company's risk level in paying debts higher, motivating management to commit fraud in finance or profit management if the resulting performance does not reach the target (Hasnan et al., 2020). Due to high leverage, companies can have a higher level of debt than the assets they own. Assuming a high leverage ratio makes the company's debt high from external funding sources, and external investors will assess that the company will have more risk of defaulting on its debt (Hurley et al., 2019; Tee, 2018). This illustrates that bringing a company with high leverage will make management motivated to commit financial fraud so that the performance shown will be good (Achmad, Ghozali, & Pamungkas, 2022; Utami & Pusparini, 2019). Results by Ugbah et al. (2023) show that investors should invest in low leverage because high leverage allows greater companies to practice financial fraud. According to Utomo and Mawardi (2023), leverage negatively affects the company's financial fraud. According to Lumadi and Rusgowanto (2023), leverage significantly affects indications of fraud in financial statements.

H10: Leverage has a significant effect on financial fraud.

From the theories and hypotheses built, this research model can be described as follows:

Figure 1. Conceptual framework
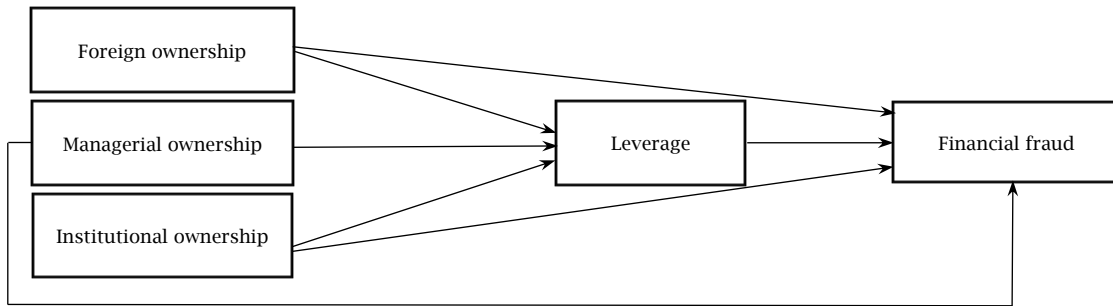
3. RESEARCH METHODOLOGY

This type of research is quantitative. The sample used in the analysis was 40 manufacturing companies listed on the Indonesia Stock Exchange (IDX) for the period 2016–2020, so the number of observation data was 200 observational data. The data source uses secondary data where the company has made financial statements published on the IDX. This means that the financial statements are made following the company's conditions, making it a related company. Concerning the publication of financial statements, all those listed on the IDX must publish the financial statements on the IDX for potential investors to see the company's fundamentals, which are used as an analytical force in ensuring the company's future projections will be profitable. Data collection uses purposive sampling techniques where the data is taken based on research objectives. There are several criteria for taking the data where this technique is used.

Table 1. Description of classification of manufacturing companies based on IDX

Information	Number of companies
Manufacturing companies: acceleration category	25
Manufacturing companies: special monitoring category	110
Manufacturing companies: development category	190
Manufacturing companies: main category	200
Number of manufacturers listed on IDX 2016–2020	525

IDX classifies manufacturing companies into four categories: acceleration, special monitoring, development, and main category. The acceleration category is a new small-scale company that still needs funding in the capital market to develop. The special monitoring category includes companies with low liquidity and negative equity, which allows bankruptcy conditions or peace agreements with the supervision of financial services authorities. The development category has not been able to generate profits but has the prospect of becoming more significant and is in the process of rejuvenating. Then, the main category is a large company with a long track record and good fundamental health. The data used is manufacturing company data recorded in the main category because it is already large and has a long track record in its business activities.

Moreover, the business processes studied between 2016–2020 are geographical conditions that

affect the economy, namely the natural disasters of the COVID-19 pandemic. In 2019–2020, all economic activities were paralyzed automatically, including business activities, and many companies experienced a drastic decline in profits. So, many companies that are not large enough are bankrupt. This makes researchers use large companies with a good track record and at least good financial fundamentals.

Table 2. Description of sampling criteria

Information	Number of companies	Period	Observation
The population of manufacturing companies' main categories	200		
Companies whose company listing was before 2016	(60)		
Manufacturing companies that did not publish consecutive financial statements during 2016–2020	(60)		
Sample of manufacturing companies for the period 2016–2020	80	5	400
Data outlier	(40)	5	(200)
Data analysis	40	5	200

In this research outlier, the data used are observation data in one complete observation used in the company, for example, only companies that have complete financial reports for the 2016–2020 period are used as research data. This is to produce a more concrete analysis in one complete observation made in this study. Then, alternative methods are used to make more concrete data using qualitative data related to financial fraud. In addition to looking at the presentation of financial statements, also it is recommended to look at the behavior of the management and conduct in-depth interviews so that it will be produced more deeply in making valid data. Data analysis techniques use SPSS, which does not distinguish data types based on time series or arrange them based on research subjects. So, when faced with time series data, SPSS is less relevant, primarily if we use panel data. SPSS cannot generate random effect models and fixed effect models. Panel data processed in SPSS will only be processed by one model, namely the standard model.

Beneish M-score model consists of eight variables or indicators classified into two categories: aggressive financial practices and fraudulent techniques (Beneish, 1999; Khuong et al., 2020; Svabova et al., 2020; Valaskova & Fedorko, 2021). M-score calculation is presented below:

$$M\text{-}score = -4.84 + 0.92\,DSRI + 0.528\,GMI + 0.404\,AQI + 0.892\,SGI + 0.115\,DEPI$$
$$- 0.172\,SGAI - 0.327\,LEV + 4.697\,TATA \tag{1}$$

Table 3. Description of financial fraud indicators

Indicator	Symbol	Formula
Days sales in receivables index	*DSRI*	$\dfrac{\frac{Receiveble_t}{Sales_t}}{\frac{Receivable_{t-1}}{Sales_{t-1}}}$
Gross margin index	*GMI*	$\dfrac{\frac{Sales_t - Cost\,Sales_t}{Sales_t}}{\frac{Sales_{t-1} - Cost\,of\,Sales_{t-1}}{Sales_{t-1}}}$
Asset quality index	*AQI*	$\dfrac{\frac{1 - (Current\,Asset_t + Fixed\,Asset\,(PPE)_t)}{Total\,Asset_t}}{\frac{1 - (Current\,Asset_{t-1} + Fixed\,Asset\,(PPE)_{t-1})}{Total\,Asset_{t-1}}}$
Sales growth index	*SGI*	$\dfrac{Sales_t}{Sales_{t-1}}$
Sales general and administrative expenses index	*SGAI*	$\dfrac{\frac{SGA_t}{Sales_t}}{\frac{SGA_{t-1}}{Sales_{t-1}}}$
Leverage index	*LEV*	$\dfrac{Leverage_t}{Leverage_{t-1}}$
Total accruals to total assets	*TATA*	$\dfrac{Net\,Income - Cash\,From\,Operation}{Total\,Asset}$
Depreciation index	*DEPI*	$\dfrac{\frac{Depreciation_{t-1}}{Depreciation_{t-1} + PPE_{t-1}}}{\frac{Depreciation_t}{Depreciation_t + PPE_t}}$

Source: Beneish (1999) and Nyakarimi (2022).

The Beneish model is generated with the concept of eight variables using indicators. If M-score is below is -2.22, it can be said that the company is not considered a manipulator in the financial statements, while above -2.22, it can be said that the company is regarded as a manipulator in the financial statements

Table 4. Description of variables

Variable	Variable measurement	Definition
Independent variables		
Foreign ownership (*X₁*)	$\dfrac{Number\,of\,foreign\,shares}{Number\,of\,shares\,outstanding}x\,100\%$	Proportion of foreign ownership shares owned by the company
Managerial ownership (*X₂*)	$\dfrac{Number\,of\,managerial\,shares}{Number\,of\,shares\,outstanding}x100\%$	Proportion of shares of managerial ownership owned by the company
Institutional ownership (*X₃*)	$\dfrac{Number\,of\,institutional\,shares}{Number\,of\,shares\,outstanding}x100\%$	Proportion of shares owned by institutions/institutions owned by the company
Intervening variable		
Leverage	Debt to total asset (*DART*) $\dfrac{total\,debt}{total\,asset}x100\%$	Proportion of total debt to total assets (Good leverage value if it has a ratio below 1 (100%), so that the smaller the debt ratio is considered better because the company does not overtake a significant burden in paying debts)
Dependent variable		
Financial fraud	Beneish model (M-score) with criterion 0 is said to be a non-manipulator; 1 is said to be a manipulator	Actions taken by management in the form of manipulation of financial statements

The study conducted looked at the effect of financial fraud whose data generated by panel data with variables of foreign Ownership, management, institutional, leverage, and financial fraud; then below the regression model built is:

$$LEV = \alpha + \beta_1 KA + \beta_2 KM + \beta_3 KI + \varepsilon \tag{2}$$

$$FFR(M\text{-}score) = \alpha + \beta_1 KA + \beta_2 KM + \beta_3 KI + \beta_4 LEV + \varepsilon \tag{3}$$

where, α is a constant coefficient, *KA* is a foreign ownership variable, *KM* is managerial ownership, *KI* is constitutional ownership, *LEV* is leverage, and *M-score* (*FFR*) is financial fraud. Data analysis is carried out using SPSS software with several stages of analysis such as classical assumption test analysis and Sobel test analysis.

4. RESULT ANALYSIS AND DISCUSSION

4.1. Result analysis

Table 5 presents statistics on identifying the company as financial fraud or non-fraud. It can be seen that from the amount of data produced, as many as 200 observation data, 94% of observation data indicated committing financial fraud, and 6% of observation data is not categorized as indicated financial fraud.

Table 5. Statistical analysis of fraud financial category

Category	Frequency	Percent
No financial fraud	12	6%
Financial fraud	188	94%

Table 6, from statistical analysis, shows that in the observation data used, as many as 200 observation data, the *foreign ownership* variable used an average data of 34.831%, with a minimum value of 0.00%. The maximum value is 99.66%, and the standard deviation is 33.005%. The variable *managerial ownership* indicates that manufacturing companies in Indonesia rarely have large shares. The data used has an average value of 11.687%, a minimum value of 0.00%, a maximum value of 94.44%, and a standard deviation of 19.568%. In *institutional ownership*, the data used resulted in an average value of 72.632%, a minimum value of 0.00%, a maximum value of 99.99%, and a standard deviation of 25.442%. The data for *leverage* is at least 11.271%, with a maximum of 84.48%, an average value of 42.875%, and a standard deviation of 16.681%. The statistical description of the *Beneish M-score* shows that the resulting average value is -1.223, the minimum value is -3.028, the maximum is 2.707, and the standard deviation is 0.818.

Table 6. Statistical analysis description

Variable	Observation	Minimum	Maximum	Mean	Std. deviation
Foreign ownership	200	0.00	99.66	34.831	33.005
Managerial ownership	200	0.00	94.44	11.687	19.568
Institutional ownership	200	0.03	99.99	72.632	25.442
Leverage	200	11.271	84.48	42.875	16.681
Beneish M-score	200	-3.028	2.707	-1.223	0.818

Source: Processed ratio data during 2016–2020.

The statistical results of the relationship between the dependent, dependent, and intervening variables can be explained in Table 7 below, namely:

Table 7. Statistical relationship between leverage, financial performance, and profit manipulation decisions

Model	Model 1		Model 2	
	β	*t statistics*	*β*	*t statistics*
Constant	54.767		0.067	
Foreign ownership (*KA*)	0.043	1.083 (0.280)	-0.002	-1.108 (0.269)
Managerial ownership (*KM*)	-0.298	-3.123 (0.002)***	-0.017	-3.527 (0.001)***
Institutional ownership (*KI*)	-0.136	-1.764 (0.079)*	-0.010	-2.569 (0.011)**
Leverage (*LEV*)			-0.007	-2.062 (0.040)**
Foreign ownership -> Leverage -> Financial fraud	0.959 (0.338)			
Managerial ownership -> Leverage -> Financial fraud	1.721 (0.085)*			
Institutional ownership -> Leverage -> Financial fraud	1.340 (0.180)			
F	4.449 (0.005)***		5.731 (0.004)***	
R	0.253		0.277	
R square	0.064		0.077	

*Note: * Level of significance is 10%; ** Level of significance is 5%; *** Level of significance is 1%. Model 1: dependent variable is leverage; Model 2: dependent variable is fraud financial.*

Model 1

$$LEV = 54.767 + 0.043\,KA - 0.298\,KM - 0.136\,KI$$
p-value: (0.280) (0.002) (0.079)

Model 2

$$FFR = 0.067 - 0.002\,KA - 0.017\,KM - 0.010\,KI - 0.007\,LEV$$
p-value: (0.269) (0.001) (0.011) (0.040)

The results of the models above present that in Model 1, the constant coefficient shows 54.767, which means that if the ownership structure (foreign, managerial, and institutional) is in a continuous state, then the resulting leverage increases by 54.767. Foreign ownership of 0.043 with a p-value of 0.280 > 0.05 then shows foreign ownership increased by 1%, then the resulting leverage increased by 0.043%, which is considered insignificant on leverage. This does not align with empirical evidence showing that foreign ownership negatively influences debt decisions (Vijayakumaran

& Vijayakumaran, 2019). So, based on previous research, the result is that *H1* is rejected.

Managerial ownership of negative 0.298 with a p-value of 0.002 < 0.05 then shows managerial ownership increased by 1%, the resulting leverage decreased by 0.298%, and the increase is considered significant on leverage. Empirical evidence shows that managerial ownership is non-linearly related to funding decisions (bin Hidthiir et al., 2019). This means managerial ownership has an irregular relationship, depending on which perspective it is viewed, and can have a negative or positive effect. According to Lumapow (2018), managerial ownership positively affects leverage. So, based on previous research and the results of this analysis, it can be said that the results of *H4* are accepted.

Institutional ownership of negative 0.136 with a p-value of 0.079 < 0.1 indicates institutional ownership increased by 1%, then leverage decreased by 0.136%, and the increase is considered significant on leverage. Empirical evidence shows synthetic ownership significantly negatively affects leverage (Margana & Wiagustini, 2019). So, based on previous research and the results of this analysis, it can be said that the results of *H7* are accepted.

Model 2 shows that the constant coefficient of 0.067 means that when the ownership structure (foreign, managerial, and institutional) and leverage are consistent, financial fraud increases by 0.067. Foreign ownership of negative 0.002 with a p-value of 0.269 > 0.05 then shows foreign ownership increased by 1%, then financial fraud generated increased by 0.002%, which is considered insignificant to financial fraud. Empirical evidence suggests decreased voluntary disclosure in companies with foreign institutional investors from countries with lower disclosure requirements and securities regulations and with concentrated foreign institutional ownership (Tsang et al., 2019). So, based on previous research, the result is that *H2* is rejected.

Managerial ownership of negative 0.017 with a p-value of 0.001 < 0.05 then shows managerial ownership increased by 1%, then financial fraud generated decreased by 0.017%, and the increase is considered significant on financial fraud. Empirical evidence shows that firms with low managerial ownership seem to do more profit management when faced with poor or good performance (O'Callaghan et al., 2018). So, based on previous research, the result is that *H5* is rejected.

Institutional ownership of negative 0.010 with a p-value of 0.011 < 0.05 then shows institutional ownership increased by 1%, then financial fraud generated decreased by 0.010%, and the increase is considered significant on financial fraud. Empirical evidence shows that institutional ownership significantly accentuates profit management (Lemma et al., 2018). According to Ramalingegowda et al. (2021), higher shared institutional ownership is associated with less profit management. So, based on previous research and the results of this analysis, it can be said that the results of *H8* are accepted.

Leverage of negative 0.007 with p-value 0.040 < 0.05 then shows institutional ownership increased by 1%, financial fraud decreased by 0.007%, and the increase is considered significant. According to Safiq and Seles (2019), leverage allows companies to commit financial fraud. According to Fitri et al. (2019) and Saleh et al. (2021), companies detected by financial fraud typically receive more significant pressure on leverage and financial targets. Leverage and company size impel managers to manipulate profits (Nalarreason et al., 2019). So, based on previous research and the results of this analysis, it can be said that the results of *H10* are accepted.

Intervening analysis shows that:

1. Leverage does not mediate between foreign ownership and financial fraud. This is corroborated by the analysis p-value 0.338 > 0.05. So, *H3* is declared accepted.

2. Leverage mediates managerial ownership against financial fraud. This is verified by the analysis p-value 0.085 < 0.1. So, *H6* is declared accepted.

3. Leverage does not mediate between institutional ownership and financial fraud. This is corroborated by the analysis p-value 0.180 > 0.05. So, *H9* is declared accepted.

4.2. Discussion

Foreign share ownership does not significantly affect company leverage because funding sources are more easily accessible to foreign ownership. Managerial share ownership has a significant negative effect on company leverage, which indicates that the higher the managerial share ownership, the lower the leverage will be. This is caused by increased managerial ownership, which can minimize conflicts of interest between capital owners and management. Management is more careful in making decisions about funding because it considers the cost of capital (Zaid et al., 2020; Jian et al., 2017). Large debt can increase management capital costs (Sun et al., 2016).

Institutional share ownership has a negative effect on company leverage. Institutional investors have significant ownership, large incentives, and better monitoring capabilities than minority shareholders. However, the effect depends on the composition of institutional ownership. If ownership is low, the effect is positive, but when it reaches a certain point, it becomes negative (Feng et al., 2020). When institutional ownership is high, the effect again becomes positive. Likewise, the effect is the opposite with institutions that are sensitive to pressure (Chaudhary, 2021). Debt is a form of internal control similar to institutional owner control but is external. Based on the pecking order theory, debt financing is preferred because it reduces information asymmetry. The role of institutional investors also helps reduce information costs and the proportion of debt in the company (Bushee & Goodman, 2007).

The leverage owned by the company negatively affects financial fraud committed by the company. This indicates that the higher the company's leverage, the lower the level of financial fraud that the company will commit. This is because the more significant the debt owned by the company, the tighter the supervision or control of operational activities and presenting the company's situation in financial statements (Alves & Francisco, 2015; Udin et al., 2017). As a result, management flexibility to commit fraud is reduced (Ndofor et al., 2015).

Foreign shareholding does not have

a significant effect on financial fraud. This indicates that the size of foreign shares will not have too much impact on financial fraud committed by the company. Foreign investors find it challenging to supervise company activities directly due to limited distance (Hass et al., 2016; Roszkowska, 2021). Foreign investors also cannot influence policies determined by the company's management due to the low level of control in the company's governance structure (Huang & Zhu, 2015).

Managerial shareholding has a significant negative effect on financial fraud. This indicates that the higher the management shares owned by the company, the more impactful the decline in financial fraud committed by the company is. Significant institutional ownership in a company provides a strong impetus for investors to actively monitor and influence management policies (McNulty & Nordberg, 2016). As participation rates increase, institutional ownership realizes that investors are highly engaged with the company (Bebchuk et al., 2017; Boone & White, 2015). Therefore, decision-making conflicts may occur so that there is an opinion that the significant involvement of institutional investors will have a positive influence on corporate behavior and decrease the chances of managers in profit management due to pressure from investor ownership to concentrate on the long term (Chen & Ma, 2017; Dimitrijevic et al., 2015), It proposes a negative relationship between institutional ownership and profit management (profit manipulation).

Leverage does not play a role in controlling financial fraud between foreign share ownership and financial fraud. Foreign investors need help monitoring corporate activities due to the important role of management in these activities. Agency theory causes the distribution of information asymmetrical between management and principals. However, leverage mediates between managerial stock ownership and financial fraud. The higher the manager's share ownership, the higher the company's leverage and fraudulent behavior. Although institutional ownership can monitor managers' decisions, including the company's capital structure, this study shows that institutional ownership only sometimes has an effect on the company's capital structure. Institutional ownership has not been able to provide optimal supervision of company management and has not been able to prevent financial fraud.

5. CONCLUSION

This research examines the relationship between ownership structure, leverage, and financial performance. Research findings show that foreign ownership does not significantly affect leverage, while managerial and institutional ownership has a significant influence. Leverage also significantly impacts financial fraud, with managerial ownership as a mediator. However, leverage does not mediate the relationship between foreign ownership, institutional ownership, and financial fraud. Investors must be careful when analyzing company performance because of the potential for information asymmetry, which can influence the analysis results. It is essential to carry out management supervision and control when disclosing financial information. This research requires further research, including qualitative research, to see the actual behavior of company ownership structures and economic activities.

This research contributes to the debate regarding corporate governance structures and debt that can potentially lead to financial fraud. The results of this research are essential for investors and management in determining the proportion of debt that can minimize fraud. Rates of return and management control are also crucial for financial transparency and future company targets. Additionally, managerial and institutional ownership can help control corporate oversight and prevent fraud. Regulators must also create financial transparency policies matching conditions to encourage foreign investors to invest in Indonesia. This research has data and time limitations, so it is recommended that data collection be more extensive and in-depth in the future.

REFERENCES

Achmad, T., Ghozali, I., & Pamungkas, I. D. (2022). Hexagon fraud: Detection of fraudulent financial reporting in state-owned enterprises Indonesia. *Economies, 10*(1), Article 13. https://doi.org/10.3390/economies10010013

Achmad, T., Ghozali, I., Helmina, M. R. A., Hapsari, D. I., & Pamungkas, I. D. (2022). Detecting fraudulent financial reporting using the fraud hexagon model: Evidence from the banking sector in Indonesia. *Economies, 11*(1), Article 5. https://doi.org/10.3390/economies11010005

Admati, A. R., Demarzo, P. M., Hellwig, M. F., & Pfleiderer, P. (2018). The leverage ratchet effect. *The Journal of Finance, 73*(1), 145–198. https://doi.org/10.1111/jofi.12588

Albart, N., Sinaga, B. M., Santosa, P. W., & Andati, T. (2020). The effect of corporate characteristics on capital structure in Indonesia. *Journal of Economics, Business, & Accountancy Ventura, 23*(1), 46–56. https://doi.org/10.14414/jebav.v23i1.2153

Alexander, N., & Hengky. (2017). Factors affecting earnings management in the Indonesian Stock Exchange. *Journal of Finance and Banking Review, 2*(2), 8–14. http://gatrenterprise.com/GATRJournals/JFBR_Vol2.2_2.html

AlHares, A., & AlBaker, Y. (2023). Corporate governance and effect in fintech: Evidence from Gulf Cooperation Council banking sector. *Corporate & Business Strategy Review, 4*(1), 99–111. https://doi.org/10.22495/cbsrv4i1art9

Alves, P., & Francisco, P. (2015). The impact of institutional environment on the capital structure of firms during recent financial crises. *The Quarterly Review of Economics and Finance, 57*, 129–146. https://doi.org/10.1016/j.qref.2014.12.001

An, Z., Chen, C., Li, D., & Yin, C. (2021). Foreign institutional ownership and the speed of leverage adjustment: International evidence. *Journal of Corporate Finance, 68*, Article 101966. https://doi.org/10.1016/j.jcorpfin.2021.101966

Andriani, K. F., Budiartha, K., Sari, M. M. R., & Widanaputra, A. A. G. P. (2022). Fraud pentagon elements in detecting fraudulent financial statement. *Linguistics and Culture Review, 6*(S1), 686–710. https://doi.org/10.21744/lingcure.v6nS1.2145

Anggraini, A., & Suranta, E. (2023). The effect of accrual earnings management, real earnings management, and institutional ownership on leverage. *Ilomata International Journal of Management, 4*(4), 617–631. https://doi.org/10.52728/ijjm.v4i4.957

Anisykurlillah, I., Yudo Jayanto, P., Mukhibad, H., & Widyastuti, U. (2020). Examining the role of sharia supervisory board attributes in reducing financial statement fraud by Islamic banks. *Banks and Bank Systems, 15*(3), 106–116. https://doi.org/10.21511/bbs.15(3).2020.10

Baldini, M. A. (2023). Risks of false accounting: Some reflections on the new regulation in Italy. *Risk Governance and Control: Financial Markets & Institutions, 13*(1), 62–69. https://doi.org/10.22495/rgcv13i1p5

Bamiatzi, V., Efthyvoulou, G., & Jabbour, L. (2017). Foreign vs domestic ownership on debt reduction: An investigation of acquisition targets in Italy and Spain. *International Business Review, 26*(5), 801–815. https://doi.org/10.1016/j.ibusrev.2017.01.008

Bebchuk, L. A., Cohen, A., & Hirst, S. (2017). The agency problems of institutional investors. *Journal of Economic Perspectives, 31*(3), 89–112. https://doi.org/10.1257/jep.31.3.89

Beneish, M. D. (1999). The detection of earnings manipulation. *Financial Analysts Journal, 55*(5), 24–36. https://doi.org/10.2469/faj.v55.n5.2296

Bin Hidthiir, M. H., Basheer, M. F., & Hassan, S. G. (2019). The simultaneity of corporate financial decisions under different levels of managerial ownership: A case of Pakistani listed firms. *Research in World Economy, 10*(2), 147–159. https://doi.org/10.5430/rwe.v10n2p147

Boone, A. L., & White, J. T. (2015). The effect of institutional ownership on firm transparency and information production. *Journal of Financial Economics, 117*(3), 508–533. https://doi.org/10.1016/j.jfineco.2015.05.008

Bryant, M., & Sigurjonsson, T. O. (2023). An examination of 'institutional ascription': Capture of the gatekeepers of accounting veracity. *Risk Governance and Control: Financial Markets & Institutions, 13*(4), 30–39. https://doi.org/10.22495/rgcv13i4p3

Busch, T., Bruce-Clark, P., Derwall, J., Eccles, R., Hebb, T., Hoepner, A., Klein, C., Krueger, P., Paetzold, F., Scholtens, B., & Weber, O. (2021). Impact investments: A call for (re)orientation. *SN Business & Economics, 1*, Article 33. https://doi.org/10.1007/s43546-020-00033-6

Bushee, B. J., & Goodman, T. H. (2007). Which institutional investors trade based on private information about earnings and returns? *Journal of Accounting Research, 45*(2), 289–321. https://doi.org/10.1111/j.1475-679X.2007.00234.x

Chaudhary, P. (2021). Do institutional investors non-linearly affect the capital structure of firms: Evidence from India. *Journal of Commerce & Accounting Research, 10*(3), 52–63. http://publishingindia.com/downloads/6393.pdf

Chen, S., & Ma, H. (2017). Peer effects in decision-making: Evidence from corporate investment. *China Journal of Accounting Research, 10*(2), 167–188. https://doi.org/10.1016/j.cjar.2016.11.002

Chen, Y.-J., Liou, W.-C., Chen, Y.-M., & Wu, J.-H. (2019). Fraud detection for financial statements of business groups. *International Journal of Accounting Information Systems, 32*, 1–23. https://doi.org/10.1016/j.accinf.2018.11.004

Darsani, P. A., & Sukartha, I. M. (2021). The effect of institutional ownership, profitability, leverage and capital intensity ratio on tax avoidance. *American Journal of Humanities and Social Sciences Research, 5*(1), 13–22. https://www.ajhssr.com/wp-content/uploads/2021/01/C215011322.pdf

Dimitrijevic, D., Milovanovic, V., & Stancic, V. (2015). The role of a company's internal control system in fraud prevention. *E-Finanse, 11*(3), 34–44. https://doi.org/10.1515/fiqf-2016-0117

Fahmi. (2023). The openness of corporate law in supervising commodity futures trading in emerging markets. *Corporate Law & Governance Review, 5*(1), 63–70. https://doi.org/10.22495/clgrv5i1p5

Felicya, C., & Sutrisno, P. (2020). Pengaruh karakteristik perusahaan, struktur kepemilikan dan kualitas audit terhadap manajemen laba [The effect of company characteristics, ownership structure and audit quality on earnings management]. *Jurnal Bisnis dan Akuntansi, 22*(1), 129–138. https://doi.org/10.34208/jba.v22i1.678

Feng, Y., Hassan, A., & Elamer, A. A. (2020). Corporate governance, ownership structure and capital structure: Evidence from Chinese real estate listed companies. *International Journal of Accounting & Information Management, 28*(4), 759–783. https://doi.org/10.1108/IJAIM-04-2020-0042

Fitri, F. A., Syukur, M., & Justisa, G. (2019). Do the fraud triangle components motivate fraud in Indonesia? *Australasian Accounting, Business and Finance Journal, 13*(4), 63–72. https://doi.org/10.14453/aabfj.v13i4.5

Flannery, M. J. (2016). Stabilizing large financial institutions with contingent capital certificates. *The Quarterly Journal of Finance, 6*(2), Article 1650006. https://doi.org/10.1142/S2010139216500063

Freudenreich, B., Lüdeke-Freund, F., & Schaltegger, S. (2020). A stakeholder theory perspective on business models: Value creation for sustainability. *Journal of Business Ethics, 166*(1), 3–18. https://doi.org/10.1007/s10551-019-04112-z

Gupta, S., Yadav, S. S., & Jain, P. K. (2024). Impact of foreign ownership on leverage: A study of Indian firms. *Global Business Review, 25*(1), 51–67. https://doi.org/10.1177/0972150920927360

Handayani, J. R., Nurcahyono, N., Saadah, N., & Winarsih. (2023). Hexagon fraud: Detection of fraudulent financial statement in Indonesia. In *Proceedings of the International Conference on Business, Accounting, Banking, and Economics* (pp. 263–276). Atlantis Press. https://doi.org/10.2991/978-94-6463-154-8_24

Handoko, B. L., Hendra, E., & Anandita, B. (2019). Factors affecting fraudulent statement in forensic accounting perspective. *International Journal of Innovative Technology and Exploring Engineering, 9*(1), 28–32. https://doi.org/10.35940/ijitee.A3889.119119

Hanousek, J., Shamshur, A., & Tresl, J. (2019). Firm efficiency, foreign ownership and CEO gender in corrupt environments. *Journal of Corporate Finance, 59*, 344–360. https://doi.org/10.1016/j.jcorpfin.2017.06.008

Harahap, S. H. (2019). Analysis of the impact of managerial ownership, institutional ownership, firm size, leverage, profitability and sales growth toward earnings management in manufacturing companies listed on IDX in the 2015–2019 period. *International Journal of Research Publications, 69*(1), 273–286. https://ijrp.org/filePermission/fileDownlaod/4/e05325067a581753cd67d42e480c971e/1

Haroon, O., & Zaka, M. (2023). A review of corporate governance effectiveness: Developed vs emerging markets. *Corporate Law & Governance Review, 5*(1), 38–62. https://doi.org/10.22495/clgrv5i1p4

Hasanuddin, R., Taufan, M. Y., Salim, A., Muslim, M., Putra, A. H. P. K. (2021). The effect of firm size, debt, current ratio, and investment opportunity set on earnings quality: An empirical study in Indonesia. *The Journal of Asian Finance, Economics and Business, 8*(6), 179–188. https://doi.org/10.13106/jafeb.2021.vol8.no6.0179

Hasnan, S., Mohd Razali, M. H., & Mohamed Hussain, A. R. (2020). The effect of corporate governance and firm-specific characteristics on the incidence of financial restatement. *Journal of Financial Crime, 28*(1), 244–267. https://doi.org/10.1108/JFC-06-2020-0103

Hass, L. H., Tarsalewska, M., & Zhan, F. (2016). Equity incentives and corporate fraud in China. *Journal of Business Ethics, 138*(4), 723–742. https://doi.org/10.1007/s10551-015-2774-2

Hastiarto, O., Umar, H., & Indriani, A. (2021). The effect of liquidity, leverage, and profitability on financial distress with audit committee as a moderating variable. *International Journal of Current Science Research and Review, 4*(10), 1304–1315. https://doi.org/10.47191/ijcsrr/V4-i10-13

Huang, W., & Zhu, T. (2015). Foreign institutional investors and corporate governance in emerging markets: Evidence of a split-share structure reform in China. *Journal of Corporate Finance, 32*, 312–326. https://doi.org/10.1016/j.jcorpfin.2014.10.013

Hurley, J., Morris, S., & Portelance, G. (2019). Examining the debt implications of the Belt and Road Initiative from a policy perspective. *Journal of Infrastructure, Policy and Development, 3*(1), 139–175. https://doi.org/10.24294/jipd.v3i1.1123

Iatridis, G. E. (2016). Financial reporting language in financial statements: Does pessimism restrict the potential for managerial opportunism? *International Review of Financial Analysis, 45*, 1–17. https://doi.org/10.1016/j.irfa.2016.02.004

Ikbal, M., Irwansyah, I, Paminto, A., Ulfah, Y., & Darma, D. C. (2020). Financial intelligence: Financial statement fraud in Indonesia. *Journal of Intelligence Studies in Business, 10*(3), 80–95. https://doi.org/10.37380/jisib.v10i3.640

Indrati, M., Hermanto, H., Purwaningsih, E., Agustinah, W., & Sarikha, A. (2021). Corporate governance mechanisms and possible financial statements containing fraud. *Budapest International Research and Critics Institute Journal, 4*(4), 8609–8621. https://www.bircu-journal.com/index.php/birci/article/view/2805

Indriyanto, E., Giyanti, Karini, Syamsuddin, & Arifuddin. (2021). Determinants of financial statement fraud: Research fraud diamond theory (Empirical study on manufacturing company listed on the stock exchange). *Psychology and Education Journal, 58*(1), 302–308. https://doi.org/10.17762/pae.v58i1.776

Jaswadi, J., Purnomo, H., & Sumiadji, S. (2024). Financial statement fraud in Indonesia: A longitudinal study of financial misstatement in the pre- and post-establishment of financial services authority. *Journal of Financial Reporting and Accounting, 22*(3), 634–652. https://doi.org/10.1108/JFRA-10-2021-0336

Jaya, I. M. L. M., Agustia, D., & Nasution, D. (2021). Impact of intellectual capital on earnings management: Financial statement fraud in Indonesia. *Journal of Economics, Finance and Management Studies, 4*(6), 723–733. https://doi.org/10.47191/jefms/v4-i6-07

Jha, A. (2019). Financial reports and social capital. *Journal of Business Ethics, 155*(2), 567–596. https://doi.org/10.1007/s10551-017-3495-5

Jian, N., Keung, C. L., & Li, Q. (2017). Capacity decisions with debt financing: The effects of agency problem. *European Journal of Operational Research, 261*(3), 1158–1169. https://doi.org/10.1016/j.ejor.2017.02.042

Jiang, X., & Yuan, Q. (2018). Institutional investors' corporate site visits and corporate innovation. *Journal of Corporate Finance, 48*, 148–168. https://doi.org/10.1016/j.jcorpfin.2017.09.019

Khamainy, A. H., Ali, M., & Setiawan, M. A. (2022). Detecting financial statement fraud through new fraud diamond model: The case of Indonesia. *Journal of Financial Crime, 29*(3), 925–941. https://doi.org/10.1108/JFC-06-2021-0118

Khuong, N. V., Liem, N. T., & Minh, M. T. H. (2020). Earnings management and cash holdings: Evidence from energy firms in Vietnam. *Journal of International Studies, 13*(1), 247–261. https://doi.org/10.14254/2071-8330.2020/13-1/16

Kiliç, M., Kuzey, C., & Uyar, A. (2015). The impact of ownership and board structure on corporate social responsibility (CSR) reporting in the Turkish banking industry. *Corporate Governance, 15*(3), 357–374. https://doi.org/10.1108/CG-02-2014-0022

Kostyuk, A. (2003). Board practices: An international review. *Corporate Ownership & Control, 1*(1), 102–111. https://doi.org/10.22495/cocv1i1p7

Lemma, T. T., Negash, M., Mlilo, M., & Lulseged, A. (2018). Institutional ownership, product market competition, and earnings management: Some evidence from international data. *Journal of Business Research, 90*, 151–163. https://doi.org/10.1016/j.jbusres.2018.04.035

Lin, H.-P., Walker, M. M., & Wang, Y.-J. (2020). Shareholder wealth effects of corporate fraud: Evidence from Taiwan's securities investor and futures trader protection act. *International Review of Economics & Finance, 65*, 222–243. https://doi.org/10.1016/j.iref.2019.09.010

Lumadi, K. A., & Rusgowanto, F. H. (2023). The effects of Beneish's M-score model and financial ratio analyis on fraudulent financial statement indications. *E3S Web of Conferences, 388*, Article 01015. https://doi.org/10.1051/e3sconf/202338801015

Lumapow, L. S. (2018). The influence of managerial ownership and firm size on debt policy. *International Journal of Applied Business and International Management, 3*(1), 47–56. https://www.neliti.com/publications/397383/the-influence-of-managerial-ownership-and-firm-size-on-debt-policy

Margana, M. Y. R., & Wiagustini, N. L. P. (2019). The effect of institutional ownership, managerial ownership, and firm age on capital structure of consumer goods companies listed on Indonesia Stock Exchange. *American Journal of Humanities and Social Sciences Research, 3*(11), 167–175. https://www.ajhssr.com/wp-content/uploads/2019/11/X19311167175.pdf

Maulidi, A. (2020). When and why (honest) people commit fraudulent behaviours? Extending the fraud triangle as a predictor of fraudulent behaviours. *Journal of Financial Crime, 27*(2), 541–559. https://doi.org/10.1108/JFC-05-2019-0058

Mavengere, K. (2015). Predicting corporate bankruptcy and earnings manipulation using the Altman Z-score and Beneish M score. The case of Z manufacturing firm in Zimbabwe. *International Journal of Management Sciences and Business Research, 4*(10), 8–14. https://ssrn.com/abstract=2739676

McNulty, T., & Nordberg, D. (2016). Ownership, activism and engagement: Institutional investors as active owners. *Corporate Governance: An International Review, 24*(3), 346–358. https://doi.org/10.1111/corg.12143

Medlar, I., & Umar, H. (2023). Fraud diamond analysis of financial statement fraud. *Enrichment: Journal of Management, 13*(3), 2132–2144. https://www.enrichment.iocspublisher.org/index.php/enrichment /article/view/1572

Mukhibad, H., Jayanto, P. Y., & Anisykurlillah, I. (2021). Islamic corporate governance and financial statements fraud: A study of Islamic banks [Special issue]. *Journal of Governance and Regulation, 10*(2), 361–368. https://doi.org/10.22495/jgrv10i2siart16

Nalarreason, K. M., T, S., & Mardiati, E. (2019). Impact of leverage and firm size on earnings management in Indonesia. *International Journal of Multicultural and Multireligious Understanding, 6*(1), 19–24. https://doi.org/10.18415/ijmmu.v6i1.473

Nazir, M. S., & Afza, T. (2018). Does managerial behavior of managing earnings mitigate the relationship between corporate governance and firm value? Evidence from an emerging market. *Future Business Journal, 4*(1), 139–156. https://doi.org/10.1016/j.fbj.2018.03.001

Ndofor, H. A., Wesley, C., & Priem, R. L. (2015). Providing CEOs with opportunities to cheat: The effects of complexity-based information asymmetries on financial reporting fraud. *Journal of Management, 41*(6), 1774–1797. https://doi.org/10.1177/0149206312471395

Nene, P. R. (2024). Can artificial intelligence replace assurance, governance and risk management professionals? *Risk Governance and Control: Financial Markets & Institutions, 14*(2), 25–31. https://doi.org/10.22495 /rgcv14i2p3

Nguyen, T., Nguyen, A., Locke, S., & Reddy, K. (2017). Does the human capital of board directors add value to firms? Evidence from an Asian market. *Cogent Economics & Finance, 5*(1), Article 1385439. https://doi.org/10.1080/23322039.2017.1385439

Nurdiniah, D., Oktapriana, C., Meita, I., & Yanti, M. D. (2021). Impact of leverage and firm size on earnings persistence with managerial ownership as moderating variables. *European Journal of Business & Management Research, 6*(5), 132–139. https://doi.org/10.24018/ejbmr.2021.6.5.1080

Nyakarimi, S. (2022). Probable earning manipulation and fraud in banking sector. Empirical study from East Africa. *Cogent Economics & Finance, 10*(1), Article 2083477. https://doi.org/10.1080/23322039.2022.2083477

O'Callaghan, S., Ashton, J., & Hodgkinson, L. (2018). Earnings management and managerial ownership in private firms. *Journal of Applied Accounting Research, 19*(4), 648–668. https://doi.org/10.1108/JAAR-11-2017-0124

Oyerogba, E. O. (2021). Forensic auditing mechanism and fraud detection: The case of Nigerian public sector. *Journal of Accounting in Emerging Economies, 11*(5), 752–775. https://doi.org/10.1108/JAEE-04-2020-0072

Phuong, H. M., & An, N. T. H. (2020). The impact of board structure on financial leverage of Vietnamese listed firms. *Dalat University Journal of Science, 10*(4), 74–98.

Porter, M. E., & Kramer, M. R. (2011). Creating shared value: How to reinvent capitalism — And unleash a wave of innovation and growth. *Harvard Business Review* (January–February). https://hbr.org/2011/01/the-big-idea-creating-shared-value

Putra, W. M. (2019). Analysis of financial fraud using the fraud diamond model with corporate governance as the moderating variable. In *Proceedings of the 5th International Conference on Accounting and Finance* (pp. 163–169). Atlantis Press. https://doi.org/10.2991/icaf-19.2019.27

Rahmawati, A., Moeljadi, M., Djumahir, & Sumiati. (2018). The effects of managerial ownership, leverage, dividend policy in minimizing agency problem. *Investment Management and Financial Innovations, 15*(4), 273–282. https://doi.org/10.21511/imfi.15(4).2018.22

Ramalingegowda, S., Utke, S., & Yu, Y. (2021). Common institutional ownership and earnings management. *Contemporary Accounting Research, 38*(1), 208–241. https://doi.org/10.1111/1911-3846.12628

Ratmono, D., Darsono, D., & Cahyonowati, N. (2020). Financial statement fraud detection with Beneish M-score and Dechow F-score model: An empirical analysis of fraud pentagon theory in Indonesia. *International Journal of Financial Research, 11*(6), 154–164. https://doi.org/10.5430/ijfr.v11n6p154

Roszkowska, P. (2021). Fintech in financial reporting and audit for fraud prevention and safeguarding equity investments. *Journal of Accounting & Organizational Change, 17*(2), 164–196. https://doi.org/10.1108/JAOC-09-2019-0098

Sadjiarto, A., Monica, C. C., & Budiarti, W. R. (2019). Ownership structure and earnings management in Indonesian listed banks. *Journal of Economics and Business, 2*(2), 261–272. https://doi.org/10.31014 /aior.1992.02.02.85

Safiq, M., & Seles, W. (2019). The effects of external pressures, financial targets and financial distress on financial statement fraud. In *Proceedings of the 5th Annual International Conference on Accounting Research* (Vol. 73, pp. 57–61). https://doi.org/10.2991/aicar-18.2019.13

Sahasranamam, S., Arya, B., & Sud, M. (2020). Ownership structure and corporate social responsibility in an emerging market. *Asia Pacific Journal of Management, 37*(4), 1165–1192. https://doi.org/10.1007/s10490-019-09649-1

Saleem Salem Alzoubi, E. (2016). Ownership structure and earnings management: Evidence from Jordan. *International Journal of Accounting & Information Management, 24*(2), 135–161. https://doi.org/10.1108/IJAIM-06-2015-0031

Saleh, M. M. A., Aladwan, M., Alsinglawi, O., & Saleh, H. M. I. (2021). Predicting fraudulent financial statements using fraud detection models. *Academic of Strategic Management Journal, 20*(3), 1–17. https://www.researchgate.net/publication/352837913_PREDICTING_FRAUDULENT_FINANCIAL_STATEMEN TS_USING_FRAUD_DETECTION_MODELS

Samo, A. H., & Murad, H. (2019). Impact of liquidity and financial leverage on firm's profitability — An empirical analysis of the textile industry of Pakistan. *Research Journal of Textile and Apparel, 23*(4), 291–305. https://doi.org/10.1108/RJTA-09-2018-0055

Schaltegger, S., Hörisch, J., & Freeman, R. E. (2019). Business cases for sustainability: A stakeholder theory perspective. *Organization & Environment, 32*(3), 191–212. https://doi.org/10.1177/1086026617722882

Setiawan, M. A. (2019). The influence of pressure in detecting financial statement fraud. In *Proceedings of the 3rd International Conference on Accounting, Management and Economics 2018* (Vol. 92, pp. 435–441). Atlantis Press. https://doi.org/10.2991/icame-18.2019.47

Settembre-Blundo, D., González-Sánchez, R., Medina-Salgado, S., & García-Muiña, F. E. (2021). Flexibility and resilience in corporate decision making: A new sustainability-based risk management system in uncertain times. *Global Journal of Flexible Systems Management, 22*, 107–132. https://doi.org/10.1007/s40171-021-00277-7

Sewpersadh, N. S. (2022). An econometric analysis of financial distress determinants from an emerging economy governance perspective. *Cogent Economics & Finance, 10*(1), Article 1978706. https://doi.org/10.1080/23322039.2021.1978706

Soepriyanto, G., Meiryani, Ikhsan, R. B., & Rickven, L. (2022). Analysis of countercyclical policy factors in the era of the COVID-19 pandemic in financial statement fraud detection of banking companies in Indonesia. *Sustainability, 14*(16), Article 10340. https://doi.org/10.3390/su141610340

Sridharan, V. G., Navissi, F., & Kostyuk, A. (2007). Why do some senior managers inflate firms' reported earnings? Economic causes and potential solutions. *Corporate Ownership & Control, 5*(1–3), 414–417. https://doi.org/10.22495/cocv5i1c3p1

Sukmadilaga, C., Winarningsih, S., Handayani, T., Herianti, E., & Ghani, E. K. (2022). Fraudulent financial reporting in ministerial and governmental institutions in Indonesia: An analysis using hexagon theory. *Economies, 10*(4), Article 86. https://doi.org/10.3390/economies10040086

Sun, J., Ding, L., Guo, J. M., & Li, Y. (2016). Ownership, capital structure and financing decision: Evidence from the UK. *The British Accounting Review, 48*(4), 448–463. https://doi.org/10.1016/j.bar.2015.04.001

Svabova, L., Kramarova, K., Chutka, J., & Strakova, L. (2020). Detecting earnings manipulation and fraudulent financial reporting in Slovakia. *Oeconomia Copernicana, 11*(3), 485–508. https://doi.org/10.24136/oc.2020.020

Tang, X., Gu, Y., Weng, R., & Ho, K. (2022). Confucianism and corporate fraud. *International Journal of Emerging Markets, 17*(6), 1425–1445. https://doi.org/10.1108/IJOEM-12-2019-1004

Tarjo, T., Anggono, A., Yuliana, R., Prasetyono, P., Syarif, M., Alkirom Wildan, M., & Syam Kusufi, M. (2022). Corporate social responsibility, financial fraud, and firm's value in Indonesia and Malaysia. *Heliyon, 8*(12), Article e11907. https://doi.org/10.1016/j.heliyon.2022.e11907

Tee, C. M. (2018). Political connections, institutional monitoring and the cost of debt: Evidence from Malaysian firms. *International Journal of Managerial Finance, 14*(2), 210–229. https://doi.org/10.1108/IJMF-07-2017-0143

Tsang, A., Xie, F., & Xin, X. (2019). Foreign institutional investors and corporate voluntary disclosure around the world. *The Accounting Review, 94*(5), 319–348. https://doi.org/10.2308/accr-52353

Tulcanaza-Prieto, A. B., Lee, Y., & Koo, J.-H. (2020). Effect of leverage on real earnings management: Evidence from Korea. *Sustainability, 12*(6), Article 2232. https://doi.org/10.3390/su12062232

Udin, S., Khan, M. A., & Javid, A. Y. (2017). The effects of ownership structure on likelihood of financial distress: An empirical evidence. *Corporate Governance, 17*(4), 589–612. https://doi.org/10.1108/CG-03-2016-0067

Ugbah, A. A., Kanene, K. C., & Ofor, N. T. (2023). Firm characteristics and fraudulent financial reporting: An application of the firm characteristics and fraudulent financial reporting: An application of the M-score model in Nigeria and Kenya. *Journal of Accounting and Financing Management, 9*(10), 34–50. https://www.researchgate.net/publication/375415573_Firm_Characteristics_and_Fraudulent_Financial_Reporting_An_Application_of_the_M-Score_Model_in_Nigeria_and_Kenya

Utami, E. R., & Pusparini, N. O. (2019). The analysis of fraud pentagon theory and financial distress for detecting fraudulent financial reporting in banking sector in Indonesia (Empirical study of listed banking companies on Indonesia Stock Exchange in 2012–2017). In *Proceedings of the 5th International Conference on Accounting and Finance* (pp. 60–65). Atlantis Press. https://doi.org/10.2991/icaf-19.2019.10

Utami, S. S., Rofi'ah, Avira, S., & Setyaningsih, E. (2023). The influence of institutional ownership, managerial ownership, firm size, and leverage on financial distress in transportation and logistics sector companies listed on the Indonesian Stock Exchange (BEI) 2020–2022. *Endless: International Journal of Future Studies, 6*(3), 193–205. https://doi.org/10.54783/endlessjournal.v6i3.215

Utami, S. W., & Dirman, A. (2022). The effect of institutional ownership, managerial ownership, liquidity, and leverage on financial distress. *Asian Journal of Economics, Business and Accounting, 22*(21), 170–181. https://doi.org/10.9734/ajeba/2022/v22i2130700

Utami, W., Nugroho, L., Mappanyuki, R., & Yelvionita, V. (2020). Early warning fraud determinants in banking industries. *Asian Economic and Financial Review, 10*(6), 604–627. https://doi.org/10.18488/journal.aefr.2020.106.604.627

Utomo, S. T., & Mawardi, W. (2023). The funding burden in detecting financial fraud. *Management Analysis Journal, 12*(3), 332–342. https://doi.org/10.15294/maj.v12i3.74405

Uttari Premananda, N. L. P., Budiartha I. K., Bambang Suprasto, H., & Nyoman Badera, I. D. (2019). Fraud diamond analysis in detecting fraudulent financial reporting (Study on Indonesian capital market). *International Journal of Sciences: Basic and Applied Research, 47*(2), 84–95. https://gssrr.org/index.php/JournalOfBasicAndApplied/article/view/10176/0

Valaskova, K., & Fedorko, R. (2021). Beneish M-score: A measure of fraudulent financial transactions in global environment? *SHS Web of Conferences, 92*, Article 02064. https://doi.org/10.1051/shsconf/20219202064

Vijayakumaran, S., & Vijayakumaran, R. (2019). Corporate governance and capital structure decisions: Evidence from Chinese listed companies. *The Journal of Asian Finance, Economics and Business, 6*(3), 67–79. https://doi.org/10.13106/jafeb.2019.vol6.no3.67

Weiss, J. W. (2021). *Business ethics: A stakeholder and issues management approach* (7th ed.). Berrett-Koehler Publishers.

Widyanto, E. A., Zulfikar, Sukma, E. I. S., Gayantri, N. I., Doniyatul, & Juniyari, S. L. (2022). Factors analysis that affecting unethic behavior and their impact on accounting fraud. In *Proceedings of the International Conference on Applied Science and Technology on Social Science 2021* (Vol. 647, pp. 729–736). Atlantis Press. https://doi.org/10.2991/assehr.k.220301.120

Yiu, D. W., Wan, W. P., & Xu, Y. (2019). Alternative governance and corporate financial fraud in transition economies: Evidence from China. *Journal of Management, 45*(7), 2685–2720. https://doi.org/10.1177/0149206318764296

Yuliandriani, D., Yanto, H., Baroroh, N., & Hajawiyah, A. (2023). The influence of institutional ownership, leverage, liquidity, and firm size on company's financial distress. In *Proceedings of the 5th International Conference on Economics, Business and Economic Education Science*. https://doi.org/10.4108/eai.9-8-2022.2338631

Zaid, M. A. A., Wang, M., Abuhijleh, S. T. F., Issa, A., Saleh, M. W. A., & Ali, F. (2020). Corporate governance practices and capital structure decisions: The moderating effect of gender diversity. *Corporate Governance, 20*(5), 939–964. https://doi.org/10.1108/CG-11-2019-0343