

How to Detect Financial Shenanigans? Evidence from The Healthcare Sector in Indonesia

Eklamsia Sakti^{1,a*}, Enggal Sari Maduratna^{1,a}

¹ Healthcare Administration Department, Sekolah Tinggi Ilmu Kesehatan Ngudia Husada Madura
45 R E Martadinata, Bangkalan 69116, Indonesia

e-mail: ^a eklams000@gmail.com

* Corresponding Author

Abstract

Backgrounds: This research aims to empirically test the ability of financial ratios to detect financial shenanigans during the Covid-19 pandemic. **Objectives:** The objects of this research are healthcare companies listed on the Indonesia Stock Exchange (IDX) between 2017 and 2022. **Methods:** The research sample consisted of 72 financial report data. The data analysis technique uses logistic regression with IMB SPSS 25 statistical tool. Detection proxies use return on assets (ROA), revenues quality ratio (RQR) and Real Earnings Management (REM). The proxies for financial shenanigans are the Beneish M-score model and the Dechow F-score model. **Results:** The results of this research are (1) ROA is significant for F score, (2) RQR is significant for F score, (3) REM is significant for M score. **Implications:** The main conclusion of This research is that financial ratios help detect financial shenanigans that occurred during the Covid-19 pandemic. **Keywords:** Financial Shenanigans; Detection; Covid-19; Healthcare Company

JEL Classification: M41

Article History: Received: October, 25th 2023 Revised: April, 19th 2024 Accepted: December, 1st 2024
Published: April, 3rd 2025

How to cite: Sakti, E & Maduratna, E.S.(2025). How to Detect Financial Shenanigans? Evidence from The Healthcare Sector in Indonesia. *Akrual: Jurnal Akuntansi (JA)*. 16(2): 194-204. DOI: <https://doi.org/10.26740/jaj.v16n2.p.194-204>

Conflict of Interest Statement: **There is no conflict of interest in the articles resulting from this research.**

INTRODUCTION

Recently, the issue of financial shenanigans continues to gain momentum. Financial shenanigans themselves are tricks used by mega-corporations such as Enron that publish fraudulent financial reports to embellish financial reports (Schilit, Perler, & Englehart, 2018). Association of Certified Fraud Examiners (ACFE) (2022) reports that financial statement fraud resulted in losses as high as \$593,000. Meanwhile, in Indonesia, markup of financial reports is one of the most common systems (ICW, 2023). Based on this phenomenon, financial shenanigans have caused huge losses to the world.

At the same time, several researchers have managed to discover that indications of financial shenanigans occur in the telecommunications sector (Goel, 2014), micro, small and medium enterprises (Halilbegovic, Celebic, Cero, Buljubasic, & Mekic, 2020), technology (Mohammed, Salih, & Inguva, 2015), investment (Christian, Friendly, Crisitiano, Lim, & Maskat, 2021) and energy (Christian, Angelica, Fiorentini, Harini, & Susanti, 2021). Meanwhile, in Indonesia, financial shenanigans also often occur (Hasan, Omar, Barnes, &

Handley-Schachler, 2017). Some publications reveal that companies in the oil and gas (Sakti, Tarjo, Prasetyono, & Riskiyadi, 2020), mining (Tarjo et al., 2023), real estate (Christian et al., 2023), technology (Christian et al., 2022), aviation (Gulo & Setyawati, 2023) and manufacturing (Salim, Siswanto, Wijaya, & Angela, 2021). Based on previous results, many sectors were studied, but the healthcare sector was not affected.

The Covid-19 pandemic phenomenon may be evidence of the potential for financial shenanigans in the healthcare sector. Research by Rababah, Al-Haddad, Sial, Chunmei, & Cherian (2020) found a decline in financial performance in China. In the United States, there is debate that the pandemic caused losses (Colenda, Applegate, Reifler, & Blazer, 2020), while in reality it generated profits (Khullar, Bond, & Schpero, 2020). . In India, many companies have experienced an improvement in their financial performance, resulting in an increase in the share value of healthcare companies (Chaudhary, Bakhshi, & Gupta, 2020). Meanwhile, in Indonesia, the pandemic is a special blessing for the health sector (Alisyah & Susilowati, 2022; Devi, Warasniasih, & Masdiantini, 2020). This significant increase simply by taking advantage of the pandemic is what red flag financial shenanigans are all about.

The real evidence of the practice of financial shenanigans that take advantage of an event is IBM, where IBM took advantage of an event to abnormally increase its revenue (Schilit et al., 2018). Meanwhile, Microsoft takes advantage of an event's increased profits by smoothing revenue, so its profits remain stable and save its profits. On the other hand, healthcare companies have also been detected engaging in financial shenanigans, such as Valeant. Valeant exploited a phenomenon to conduct financial shenanigans such as revenue manipulation, deliberate policy changes, production cost manipulation, and false sales in order to increase company profits (Grove & Clouse, 2017). Merck & Co conducted financial shenanigans by moving assets around to generate small costs and large profits (Zorzi, 2022). In another case, Cardinal Health and Cephalon engaged in financial shenanigans to maximize their cash flow so they could hide fraud within the revenue department (Dimitrijevic, 2015). So, the pandemic could be one of the incentives for healthcare companies to commit financial shenanigans. Based on documented cases in the healthcare industry, financial shenanigans occur in four areas: unreasonable revenue increases, false revenues, incorrect production costs, and cash flow manipulation.

There are many techniques to detect financial shenanigans, such as financial ratios (Dalnial, Kamaluddin, Sanusi, & Khairuddin, 2014), fraud theory (Tarjo, Anggono, & Sakti, 2021), earnings manipulation shenanigans (Sakti et al., 2020), M-score (Tarjo & Herawati, 2015), F-score (Dechow, Ak, Sun, & Wang, 2013), accrual earnings management and real earnings management (Tarjo, Anggono, Prasetyono, Yuliana, & Sakti, 2022) and cash flow shenanigans (Tarjo et al., 2023). For this reason, this research will use two approaches, namely accrual-based and cash-based detection to detect fraudulent financial statements in the healthcare sector.

This research will use financial ratios to detect financial shenanigans. The financial ratios used are Return on Assets (ROA), Revenue Quality Ratio (RQR) and Real Earnings Management (REM). ROA works to see the increase in revenue and profit (Demetriades & Owusu-Agyei, 2022) recorded during the period 2017-2022. Additionally, the RQR helps detect the potential for false revenue (Goel, 2014). This is possible thanks to the sharp increase in income during the pandemic. Meanwhile, the risk of recording false revenue is



also high post-pandemic as healthcare companies experience a decline in performance once the pandemic ends. Finally, REM works to detect financial shenanigans in cash flow and production costs. Cash flow is a sign of whether a company is engaged in financial shenanigans, as high revenue will affect operational cash flow performance (Dimitrijevic, 2015). If there are operating cash flow issues while recording high revenues, then there is a red flag for financial shenanigans (Rahman, Sulaiman, Fadel, & Kazemian, 2016). Apart from this, the potential for financial shenanigans is also high in terms of production costs (Md Nasir, Ali, Razzaque, & Ahmed, 2018), as the decline in income after the pandemic will impact the increase in production costs. production, which will result in red flag financial shenanigans. Therefore, this research aims to empirically test the influence of ROA, RQR and REM on financial shenanigans.

The research gap lies in the debate that has taken place in previous research, including ROA, RQR and REM. Several previous studies support the influence of ROA (Alkhyoon, Abbaszadeh, & Zadeh, 2023; Ratmono, Darsono, & Cahyonowati, 2020), RQR (Grove & Basilico, 2011; Schilit et al., 2018), and REM (Irwandi, Ghozali, Faisal, & Pamungkas, 2019; Priscilia & Trisnawati, 2023) towards financial shenanigans. At the same time, some studies reject these results, because ROA (Narsa, Afifa, & Wardhaningrum, 2023), RQR (Goel, 2013), and REM (Li, Nie, Xiang, & Djajadikerta, 2018) have no effect on financial shenanigans. This shortcoming prompted researchers to retest these ratios. The novelty of this research is to combine ratios linked to the accrual base (ROA, RQR) and the cash base (REM). Apart from this, the financial shenanigans proxy uses two proxies, namely Beneish M-score (Hasan et al., 2017) and Dechow F-score (Tarjo et al., 2023). The latest news is that this research was carried out in a healthcare company. This election was due to the pandemic which had just finished hitting Indonesia and this sector was shaken the most. Furthermore, research on the detection of financial shenanigans in the health sector is still rarely carried out.

The research contributions are divided according to points of view, namely theoretical and practical. Theoretically, this research provides additional empirical literature regarding the detection of financial shenanigans. Apart from this, researchers provide users of financial reports with insight into the practice of financial shenanigans in the healthcare sector. In practical terms, the research results serve as a warning to users of financial reports not to be fooled by the tricks of healthcare companies. Apart from this, auditors can also use this method to detect financial shenanigans at an early stage and reduce bias in opinion taking. The final contribution of this study lies in research opportunities.

RESEARCH METHOD

The objects of this research are all companies in the healthcare sector listed on the Indonesian Stock Exchange (IDX). The sample selection technique uses purposive sampling. The criteria for companies used as research samples are healthcare companies listed on the IDX between 2017 and 2022, reporting financial reports consistently during the research year, financial reports using the rate rupee exchange rate and providing the data needed to measure the research variables. Based on the results of purposive sampling, this research used a sample of 72 financial report data (12 companies*6 years).

This research has four independent variables (ROA, earnings quality ratio and REM (discretionary cash flow and discretionary production costs) and two dependent variables

(Beneish M score and Dechow F score). ROA functions to determine fluctuations in revenue and profits reported by the company (Demetriades & Owusu-Agyei, 2022). The formula for calculating ROA is net profit divided by total assets. Additionally, the RQR helps detect anomalies in revenues increases and can predict false revenues recording (Schilit et al., 2018). To calculate the RQR by adding or subtracting revenue from changes in receivables divided by revenue (Grove & Basilico, 2011). Finally, REM uses two proxies, namely cash flow and production costs. The cash flow model works to see the manipulation of earnings from cash flow (Roychowdhury, 2006). The formula for the cash flow model is:

$$CFO_{it}/A_{it-1} = \alpha_0 + \alpha_1(1/A_{it-1}) + \beta_1(Sale_{it}/A_{it-1}) + \beta_2(\Delta Sale_{it}/A_{it-1}) + \varepsilon_{it}$$

Note: CFO: operating cash flow of company i in period t; Sale: sales of company i during period t; Δ Sale: change in turnover of company i during period t; A: total assets of company i during period t-1.

Meanwhile, the formula for discretionary production costs is:

$$PROD_{it}/A_{it-1} = \alpha_0 + \alpha_1(1/A_{it-1}) + \beta_1(Sale_{it}/A_{it-1}) + \beta_2(\Delta Sale_{it}/A_{it-1}) + \beta_3(\Delta Sale_{it-1}/A_{it-1})\varepsilon_{it}$$

Note: PROD: cost of goods sold and inventory growth of company i during period t.

In contrast, the dependent variable of this research is financial shenanigans. Proxies for financial shenanigans use the Beneish M-score (Hasan et al., 2017) and the Dechow F-score (Tarjo et al., 2023). However, for this dependent variable, fictitious values will be used. It is therefore necessary to have benchmarks for two proxies. The Beneish M-score model uses a reference value of -2.22. If the M value is greater than -2.22 then the company has a value of 1 (fraud), and vice versa (Beneish, 1999). The Beneish M-score model is based on research by Beneish (1999). The Beneish M-score consists of eight financial ratios with the following formula:

$$M = -4.84 + 0.92(DSRI) + 0.528(GMI) + 0.404(AQI) + 0.892(SGI) + 0.115(DEPI) - 0.172(SGAI) + 4.679(TATA) - 0.327(LEVI)$$

The second proxy financial shenanigan is the Dechow F-score. The F value can be measured by adding the ratio between the quality of assets and financial performance (Dechow et al., 2013). Meanwhile, Dechow's F-score uses a reference value of 1, which means that a company that has an F-value greater than 1 means that the company is indicated to have committed fraud (Dechow et al., 2013).

The data analysis technique uses logistic regression. Before testing the hypothesis, the researchers first performed descriptive statistical tests, Omnibus tests, Hosmer and Lemeshow tests, coefficient of determination tests, and prediction tests. Based on this analysis technique, the researchers developed the following research model:

$$M = \alpha_0 + \beta_1ROA + \beta_2RQR + \beta_3CFO + \beta_4PROD + e$$

$$F = \alpha_0 + \beta_1ROA + \beta_2RQR + \beta_3CFO + \beta_4PROD + e$$

Description: M: M score; F: F-score; ROA: return on assets; RQR: revenues quality ratio; CFO: discretionary operating cash flow; PROD: discretionary production costs.

RESULTS AND DISCUSSION

Descriptive statistical testing involves seeing a description of the research data. This overview also presents the company's performance during the period 2017-2022. For descriptive statistics, we only present results for minimum, maximum and average values.



According to the results of the descriptive statistical tests in Table 1, the companies in the sample engage in financial shenanigans on average. Based on the average value of variables F and M, it can be seen that the average value is more than 50%, which indicates that many companies engage in financial shenanigans.

In the detection variables section, namely ROA, RQR, CFO and PROD, there are indications of financial shenanigans. ROA has a fairly high maximum value, which means that there are several companies whose financial performance has increased significantly, but on the other hand, there are companies that have low performance even though there had a pandemic event. These results prove that there are quite large fluctuations, so there are warning signs in several companies. Additionally, the RQR has an average value of 1.021, which means that several companies deliberately recorded false revenue during the pandemic. Additionally, RQR values below 1 become reported financial shenanigans. CFO has an average value of 0.546, which means that companies in the healthcare industry have big problems with the company's operating cash flow because the value is greater than 0.1. Finally, the average business is facing discretionary production cost issues during the pandemic. These results are based on descriptive statistical tests on PROD which have an average value of $1.096 > 0.1$. Descriptive statistical results will be presented as follows:

Table 1. Table 1. Descriptive Statistics

Variable	N	Min	Max	Mean
F	72	0	1	0.75
M	72	0	1	0.63
ROA	72	-0.279	0.925	0.086
RQR	72	0.868	1.232	1.021
CFO	72	0.011	0.546	0.546
PROD	72	0.016	1.096	1.096

Source: IMB SPSS 25, 2023

Before proceeding with hypothesis testing, we carried out several stages of testing, such as Omnibust test, Hosmer and Lemeshow test, coefficient of determination and prediction test. From Table 2, the value of omnibust test is less than 0.05 in two models, i.e., ROA, RQR, CFO. And PROD simultaneously influences F and M. Moreover, in Hosmer and Lemeshow's test, the results show that model F has a value of 0.084 and model M is 0.592. This result is proof that the model is suitable to answer the research hypothesis because the value of Hosmer and Lemeshow is greater than 0.05. In the coefficient of determination test that uses the Nagelkerke R Square value, model F has a value of 0.369 or 36.9% and model M is 0.292 or 29.2%. Based on these results, this study still offers considerable research opportunities. Finally, the prediction test shows that model F has a predication value of 77.8% while model M is 73.6%. This prediction value proves that both models have fairly good predictions. We display Table 2 as follows:

Table 2. Logistic Regression Results

Variable/Note	F		M	
	Sig.	Exp(B)	Sig.	Exp(B)
ROA	0.003	5517433.822	0.799	
RQR	0.034	0.000	0.376	
CFO	0.194		0.029	8.233
PROD	0.120		0.004	0.251
Omnibust test		0.000		0.000
Hosmer and Lemeshow test		0.084		0.592
Nagelkerke R Square		0.369		0.292
Predicted		77.8%		73.6%

Source: IMB SPSS 25, 2023

Table 2 also shows the hypothesis testing results of this research. In model F, the variables ROA and RQR have a significance value less than 0.05, while CFO and PROD are greater than 0.05. Based on the F-model testing results, ROA and RQR can predict financial shenanigans as shown by the F-score. In contrast, the M-model produces different things. In Model M, ROA and RQR have significance greater than 0.05, while REM, which is represented by CFO and PROD, have significance less than 0.05. The results prove that CFO and PROD can predict financial shenanigans through M-score. Thus, the accumulation of both models is proof that this research can address all the proposed research hypotheses.

Our first conclusion is that ROA matters for financial shenanigans. The research results can prove this prediction, that in the F model, the significant value of ROA is less than the alpha value. Further evidence also appears in descriptive statistical tests, where quite large fluctuations in the ROA value are seen. These large fluctuations can be a red flag for financial shenanigans. These results prove that the first hypothesis is accepted.

This result is consistent with Goel (2014) prediction that fluctuations in net profit may be a sign that something is wrong in the business. Furthermore, Schilit et al. (2018) stated that ROA is suitable for predicting unreasonable increases in revenue, including the use of events. These results also align with research that shows ROA is important for financial shenanigans (Alkhyoon et al., 2023; Demetriades & Owusu-Agyei, 2022; Ratmono et al., 2020).

According to agency theory, agents can enjoy a secret increase in income by taking advantage of the pandemic event. The increase in performance during the pandemic, especially in the healthcare sector, is considered normal because the consumption demand for healthcare and hospital products is very high. On the other hand, some companies may take advantage of this event to abnormally increase their revenues through financial shenanigans. This argument is based on the results of descriptive statistics, in which several companies that previously did not record large profits, but during the pandemic suddenly recorded very high profits and revenues. The maximum value of the ROA variable is therefore very high. However, financial shenanigans can be detected by ROA, so ROA is suitable as an early detection method for financial shenanigans.

The second conclusion of this research is that the relationship between earnings quality and financial shenanigans is significant. This result is based on the results of logistic regression in model F, where the significance value of RQR with respect to F is less than the



alpha value. Another evidence is that some companies deliberately record false revenue, because the minimum value is less than 1, so there are indications of false revenue recording. The results of this research prove that the second hypothesis is accepted.

This conclusion is consistent with the arguments of Schilit et al. (2018) that the income quality ratio can detect fake income. Grove & Basilico (2011) stated that an RQR value less than 1 is a sign of false revenues recording. Descriptive statistical results support this argument that the earnings quality ratio is significant for financial shenanigans. From a theoretical point of view, the pandemic phenomenon represents a tremendous opportunity for managers to increase their income at a breakneck pace. On the other hand, managers hide the fact that they are committing financial shenanigans by recording false income. This phenomenon occurs because executives are under pressure from executives to be able to compete with their competitors, particularly in the healthcare sector. However, this tip can be discovered by comparing cash income with income. Cash income itself is the result of calculating income with changes in receivables. This formula can effectively display the initial revenue results that the business should receive. Therefore, the RQR is suitable as a tool for detecting financial shenanigans.

The end result is that CFO and PROD have significant influence on financial shenanigans. These results are based on the logistic regression results of Model M, where CFO and PROD have significance values less than alpha. Further evidence also emerged in descriptive statistical tests that healthcare companies had high CFO and PROD scores such that they were indicated to be committing fraudulent financial statements. Thus, we can prove that the third hypothesis has been successfully answered.

Our research findings are consistent with previous research that CFO (Irwandi et al., 2019; Rahman et al., 2016) and PROD (Md Nasir et al., 2018) can predict the occurrence of financial shenanigans. Roychowdhury (2006) explains that the CFO ratio can specifically detect anomalies in operational cash flows, while PROD is designed to detect manipulation of production costs. Schilit et al. (2018) assert that "look at operational cash flow to ensure the health of the company! ".

The pandemic phenomenon is a blessing in itself for healthcare companies. Managers take advantage of this phenomenon to increase their income, whether legally or not. Looking at descriptive statistics data, their methods tend to be illegal. This is what pushes them to commit financial shenanigans and create an asymmetry of information with the principal. However, this research proves that the wrong way of exploiting the pandemic phenomenon can be detected by looking at operating cash flow and production costs. Good performance should lead to an increase in the value of operating cash flow, but what happens is that their operating cash flow deteriorates. In accordance with this phenomenon, companies also have problems with production costs because demand is overloaded, leading to irregularities in production costs. This case became more and more visible once the pandemic passed, they have more and more problems with production costs, which is why the CFO and PROD ratios are adapted to detect financial shenanigans.

CONCLUSION

This research carried out research focused on detecting financial shenanigans during the Covid-19 pandemic in the healthcare sector. Based on the research results, ROA, Earnings Quality Ratio and REM (CFO and PROD) can detect financial shenanigans. First observation, ROA can predict the increase in manipulation of the company's revenue and net

profit. Second, the earnings quality ratio may reveal evidence of false earnings recording practices during the pandemic. Third, the CFO may predict a big increase in revenue, but this is not accompanied by good operating cash flow performance, leading to alarming financial shenanigans. Fourth, PROD can predict low production cost issues during and after the pandemic.

The research findings provide theoretical implications in the form of additional empirical literature regarding the practice of financial shenanigans during the Covid-19 pandemic that hit Indonesia. This research provides insight into how financial shenanigans are practiced between 2017 and 2022. On the other hand, the practical implication is to improve primary decision-making regarding business and investment policies. Additionally, these results prove that financial ratios (based on both accrual and cash accounting) can detect financial shenanigans to help auditors detect fraudulent financial statements. The final implication is to reduce the practice of financial shenanigans in Indonesia.

The limitation of this research is that it does not include several sectors that have been heavily impacted by the pandemic. Additionally, the financial ratios in the Cash Basis section use CFO only. Finally, this research does not divide the periods before, during and after the pandemic so that the research results can be more accurate for each period. The research suggestion is to add the manufacturing sector, as this sector is also affected and experiencing significant losses due to the pandemic. Then add new variables like cash flow shenanigans and conduct research based on the pandemic period.

ACKNOWLEDGMENT

We would like to thank the Chancellor of the Sekolah Tinggi Ilmu Kesehatan (STIKes) Ngudia Husada Madura for funding this research.

REFERENCES

- Alisyah, W. N., & Susilowati, L. (2022). Comparison of Financial Performance in Health Sector Companies Listed on the Indonesia Stock Exchange before and During the Covid-19 Pandemic. *Peer-Reviewed Article Jurnal Keuangan Dan Perbankan*, 26(1), 2443–2687. <https://doi.org/10.26905/jkdp.v26i1.6816>
- Alkhyoon, H., Abbaszadeh, M. R., & Zadeh, F. N. (2023). Organizational Risk Management and Performance from the Perspective of Fraud: A Comparative Study in Iraq, Iran, and Saudi Arabia. *Journal of Risk and Financial Management*, 16(3), 205. <https://doi.org/10.3390/jrfm16030205>
- Association of Certified Fraud Examiners (ACFE). (2022). Occupational Fraud 2022: A Report to the nations. *Association of Certified Fraud Examiners*, 1–96.
- Beneish, M. D. (1999). The Detection of Earnings Manipulation. *Financial Analysts Journal*, 5(June), 24–36.
- Chaudhary, R., Bakhshi, P., & Gupta, H. (2020). The performance of the Indian stock market during COVID-19. *Investment Management and Financial Innovations*, 17(3), 133–147. [https://doi.org/10.21511/imfi.17\(3\).2020.11](https://doi.org/10.21511/imfi.17(3).2020.11)
- Christian, N., Angelica, Fiorentini, F., Harini, N., & Susanti. (2021). ANALISIS



- FINANCIAL SHENANIGANS PADA PERUSAHAAN PEMBANGKIT LISTRIK DI LAOS. *Jurnal Pendidikan Akuntansi Indonesia*, 19(1), 84–97. <https://doi.org/10.21831/jpai.v19i1.40823>
- Christian, N., Fedelia, J., Te, J., Vellin, M., Bisnis, F., & Manajemen, D. (2023). Analisis Kasus Pt Hanson International Tbk Dengan Teknik Cash Flow Financial Shenanigan. *Jurnal Multilingual*, 3(3), 1412–4823.
- Christian, N., Friendly, F., Crisitiano, A., Lim, A., & Maskat, U. S. (2021). Perkembangan Akuntansi Singapura Serta Analisis Financial Shenanigans Pada Blumont Group Ltd. *Jurnal Ilmiah Akuntansi Dan Bisnis*, 6(1), 84–95. <https://doi.org/10.38043/jiab.v6i1.3069>
- Christian, N., Resnika, R., Yukie, H., Sitorus, R., Angelina, V., Sherly, S., & Febrika, F. (2022). Pendeteksian Fraudulent Financial Reporting Dengan Earnings Manipulation Financial Shenanigans: Studi Kasus Pt Envy Technologies Indonesia Tbk. *Jurnal Ilmiah Akuntansi Dan Bisnis*, 7(1), 14–50. <https://doi.org/10.38043/jiab.v7i1.3543>
- Colenda, C. C., Applegate, W. B., Reifler, B. V., & Blazer, D. G. (2020). COVID-19: Financial stress test for academic medical centers. *Academic Medicine*, 95(8), 1143–1145. <https://doi.org/10.1097/ACM.0000000000003418>
- Dalnial, H., Kamaluddin, A., Sanusi, Z. M., & Khairuddin, K. S. (2014). Detecting Fraudulent Financial Reporting through Financial Statement Analysis. *Journal of Advanced Management Science*, 2(1), 17–22. <https://doi.org/10.12720/joams.2.1.17-22>
- Dechow, P. M., Ak, B. K., Sun, E. Y., & Wang, A. Y. (2013). Do Financial Ratio Models Help Investors Better Predict and Interpret Significant Corporate Events ? *Australian Journal of Management*.
- Demetriades, P., & Owusu-Agyei, S. (2022). Fraudulent financial reporting: an application of fraud diamond to Toshiba's accounting scandal. *Journal of Financial Crime*, 29(2), 729–763. <https://doi.org/10.1108/JFC-05-2021-0108>
- Devi, S., Warasniasih, N. M. S., & Masdiantini, P. R. (2020). The Impact of COVID-19 Pandemic on the Financial Performance of Firms on the Indonesia Stock Exchange. *Journal of Economics, Business, & Accountancy Ventura*, 23(2). <https://doi.org/10.14414/jebav.v23i2.2313>
- Dimitrijevic, D. (2015). The detection and prevention of manipulations in the balance sheet and the cash flow statement. *Ekonomski Horizonti*, 17(2), 137–153. <https://doi.org/10.5937/ekonhor1502137d>
- Goel, S. (2013). Decoding Gimmicks of Financial Shenanigans in Telecom Sector in India. *Journal of Accounting and Management Information Systems*, 12(1), 118–131.
- Goel, S. (2014). The quality of reported numbers by the management: A case testing of earnings management of corporate India. *Journal of Financial Crime*, 21(3), 355–376. <https://doi.org/10.1108/JFC-02-2013-0011>
- Grove, H., & Basilico, E. (2011). Major Financial Reporting Frauds of the 21st Century: Corporate and Risk Lessons Learned. *Journal of Forensic and & Investigative*

Accounting, 3(2), 191–226.

- Grove, H., & Clouse, M. (2017). Corporate Governance Principles and Sustainability. *Corporate Governance and Sustainability Review*, 1(2), 13–19. <https://doi.org/10.22495/cgsrv1i2p2>
- Gulo, W., & Setyawati, D. M. (2023). Analysis of Earnings Manipulation Shenanigans in the Financial Statements of PT Garuda Indonesia TBK for the 2017-2021. *Formosa Journal of Multidisciplinary Research*, 2(5), 859–874. <https://doi.org/10.55927/fjmr.v2i5.4110>
- Halilbegovic, S., Celebic, N., Cero, E., Buljubasic, E., & Mekic, A. (2020). Application of Beneish M-score model on small and medium enterprises in Federation of Bosnia and Herzegovina. *Eastern Journal of European Studies*, 11(1), 146–163.
- Hasan, M. S., Omar, N., Barnes, P., & Handley-Schachler, M. (2017). A cross-country study on manipulations in financial statements of listed companies Evidence from Asia. *Journal of Financial Crime*, 24(4), 656–677. <https://doi.org/10.1108/JFC-07-2016-0047>
- ICW. (2023). *Laporan Hasil Pemantauan Tren Penindakan Kasus Korupsi Tahun 2022*. Penulis : Diky Anandya Lalola Easter.
- Irwandi, S. A., Ghozali, I., Faisal, & Pamungkas, I. D. (2019). Detection fraudulent financial statement: Beneish m-score model. *WSEAS Transactions on Business and Economics*, 16, 271–281.
- Khullar, D., Bond, A. M., & Schpero, W. L. (2020). COVID-19 and the Financial Health of US Hospitals. *JAMA - Journal of the American Medical Association*, 323(21), 2127–2128. <https://doi.org/10.1001/jama.2020.6269>
- Li, Y., Nie, W., Xiang, E., & Djajadikerta, H. G. (2018). Can banks identify firms' real earnings management? Evidence from China. *Finance Research Letters*, 25, 23–29. <https://doi.org/10.1016/j.frl.2017.10.005>
- Md Nasir, N. A. binti, Ali, M. J., Razzaque, R. M. R., & Ahmed, K. (2018). Real earnings management and financial statement fraud: evidence from Malaysia. *International Journal of Accounting and Information Management*, 26(4), 508–526. <https://doi.org/10.1108/IJAIM-03-2017-0039>
- Mohammed, R., Salih, L. G. A., & Inguva, S. (2015). *Evaluating Financial Evidences and Early Detection of Financial Shenanigans -A study on United Arab Emirates*. (April), 0–10.
- Narsa, N. P. D. R. H., Afifa, L. M. E., & Wardhaningrum, O. A. (2023). Fraud triangle and earnings management based on the modified M-score: A study on manufacturing company in Indonesia. *Heliyon*, 9(2), e13649. <https://doi.org/10.1016/j.heliyon.2023.e13649>
- Priscilia, G., & Trisnawati, E. (2023). The effect of real earnings management, fraud, and earnings informativeness, as the moderating variable, on investment efficiency. *Journal* 203



©author(s)
Creative Commons
Attribution Non Commercial 4.0 International License

- of Accounting and Investment, 24(2), 534–556.
<https://doi.org/10.18196/jai.v24i2.17424>
- Rababah, A., Al-Haddad, L., Sial, M. S., Chunmei, Z., & Cherian, J. (2020). Analyzing the effects of COVID-19 pandemic on the financial performance of Chinese listed companies. *Journal of Public Affairs*, 20(4). <https://doi.org/10.1002/pa.2440>
- Rahman, R. A., Sulaiman, S., Fadel, E. S., & Kazemian, S. (2016). Earnings Management and Fraudulent Financial Reporting: The Malaysian Story. *Journal of Modern Accounting and Auditing*, 12(2), 91–101. <https://doi.org/10.17265/1548-6583/2016.02.003>
- 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. <https://doi.org/10.5430/ijfr.v11n6p154>
- Sakti, E., Tarjo, Prasetyono, & Riskiyadi, M. (2020). Detection of Fraud Indication in Financial Statement Using Financial Shenanigans. *Asia Pacific Fraud Journal*, 5(2), 277–287. <https://doi.org/10.21532/apfjournal.v5i2.170>
- Salim, S., Siswanto, H. P., Wijaya, H., & Angela, J. (2021). Factors Affecting Financial Shenanigans in the Perspective of Fraud Triangle: An Empirical Study Among Manufacturing Companies Listed in Indonesia Stock Exchange . *Proceedings of the Ninth International Conference on Entrepreneurship and Business Management (ICEBM 2020)*, 174(99), 420–427. <https://doi.org/10.2991/aebmr.k.210507.063>
- Schilit, H. M., Perler, J., & Englehart, Y. (2018). Financial Shenanigans : How to Detect Accounting Gimmicks and Fraud in Financial Reports. In *The McGraw-Hill Companies, Inc.*
- Tarjo, Anggono, A., & Sakti, E. (2021). Detecting Indications of Financial Statement Fraud: a Hexagon Fraud Theory Approach. *AKRUAL: Jurnal Akuntansi*, 13(1), 119–131. <https://doi.org/10.26740/jaj.v13n1.p119-131>
- Tarjo, & Herawati, N. (2015). Application of Beneish M-Score Models and Data Mining to Detect Financial Fraud. *Procedia - Social and Behavioral Sciences*, 211(September), 924–930. <https://doi.org/10.1016/j.sbspro.2015.11.122>
- Tarjo, T., Anggono, A., Prasetyono, P., Yuliana, R., & Sakti, E. (2022). Association between fraudulent financial reporting , readability of annual reports , and abusive earnings management : A case of Indonesia. *Investment Management and Financial Innovations*, 19(1), 370–378. [https://doi.org/10.21511/imfi.19\(1\).2022.29](https://doi.org/10.21511/imfi.19(1).2022.29)
- Tarjo, T., Prasetyono, P., Sakti, E., Pujiono, Mat-Isa, Y., & Safkaur, O. (2023). Predicting Fraudulent Financial Statement Using Cash Flow Shenanigans. *Business: Theory and Practice*, 24(1), 33–46. <https://doi.org/10.3846/btp.2023.15283>
- Zorzi, V. (2022). Lingue e Linguaggi DISCOURSES OF PUBLIC HEALTH-RELATED CONTROVERSIES A Comparison between the Conspiracist Video Plandemic and the VIOXX Medical Scandal. *Lingue Linguaggi*, 47, 115–143. <https://doi.org/10.1285/i22390359v47p115>

