

DETECTING EARNINGS MANIPULATION SIGNALS IN INDONESIAN MANUFACTURING FIRMS USING THE BENEISH M- SCORE

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ABSTRACT

This study critically examines the assumption that an unqualified audit opinion guarantees that financial statements are free from earnings-manipulation signals that may act as a precursor to fraud, and it detects such signals in the audited financial statements of manufacturing companies listed on the Indonesia Stock Exchange (IDX) using the Beneish M-Score model. A descriptive qualitative approach was employed, drawing on secondary data in the form of the audited annual financial statements of five manufacturing companies for the 2021-2022 period, selected through purposive sampling: PT Gudang Garam Tbk, PT Indofood Sukses Makmur Tbk, PT Unilever Indonesia Tbk, PT Astra International Tbk, and PT Kalbe Farma Tbk. The analysis involved computing the eight Beneish M-Score ratios (DSRI, GMI, AQI, SGI, DEPI, SGAI, LVGI, and TATA) and applying the classification threshold of -2.22. The results show that four of the five sampled companies (80%), despite holding audited financial statements, still exhibited earnings-manipulation signals, whereas only one company was classified as a non-manipulator; the AQI, DSRI, SGI, and TATA ratios were identified as the variables contributing most to higher M-Score values. These findings confirm that the “manipulator” classification reflects a statistical indication of earnings manipulation which may represent aggressive but lawful earnings management or an early indication of fraud and that an “audited” status does not automatically guarantee the absence of such signals, since an audit provides only reasonable rather than absolute assurance. The study recommends employing the Beneish M-Score as a complementary analytical tool alongside conventional audit procedures, strengthening auditors’ substantive analytical procedures, and exercising greater caution among investors and regulators in treating audit opinions as the sole guarantee of financial-statement quality, so as to narrow the audit expectation gap and strengthen the early detection of the escalation of earnings management into fraud among Indonesian manufacturing companies.

Keywords: *Earnings Manipulation; Earnings Management; Fraud; Audit Opinion; Beneish M-Score; Audit Expectation Gap.*

I. INTRODUCTION

Financial statements are the principal means by which a company communicates information about its financial position, performance, and cash flows to stakeholders, and they constitute the primary basis for economic decision-making by investors, creditors, and other external parties (Kieso, Weygandt, & Warfield, 2024). According to PSAK No. 1 of 2018, the objective of financial statements is to provide relevant information about an entity's financial position, performance, and cash flows that is useful to users in making economic decisions. One mechanism on which the public relies to ensure the credibility of financial statements is an audit conducted by an independent public accountant, who issues an opinion on whether the financial statements are presented fairly in all material respects.

Nevertheless, a number of major cases demonstrate that an "audited" status does not in itself free financial statements from earnings-manipulation signals. Enron and WorldCom in the United States both obtained unqualified audit opinions before their financial-statement manipulation scandals came to light. In Indonesia, PT Garuda Indonesia was found to have manipulated its financial records in 2018, and PT Tiga Pilar Sejahtera Food Tbk was suspected of fraud in its 2017 financial statements, even though both sets of statements had undergone the audit process. These cases underscore that uncorrected financial-statement manipulation can result in substantial losses for investors, damage to the reputation of the company and the auditing profession, and a decline in public confidence in the capital market.

It is important to stress that earnings manipulation is not synonymous with fraud in the legal sense. Earnings management involves the use of legitimate accounting policies and estimates such as the choice of depreciation method, the timing of revenue recognition, or the estimation of provisions to influence reported earnings while remaining within the boundaries of the prevailing accounting standards, whereas fraud constitutes a deliberate violation of accounting standards intended to mislead the users of financial statements (Schipper, 1989). Beneish (1999) designed the M-Score model as a general tool for detecting earnings manipulation rather than as a means of legally proving fraud; accordingly, the "manipulator" classification produced by the model should be interpreted as a signal, or red flag, of possible management intervention in earnings which may take the form of aggressive earnings management or an early indication of fraud and requires further investigation to determine which of the two has actually occurred.

This phenomenon gives rise to a fundamental issue in auditing, namely the audit expectation gap: the discrepancy between the public's expectation that an audit will uncover every form of earnings manipulation and fraud, and the reality that an audit is designed only to provide reasonable assurance rather than absolute assurance regarding the fair presentation of financial statements in all material respects (Porter, 1993). Auditing Standard (SA) 240 on the Auditor's Responsibilities Relating to Fraud in an Audit of Financial Statements affirms that the risk of not detecting material fraud is higher than the risk of not detecting error, because fraud often involves schemes deliberately designed to conceal their traces (IAPI, 2021). An audit also operates on the basis of sampling techniques and materiality thresholds, so that judgemental areas such as accrual estimates and asset quality the principal domains of earnings management are not always tested exhaustively. It is precisely this condition that renders an "audited" status insufficient to be read as a guarantee that the statements are free from earnings-manipulation signals, and that underscores the need for an independent analytical tool, beyond the audit opinion, to scrutinise the fairness of financial statements more critically.

One widely used analytical tool for independently testing earnings-manipulation signals is the Beneish M-Score, which was shown to predict the Enron scandal before the case became public, at a time when the company's audit opinion was still deemed unqualified. An M-Score below -2.22 classifies a company as a non-manipulator, whereas a higher value indicates possible earnings manipulation. Several studies in Indonesia have produced inconsistent results: Dwi and Wirma (2020) found indications of manipulation in a number of manufacturing companies on the IDX; Kurniawaty and Wahyudi (2021) identified only some companies as indicated; while Hartanto and Fadilah (2020) reported a higher proportion in the food and beverage subsector. However, these studies have generally not explicitly linked their findings to the audit status of the sampled companies, nor clarified the boundary between earnings management and fraud, and thus have not addressed a more fundamental question:

can financial statements that have received an audit opinion still exhibit earnings-manipulation signals when tested with an independent analytical tool, and how should such signals be interpreted?

In light of this gap, the present study re-examines the application of the Beneish M-Score to the audited financial statements of manufacturing companies on the IDX in order to interrogate the assumption that audit status guarantees the absence of earnings-manipulation signals, while also clarifying the interpretive boundary between earnings management and fraud. The research questions are as follows: (1) are there earnings-manipulation signals in manufacturing companies on the IDX according to the Beneish M-Score even though their statements have been audited; (2) how many companies exhibit such signals; and (3) what are the implications of these findings for the audit expectation gap, the boundary between earnings management and fraud, and the need for early-detection tools? The study aims to identify earnings-manipulation signals in audited financial statements, to measure the proportion of companies classified as manipulators, and to reflect on the limitations of conventional auditing in detecting earnings manipulation, thereby offering a critical contribution to regulators, the auditing profession, investors, and the development of the forensic-accounting literature.

II. METHOD

This study adopts a descriptive qualitative approach, which aims to portray the phenomenon of earnings-manipulation signals as it is, based on the results of the Beneish M-Score calculation, rather than to test hypotheses statistically (Sugiyono, 2018). The population comprises all 177 manufacturing companies listed on the IDX, spanning the basic-industry and chemicals, miscellaneous-industry, and consumer-goods subsectors. The sample was determined through purposive sampling using the following criteria: (1) classified within the IDX manufacturing sector for the 2021-2022 period; (2) possessing complete audited annual financial statements for two consecutive years; (3) having complete data for all components of the Beneish ratios; (4) publishing consolidated financial statements; and (5) not having been delisted within the last five years. The second criterion, in particular, ensures that all sampled companies' financial statements have undergone an audit by a public accountant, so that audit status becomes a relevant contextual variable for testing the extent to which the audit process is able to filter out earnings-manipulation signals before the statements are further analysed using the Beneish M-Score. On the basis of these criteria, five sample companies were obtained: PT Gudang Garam Tbk (GGRM), PT Indofood Sukses Makmur Tbk (INDF), PT Unilever Indonesia Tbk (UNVR), PT Astra International Tbk (ASII), and PT Kalbe Farma Tbk (KLBF).

The data used are secondary data in the form of audited annual financial statements published through the IDX and the companies' official websites. The analysis was conducted by calculating the eight Beneish M-Score ratios (DSRI, GMI, AQI, SGI, DEPI, SGAI, LVGI, and TATA) and then substituting them into the formula: $M\text{-Score} = -4.84 + (0.920 \times DSRI) + (0.528 \times GMI) + (0.404 \times AQI) + (0.892 \times SGI) + (0.115 \times DEPI) - (0.172 \times SGAI) + (4.679 \times TATA) - (0.327 \times LVGI)$. Companies with an M-Score less than or equal to -2.22 are classified as non-manipulators, whereas those with a value greater than -2.22 are classified as manipulators. It should be emphasised that the term "manipulator" in this study follows the original terminology of the Beneish M-Score model, referring to a statistical indication of earnings manipulation whether aggressive earnings management or an early potential for fraud rather than a legal verdict that the company concerned has been proven to have committed fraud. The calculation results were subsequently analysed and described narratively for each sample company, with particular emphasis on their implications for the limitations of auditing and the interpretive boundary between earnings management and fraud.

III. RESULTS AND DISCUSSION

1. Beneish M-Score Calculation Results for the Audited Financial Statements

The Beneish M-Score calculation for the five sample companies, all of which held complete audited annual financial statements, produced the values and classifications presented in Table 1.

No	Company (Status: Audited)	M-Score	Category
1	PT Gudang Garam Tbk (GGRM)	-0.15501	Manipulator
2	PT Indofood Sukses Makmur Tbk (INDF)	-1.21026	Manipulator
3	PT Unilever Indonesia Tbk (UNVR)	-1.26304	Manipulator
4	PT Astra International Tbk (ASII)	-2.26465	Non-Manipulator
5	PT Kalbe Farma Tbk (KLBF)	-2.12931	Manipulator

Table 1. Beneish M-Score Analysis of the Sample Companies' Audited Financial Statements (Classification Threshold: -2.22)

The classification threshold of -2.22 places four of the five companies in the manipulator category, even though all of their financial statements had undergone the audit process. PT Gudang Garam Tbk obtained the highest value (-0.15501), driven primarily by an AQI of 5.79 the highest among all the samples indicating an increase in the proportion of assets that may reduce asset quality in the future. PT Indofood Sukses Makmur Tbk (-1.21026) was driven by sales growth (SGI 1.11) and the accrual component of earnings (TATA 0.24). PT Unilever Indonesia Tbk (-1.26304) was influenced by an increase in receivables (DSRI 1.05), a decline in gross profit margin (GMI 1.07), and a high TATA. PT Kalbe Farma Tbk (-2.12931) was affected by an increase in receivables (DSRI 1.22) and rising leverage (LVGI 1.10). By contrast, PT Astra International Tbk was the only company with a value below the threshold (-2.26465) and was therefore classified as a non-manipulator, supported by a low TATA (0.01) and relatively stable DSRI, GMI, AQI, and LVGI ratios.

Code	DSRI	GMI	AQI	SGI	DEPI	SGAI	LVGI	TATA	M-Score	Category
GGRM	0.78	1.37	5.79	0.99	0.97	1.05	1.01	0.09	-0.15501	Manipulator
INDF	0.95	1.06	0.99	1.11	0.95	0.71	0.93	0.24	-1.21026	Manipulator
UNVR	1.05	1.07	0.95	1.04	0.93	0.96	1.01	0.24	-1.26304	Manipulator
ASII	0.90	0.93	1.01	1.29	0.99	0.81	0.99	0.01	-2.26465	Non-Manipulator
KLBF	1.22	1.06	0.80	1.10	0.90	0.93	1.10	0.03	-2.12931	Manipulator

Table 2. Calculation of the Eight Beneish M-Score Ratios for Each Sample Company

Table 2 presents the detailed values of the eight Beneish M-Score ratios as supporting evidence behind the classification in Table 1. The AQI of PT Gudang Garam Tbk, far exceeding that of the other companies (5.79), was the single largest contributor to that company's high M-Score. The TATA values of PT Unilever Indonesia Tbk and PT Indofood Sukses Makmur Tbk, both reaching 0.24, indicate a relatively large contribution of the accrual component to the earnings of these two companies compared with the other samples. Conversely, PT Astra International Tbk consistently recorded ratios close to 1 (signalling stability relative to the previous year) with the lowest TATA (0.01), which forms the quantitative basis for its classification as the only non-manipulator in the research sample.

2. Key Ratios Driving the Earnings-Manipulation Signals

The cross-company analysis shows that the Asset Quality Index (AQI), Days Sales in Receivables Index (DSRI), Sales Growth Index (SGI), and Total Accruals to Total Assets (TATA) are the variables contributing most to higher M-Score values. AQI reflects a shift in asset composition towards less productive assets; DSRI reflects growth in receivables that is disproportionate to sales; SGI reflects the pressure to demonstrate sales growth capable of convincing the market; and TATA reflects the magnitude of the accrual component (relative to operating cash flow) in the formation of earnings. These patterns lie in judgemental areas that are inherently difficult to verify with complete certainty through sampling-based audit procedures, and are therefore liable to escape the audit opinion even when detected by an analytical model such as the Beneish M-Score.

3. Earnings Management versus Fraud: Clarifying the Interpretive Boundary

The ratios that contributed most to higher M-Score values in this study AQI, DSRI, SGI, and TATA all lie within the domain of accounting judgement: asset-quality classification, receivables estimation, revenue recognition, and accrual components, which conceptually constitute the principal areas in which earnings management operates (Schipper, 1989). This domain differs from more clear-cut fraud indicators, such as fictitious revenue confirmed through independent investigation, falsified documents, or admissions by related parties. Accordingly, the finding that four sample companies all of them large issuers subject to close analyst and regulatory scrutiny are classified as manipulators under the Beneish M-Score should be interpreted as a signal, or red flag, of aggressive earnings-management practices, rather than as a verdict that these companies have been legally proven to have committed fraud. Such a cautious interpretation is important so that the use of a quantitative model like the Beneish M-Score does not lead to accusations exceeding the evidentiary capacity of the model itself, while still affirming its value as an early-warning instrument that prompts further investigation where necessary.

4. Auditing Is Not a Guarantee: A Critical Reflection

An important finding of this study is not merely the proportion of companies exhibiting earnings-manipulation signals, but the fact that all sample companies are audited financial statements that have met the audit-completeness criteria required by capital-market regulation. Eighty per cent of them still exhibited earnings-manipulation signals when tested with the Beneish M-Score, regardless of whether those signals ultimately reflect aggressive earnings management or an early indication of fraud. This finding empirically confirms the audit expectation gap argument (Porter, 1993): the public tends to assume that an unqualified audit opinion means the financial statements are free from manipulation, whereas SA 240 (IAPI, 2021) explicitly states that an audit is designed only to provide reasonable, not absolute, assurance regarding the presence or absence of material fraud. Auditors work within materiality thresholds and transaction samples, so that judgemental areas such as asset quality and accrual components the principal domains of earnings management may not be adequately captured by standard audit procedures, even though they can be identified through independent ratio analysis.

The critical implication of this finding is that an audit opinion should not be treated as the end point in assessing the credibility of financial statements, but rather as one layer of assurance that needs to be complemented by an independent analytical tool. For the auditing profession, this finding underscores the importance of strengthening substantive analytical procedures based on earnings-manipulation detection models, rather than relying solely on

compliance testing and document confirmation, while carefully distinguishing between earnings-management signals that warrant preventive attention and fraud indications that require forensic investigation. For capital-market regulators, this finding provides a basis for considering additional disclosure requirements or independent analytical testing (such as the Beneish M-Score) to complement the audit opinion for issuers in high-risk sectors such as manufacturing.

5. Comparison with Previous Studies

The finding that 80% of the sample companies exhibited earnings-manipulation signals is consistent with Dwi and Wirma (2020), who also found indications of manipulation among manufacturing companies on the IDX; however, the proportion found in this study is higher than that reported by Kurniawaty and Wahyudi (2021), who identified only some companies as indicated. This difference confirms that the results of applying the Beneish M-Score in Indonesia are not always consistent and are strongly influenced by the observation period, subsector characteristics, and sample composition, as also found by Hartanto and Fadilah (2020) in the food and beverage subsector. Unlike those studies, the present research explicitly positions audit status and the interpretive boundary between earnings management and fraud as part of its central argument, so that its contribution is not merely technical and empirical but also critical of the reliability of auditing as the sole layer guaranteeing financial-statement quality, while exercising greater caution in interpreting the classification results of the quantitative model.

IV. CONCLUSION

This study concludes that an “audited” status does not guarantee the absence of earnings-manipulation signals. Four of the five sampled manufacturing companies listed on the Indonesia Stock Exchange for the 2021-2022 period PT Gudang Garam Tbk, PT Indofood Sukses Makmur Tbk, PT Unilever Indonesia Tbk, and PT Kalbe Farma Tbk still exhibited earnings-manipulation signals according to the Beneish M-Score despite having audited financial statements, whereas PT Astra International Tbk was the only company classified as a non-manipulator. Thus, 80% of the sample companies that had undergone the audit process still exhibited such signals, with the Asset Quality Index, Days Sales in Receivables Index, Sales Growth Index, and Total Accruals to Total Assets being the ratios contributing most to higher M-Score values. It must be emphasised that the “manipulator” classification in this study represents a statistical indication rather than legal proof of fraud; the signal may reflect aggressive earnings management that remains within the boundaries of accounting standards, or an early indication of fraud that requires further investigative auditing. These findings confirm the existence of an audit expectation gap and affirm that an audit provides only reasonable, not absolute, assurance regarding the absence of financial-statement manipulation, so that the Beneish M-Score proves relevant as an early-warning system that complements, rather than replaces, the conventional audit process.

On the basis of these findings, the study recommends that the auditing profession strengthen substantive analytical procedures based on earnings-manipulation detection models such as the Beneish M-Score as a complement to compliance testing and document confirmation, and carefully distinguish between earnings-management signals that warrant preventive attention and fraud indications that require forensic investigation, so that policy responses are well targeted; that capital-market regulators consider encouraging additional independent analytical testing for issuers in high-risk sectors such as manufacturing; that investors and creditors refrain from treating an unqualified audit opinion as an absolute guarantee, instead complementing it with independent ratio analysis before making decisions; and that future research expand the number of samples, the observation period, and the sectoral coverage, including combining the Beneish M-Score with other fraud-detection models such as the fraud pentagon or fraud hexagon, together with further qualitative investigation to determine which of the detected signals constitute earnings management and which constitute fraud.

V. REFERENCE

- Association of Certified Fraud Examiners (ACFE). (2022). Report to the Nations: Global Study on Occupational Fraud and Abuse. ACFE.
- Association of Certified Fraud Examiners (ACFE). (2024). Report to the Nations: Global Study on Occupational Fraud and Abuse. ACFE.
- Beneish, M. D. (1999). The detection of earnings manipulation. *Financial Analysts Journal*, 55(5), 24-36.
- Bursa Efek Indonesia. (2022). Data Emiten dan Sektor Industri di Bursa Efek Indonesia. Retrieved from <https://www.idx.co.id>
- Dwi, R., & Wirma, A. (2020). Analisis deteksi kecurangan laporan keuangan menggunakan Beneish M-Score pada perusahaan manufaktur di Bursa Efek Indonesia. *Jurnal Akuntansi dan Keuangan Indonesia*, 17(2), 145-158.
- Hartanto, A., & Fadilah, S. (2020). Deteksi manipulasi laporan keuangan dengan Beneish M-Score pada perusahaan sektor makanan dan minuman. *Jurnal Akuntansi Multiparadigma*, 11(3), 523-538.
- Ikatan Akuntan Indonesia. (2018). Pernyataan Standar Akuntansi Keuangan (PSAK) No. 1: Penyajian Laporan Keuangan. IAI.
- Institut Akuntan Publik Indonesia (IAPI). (2021). Standar Audit (SA) 240: Tanggung Jawab Auditor Terkait dengan Kecurangan dalam Suatu Audit atas Laporan Keuangan. IAPI.
- Kieso, D. E., Weygandt, J. J., & Warfield, T. D. (2024). *Intermediate Accounting* (18th ed.). Wiley.
- Kurniawaty, L., & Wahyudi, I. (2021). Analisis Beneish M-Score dalam mendeteksi kecurangan laporan keuangan perusahaan manufaktur di Indonesia. *Jurnal Ilmu Akuntansi*, 14(1), 77-89.
- Porter, B. (1993). An empirical study of the audit expectation-performance gap. *Accounting and Business Research*, 24(93), 49-68.
- Purnama, R., & Suoriyanto, A. (2020). Penggunaan Beneish M-Score untuk mendeteksi manipulasi laporan keuangan pada perusahaan manufaktur. *Jurnal Riset Akuntansi dan Keuangan*, 8(2), 211-222.
- Sari, D., & Nugroho, R. (2021). Analisis potensi kecurangan laporan keuangan pada perusahaan manufaktur di Indonesia. *Jurnal Akuntansi dan Auditing Indonesia*, 25(1), 56-68.
- Schipper, K. (1989). Commentary on earnings management. *Accounting Horizons*, 3(4), 91-102.
- Sugiyono. (2015). *Metode Penelitian Kuantitatif, Kualitatif dan R&D*. Alfabeta.
- Sugiyono. (2018). *Metode Penelitian Kualitatif*. Alfabeta.