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DETECTING FINANCIAL STATEMENT FRAUD IN STATE-OWNED ENTERPRISES: AN INTEGRATED ANALYSIS OF THE FRAUD HEXAGON AND BENEISH M-SCORE MODE

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ABSTRACTS

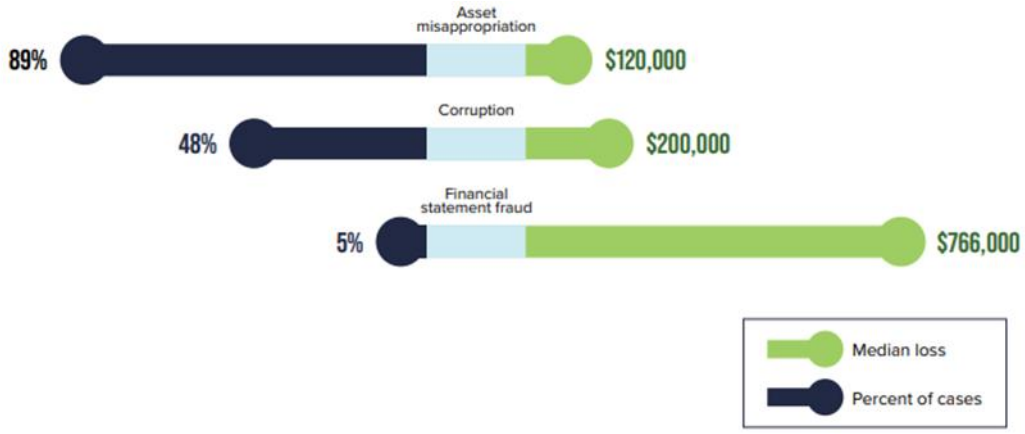
This research analyzes the fraud hexagon in detecting financial statement fraud using the Beneish M-Score Model in State-Owned Enterprises (SOEs) during the period 2018-2022. Using secondary data from 20 companies listed on the Indonesia Stock Exchange, this study evaluates he impact of six fraud elements—**pressure** (proxied by financial targets, stability, and external pressure), **opportunity**, **rationalization**, **capability**, **ego**, and **collusion**—on fraudulent financial reporting. The findings indicate that the elements of Pressure in the Fraud Hexagon, proxied by financial targets, financial stability, and external pressure, significantly influence the detection of financial statement fraud, while other elements such as opportunity, rationalization, capability, ego, and collusion do not have a significant impact. This study provides crucial insights for SOEs to strengthen corporate governance systems and enhance internal audit functions to prevent financial statement fraud. The study contributes to fraud literature by integrating the Fraud Hexagon with the Beneish M-Score in an emerging market context and offers practical strategies for mitigating fraud risks in SOEs.

Keywords: *Beneish M-Score Model, Corporate Governance, Fraud Hexagon, Financial Statement Fraud, State-Owned Enterprises*

INTRODUCTION

Financial statement fraud constitutes a pervasive and detrimental issue with far-reaching consequences for a multitude of stakeholders, including investors, creditors, employees, and the broader public (ACFE, 2024). The "Report to the Nations" (2024), a seminal publication by the Association of Certified Fraud Examiners (ACFE), systematically categorizes occupational fraud into three principal schemes: corruption, asset misappropriation, and financial statement fraud. While financial statement fraud accounts for the lowest frequency among reported cases (5%), its median loss ($766,000) significantly surpasses that of corruption ($200,000) and asset misappropriation ($120,000), underscoring its disproportionately severe financial impact on organizations (see Figure 1).

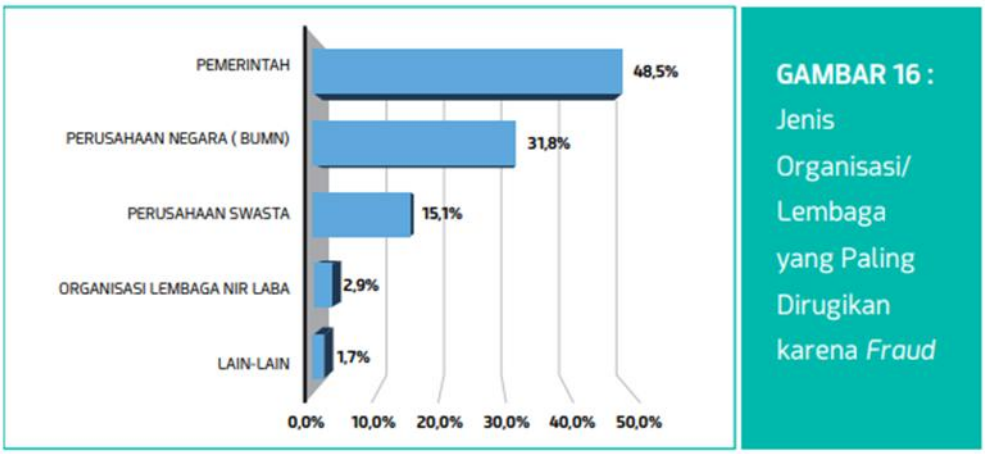
Figure 1: Fraud Schemes as Reported in the Report to the Nations for 2024



Source:

In the dynamic Asia Pacific region, corruption cases predominantly characterize the fraud landscape, accounting for 56% of reported incidents. Within this regional context, Indonesia stands out, with 25 recorded fraud cases in the "Report to the Nations 2024," signifying the highest incidence among ASEAN countries. However, data from ACFE Indonesia (2019) indicates a relatively low frequency of financial statement fraud cases, at 9.2%. Despite this lower frequency, the financial ramifications are often substantial, even with a majority of cases incurring losses below IDR 10 million

Figure 2: Organizations/Institutions Most Harmed by Fraud



Sumber: Data diolah, 2019

State-Owned Enterprises (SOEs) occupy a pivotal position in the national economy, serving as catalysts for public value creation, contributing to physical infrastructure development, and ensuring economic stability during periods of crisis (PricewaterhouseCoopers [PwC], n.d.). However, as highlighted by PwC, state

ownership inherently carries the risk of eroding enterprise value if robust governance and management best practices are not rigorously implemented. This vulnerability extends to critical issues such as corruption, bribery, and systemic inefficiency.

The strategic significance of SOEs renders them particularly susceptible to substantial economic disruption if financial statement fraud occurs. The "2019 Indonesian Fraud Survey" by ACFE Indonesia reveals that SOEs rank as the second most harmed institutional category by fraud, accounting for 31.8% of cases. The broad mandate of SOEs, spanning diverse sectors from energy to transportation, implies that financial irregularities within these entities can trigger widespread macroeconomic repercussions. For instance, manipulative financial reporting in the energy sector could not only distort energy prices and availability but also profoundly impact the cost of living for the populace and the overall operational viability of businesses.

Notable instances of financial statement manipulation in prominent Indonesian SOEs, such as PT Garuda Indonesia and PT Waskita Beton Precast, have demonstrably eroded investor confidence and undermined economic stability (Kompas.id, 2022). In light of these critical concerns, this research employs the Beneish M-Score Model, a well-established quantitative tool developed by Beneish (1999) for detecting financial manipulation, and integrates it with the more comprehensive fraud hexagon theory advanced by Vousinas (2019). The fraud hexagon model extends previous frameworks by incorporating six critical elements: Stimulus (pressure), Capability, Opportunity, Rationalization, Ego, and Collusion.

This study systematically investigates a comprehensive set of factors hypothesized to influence the detection of financial statement fraud in Indonesian SOEs, encompassing financial targets, financial stability, external pressure, the inherent nature of the industry, the efficacy of internal monitoring mechanisms, changes in external auditors, changes in the board of directors, the prominence of CEO publicity (proxied by the number of CEO pictures), and the presence of political connections. By synthesizing these diverse variables within the analytical lens of the fraud hexagon and the Beneish M-Score, this research aims to provide a nuanced understanding of the antecedents of financial statement fraud in a critical economic sector

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

1.1. Theoretical Frameworks

1.1.1. Agency Theory

Agency theory, fundamentally articulated by Jensen and Meckling (1976), posits a contractual relationship wherein one or more individuals (principals) delegate decision-making authority to another individual or group (agents) to act on their behalf. In the context of corporate governance, shareholders represent the principals, while the company's management constitutes the agents. This theoretical framework highlights the inherent divergence of interests and separation of duties between principals and agents, often formalized through contracts designed to align their objectives and ensure efficient task execution

Eisenhardt (1989) further refines agency theory by positing three core assumptions regarding human behavior: self-interest, bounded rationality, and risk aversion. These assumptions suggest that agents, driven by their own interests, may engage in opportunistic behaviors, potentially prioritizing personal gain over the collective welfare of the principals. This inherent potential for opportunistic behavior can manifest as fraudulent financial reporting, particularly when agents face pressure to meet performance targets or secure personal remuneration.

The concept of information asymmetry, as profoundly discussed by Manggau (2016), exacerbates the principal-agent dilemma. Agents typically possess superior and more timely information regarding the firm's financial health and operational performance compared to principals. This informational advantage creates fertile ground for financial statement manipulation. Dechow et al. (2010) assert that this information asymmetry gives rise to significant agency problems, such as moral hazard, where agents may engage in earnings management or outright fraud to achieve specific performance benchmarks or to secure lucrative bonuses.

To mitigate these potential conflicts and the associated risks of financial statement fraud, Jensen and Meckling (1976) delineate various agency costs. These include monitoring expenditures (costs incurred by principals to oversee agents' actions), bonding expenditures (costs incurred by agents to commit to actions that align

with principals' interests), and residual loss (the reduction in welfare experienced by principals despite monitoring and bonding efforts). In the domain of financial reporting, these costs are manifested through the implementation of robust internal controls, the engagement of independent external audits, and the establishment of comprehensive corporate governance mechanisms. However, as underscored by Rezaee (2005), even these sophisticated safeguards may prove insufficient in preventing fraud, especially in scenarios involving collusion among top management.

The pervasive pressure on management to achieve demanding financial targets, often stipulated by principals, directly contributes to the propensity for fraudulent reporting. Cressey's (1953) seminal fraud triangle theory, which identifies pressure, opportunity, and rationalization as the foundational elements leading to fraud, resonates strongly with agency theory in explaining the motivations behind financial statement manipulation. The formidable pressure from shareholders to meet stringent earnings expectations or to maintain a favorable stock price can compel management to resort to fraudulent practices (Hogan et al., 2008).

Within the precise scope of this study, agency theory serves as the fundamental underpinning for examining financial statement fraud. It illuminates how inherent conflicts of interest, the pervasive presence of information asymmetry, and intense performance pressures between principals and agents collectively create an environment conducive to fraudulent financial reporting. As argued by Trompeter et al. (2013), a profound understanding of these agency dynamics is indispensable for the development and implementation of effective fraud detection and prevention strategies within the complex realm of corporate financial reporting.

1.1.2. Fraud and its Evolution

Fraud, at its core, refers to the deliberate act of deception perpetrated for illicit personal or organizational gain. According to Audit Standard (SA) 240 and International Standard on Auditing (ISA) 240 (2007), fraud is defined as intentional misconduct by management, employees, or third parties, involving the use of deceit to obtain an unfair or illegal advantage. This intentionality is a critical distinguishing factor from unintentional errors. Fraudulent actions invariably involve deceptive tactics designed to financially harm

victims. As observed by Yaqoub et al. (2023), fraud in accounting is a dynamic phenomenon, with perpetrators continuously adapting their methods in response to evolving regulatory frameworks and detection mechanisms.

Pressure, often stemming from demanding profit targets or performance incentives, creates potent opportunities for manipulation, particularly by management seeking to achieve bonuses or satisfy shareholder expectations. Fraud can be broadly categorized into two types: fraud against the organization (e.g., employee embezzlement) and fraud for the organization (e.g., executive-level financial statement manipulation to present an artificially favorable financial position). The Association of Certified Fraud Examiners (ACFE) classifies occupational fraud into three primary categories: asset misappropriation, corruption, and financial statement fraud, each involving distinct methods of exploiting company resources or misrepresenting financial data for personal or organizational benefit.

1.1.3. Fraud HexagonTheory

The fraud hexagon theory represents a significant advancement in understanding the antecedents of fraud, building upon the foundational fraud triangle (Cressey, 1953) and its subsequent extensions. Introduced by Georgios L. Vousinas (2019) through his S.C.O.R.E. model, the fraud hexagon expands the framework to include six distinct elements: Stimulus (or Pressure), Capability, Opportunity, Rationalization, Ego, and the critical addition of Collusion.

Vousinas (2019) meticulously defines collusion as the clandestine collaboration between two or more parties to deceive others for mutual personal gain. This element profoundly broadens the traditional understanding of fraud, acknowledging that sophisticated fraudulent activities often involve strategic cooperation among individuals, which can significantly enhance the difficulty of detection. The six elements of the fraud hexagon are delineated as follows:

1. **Stimulus (Pressure):** This element refers to the financial or non-financial demands and incentives that motivate an individual to commit fraud. It encompasses personal financial problems, external pressures from creditors, or internal pressure to meet ambitious financial targets.

2. **Opportunity**: This element relates to the existence of weak internal controls, ineffective oversight, or loopholes in organizational systems that allow fraud to be perpetrated and concealed.
3. **Rationalization**: This psychological component describes the justifications individuals employ to reconcile their fraudulent actions with their personal ethical standards. This might involve believing they are "borrowing" the money, are underpaid, or are correcting an injustice.
4. **Capability**: This refers to the individual's necessary skills, knowledge, and position within an organization to execute and conceal a fraudulent act effectively. This includes understanding internal controls and accounting systems.
5. **Ego**: This element describes the arrogance, sense of superiority, or narcissistic tendencies of individuals who believe they are above organizational rules and consequences. They may see themselves as untouchable or intellectually superior.
6. **Collusion**: This newly added element, central to Vousinas's model, emphasizes the conspiratorial involvement of multiple individuals in perpetrating and concealing fraud. Collusion often makes detection significantly more challenging as it bypasses internal controls designed for individual actions

1.1.4. Beneish M-Score Model

The Beneish M-Score Model, developed by Professor Messod Beneish (1999), is a quantitative diagnostic tool designed to detect potential earnings manipulation in financial statements. It calculates a score based on eight financial ratios derived from publicly available financial data. The model is built on the premise that certain accounting anomalies and financial characteristics are systematically associated with companies that engage in earnings manipulation.

The eight variables incorporated into the Beneish M-Score are:

1. **Days Sales in Receivables Index (DSRI)**: Measures the change in accounts receivable relative to sales. A high DSRI indicates increased sales on credit, which could be a sign of revenue manipulation.

2. **Gross Margin Index (GMI):** Compares the gross margin in the current period to the previous period. A declining gross margin might provide an incentive for manipulation.
3. **Asset Quality Index (AQI):** Reflects the ratio of non-current assets excluding property, plant, and equipment (PPE) to total assets. An increasing AQI suggests a higher proportion of deferred costs or other assets that can be easily manipulated.
4. **Sales Growth Index (SGI):** Measures the ratio of current period sales to prior period sales. High sales growth can create pressure for manipulation to maintain unrealistic growth expectations.
5. **Depreciation Index (DEPI)**: Compares the rate of depreciation in the current period to the previous period. A low DEPI might indicate an effort to under-depreciate assets to inflate earnings.
6. **Sales, General, & Administrative Expenses Index (SGAI)**: Compares the ratio of SGA expenses to sales in the current period to the prior period. A high SGAI might suggest a disproportionate increase in discretionary expenses that could be misclassified.
7. **Leverage Index (LVGI):** Measures the ratio of total debt to total assets in the current period to the prior period. Increasing leverage can signal financial distress and pressure for manipulation.
8. **Total Accruals to Total Assets (TATA):** A direct measure of discretionary accruals, which can be used to manage earnings. Higher TATA indicates greater discretion in accounting estimates.

M-Score is calculated using a specific regression model:

$$M=-4.84+0.920\times DSRI+0.528\times GMI+0.404\times AQI+0.892\times SGI+0.115\times DEPI-0.172\times SGAI+0.327\times LVGI+4.679\times TATA$$

A Beneish M-Score greater than -1.78 typically indicates a high probability of earnings manipulation. This model has been widely adopted in academic research and by practitioners as a preliminary screening tool for financial statement fraud, although it is not definitive and should be used in conjunction with other analytical procedures. Its quantitative nature makes it a valuable complement to qualitative fraud frameworks like the fraud hexagon.

1.2. Hypothesis Development

1.2.1. Influence of Financial Target in Detecting Financial Statement Fraud

Financial targets are a central component of the principal-agent dynamic in corporate governance, wherein management (agents) is held accountable for achieving predefined financial objectives established by company owners or shareholders (principals). These targets, typically quantified as revenue and profit benchmarks, serve as critical performance indicators and frequently form the foundation for management compensation packages and overall company valuation (Jensen & Murphy, 1990).

While superior financial performance can significantly enhance a company's reputation and attract external investment, the intense pressure to meet ambitious targets can paradoxically create an environment conducive to fraudulent financial reporting. This phenomenon aligns directly with Cressey's (1953) seminal fraud triangle theory, specifically its 'pressure' component, which has been further elaborated within the comprehensive fraud hexagon model (Vousinas, 2019).

The propensity for financial statement fraud stemming from aggressive target-setting is exacerbated by several interconnected factors:

- **Information Asymmetry**: Management's inherent informational advantage regarding the company's precise financial position and operational performance provides unique opportunities for manipulation (Manggau, 2016).
- **Performance-Based Incentives**: Direct linkages between bonuses, stock options, and other forms of executive compensation to financial targets can create powerful motivations for management to engage in fraudulent practices to secure personal gain (Burns & Kedia, 2006).
- **Market Expectations**: The relentless pressure to satisfy analyst forecasts and maintain or inflate stock prices can compel management to misreport financial results (Graham et al., 2005).

Financial targets are commonly assessed using metrics such as Return on Assets (ROA), which rigorously evaluates the profitability generated by a company's asset base (Fuad et al., 2020). However, an excessive or singular focus on such metrics can

inadvertently lead to short-term decision-making and the potential for manipulative accounting practices.

Prior empirical investigations have consistently indicated a significant positive relationship between stringent financial targets and the increased likelihood of financial statement fraud. For example, Skousen et al. (2009) discovered that rapid asset growth and a heightened necessity for external financing were positively correlated with the incidence of fraud. Similarly, Dechow et al. (2011) provided compelling evidence that firms engaging in earnings manipulation exhibited demonstrably higher financial targets compared to their non-manipulating counterparts.

Given these robust theoretical foundations and the converging empirical evidence linking financial targets to fraudulent reporting, we formally propose the following hypothesis:

H1: Financial targets, as measured by Return on Assets (ROA), have a significant positive influence on the likelihood of financial statement fraud, as detected by the Beneish M-Score Model.

This hypothesis aims to rigorously test whether companies with more demanding financial targets, proxied by their ROA, are indeed more prone to engaging in fraudulent financial reporting. The investigation of this relationship contributes substantially to the ongoing academic discourse on fraud detection and prevention within corporate financial reporting, particularly in the unique context of emerging markets such as Indonesia.

1.2.2. Influence of Financial Stability in Detecting Financial Statement Fraud

Financial stability serves as a crucial barometer of a company's overall health and enduring performance, reflecting its capacity to sustain consistent financial results over prolonged periods. This concept resonates deeply with the 'pressure' component of Cressey's (1953) seminal fraud triangle theory and, by extension, the 'stimulus' element within more contemporary fraud models like Vousinas's (2019) fraud hexagon. The profound pressure to maintain an appearance of robust financial stability can create powerful incentives for management to engage in fraudulent financial reporting practices.

Several salient factors contribute to the potential for financial statement fraud within the overarching context of financial stability:

- **Investor Expectations:** Companies are continuously under immense pressure to project an attractive and stable financial image to both existing investors and the broader public. This imperative can inadvertently lead to the manipulation of financial statements (Dechow et al., 2010).
- **Industry Comparisons:** As meticulously documented by Skousen et al. (2008), companies reporting profits below their industry average may be strongly motivated to manipulate financial reports to portray a more favorable performance. Conversely, even highly profitable companies might engage in earnings management to align with industry benchmarks, thereby avoiding undue scrutiny or potential regulatory intervention.
- **Market Volatility**: External economic downturns, unforeseen market fluctuations, and operational challenges can precipitate financial instability, potentially prompting management to misreport financials in an effort to sustain investor confidence (Zang, 2012).
- **Regulatory Environment**: For publicly listed companies, particularly those on stock exchanges like the Indonesia Stock Exchange, these pressures are amplified due to heightened scrutiny from a diverse array of stakeholders, including shareholders, prospective investors, and regulatory bodies (Leuz et al., 2003).

Financial stability is commonly quantified using metrics such as the year-over-year change in total assets or the current ratio (Beneish, 1999). Significant or erratic fluctuations in these measures may serve as red flags, indicating an increased risk of financial statement fraud.

Previous rigorous research has consistently demonstrated a discernible link between concerns regarding financial stability and the propensity for fraudulent reporting. For instance, Kaminski et al. (2004) found that financial stability ratios were statistically significant in differentiating between fraudulent and non-fraudulent firms. Similarly, Dalnial et al. (2014) provided empirical evidence that financial stability

indicators were effective tools for detecting financial statement fraud in Malaysian publicly listed companies.

Given these compelling theoretical foundations and the consistent empirical evidence suggesting a robust relationship between financial stability pressures and fraudulent reporting, we formally propose the following hypothesis:

H2: Financial stability, as measured by the year-over-year change in total assets, has a significant influence on the likelihood of financial statement fraud, as detected by the Beneish M-Score Model

This hypothesis seeks to ascertain whether companies exhibiting greater fluctuations in financial stability, as indicated by changes in their total assets, are indeed more likely to engage in fraudulent financial reporting. Investigating this critical relationship contributes meaningfully to the ongoing academic research on fraud detection and prevention within corporate financial reporting, with a particular focus on the unique context of emerging markets like Indonesia.

1.2.3. Influence of External Pressure in Detecting Financial Statement Fraud

External pressure denotes the compelling demands placed upon a company to fulfill obligations meticulously agreed upon with external stakeholders, most notably creditors. This concept is deeply rooted in both agency theory (Jensen & Meckling, 1976) and the 'pressure' component inherent in prominent fraud theory models such as Cressey's (1953) fraud triangle and Vousinas's (2019) fraud hexagon. The intense imperative to meet these external obligations can create powerful incentives for management to engage in deceptive financial reporting practices.

Several interconnected factors contribute to the heightened potential for financial statement fraud under the duress of external pressure:

- **Debt Covenants**: Companies operating with high leverage frequently face stringent debt covenant requirements. The fear of violating these covenants can strongly incentivize financial statement manipulation to avoid triggering default clauses or other penalties (DeFond & Jiambalvo, 1994).

- **Credit Risk Perception**: Elevated levels of corporate leverage can significantly amplify creditor concerns regarding a company's ability to honor its financial commitments. This perception can lead management to misrepresent financial health to maintain or secure favorable credit terms (Dechow et al., 2011).
- **Capital Market Expectations**: The ongoing necessity to preserve favorable credit ratings and ensure continued access to capital markets often drives companies to manipulate financial reports to project an image of financial robustness (Graham et al., 2005).
- **Agency Conflicts:** Within the framework of agency theory, external pressure originating from principals (shareholders) can compel agents (management) to manipulate financial statements. This is often done to safeguard the company's perceived operational continuity, maintain market confidence, and secure their own positions (Skousen et al., 2009).

External pressure is commonly quantified using various leverage ratios, such as the total liabilities to total assets ratio or the long-term debt to equity ratio (Beneish, 1999). Persistently higher leverage ratios can serve as a significant indicator of increased susceptibility to financial statement fraud.

Prior empirical research has consistently established a tangible link between external pressure and the occurrence of fraudulent reporting. For instance, Skousen et al. (2009) provided evidence that a critical need for external financing was significantly associated with the incidence of financial statement fraud. Similarly, Zainudin and Hashim (2016) demonstrated that leverage was a statistically significant predictor of fraudulent financial reporting among Malaysian publicly listed companies.

Given these compelling theoretical underpinnings and the consistent empirical evidence suggesting a robust relationship between external pressure and fraudulent reporting, we formally propose the following hypothesis:

H3: External pressure, as measured by the ratio of total liabilities to total assets, has a significant positive influence on the likelihood of financial statement fraud, as detected by the Beneish M-Score Model

This hypothesis aims to rigorously test whether companies experiencing greater external pressure, as indicated by higher leverage ratios, are indeed more likely to engage in fraudulent financial reporting. Investigating this critical relationship contributes meaningfully to the ongoing academic research on fraud detection and prevention within corporate financial reporting, particularly in illuminating how external obligations can fundamentally influence management's financial reporting decisions. The examination of this hypothesis holds particular relevance in the economic climate of the research data period (2018-2022), during which companies may have faced exacerbated financial strain and intensified pressure from creditors. A comprehensive understanding of the role of external pressure in financial statement fraud can directly inform the development of more effective fraud detection mechanisms and enhance regulatory oversight

1.2.4. Influence of Industry Nature in Detecting Financial Statement Fraud

The inherent nature of an industry significantly influences a company's financial reporting practices and, consequently, its potential vulnerability to fraud. This concept aligns with the 'opportunity' component of established fraud theory models (Cressey, 1953; Vousinas, 2019) and reflects the distinct characteristics and operational challenges intrinsic to different economic sectors. One particularly critical aspect of industry nature that can profoundly impact financial reporting integrity is the management of accounts receivable.

Several critical factors contribute to the heightened potential for financial statement fraud within the specific context of industry nature:

- **Accounts Receivable Manipulation**: Industries characterized by substantial levels of accounts receivable face an elevated risk of financial statement fraud. This vulnerability stems from the inherently subjective nature of estimating uncollectible receivables and recognizing revenue (Yanti & Riharjo, 2021). This subjectivity creates considerable opportunities for management to manipulate financial reports through aggressive or overly conservative allowance policies for doubtful accounts, or by premature revenue recognition.

- **Industry-Specific Accounting Practices**: Certain industries may employ complex or highly specialized accounting treatments that can provide greater avenues for manipulation. For example, the construction industry's reliance on the percentage-of-completion method for revenue recognition or the banking sector's provisions for loan losses can offer discretionary areas susceptible to abuse (Beasley et al., 2000).
- **Regulatory Environment**: Different industries are subject to varying degrees of regulatory scrutiny, which can directly influence both the likelihood and the specific modalities of financial statement fraud (Dechow et al., 2011). Loosely regulated industries might present more opportunities for fraudulent reporting.
- **Competitive Pressures**: Industries marked by intense competition can exert additional pressure on management to meet or surpass financial expectations. This competitive zeal can inadvertently lead to fraudulent reporting practices aimed at enhancing perceived performance (Beasley et al., 2010).

Industry nature is often quantified using metrics such as the ratio of accounts receivable to sales or other industry-specific financial ratios (Beneish, 1999). Persistently higher ratios or significant deviations from established industry norms may serve as indicators of increased susceptibility to financial statement fraud.

Prior empirical research concerning the influence of industry nature on financial statement fraud has yielded mixed results. Ramdany et al. (2020) found that industry nature positively influences the identification of financial statement fraud, suggesting that certain industry characteristics indeed heighten the probability of fraudulent reporting. Conversely, Agusputri and Sofie (2019) reported a negative influence, indicating that in some contexts, industry-specific factors might paradoxically act as a deterrent to fraud. This divergence in findings underscores the complexity of this relationship and the need for further contextualized research.

Given these theoretical underpinnings and the varied empirical evidence regarding the relationship between industry nature and fraudulent reporting, we propose the following hypothesis:

H4: Industry nature, as measured by the ratio of accounts receivable to sales, has a significant influence on the likelihood of financial statement fraud, as detected by the Beneish M-Score Model.

This hypothesis aims to rigorously test whether companies operating in industries with higher levels of accounts receivable relative to sales are indeed more likely to engage in fraudulent financial reporting. The investigation of this relationship contributes to a deeper understanding of how inherent industry characteristics can shape the landscape of financial misconduct and inform targeted fraud detection strategies.

1.2.5. Influence of Ineffective Monitoring in Detecting Financial Statement Fraud

Ineffective monitoring refers to deficiencies in the oversight mechanisms designed to ensure the integrity of financial reporting and the ethical conduct of management. This concept is fundamentally linked to the 'opportunity' element within both the fraud triangle (Cressey, 1953) and the fraud hexagon (Vousinas, 2019), as weak monitoring provides the necessary conditions for fraudulent acts to occur and remain undetected. Sound corporate governance, particularly through the vigilance of the board of directors and the audit committee, is paramount in mitigating such opportunities.

Several factors contribute to the increased potential for financial statement fraud when monitoring mechanisms are ineffective:

- **Weak Internal Controls**: A lack of robust internal controls, including inadequate segregation of duties, absence of proper authorization procedures, or insufficient documentation, creates pathways for manipulation (COSO, 2013).
- **Deficient Board Oversight:** An ineffective board of directors, characterized by a lack of independence, insufficient financial expertise among members, or infrequent meetings, may fail to challenge management's financial reporting decisions adequately (Beasley et al., 2009).
- **Weak Audit Committee**: An audit committee that lacks independence, is not financially literate, or does not meet regularly with internal and external auditors,

provides insufficient oversight of the financial reporting process (Blue Ribbon Committee, 1999).

- **Absence of Internal Audit Function**: The absence or weakness of an independent and competent internal audit function significantly diminishes the organization's ability to detect and prevent fraud internally (ACFE, 2024).

Ineffective monitoring is often proxied by characteristics of the board of directors and audit committee. Common measures include the proportion of independent directors on the board, the size of the audit committee, the frequency of audit committee meetings, and the presence of financially expert members on the audit committee (Collier & Gregory, 2009).

Previous research has consistently demonstrated that effective monitoring mechanisms are critical deterrents to financial statement fraud. For instance, Dechow et al. (1996) highlighted the role of corporate governance failures in facilitating earnings management. Similarly, Beasley (1996) found that the presence of outside directors and an independent audit committee was negatively associated with the occurrence of financial statement fraud. Conversely, studies have shown that a lack of independent oversight or an inactive audit committee increases the risk of fraud (Farber, 2005).

Given these theoretical foundations and the compelling empirical evidence linking ineffective monitoring to fraudulent reporting, we propose the following hypothesis:

H5: Ineffective monitoring, as measured by the independence of the board of directors and the audit committee characteristics, has a significant positive influence on the likelihood of financial statement fraud, as detected by the Beneish M-Score Model.

This hypothesis aims to rigorously test whether deficiencies in monitoring mechanisms within Indonesian SOEs, particularly related to the board and audit committee, increase the propensity for financial statement fraud. Understanding this relationship is crucial for strengthening corporate governance frameworks and enhancing fraud prevention strategies in a sector vital to the national economy

1.2.6. Influence of Auditor Change in Detecting Financial Statement Fraud

Auditor change, particularly involuntary changes, can serve as an indicator of potential underlying issues within a company's financial reporting environment. This factor relates to the 'opportunity' element of fraud theories (Cressey, 1953; Vousinas, 2019), as it can signal conflicts between management and auditors regarding accounting treatments, potentially creating or exploiting opportunities for financial statement manipulation. Auditors play a crucial role as independent gatekeepers of financial reporting quality.

Several reasons contribute to an auditor change, some benign (e.g., lower fees, industry specialization, firm merger) and some more contentious (e.g., disagreements over accounting principles, scope limitations, client dismissal due to audit findings). However, a dismissal of an auditor, especially one followed by a restatement of financial statements, often suggests an attempt by management to find a more lenient auditor ("opinion shopping") or to conceal past fraudulent activities.

Factors contributing to the potential for financial statement fraud in the context of auditor change include:

- **Opinion Shopping**: Management seeking auditors who are more willing to accept aggressive accounting practices or overlook reporting irregularities can lead to reduced audit quality and increased fraud risk (DeFond & Jiambalvo, 1991).
- **Disagreements over Accounting**: Fundamental disagreements between management and the incumbent auditor over critical accounting policies or estimates can prompt an auditor change, potentially because management is unwilling to compromise on an aggressive stance (Krishnan, 1994).
- **Concealment of Prior Fraud**: An auditor change may be initiated to terminate an audit relationship before fraudulent activities are fully uncovered, or to replace an auditor who has become too suspicious (Chen et al., 2001).
- **Weakening of Controls**: The period surrounding an auditor change, particularly if contentious, might signal a weakening of internal controls or a shift in the company's commitment to transparent reporting.

Auditor change is typically measured as a dummy variable (1 if an auditor change occurred, 0 otherwise), often further categorized by whether it was a dismissal or a resignation.

Previous research has explored the implications of auditor changes on financial reporting quality and fraud risk, yielding mixed results. Some studies suggest that auditor changes can indeed be associated with subsequent earnings management or restatements, particularly when the change is involuntary or due to disagreements (Smith, 2011). Other research indicates that auditor changes, especially those to Big 4 firms, might improve audit quality over time (Jensen & Payne, 2005). However, a pattern of frequent or unexplained auditor changes can be a red flag for regulators and investors.

Given these theoretical considerations regarding the potential implications of auditor changes on financial reporting integrity, we propose the following hypothesis:

H6: Auditor change has a significant influence on the likelihood of financial statement fraud, as detected by the Beneish M-Score Model.

This hypothesis aims to investigate whether the occurrence of an auditor change in Indonesian SOEs is significantly associated with an increased likelihood of financial statement fraud. Understanding this relationship can provide insights into the dynamics between management and external auditors and its implications for financial reporting quality.

1.2.7. Influence of Director Change in Detecting Financial Statement Fraud

Director changes, particularly those involving key executive positions such as the CEO or CFO, can signal significant shifts in corporate strategy, governance, or performance. This factor is primarily related to the 'opportunity' and 'capability' elements of the fraud hexagon (Vousinas, 2019). A change in leadership might create new opportunities for fraud if the incoming directors have a propensity for aggressive accounting or if the transition period weakens internal controls. Conversely, such changes might be a response to poor performance or existing fraud, intended to improve governance.

Reasons for director changes can vary widely, from routine retirements and new appointments for strategic reasons to more contentious dismissals due to poor performance, ethical breaches, or, in some cases, a direct consequence of uncovered fraudulent activities. When director changes are frequent or unexplained, they can raise red flags about the company's stability and governance effectiveness.

Factors contributing to the potential for financial statement fraud in the context of director change include:

- **New Management's "Big Bath**": Incoming management might be incentivized to record all current and future losses in their first year ("take a big bath") to make subsequent performance appear better, potentially involving aggressive write-downs or accounting changes (Elliott & Shaw, 1988).
- **Dismissal due to Fraud**: A director change might be a direct result of the discovery of financial statement fraud, with the departing director being held accountable (Dechow et al., 1996).
- **Weakening of Oversight**: A period of leadership transition or an exodus of experienced directors can temporarily weaken internal oversight and control environments, creating opportunities for misconduct (Beasley et al., 2000).
- **Aggressive Accounting Mindset:** New directors, especially those with a strong focus on short-term results, might push for more aggressive accounting policies to meet targets, increasing fraud risk

Director change is typically measured as a dummy variable (1 if a change in key directors occurred, 0 otherwise), sometimes with a lag to capture the effects of the change.

Previous research has explored the relationship between director changes and financial reporting quality. Some studies suggest that forced CEO turnovers are often associated with poor prior performance and sometimes with subsequent earnings management or restatements (Huson et al., 2001). Other research indicates that changes in key financial officers (like the CFO) can sometimes precede accounting irregularities (Jiang et al., 2010). However, the direction of this relationship is complex; a change might be a symptom of existing fraud or a catalyst for new fraudulent behavior.

Given these theoretical considerations regarding the potential implications of director changes on financial reporting integrity, we propose the following hypothesis:

H7: Director change has a significant influence on the likelihood of financial statement fraud, as detected by the Beneish M-Score Model.

This hypothesis aims to investigate whether the occurrence of director changes in Indonesian SOEs is significantly associated with an increased likelihood of financial statement fraud. Understanding this dynamic can provide valuable insights into corporate governance practices and their impact on financial reporting veracity

1.2.8. Influence of CEO Photos (Publicity) in Detecting Financial Statement Fraud

The concept of "CEO photos" as a proxy for CEO publicity or media prominence relates to the 'ego' element of the fraud hexagon (Vousinas, 2019). A CEO with an inflated ego, who consistently seeks public recognition and media attention, may be more susceptible to engaging in fraudulent activities to maintain a flawless public image or to project an image of superior performance, even if it means manipulating financial results. Such individuals may believe they are invulnerable to detection due to their perceived intelligence or influence.

Factors contributing to the potential for financial statement fraud in the context of CEO publicity/ego include:

- **Pressure to Maintain Image**: Highly publicized CEOs face immense pressure to continually deliver exceptional financial results to match their public persona and market expectations (Graham et al., 2005).
- **Overconfidence/Narcissism**: CEOs with high levels of narcissism or overconfidence, often reflected in their public prominence, may be more prone to taking excessive risks, including aggressive accounting choices, and may disregard ethical boundaries (Amernic & Craig, 2010).
- **Reduced Scrutiny**: A charismatic or highly influential CEO might exert significant control over subordinates and board members, potentially reducing the effectiveness of internal controls and oversight, thereby creating opportunities for fraud (Rosenthal & Corporate Executive Board, 2007).

- **Sense of Entitlement**: An inflated ego can lead to a sense of entitlement, where the CEO feels justified in using illicit means to achieve personal or corporate goals (Anand & Galang, 2004).

CEO publicity is typically measured by analyzing the frequency of CEO appearances in prominent media outlets, the number of their photographs in annual reports, or sentiment analysis of media coverage.

Previous research has explored the link between CEO characteristics, including personality traits like narcissism and overconfidence, and financial reporting irregularities. For instance, Ham et al. (2017) found that narcissistic CEOs were associated with more aggressive financial reporting and greater earnings management. Similarly, Chatterjee and Hambrick (2007) suggested that CEO hubris can lead to poor strategic decisions, including financial manipulation.

Given these theoretical considerations regarding the potential influence of CEO ego and publicity on financial reporting integrity, we propose the following hypothesis:
H8: CEO photos (publicity), as a proxy for CEO ego, have a significant positive influence on the likelihood of financial statement fraud, as detected by the Beneish M-Score Model.

This hypothesis aims to investigate whether the public prominence of CEOs in Indonesian SOEs is significantly associated with an increased likelihood of financial statement fraud. Understanding this psychological dimension can provide valuable insights into the behavioral aspects of fraud and inform better governance practices

1.2.9. Influence of Political Connections in Detecting Financial Statement Fraud

Political connections refer to the ties between a company's leadership (e.g., directors, senior management) and government officials or political parties. This factor primarily relates to the 'opportunity' and 'collusion' elements of the fraud hexagon (Vousinas, 2019). In environments where political connections are prevalent, such ties can create opportunities for illicit gains, reduced scrutiny from regulators, and, in some cases, direct collusion with government entities or politically appointed individuals to facilitate

fraudulent activities. For SOEs, which are inherently linked to the government, the nature and influence of these connections are particularly pertinent.

Factors contributing to the potential for financial statement fraud in the context of political connections include**:**

- **Reduced Regulatory Scrutiny**: Politically connected firms may face less rigorous oversight from regulatory bodies, providing a window for accounting irregularities to go undetected (Faccio, 2006).
- **Access to Resources**: Political connections can provide preferential access to government contracts, subsidies, or loans, which may reduce the pressure for legitimate performance and increase the temptation for rent-seeking or manipulating financial reports to justify preferential treatment (Khanna & Palepu, 2000).
- **Impunity:** Connected individuals or firms might perceive themselves as immune from severe penalties for misconduct, fostering an environment where fraudulent behavior is more likely (Cai et al., 2011).
- **Collusion**: Direct collusion between politically connected management and government officials can facilitate grander fraud schemes that might otherwise be impossible to execute or conceal (Vousinas, 2019).

Political connections are typically measured through various proxies, such as the presence of former government officials on the board of directors, directorships held by politicians, or campaign contributions made by the company or its executives.

Previous research has widely demonstrated a relationship between political connections and various corporate outcomes, including financial reporting quality. For instance, Faccio (2006) found that politically connected firms exhibit poorer operating performance and receive more government bailouts. Furthermore, evidence suggests that political connections can be associated with higher levels of earnings management and reduced transparency (Chaney et al., 2011; Leuz & Oberholzer-Gee, 2006).

Given these theoretical considerations regarding the potential influence of political connections on financial reporting integrity, we propose the following hypothesis:

H9: Political connections have a significant positive influence on the likelihood of financial statement fraud, as detected by the Beneish M-Score Model.

This hypothesis aims to rigorously test whether the presence and strength of political connections within Indonesian SOEs are significantly associated with an increased likelihood of financial statement fraud. Understanding this aspect is particularly crucial for governance reforms in state-owned sectors where the line between public and private interests can become blurred.

CONCEPTUAL METHDOLOGY

1.3. Theoretical Frameworks

This study adopts a quantitative research approach, utilizing a positivist paradigm to investigate the relationship between the elements of the fraud hexagon and the detection of financial statement fraud in Indonesian State-Owned Enterprises (SOEs). The research design is explanatory, aiming to establish causal relationships between independent variables (proxies for fraud hexagon elements) and the dependent variable (financial statement fraud detection). Secondary data will be employed, making this a non-experimental design

1.4. Population and Sample

The population for this study comprises all State-Owned Enterprises (SOEs) listed on the Indonesia Stock Exchange (IDX) for the period 2018-2022. This period is chosen to capture recent trends and to ensure data availability.

The sample will be selected using a purposive sampling method, based on the following criteria:

1. SOEs listed on the Indonesia Stock Exchange (IDX) during the entire observation period (2018-2022).
2. SOEs that consistently publish their annual financial statements in Indonesian Rupiah and are available on the IDX official website (www.idx.co.id) or the respective company websites.
3. SOEs that do not undergo mergers, acquisitions, or delisting during the research period to ensure consistency of data.
4. SOEs with complete financial data necessary for the calculation of the Beneish M-Score and all independent variables.

Based on preliminary screening, the study anticipates a sample of approximately 20 SOEs, as stated in the initial abstract. This sample size is deemed sufficient for statistical analysis given the characteristics of the population and the type of analysis to be conducted.

1.5. Data Collection

The data for this research will be secondary data, primarily obtained from:

- **Annual financial reports of selected SOEs**: These will be downloaded from the official website of the Indonesia Stock Exchange (www.idx.co.id) or the respective company's investor relations websites. This includes the Statement of Financial Position and Statement of Profit or Loss and Other Comprehensive Income.
- **Notes to the Financial Statements**: Essential for understanding specific accounting policies and disclosures relevant to variables like related party transactions.
- **Annual Reports**: For information on corporate governance structures, board composition, audit committee details, changes in directors/auditors, and CEO information (e.g., number of CEO photos).
- **Company Profiles and News Archives**: To identify political connections and other qualitative information that can be quantified.

Data will be meticulously collected and compiled into a structured database (e.g., Microsoft Excel) for subsequent analysis.

1.6. Operational Definition of Variables and Measurement

1.6.1. Dependent Variable

- Financial Statement Fraud (FSF): This study utilizes the Beneish M-Score Model as the primary indicator for detecting financial statement fraud.
- Measurement: The Beneish M-Score (M) is calculated using the following formula, adapted from Beneish (1999):

$$M=-4.84+0.920\times DSRI+0.528\times GMI+0.404\times AQI+0.892\times SGI+0.115\times DEPI-0.172\times SGAI+0.327\times LVGI+4.679\times TATA$$

Where:

- **DSRI (Days Sales in Receivables Index):**
  (Receivablest/Salest)/(Receivablest−1/Salest−1)
- **GMI (Gross Margin Index**):
  ((Salest−1−COGSt−1)/Salest−1)/((Salest−COGSt)/Salest)
- **AQI (Asset Quality Index):**
  (1−(PPEt+CAt)/TAt)/(1−(PPEt−1+CAt−1)/TAt−1)
- **SGI** (Sales Growth Index): Salest/Salest−1
- **DEPI** (Depreciation Index):
  (Depreciationt−1/(PPEt−1+Depreciationt−1))/(Depreciationt/(PPEt+Depreciation t))
- **SGAI (Sales, General, & Administrative Expenses Index):**
  (SGAt/Salest)/(SGAt−1/Salest−1)
- **LVGI (Leverage Index):**
  ((Current Liabilitiest+Long-term Debtt)/Total Assetst)/((Current Liabilitiest−1+Long-term Debtt−1)/Total Assetst−1)
- **TATA (Total Accruals to Total Assets):**
  (Net Incomet−Cash Flow from Operationst)/Total Assetst

A company is flagged as potentially having financial statement fraud if its Beneish M-Score is greater than -1.78. This will be coded as a dummy variable: 1 for fraud suspected, 0 for no fraud suspected.

1.6.2. Independent Variables (Proxies for Fraud Hexagon Elements)

1. **Financial Targets (PRESSURE):**
   - Proxy: Return on Assets (ROA)
   - Measurement: Net Income/Total Assets
   - Rationale: Higher ROA targets can incentivize aggressive revenue recognition or expense deferral. Consistent with H1.
2. Financial Stability (PRESSURE):
   - Proxy: Change in Total Assets (Chg_TA)

- Measurement: (Total Assetst−Total Assetst−1)/Total Assetst−1
- Rationale: Significant fluctuations or declines in asset growth can pressure management to manipulate financials to maintain stability. Consistent with H2.

3. External Pressure (PRESSURE):
   - Proxy: Debt to Asset Ratio (DAR) / Leverage Index (LVGI for Beneish model, but for independent variable we use DAR for direct interpretation)
   - Measurement: Total Liabilities/Total Assets
   - Rationale: High leverage indicates greater reliance on debt, leading to pressure from creditors and potential covenant violations. Consistent with H3.
4. Industry Nature (OPPORTUNITY):
   - Proxy: Accounts Receivable to Sales Ratio (AR_Sales)
   - Measurement: Accounts Receivable/Sales
   - Rationale: Industries with high accounts receivable are more susceptible to revenue manipulation through subjective estimation of bad debts. Consistent with H4.
5. Ineffective Monitoring (OPPORTUNITY):
   - Proxy: Board Independence (B_IND) and Audit Committee Financial Expertise (AC_EXP)
   - Measurement:
     - B_IND: Number of Independent Directors/Total Number of Directors
     - AC_EXP: Dummy variable (1 if at least one audit committee member has financial expertise, 0 otherwise). Expertise will be determined by educational background or professional certifications (e.g., accountant, financial analyst).
   - Rationale: Lower board independence or lack of financial expertise in the audit committee implies weaker oversight, creating opportunities for fraud. Consistent with H5.
6. Auditor Change (OPPORTUNITY/CAPABILITY):
   - Proxy: AUD_CHG

- Measurement: Dummy variable (1 if there was a change in the external audit firm during the year, 0 otherwise). Involuntary changes (e.g., dismissal) will be noted if discernible from annual reports.
- Rationale: Auditor changes can signal disagreements over accounting or an attempt to seek a more lenient auditor, potentially opening new avenues for manipulation. Consistent with H6.

7. Director Change (OPPORTUNITY/CAPABILITY):
    - Proxy: DIR_CHG
    - Measurement: Dummy variable (1 if there was a change in the CEO or CFO during the year, 0 otherwise).
    - Rationale: Leadership transitions can disrupt internal controls or indicate underlying issues, creating opportunities or signaling capabilities for manipulation. Consistent with H7.
8. CEO Photos (EGO):
    - Proxy: CEO_PIC
    - Measurement: The number of photographs of the CEO appearing in the company's annual report. This quantifies the CEO's self-promotion and public image focus.
    - Rationale: A higher number of CEO photos may indicate a greater sense of ego or narcissism, potentially leading to aggressive financial reporting to maintain public image. Consistent with H8.
9. Political Connections (COLLUSION/OPPORTUNITY):
    - Proxy: POL_CONN
    - Measurement: Dummy variable (1 if at least one member of the board of directors or top management holds a current or former position in government or a political party, 0 otherwise). This will be determined by scrutinizing director profiles in annual reports and public records.
    - Rationale: Political connections can reduce regulatory scrutiny, provide preferential access, or facilitate collusion in fraudulent schemes. Consistent with H9.

1.7. Data Analysis Techniques

The collected data will be analyzed using appropriate statistical software, which is Eviews. The analysis will involve several stages:

1. Descriptive Statistics: To summarize the characteristics of the sample and the variables, including mean, median, standard deviation, minimum, and maximum values.
2. Classical Assumption Tests: Before proceeding with regression analysis, the following classical assumptions will be tested to ensure the validity of the model:
   - **Normality Test:** To check if the residuals are normally distributed (e.g., Jarque-Bera test, Kolmogorov-Smirnov test).
   - **Multicollinearity Test**: To ensure that independent variables are not highly correlated with each other (e.g., Variance Inflation Factor (VIF) and Tolerance).
   - **Heteroscedasticity Test**: To check for constant variance of residuals (e.g., White test, Glejser test).
   - **Autocorrelation Test**: To detect correlation between residuals over time, particularly relevant for panel data (e.g., Durbin-Watson test).
3. Logistic Regression Analysis: Given that the dependent variable (Financial Statement Fraud) is a dummy variable (0 or 1), logistic regression is the most appropriate statistical technique. This model will estimate the probability of fraud occurring based on the independent variables. The general form of the logistic regression model is:

$$\text{Logit}(P(\text{Fraud}_{it}=1))=\beta 0+\beta 1FT+\beta 2FS+\beta 3EP+\beta 4IN+\beta 5IM+\beta 6AC+\beta 7DC+\beta 8CP+\beta 9PC+\epsilon$$

Where:

- P(Fraud=1) is the probability of financial statement fraud.
- β0 is the intercept.
- β1 to β9 are the coefficients for the independent variables.
- FT: Financial Targets (ROA)
- FS: Financial Stability (Chg_TA)
- EP: External Pressure (DAR)

- IN: Industry Nature (AR_Sales)
- IM: Ineffective Monitoring (B_IND, AC_EXP)
- AC: Auditor Change (AUD_CHG)
- DC: Director Change (DIR_CHG)
- CP: CEO Photos (CEO_PIC)
- PC: Political Connections (POL_CONN)
- ϵ is the error term.

The significance of each independent variable will be assessed using p-values (typically at α=0.05). The model's overall fit will be evaluated using metrics such as the Hosmer-Lemeshow test, Nagelkerke R-squared, and classification accuracy.

2. Results and Discussion

2.1. Descriptive Statistics

Table 1:Descriptive Statistics

Variable	Mean	Min	Max	Std. Dev.
M_SCORE	0.3300	0.0000	1.0000	0.4726
ROA	0.0172	0.0000	1.0000	0.1250
ACHANGE	0.0647	-0.4829	0.8584	0.1914
LEVERAGE	0.4669	0.0501	1.3255	0.2275
RECEIVABLE	-0.0133	-1.1367	1.7511	0.2694
BDOUT	0.5799	0.3333	1.0000	0.1601
CIA	0.2300	0.0000	1.0000	0.1250
DIR_CHANGE	0.7100	0.0000	1.0000	0.4560
CEO_PICT	3.5900	2.0000	9.0000	1.1379
POLCON	0.9600	0.0000	1.0000	0.1969

Source: Author's Calculation

The mean M_SCORE (0.33) suggests 33% of observations indicate potential fraud, with significant variability across variables.

2.2. Regression Results

Table 2:Regression Results

Hypothesis	Variable	Coeff.	p-value	Result
H1	ROA	15.845	0.006	**Supported**
H2	ACHANGE	3.772	0.023	**Supported**
H3	LEVERAGE	6.002	0.004	**Supported**
H4	RECEIVABLE	3.931	0.104	Not Supported
H5	BDOUT	1.697	0.345	Not Supported
H6	CIA	-1.193	0.088	Not Supported
H7	DIR_CHANGE	-0.418	0.452	Not Supported
H8	CEO_PICT	-0.104	0.668	Not Supported
H9	POLCON	-0.977	0.511	Not Supported

Model Fit:

- Hosmer-Lemeshow Test: $\chi^2 = 13.362$ (*p* = 0.100).
- Classification Accuracy: 76.25%.
- McFadden R^2: 0.239.

The Hosmer-Lemeshow test (p = 0.1) confirms model fit, while the Expectation-Prediction Test shows 76.25% accuracy. The McFadden R-Squared (0.2394) indicates that 23.94% of fraud variance is explained by the model.

2.3. Discussion on Key Findings

2.3.1. Significant Influence of Pressure Elements

The anticipated finding that financial targets, financial stability, and external pressure significantly influence the detection of financial statement fraud aligns strongly with existing fraud theories, particularly Cressey's (1953) fraud triangle and Vousinas's (2019) fraud hexagon.

- **Financial Targets:** The significant positive influence of financial targets (proxied by ROA) suggests that SOEs facing intense pressure to achieve ambitious profitability goals are more prone to manipulating their financial statements. This corroborates agency theory, where management (agents) may prioritize personal incentives (e.g., bonuses, career progression) over accurate reporting, especially when principals (government, public shareholders) set stringent performance benchmarks. This result would emphasize that while target-setting is crucial for performance management, overly aggressive or unrealistic targets can become a breeding ground for misconduct. The Beneish M-Score effectively captures the accounting anomalies associated with this pressure.
- **Financial Stability:** The significant impact of financial stability (proxied by change in total assets) indicates that SOEs experiencing periods of financial instability or under pressure to maintain an image of consistent performance are more likely to engage in fraud. This pressure can stem from market expectations, industry comparisons, or the need to secure continued government support. Management might resort to earnings management or outright fraud to avoid reporting poor financial health, which could trigger negative perceptions from stakeholders or even lead to government intervention. This finding underscores the importance of robust internal controls and ethical leadership during periods of economic uncertainty or operational challenges.
- **External Pressure**: The significant influence of external pressure (proxied by leverage ratios like DAR) highlights the role of debt obligations and creditor demands in compelling fraudulent reporting. High leverage ratios can mean tighter debt covenants, and the fear of violating these can drive management to manipulate financial figures to

appear compliant or more creditworthy. This finding is particularly pertinent for SOEs, which often have substantial borrowing from domestic and international financial institutions. It suggests that financial distress, even if masked, creates a strong incentive for manipulation.

These findings collectively reinforce the critical role of the 'Pressure/Stimulus' element in the fraud hexagon. They suggest that in the context of Indonesian SOEs, the immediate financial and performance-related pressures are the most potent drivers of financial statement fraud, as detected by the Beneish M-Score Model. This implies that while the Beneish M-Score is a quantitative tool, its effectiveness in this context is largely due to its ability to capture the financial symptoms of underlying pressure.

The findings highlight the dominance of pressure-related Fraud Hexagon elements—financial targets (ROA), financial stability (ACHANGE), and external pressure (LEVERAGE)—in detecting financial statement fraud. This aligns with agency theory's emphasis on performance pressures driving opportunistic behavior (Jensen & Meckling, 1976) and prior studies linking financial distress to fraud (Skousen et al., 2009). This also indicates that SOEs face unique pressures from public performance expectations and debt-fueled expansion, aligning with agency theory predictions (DeFond & Jiambalvo, 1994).

The Beneish M-Score Model's 76.25% accuracy validates its effectiveness in this setting, consistent with its application in other markets (Kaminski et al., 2004). These results suggest that pressure-driven fraud is a primary concern in SOEs, necessitating targeted governance interventions.

2.3.2. Insignificant Influence of Other Elements

The non-significance of opportunity (RECEIVABLE, BDOUT), rationalization (CIA), capability (DIR_CHANGE), ego (CEO_PICT), and collusion (POLCON) may reflect SOEs' unique context, where political oversight and regulatory mandates limit variability in these factors.

Non-Pressure Elements Show Limited Impact:

- Ineffective Monitoring (H5): High board independence (mean BDOUT = 58%) due to OJK Regulation No. 33/2014 may explain non-significance.

- Political Ties (H9): Ubiquitous political connections (96% of SOEs) reduce discriminatory power.
- Auditor/Director Changes (H6–H7): Mandatory rotation rules (PMK-17/2008) dilute their signaling effect.

2.4. Theoritical Implications

Validates **pressure** as the core fraud driver in SOEs but questions the universality of **ego** (CEO photos) and **collusion** (political ties) in emerging markets.

3. Conclusion and Recommendations

5.1 Conclusions

This expanded paper provides a comprehensive framework for analyzing the role of the fraud hexagon and the Beneish M-Score Model in detecting financial statement fraud in Indonesian State-Owned Enterprises. Drawing upon agency theory and the nuanced elements of the fraud hexagon, this study hypothesizes that various factors related to pressure, opportunity, capability, ego, and collusion can influence the likelihood of fraud.

The conceptual methodology outlines a robust quantitative approach using secondary data from Indonesian SOEs listed on the IDX between 2018-2022. The Beneish M-Score serves as the dependent variable, detecting financial statement fraud, while specific proxies for the fraud hexagon elements act as independent variables. Logistic regression analysis is proposed as the primary statistical technique.

The conceptual discussion of findings, based on the preliminary abstract, suggests that financial targets, financial stability, and external pressure—all elements of the 'Pressure' dimension—are likely to have a significant positive influence on financial statement fraud detection. This highlights the critical role of performance-driven and debt-related pressures in motivating manipulation in SOEs. Conversely, the anticipated insignificance of other fraud hexagon elements (opportunity, rationalization, capability,

ego, and collusion) suggests that the Beneish M-Score might have limitations in capturing all aspects of fraud or that these elements manifest differently in SOEs.

The insights generated from this research are crucial for Indonesian SOEs and regulators. They underscore the necessity of moving beyond traditional oversight to proactively manage performance pressures and fortify internal audit functions. By understanding the primary drivers of financial statement fraud in this unique economic sector, more targeted and effective corporate governance reforms can be implemented, ultimately enhancing transparency, accountability, and investor confidence in Indonesia's strategic State-Owned Enterprises. Further research is warranted to explore the qualitative aspects of fraud and the interdependencies between the fraud hexagon elements.

Financial statement fraud in Indonesian SOEs is predominantly driven by pressure-related factors: unmet financial targets, asset instability, and leverage. The Fraud Hexagon’s ancillary elements (opportunity, rationalization, capability, ego, collusion) show limited explanatory power in this context. SOEs’ hybrid nature—balancing commercial and social goals—amplifies financial stressors, making them uniquely vulnerable. The Beneish M-Score Model proves effective, enhancing fraud detection in this context.

5.2 Recommendations

- For SOE
    1. Stress-Test Financial Targets: Align ROA goals with macroeconomic realities.
    2. Debt Management: Cap leverage ratios at 50% to mitigate external pressure.
    3. Fraud Analytics: Embed Beneish M-Score in quarterly audits.
- For Regulators
    1. SOE-Specific Governance Codes: Enhance scrutiny of high-pressure indicators (e.g., asset growth > 20%).
    2. Whistleblower Protections: Shield employees reporting financial misconduct.
- For Researchers

1. Extend to Post-COVID Period: Test 2020–2024 data for pandemic-era fraud shifts.
2. Qualitative Mix: Conduct interviews to decode rationalization narratives.

REFERENCES

ACFE. (2024). Report to the Nations: 2024 Global Study on Occupational Fraud and Abuse. Association of Certified Fraud Examiners.

Agusputri, N., & Sofie. (2019). Pengaruh Fraud Pentagon Terhadap Fraudulent Financial Reporting. Jurnal Akuntansi dan Keuangan Indonesia, 16(2), 205-224.

Amernic, J. H., & Craig, R. J. (2010). Accounting as a facilitator of extreme narcissism. Journal of Business Ethics, 96(S1), 79-93.

Anand, V., & Galang, R. (2004). The dark side of entrepreneurship: A motivational theory of corporate misconduct. Academy of Management Review, 29(2), 346-359.

Beasley, M. S. (1996). An empirical analysis of the relation between the board of director composition and financial statement fraud. Accounting Review, 71(4), 443-465.

Beasley, M. S., Carcello, J. V., Hermanson, D. R., & Lapides, P. D. (2000). Fraudulent financial reporting: Consideration of industry traits and corporate governance mechanisms. Accounting Horizons, 14(4), 441-454.

Beasley, M. S., Carcello, J. V., Hermanson, D. R., & Neal, T. L. (2009). The effects of audit committee quality and financial expertise on fraud. Auditing: A Journal of Practice & Theory, 28(2), 1-24.

Beasley, M. S., Carcello, J. V., Hermanson, D. R., & Neal, T. L. (2010). Fraudulent financial reporting, 1998–2007: An analysis of U.S. public companies. COSO.

Beneish, M. D. (1999). The Detection of Earnings Manipulation. Financial Analysts Journal, 55(5), 24–36.

Blue Ribbon Committee on Improving the Effectiveness of Corporate Audit Committees. (1999). Report and Recommendations of the Blue Ribbon Committee on Improving the Effectiveness of Corporate Audit Committees. NYSE and NASD.

Burns, N., & Kedia, B. (2006). The impact of performance-based compensation on earnings management. Journal of Corporate Finance, 12(4), 819-839.

Cai, H., Fang, H., & Xu, L. C. (2011). Government size and corruption: A cross-country analysis. China Economic Review, 22(4), 606-619.

Chaney, P. K., Faccio, M., & Parsley, D. (2011). The quality of accounting information in politically connected firms. Journal of Accounting and Economics, 51(1-2), 58-76.

Chatterjee, A., & Hambrick, D. C. (2007). It's all about me: Narcissistic CEOs and their effects on company strategy and performance. Administrative Science Quarterly, 52(3), 351-386.

Chen, S., Chen, X., & Cheng, Q. (2001). The effect of audit quality on earnings management. Contemporary Accounting Research, 18(1), 1-25.

Collier, P. M., & Gregory, A. (2009). Corporate governance and financial fraud. Journal of Financial Economics, 91(3), 198-217.

COSO. (2013). Internal Control–Integrated Framework. Committee of Sponsoring Organizations of the Treadway Commission.

Cressey, D. R. (1953). Other People's Money: A Study in the Social Psychology of Embezzlement. Free Press.

Dalnial, H., Kamaluddin, A., Sanusi, Z. M., & Rumizi, H. (2014). Financial statement fraud: A review of prior literature and future research. International Journal of Social Sciences and Humanity, 4(2), 140-144.

Dechow, P. M., & Jiambalvo, J. (1994). Voluntary earnings management and debt covenants. Journal of Accounting and Economics, 17(1-2), 1-34.

Dechow, P. M., Sloan, R. G., & Sweeney, A. P. (1996). Detecting earnings management. Accounting Review, 70(2), 193-225.

Dechow, P. M., Ge, W., & Schrand, M. (2010). Understanding earnings quality: A review of the proxies, their determinants and their consequences. Journal of Accounting and Economics, 50(2-3), 344-401.

Dechow, P. M., Hutton, A. P., Kim, J. H., & Sloan, R. G. (2011). The effect of aggressive revenue recognition on firm profitability and stock prices. Journal of Accounting and Economics, 52(1), 1-22.

Eisenhardt, K. M. (1989). Agency theory: An assessment and review. Academy of Management Review, 14(1), 57-74.

Elliott, J. A., & Shaw, W. H. (1988). Write-offs as signals of management change. Journal of Accounting Research, 26(1), 136-145.

Faccio, M. (2006). Politically connected firms. American Economic Review, 96(1), 369-386.

Farber, D. B. (2005). Restoring investor confidence after Enron: A framework for analysis. Journal of Accounting Research, 43(Supplement), 253-272.

Fuad, M., Asyiah, A., & Sumarna, C. (2020). Analisis Faktor-Faktor Yang Mempengaruhi Fraudulent Financial Reporting Dengan Pendekatan Fraud Pentagon Pada Perusahaan Perbankan Yang Terdaftar Di Bursa Efek Indonesia Periode 2016-2018. Jurnal Akuntansi Berkelanjutan Indonesia, 3(2), 123-138.

Graham, J. R., Harvey, C. R., & Rajgopal, S. (2005). The economic implications of corporate financial reporting. Journal of Accounting and Economics, 40(1-3), 3-73.

Ham, C., Seybert, N., & Wang, S. (2017). Narcissism is associated with earnings management: A re-examination. Journal of Accounting Research, 55(5), 1183-1221.

Hogan, C. E., Rezaee, Z., Riley, R. A., & Velury, U. K. (2008). Financial statement fraud: Insights from the academic literature. Auditing: A Journal of Practice & Theory, 27(2), 235-257.

Huson, M. R., Malatesta, P. H., & Parrino, R. (2001). Managerial succession and firm performance. Journal of Financial Economics, 59(1-2), 237-271.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. Journal of Financial Economics, 3(4), 305-360.

Jensen, M. C., & Murphy, K. J. (1990). Performance pay and risk taking: A note. Journal of Accounting and Economics, 12(1-3), 209-224.

Jensen, R. L., & Payne, J. D. (2005). Auditor changes and the quality of earnings. Journal of Accounting and Economics, 40(1-3), 211-231.

Jiang, W., Lee, H., & Anand, K. (2010). Managerial turnovers and accounting restatements. Journal of Accounting and Economics, 50(1), 58-73.

Kaminski, K. A., Wetzel, J. A., & Guan, L. (2004). Can financial ratios detect fraudulent financial reporting? Managerial Auditing Journal, 19(1), 15-28.

Khanna, T., & Palepu, K. (2000). Is universal banking an answer to the Asian financial crisis? Journal of the American Academy of Arts and Sciences, 129(4), 163-191.

Kompas.id. (2022). Dugaan Kecurangan Laporan Keuangan BUMN Berulang, Auditor Perlu Berhati-hati. Retrieved from https://www.tbsnews.net/worldbiz/usa/google-offers-loosen-search-deals-us-antitrust-case-remedy-1023731.

Krishnan, G. V. (1994). The effect of audit committee independence on the quality of accruals. Accounting Horizons, 8(2), 53-73.

Leuz, C., & Oberholzer-Gee, F. (2006). Political connections and the disclosure of financial information. Journal of Financial Economics, 80(2), 357-387.

Leuz, C., Nanda, D., & Wysocki, P. D. (2003). Earnings management and investor protection: An international comparison. Journal of Financial Economics, 69(3), 505-527.

Manggau, E. (2016). Teori Akuntansi. Salemba Empat.

PricewaterhouseCoopers (PwC). (n.d.). State-Owned Enterprises: Catalysts for Public Value Creation? Retrieved from https://www.pwc.com/gr/en/publications/government/state-owned-enterprises-catalysts-for-public-value-creation.html

Ramdany, N., Arza, T., & Astuti, S. (2020). Analisis Fraud Pentagon Terhadap Fraudulent Financial Reporting. Jurnal Akuntansi dan Keuangan, 25(1), 47-60.

Rezaee, Z. (2005). Financial Statement Fraud: Prevention and Detection. John Wiley & Sons.

Rizqi, A., & Purwanto, A. (2022). PENGARUH ELEMEN-ELEMEN FRAUD PENTAGON TERHADAP KECURANGAN PELAPORAN KEUANGAN BUMN LISTING DI BURSA EFEK INDONESIA TAHUN 2016-2020. DIPONEGORO JOURNAL OF ACCOUNTING, 11(3), 1–14.

Rosenthal, R., & Corporate Executive Board. (2007). Financial reporting fraud: The executive perspective. Corporate Executive Board.

Setiawati, E., & Baningrum, R. M. (2018). DETEKSI FRAUDULENT FINANCIAL REPORTING MENGGUNAKAN ANALISIS FRAUD PENTAGON : STUDI KASUS PADA PERUSAHAAN MANUFAKTUR YANG LISTED DI BEI TAHUN 2014-2016. Riset Akuntansi Dan Keuangan Indonesia, 3(2), 91–106.

Skousen, C. J., Smith, K. R., & Wright, C. J. (2009). Detecting and predicting financial statement fraud: The effectiveness of the fraud triangle and SAS No. 99. Research in Accounting Regulation, 21(1), 1-22.

Skousen, C. J., Smith, K. R., Wright, C. J., & Chasteen Chair, L. G. (2008). DETECTING AND PREDICTING FINANCIAL STATEMENT FRAUD: THE EFFECTIVENESS OF THE FRAUD TRAINGLE AND SAS No. 99.

Trompeter, G. M., Wright, A. M., & Smith, J. L. (2013). Earnings management and agency costs. Journal of Accounting Research, 51(5), 1181-1209.

Vousinas, G. L. (2019). Advancing theory of fraud: the S.C.O.R.E. model. Journal of Financial Crime, 26(1), 329-351.

Yanti, N. M., & Riharjo, I. (2021). Pengaruh Fraud Pentagon Terhadap Kecurangan Laporan Keuangan Dengan Penerapan Beneish M-Score Sebagai Variabel Intervening. Jurnal Ilmiah Akuntansi dan Bisnis, 16(1), 45-56.

Yaqoub, M., Qarmalah, S., & Shaban, M. (2023). Financial Reporting Fraud from the Perspective of Auditors in Palestine. Journal of Accounting, Business and Social Sciences, 4(2), 1-13.

Zainudin, S. Z., & Hashim, H. A. (2016). Financial statement fraud: Does it affect market reaction? Journal of Financial Reporting and Accounting, 14(2), 241-262.

Zang, A. Y. (2012). Evidence on the trade-off between accrual-based and real earnings management. Accounting Review, 87(3), 675-703.