

EXPLORING THE ROLE OF INTERNAL AUDITOR EXPERTISE, INTERNAL CONTROLS, AND WHISTLEBLOWING SYSTEMS IN MITIGATING FRAUD: EVIDENCE FROM STATE-OWNED ENTERPRISES LISTED ON THE IDX (2020-2023)

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Abstract

This study aims to examine the effect of internal auditor financial expertise, internal control effectiveness, and whistleblowing system on the amount of fraud. The object of research is focused on state-owned companies listed on the Indonesia Stock Exchange (IDX) during the period 2020 to 2023. The sampling technique applied using the purposive sampling method was 22 companies that met the criteria. Data analysis was done with descriptive statistics and panel data regression. Based on the results of the study, it shows that partially the variables of internal auditor financial expertise and the effectiveness of internal control have no effect on the amount of fraud. However, the whistleblowing system variable has a positive effect on the amount of fraud. This indicates that the higher the financial expertise of internal auditors and the effectiveness of internal control owned by the company have no influence on the amount of fraud. Meanwhile, the more active the whistleblowing system is carried out, the higher the possibility of fraud being revealed.

Keywords: Amount of Fraud, Effectiveness of Internal Control, Internal Auditor Financial Expertise, Whistleblowing System

I. INTRODUCTION

Fraud is a serious problem that can threaten and even damage the existence of an organization. The motive behind the act of fraud itself is to obtain personal or certain group benefits which are carried out by harming other parties. Corruption, misuse of assets, and manipulation of financial statements are evidence of fraud committed by both individuals and other organizational institutions. According to the Indonesian Fraud Survey conducted by ACFE in 2019, the frequency of financial statement fraud in Indonesia increased by 9.2% in 2019, with losses exceeding Rp 10 billion (Association of Certified Fraud Examiners Indonesia, 2019).

Fraud is an act committed intentionally with the aim of deceiving and misleading users of financial statements, by presenting and manipulating numbers in financial statements, so that company shares remain attractive to investors (Wicaksana & Suryandari, 2019). Fraud can arise due to various factors, such as

lack of effectiveness in the internal control system, weak implementation of the whistleblowing system, and lack of protection for fraud reporters so that employees who report irregularities do not get adequate support from the company. In addition, low financial expertise of internal auditors can also contribute to the occurrence of fraud, because internal auditors who lack competence in finance may fail to detect and prevent manipulative activities (Sugita & Khomsiyah, 2023).

The act of fraud has a close relationship with internal audit, because the purpose of internal audit is to assist organizational management in determining whether the organization's operational leaders have followed the policies and procedures set by the company. Fraudulent practices can be carried out by top management, employees, or anyone involved in business activities in companies that have the potential to commit fraud. The role of internal auditors is as internal consultants of the company who must be able to provide early warning to management in order to prevent and reduce the impact of fraud that can harm the company (Basri, 2021). Internal auditor characteristics, such as financial expertise, can affect the prediction of the likelihood of fraud in financial statements (Wang et al., 2022). This means that companies need independent auditors who have good competence and experience so that quality and timely audit reports can be produced. The existence of an audit is very useful to increase the integrity of financial statements that can be trusted for stakeholders in making decisions related to the sustainability and management of the company (Farid & Baradja, 2022).

The occurrence of fraud cases in Indonesia is still common today, both in private companies, government agencies, non-profit organizations, and state-owned companies. AFCE survey results (2019) state that State-Owned Enterprises (SOEs) are involved in fraud cases as much as 31.8%. This can be proven by the many fraud cases that have occurred in State-Owned Enterprises (BUMN) such as at PT. Social Insurance of the Armed Forces of the Republic of Indonesia or better known as PT. Asabri. PT. Asabri, which incurred losses of approximately IDR 23 trillion due to fraudulent investments, and PT Indofarma, which was reported by the Audit Board of Indonesia (BPK) to have caused state losses of IDR 371.8 billion due to the misuse of pharmaceutical production funds (Kompas.com, 2024). These cases highlight the urgency of conducting research on fraud prevention within SOEs. Suspicion of PT Asabri continued into 2021, with reports revealing that the company was proven to have committed fraudulent acts in the form of corruption through agreements in illegal stock and mutual fund transactions, as well as manipulation of financial

statement data for the benefit of external parties. The selection of State-Owned Enterprises (SOEs) as the research sample is not merely due to data limitations, but rather because the SOE sector exhibits a high level of vulnerability to fraud. Furthermore, SOEs possess distinctive governance characteristics compared to private companies, such as political intervention, state ownership, and public service obligations. These features make SOEs a particularly relevant context for examining fraud prevention mechanisms.

Vulnerability of State-Owned Enterprises (SOEs) to fraud is often caused by a lack of prevention efforts from internal auditors. The role of internal auditors includes detection, prevention and monitoring of fraud risks, as well as addressing these risks through audits and investigations fraud risks. Internal auditors are expected to utilize their financial expertise to analyze data to identify trends and patterns that could potentially indicative of fraud. The Securities and Exchange Commission (SEC) issued regulations that financial expertise can be proven through a background in education and experience as a principal officer in the financial sector, accounting, controller, public accountant, auditor, or someone who has expertise in more than one position that has similar functions (Eriandani & Dewi, 2022).

In addition to the financial expertise of internal auditors, companies need a good internal control system. Lack of implementation of internal control effectiveness causes information disclosure to be inaccurate and not transparent, which ultimately opens up opportunities for fraud. Fraud can also have a broad negative impact on the company, starting from financial aspects to social aspects (Rahayu et al., 2020). The phenomenon of weak internal control systems in state-owned companies can be seen in the case of PT Indofarma Tbk. The BPK report revealed indications of significant irregularities that caused state losses of Rp371.8 billion. This was caused by weak internal audit procedures and lack of training for supervisory staff reported by Kompas.com (Rokhimah, 2024).

Detecting the amount of fraud can be achieved through a whistleblowing system which is one of the efforts to help the company in improving the efficiency of corporate governance. The whistleblowing system is considered to serve as a platform with the potential to act as a disclosure step against the occurrence of fraud (Wahyuningtiyas & Pramudyastuti, 2022). This policy is used as a means that can help the company's internal parties to convey information that occurs within the company, such as committing fraud. This is consistent with the findings of Sugita &

Khomsiyah (2023) and Pramudyastuti et al. (2021) which explain that the whistleblowing system has a significant effect on the amount of fraud. Conversely, research conducted by Mardiana et al. (2024) explains that the whistleblowing system has no effect on fraud.

This study extends research conducted by Mahyuda et al. (2024), which examines the effect of internal audit and the whistleblowing system on fraud disclosure. The main difference in this study lies in the variables used, namely Internal Auditor Financial Expertise, Internal Control Effectiveness, and Amount of Fraud. In addition, this study also has differences in objects and time periods, where the previous study focused on banking sector companies for the period 2018-2022, while this study examined state-owned companies listed on the Indonesia Stock Exchange in the period 2020-2023. This study differs from previous research (e.g., Mahyuda et al., 2024), which employed a banking sector sample for the 2018-2022 period. The novelty of this study lies in: (1) the use of state-owned enterprises (SOEs) as the research object, which are more prone to fraud risk; (2) the selection of the 2020-2023 period, reflecting the post-major fraud scandals in SOEs; and (3) the simultaneous inclusion of whistleblowing system, internal auditor expertise, and internal control effectiveness variables in examining corporate fraud.

II. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Agency Theory

Agency theory was first introduced by Jensen & Meckling 1976. Agency theory describes the emergence of agency problems due to the separation between ownership and management of the company. One of the problems that arises is the difference in conflicts of interest between shareholders as principals and managers as agents. Agency theory provides a strong foundation in understanding the role of internal auditors in the relationship between company owners (principals) and management (agents). Internal auditors can be studied from various perspectives in agency theory, with the main task of ensuring that the financial statements presented by management are objective, accurate, and in accordance with accounting standards.

Agency theory also highlights that information imbalances between management and owners can increase the risk of financial statement fraud. This fraud is a form of opportunistic agent behavior that is contrary to the interests of the principal. Internal auditors play a role in reducing information asymmetry by

independently assessing the quality and reliability of financial statements, while ensuring that management's interests are in line with company goals, so that they can assist in detecting fraud. To reduce or prevent fraud, companies need to increase the effectiveness of internal control, one of which is by implementing a whistleblowing system and rules that must be obeyed by all employees as agents.

2.2 Internal Auditor Financial Expertise

Internal auditor financial expertise is defined as the knowledge, skills, experience, and possession of relevant educational degrees and certifications in accounting or finance, which enable internal auditors to perform audits effectively and objectively. An expert is defined as an individual who has specialized skills or in-depth knowledge in a field, gained through education and experience (Salsadilla et al., 2023). Internal auditors must have expertise in auditing, accounting, and finance so that the results of the audit can be trusted. Professional certifications such as Certified Internal Auditor (CIA), Professional Internal Auditor (PIA), Certified Financial Services Auditor (CFSa), Certified Fraud Examiner (CFE), Qualified Internal Auditor (QIA), and so on can be an indicator of financial expertise competence. Internal auditors who pursue higher education will have relevant financial expertise certifications in the field to understand the audit process thoroughly (Nurgupita & Fraud Auditor, 2024).

2.3 Internal Control Effectiveness

The effectiveness of internal control includes the methods, procedures, and policies established by management to ensure operational efficiency, reliability of financial reporting, protection of assets, and compliance with applicable regulations to ensure the achievement of various objectives in the organization (Nadia et al., 2020). According to COSO (Committee of Sponsoring Organizations) internal control is a process that involves all elements of the company to achieve organizational goals and protect assets. The COSO framework consists of five main elements, namely the control environment, risk assessment, control activities, information and communication, and monitoring. Control Internal control not only aims to reduce the risk of fraud, but also ensures that every procedure and policy is implemented in accordance with standards there by creating a transparent and free from fraud work environment.

2.4 Whistleblowing System

The whistleblowing system is a means for whistleblowers to disclose suspected violations. This system serves as an anti-fraud strategy that supports internal

control. Its development includes various methods, such as manual systems, hotlines, and web-based platforms, to encourage active participation in reporting fraud so that the Company's financial statements can be maintained reports are presented accurately and transparently in accordance with actual conditions (Nurullah et al., 2022). Whistleblowing is the act of disclosing violations of the law, unethical behavior, or fraud, carried out by employees or leaders. The report is submitted to authorized parties, such as superiors within the organization or external agencies that have the authority to follow up and take action on the violations.

2.5 Fraud

Fraud is an act that is carried out dishonestly and intentionally, which can cause losses to the company, both in terms of financial and reputation. As a result of this fraud not only harms the company, but also employees and other parties involved (Murtiningrum, 2023). There are three main types fraud: Financial statement fraud, which is the manipulation of data or financial statements that are misleading financial statements; Asset misappropriation, which involves embezzlement or theft of company assets; and Corruption, which includes bribery, conflicts of interest, or abuse of position for personal gain.

Fraud arises due to several supporting factors (Febriandani & Utomo, 2022). These factors are related to situations, conditions, or pressures experienced by individuals or group. Some of these factors can encourage fraud, including among others: Opportunity, refers to the potential that each position in the organization has to commit fraud. Exposure states that even though fraud has been discovered, this does not guarantee that fraud will not be repeated, either by the same perpetrator. Need, arises when individuals prioritize personal interests over professional responsibilities, which can trigger fraud. Greed, arises from individual morals that are influenced by the surrounding environment, where individuals influenced by the surrounding environment, where individuals who are too focused on personal gain become more vulnerable to choosing shortcuts through fraud.

2.6 The Effect of Internal Auditor Financial Expertise on Amount of Fraud

The perspective of agency theory, management acts as an agent responsible for maximizing profits for company owners. However, managers also have personal interests that are often different from the owner (principal) so that it can trigger a conflict of interest. This difference in interest can lead to agency problems so that this has the potential to cause fraud (Chenkiani & Prasetyo, 2023). Therefore, being

able to reduce fraud is very important in agency theory, especially because unbalanced information between agents and owners allows agents to utilize information for personal gain. Auditors internal have the responsibility to support management in identifying, uncovering, and investigating fraud that occurs within the organization and are obliged to carry out internal audits and report any findings related to fraud or other violations to the appropriate parties. any findings related to fraud or other violations to the competent authorities for further action (Permatasari et al., 2023).

This research hypothesis is prepared based on an analysis of the findings of previous research Candraningtyas et al. (2024) state that auditors with accounting and crime audit expertise help investigators uncover fraud. This finding is in line with Pardede et al. (2024) and Nurgupita & Rahman (2024), which show that the financial expertise of internal auditors affects the amount of fraud. Internal auditors who have expertise from education and certification can help directors detect fraud earlier. The higher the financial expertise of internal auditors, the lower the number of frauds.

H₁: Financial expertise of internal auditors has a negative effect on the amount of fraud

2.7 The Effect of Internal Control Effectiveness on Amount of Fraud

Through an effective internal control system, the risk of fraud can be minimized. In this case, the company is expected to strengthen the effectiveness of internal control so that operations run smoothly and according to plan. Good control is able to detect irregularities early, so that preventive action can be taken before fraud becomes bigger (Syahril, 2019). Therefore, the effectiveness of internal control is directly related to the decrease in the amount of fraud that occurs in the company. The more effective internal control is, the less fraud will occur. Strong internal control can prevent, detect, and reduce opportunities for fraud within the company.

Cahyani & Wahyundaru (2020) suggest that if internal control is implemented effectively, supervision of employee performance and management systems will be tighter, so the risk of fraud can be reduced. Research conducted by Akhtar et al., (2022), Kumalasari & Nursiam (2022), and Aurelia et al., (2022) which suggests that the effectiveness of internal control has a significant effect on fraud detection. This shows that the more effective internal control is, the less fraud will occur.

H₂: Internal control effectiveness has a negative effect on the amount of fraud

2.8 The Effect of Whistleblowing System on Amount of Fraud

The implementation of a whistleblowing system is one of the most effective methods in detecting fraud. The whistleblowing system must be managed by an independent special officer and accompanied by an adequate protection policy for whistleblowers. The whistleblowing system has a positive effect on the number of detected fraud cases because it increases the number of identified incidents, rather than the actual occurrence of fraud. From a fraud detection perspective, the more actively a whistleblowing system is utilized, the greater the number of reported cases, thereby making the level of fraud appear higher. This finding is consistent with the fraud discovery theory (Gumelar & Kurniawan, 2024), which posits that the implementation of a whistleblowing system enhances fraud visibility. By implementing this system, more cases of fraud in the company can be revealed, which means that the implementation of a whistleblowing system will contribute to an increase in the amount of fraud.

Gumelar & Kurniawan's research (2024) states that the whistleblowing system is one of the most effective methods in detecting fraud. Research conducted by Sakinah et al. (2023), Pramudyastuti et al. (2021), and Puspita (2021) explained that the whistleblowing system has a significant effect on the amount of fraud. By implementing this system, more cases of fraud in the company can be detected, which means that the implementation of the whistleblowing system will contribute to an increase in the amount of fraud disclosures.

H₃: Whistleblowing system has a positive effect on the amount of fraud

2.9 Conceptual Framework

Based on the literature review and previous research, the research model (conceptual framework) is presented in Figure 1.

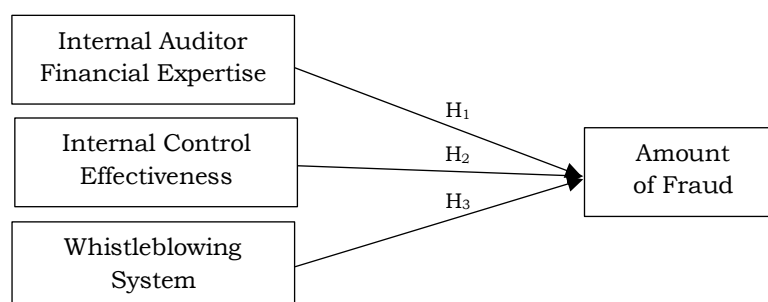


Figure 1
Research Model

III. RESEARCH METHOD

This research used a quantitative approach. Quantitative methods are used with the aim of testing existing hypotheses using data in the form of numbers as research variables. The data used is panel data type. This study focuses on the financial expertise of internal auditors, the effectiveness of internal control, the whistleblowing system, and the amount of fraud in state-owned companies listed on the Indonesia Stock Exchange. Sampling using purposive sampling technique, namely on the condition that the financial statements have been released during the research period, namely 2020-2023 and the data and information needed are complete. The period of 2020-2023 was selected as it represents the phase following the intensive implementation of corporate governance strengthening policies in state-owned enterprises after the Asabri and Jiwasraya scandals. In addition, this period also reflects the post-COVID-19 era, during which financial reporting transparency became increasingly critical. Based on these criteria, 22 companies were selected with a period of 4 (four) years. So that this study has a sample of 88 observation data. This study utilized secondary data sourced from the company's annual financial statements with the data collection technique used is documentation. Documentation in this study includes collecting, recording, and observing and analyzing documents on the company's annual report.

The data analysis technique used in this research is quantitative data analysis. The tests carried out include panel data regression model selection test, classical assumption test consisting of multicollinearity test and heteroscedasticity test. Hypothesis testing is done by analyzing panel data regression, t-test for partial analysis and coefficient of determination (R^2) test. The following is a research model used for panel data regression in this study:

$$FRQTY = \alpha + \beta_1 IAEXP_{i,t} + \beta_2 ICEFF_{i,t} + \beta_3 WBS_{i,t} + \varepsilon_{i,t}$$

Description:

FRQTY	= Amount of Fraud
α	= Constant
$\beta_1, \beta_2, \beta_3$	= Variable Regression Coefficient
i, t	= i as cross section, t as time series
IAEXP	= Internal Auditor Financial Expertise
ICEFF	= Internal Control Effectiveness
WBS	= Whistleblowing System
ε	= Error

The use of proxy variables in this study is explained in Table 1.

Table 1
Variable Measurement

Variable	Proxy	Source
Number Of Fraud (FRQTY)	Number of fraud cases disclosed in the annual report	Mahyuda et al., (2024)
Internal Auditor Financial Expertise (IAEXP)	$\frac{\text{Number of financial expert members}}{100\% \text{ Number of members}} \times 100\%$	Utami et al., (2019)
Internal Control Effectiveness (ICEFF)	Variable <i>Dummy</i> Code 0, if the company does not disclose the effectiveness of internal control items in the annual report. Code 1, if the internal control effectiveness item is disclosed in the annual report.	Wahyuni & Hayati, (2022)
Whistleblowing System (WBS)	$\frac{\text{Number of items implemented}}{\text{Number of items according to KNKG}} \times 100\%$	Wahyuni & Hayati, (2022)

The whistleblowing system is measured using the guidelines established by the National Committee on Governance Policy (KNKG), which consist of six main dimensions encompassing a total of 40 indicators (e.g., whistleblower protection policy, reporting mechanism, complaint channels, follow-up procedures, and transparency of investigation outcomes). In this study, the number of indicators implemented by each company is compared to the total KNKG indicators to generate a percentage score.

This study does not include control variables, as the main focus is to examine the direct effects of the three independent variables on the incidence of fraud. However, the author acknowledges that control variables such as firm size, leverage, and profitability may influence the results. Therefore, future research is recommended to incorporate relevant control variables to enhance the robustness of the findings.

IV. RESULTS AND DISCUSSION

4.1 Descriptive Statistics

Table 2
Descriptive Statistics

	IAEXP	ICEFF	WBS	FRQTY
Mean	0.521988	0.897727	3.878788	5.147727
Maximum	1.000000	1.000000	39.833333	46.00000
Minimum	0.086310	0.000000	0.1666667	0.000000
Std. Dev.	0.242322	0.304743	7.733208	8.580303
Observations	88	88	88	88

Source: Eviews 12 Data Processing Results, 2025

Based on descriptive statistical analysis, the FRQTY variable has an average of 0.521988 which indicates that on average there are 5 cases of fraud in SOE companies per year, with a standard deviation of 8.580303. A minimum value of 0 indicates no cases, and a maximum value of 46 indicates the highest number of cases. The IAEXP variable has an average of 0.521988, meaning that 52.19% of internal auditors have financial expertise, with a standard deviation of 0.242322. The minimum value of 0.086310 indicates the lowest expertise of 8.63%, and the maximum value of 1.000000 indicates that all auditors have financial expertise. The ICEFF variable has an average of 0.897727 or 89.77%, which means that the majority of companies have disclosed the effectiveness of internal control, with a standard deviation of 0.304743.

A minimum value of 0 indicates no disclosure, and a maximum of 1 indicates full disclosure according to COSO standards. The WBS variable has an average of 3.878788, meaning that on average there are 3 reports of violations per year, with a standard deviation of 7.733208. The minimum value of 0.166667 or 16.66% and the maximum of 39.83333 which indicates that the company has a whistleblowing detection system worth 39.83% the company has a whistleblowing system detection.

4.2 Panel Data Regression Model Selection Test

Table 3
Chow Test

Effect Test	Statistic	d.f	Prob.
Cross-section F	7.917103	(21,63)	0.0000
Cross-section Chi-square	113.671218	21	0.0000

Source: EvIEWS 12 Data Processing Results, 2025

According to the results of the chow test (Table 3), the cross-section probability value is $0.0000 < 0.05$. This indicates that the selected model is the fixed effect model.

Table 4
Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section Chi-square	7.877648	3	0.0486

Source: EvIEWS 12 Data Processing Results, 2025

Based on the results of the Hausman test (Table 4), the cross-section probability value is $0.0486 < 0.05$. This indicates that the selected model is a fixed effect model.

4.3 Classical Assumption Test

Table 5
Multicollinearity Test

	IAEXP	ICEFF	WBS
IAEXP	1.000000	0.042508	-0.229399
ICEFF	0.042508	1.000000	0.010124
WBS	-0.229399	0.010124	1.000000

Source: Eviews 12 Data Processing Results, 2025

The result of the multicollinearity test displayed in Table 5 indicate that the variables internal auditor financial expertise, internal control effectiveness, and whistleblowing system as independent variables show a value smaller than 0.8, meaning that it can be concluded that there is no multicollinearity between these variables.

Table 6
Heteroscedasticity Test

Variable	Prob.
C	0.2751
IAEXP	0.1189
ICEFF	0.9639
WBS	0.1368

Source: Eviews 12 Data Processing Results, 2025

As presented in Table 6, the results of the heteroscedasticity test conducted with the Glejser test show that all independent variables have a probability value > 0.05 so it can be said that the regression model of this study is free from heteroscedasticity.

4.4 Results of Panel Data Regression Analysis and t Test

Based on the results of the panel data regression analysis displayed in table 7 above, the relationship between the research variables can be explained in the following equation:

$$FRQTY = 5.951091 - 3.592633IAEXP_{it} - 0.321657ICEFF_{it} + 0.350807WBS_{it} + \varepsilon_{i,t}$$

Referring to the derivative model equation presented on Table 7, it can be interpreted that the internal auditor financial expertise variable has a prob value of 0.1895 which is above 0.05 with a negative coefficient, which indicates that the first hypothesis (H1) is **not supported**. In addition, the internal control effectiveness variable has a prob value of 0.9397 which is greater than 0.05 with a negative coefficient, resulting in the second hypothesis (H2) being **not supported**. Conversely, the whistleblowing system variable has a prob value of 0.0011 which is less than

0.05 and accompanied by a positive coefficient, indicating that the third hypothesis (H3) is **supported**.

Table 7
Results of Panel Data Regression Analysis and t Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.951091	4.101041	1.451117	0.1517
IAEXP	-3.592633	2.708379	-1.326488	0.1895
ICEFF	-0.321657	4.232614	-0.075995	0.9397
WBS	0.350807	0.102286	3.429670	0.0011

Source: Eviews 12 Data Processing Results, 2025

4.5 Test Coefficient of determination (R^2)

Table 8
Coefficient of determination Test (R^2)

	Value
Adjusted R-squared	0.817579

Source: Eviews 12 Data Processing Results, 2025

Based on the results of the coefficient of determination (R^2) analysis shown in table 7, the adjusted R-squared value is 0.817579 or 81.75%. The coefficient of determination shows that the independent variables consisting of the financial expertise of internal auditors, the effectiveness of internal control, and the whistleblowing system are able to explain the variable number of frauds in BUMN companies by 81.75%, while the remaining 18.25% is explained by other variables not included in this research model.

4.6 Discussion

4.6.1 The Effect of Internal Auditor Financial Expertise on the Amount of Fraud

The financial expertise of internal auditors has no effect on the amount of fraud, as shown by the panel data regression results with a probability value of $0.1895 > 0.05$ and a calculated t value of $-1.326488 < t \text{ table } 1.98861$. Therefore, the first hypothesis (H1) which states that the financial expertise of internal auditors has a negative effect on the amount of fraud is rejected. This finding is consistent with the results of research by Utami et al. (2019) and Mardani et al. (2020). The high financial expertise possessed by internal auditors will not affect the high amount of fraud.

This happens because the financial expertise of an auditor, obtained through formal education, is not enough to guarantee that the auditor can effectively detect and reduce the amount of fraud. Although auditors possess financial expertise, other

factors such as independence, investigative auditing experience, and management support play a more significant role in detecting fraud. Instead, the factors of experience, communication, and auditor interaction play a greater role in detecting fraud. This is not in line with agency theory, which emphasizes the role of auditors in reducing information asymmetry. In addition, the effectiveness of audits in suppressing fraud is also influenced by internal company support and the implementation of comprehensive audit procedures, such as direct observation of company activities (Fernando & Sitorus, 2020).

4.6.2 The Effect of Internal Control Effectiveness on the Amount of Fraud

The effectiveness of internal control has no effect on the amount of fraud. This is reflected in the panel data regression results with a probability value of $0.9397 > 0.05$ and a calculated t value of $-0.075995 < t_{table} 1.98861$. Therefore, the second hypothesis (H2) which states that the effectiveness of internal control has a negative effect on the amount of fraud is rejected. The results of this study are consistent with the results of Wahyuni & Hayati's research (2022). The amount of internal control effectiveness will not affect the high amount of fraud.

Internal control mechanisms are often treated as a mere formality in reports, lacking consistent implementation. The weak compliance culture renders these controls ineffective in preventing fraud. This is because the effectiveness of the internal control system depends not only on good design, but also on commitment and cooperation in its implementation. Although this system has been implemented in most state-owned companies, its implementation does not significantly affect the amount of fraud. This result contradicts agency theory, which highlights the importance of internal control in minimizing agency conflicts between management and shareholders. The effectiveness of the internal control system depends on the extent to which the system is actually implemented and supervised in practice. If the implementation is weak, then the impact on reducing fraud will be insignificant (Wahyuni & Hayati, 2022).

4.6.3 The Effect of Whistleblowing System on the Amount of Fraud

The whistleblowing system has a positive effect on the amount of fraud, as shown by the panel data regression results with a probability value of $0.0011 < 0.05$ and a calculated t value of $3.429670 > 1.98861$. Therefore, the third hypothesis (H3) which states that the whistleblowing system has a positive effect on the amount of fraud is accepted. The results of this study are consistent with the results of research by Sugita & Khomsiyah (2023), Sakinah et al., (2023) and Pramudyastuti et al.,

(2021). With a higher implementation of the whistleblowing system, it will have an impact on the high amount of fraud that will be revealed.

The existence of a whistleblowing system makes people rethink committing fraud and cancel their actions (Pamungkas et al. 2020). This system functions as an official reporting medium provided by the company to handle suspected fraud internally before involving external parties. The whistleblowing system is in line with agency theory, where in this theory, there is a potential conflict of interest between management (agents) and owners (principals) which can encourage fraud. With a whistleblowing system, transparency and oversight of management increases and allows internal auditors to uncover more cases of fraud.

V. CONCLUSION, LIMITATION, AND IMPLICATIONS

Based on the results of hypothesis testing that has been carried out, this study concludes that the financial expertise of internal auditors shows no effect on the amount of fraud, meaning that the higher the financial expertise possessed by internal auditors does not affect the amount of fraud reported by the company. This can happen because financial expertise obtained through formal education is not the main reference in detecting and reducing the amount of fraud. In addition, the effectiveness of internal control also shows no effect on the amount of fraud. This means that even though the internal control system is implemented effectively, this does not necessarily reduce the amount of fraud reported. This can be caused because the internal control system is only one of the supporting factors, and its success depends on the cooperation of all parties in the company. Conversely, the whistleblowing system shows a positive effect on the amount of fraud. This means that the higher the application of the whistleblowing system, the more fraud is revealed. This happens because the more reports that enter through the system will increase the amount of fraud identified.

This study has several limitations, one of which is that the research object is confined to state-owned enterprises listed on the Indonesia Stock Exchange, making it unable to reflect conditions in other sectors. The research period used is still limited, which only covers 2020-2023. Limitations exist in the internal auditor financial expertise variable which is measured based on educational background and professional certification in accounting and finance. However, not all companies present complete data regarding auditor certification and education, potentially leading to misinterpretation and measurement of their expertise.

Based on the limitations previously described, the authors suggest that further research can expand the sample size by adding research objects from other sector companies that are also listed on the IDX (Indonesia Stock Exchange). In addition, it is advisable to increase the research time span to obtain a larger number of samples so that the research results become more accurate and representative. Future research is also expected to consider using different measurement criteria to reduce the risk of measurement error due to limited data in the company's annual report. The alternatives Fraud measurement can using fraud-related restatements or audit findings reported by the Audit Board of Indonesia (BPK), rather than relying solely on annual report disclosures. Internal Auditor Expertise assessed based on professional certifications (e.g., CIA, CFE, QIA) instead of merely educational background. Whistleblowing System measured through employee perceptions (survey-based assessment) in addition to formal disclosures in annual reports.

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