



## The Influence of Audit Findings and Follow-Up of Audit Recommendations on The Level of Fraud in Government Agencies in Indonesia

Fillosius Ronny Kurniawan, Ilya Avianti, Cahya Irawady

Universitas Indonesia, Depok, Indonesia

Email: [ronzok55@gmail.com](mailto:ronzok55@gmail.com), [ilya.avianti@unpad.ac.id](mailto:ilya.avianti@unpad.ac.id), [cahya.irawady@unpad.ac.id](mailto:cahya.irawady@unpad.ac.id)

### ABSTRACT

The phenomenon of high fraud in financial reports in government agencies, both central and regional, is the focus of this study. This study also examines the effectiveness of audits by the BPK through audit findings and follow-up to audit recommendations in detecting and preventing or correcting fraud. This study uses a quantitative approach with panel data from 140 government agencies over 10 years. It examines the relationship between exogenous variables—audit findings and follow-up to audit recommendations, non-compliance, and weaknesses of the Internal Control System (ICS)—and the endogenous variables of fraud levels related to asset misappropriation and financial reporting, using STATA. Additionally, this study explores the role of audits in detecting and preventing or correcting fraud. Path analysis is also employed to test the correlation between exogenous variables and their influence on endogenous variables. The results prove that audit findings and follow-up to audit recommendations have, simultaneously, been effective in detecting and significantly influencing the level of fraud. However, partially, audit findings have been effective in detecting and significantly affecting the level of fraud, whereas follow-up to audit recommendations is not effective in detecting fraud but has a significant effect on the level of fraud.

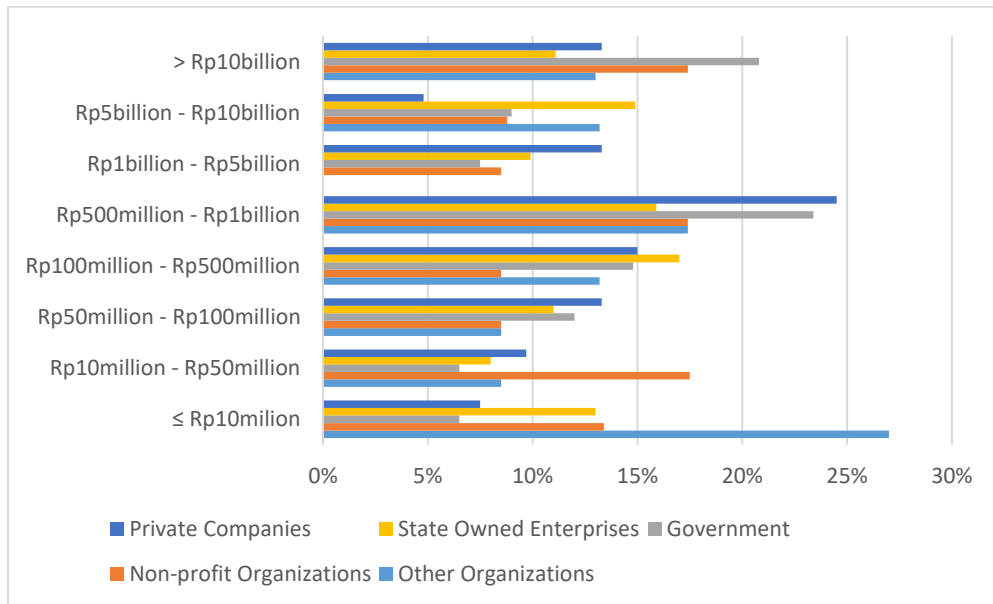
**Keywords:** audit findings, follow-up on audit recommendations, level of fraud, path analysis

### INTRODUCTION

Fraud by the American Institute of Certified Public Accountants (AICPA) in Statement on Auditing Standards (SAS) Number 99 is an intentional act that results in a misstatement in the financial statements. Audits can detect this *fraud* (Otalor and Eiya, 2013). This study specifically focuses on *fraud* in the government sector, related to misappropriation of assets and fraudulent financial statements, excluding corruption, bribery, gratification, conflicts of interest, and economic extortion (Otalor and Eiya, 2013; SAS No. 99; Khan, 2006; Dye, 2007). The government sector is vulnerable to financial *fraud* (Huefner, 2011; Hikam et al., 2020), with the 2022 ACFE report showing 2,110 cases in various sectors, especially government, with significant values, the most above IDR 10 billion at 20.8% (Figure 1). *Fraud* in government organizations in Indonesia often goes undetected, so it is important to improve the effectiveness of state financial audits by audit institutions (Blume and Voigt, 2011; Ionescu, 2017). Good audits can reduce spending irregularities and detect *fraud* (Olken, 2017).

The role of the High Audit Institution in Indonesia is held by the Supreme Audit Agency (BPK), which audits the management and accountability of state finances (SPKN, 2017). However, even though audits are carried out routinely, *fraud* often occurs. This study will answer

several questions regarding the effectiveness of BPK audit results in detecting *fraud* and the impact of follow-up audit recommendations on government agencies' *fraud* levels. This study offers added value by using new variables and covering more central and regional government entities (Saleh and Ratmono, 2017; Hikam et al., 2020). It is hoped that the results of this study will be useful in adding to the literature on the role of government audit institutions (Assakaf et al., 2018) and for BPK itself as a guide for improvement in planning, implementing, and monitoring follow-up audit recommendations (Budiman and Amyar, 2021).



**Figure 1. Fraud Loss Graph Based on Organization Type**

Source : Survey Fraud Indonesia 2019, p. 34 (ACFE Indonesia)

Otalor and Eiya (2013) state that audits can detect fraud, particularly related to asset misappropriation and misleading financial statement presentation in the public sector. However, this study is limited to analyzing fraud in the public sector generally, without considering factors that influence audit effectiveness, such as follow-up recommendations or the implementation of audit results in governmental practices. This research fills that gap by focusing on the effectiveness of the Indonesian Supreme Audit Agency (*Badan Pemeriksa Keuangan* or *BPK*) audit results in detecting fraud and the impact of follow-up audit recommendations on fraud levels in government institutions. Furthermore, Blume and Voigt (2011) and Ionescu (2017) highlight that despite routine audits, fraud in the public sector often goes undetected. This study contributes to the literature by emphasizing the role of public audit institutions, specifically focusing on the effectiveness of audit recommendations, which not only detect fraud but also provide solutions to reduce fraud in both central and regional government agencies.

The objective of this study is to analyze the effectiveness of *BPK* audit results in detecting fraud in the public sector and to measure the impact of follow-up audit recommendations on reducing fraud levels in government institutions. The benefit of this research is to provide deeper insights into the role of government audits in reducing fraud and improving state financial accountability, as well as offering guidance for *BPK* in designing and implementing more effective audit recommendations to prevent fraud in the future.

**METHOD**

This study focused on the high level of fraud in the financial statements of government agencies and the effectiveness of *BPK* audits in detecting and reducing this fraud. The subjects included government agencies at the central and regional levels that prepared annual financial statements audited by *BPK*. Data were sourced from agency websites, audit reports, and monitoring of *BPK* audit recommendation follow-ups.

The research used quantitative methods and secondary data, with a conceptual framework describing the relationship between two exogenous variables and one endogenous variable: (1) audit findings (X1)—comprising findings of non-compliance (X1.1) and findings of internal control system (*ICS*) weaknesses (X1.2); (2) follow-up to audit recommendations (X2)—comprising follow-ups on non-compliance findings (X2.1) and follow-ups on *ICS* weaknesses (X2.2); and (3) the level of fraud (Y)—consisting of fraud in asset misappropriation (Y1) and fraud in financial statements (Y2).

Secondary data were collected from financial audit reports, audit recommendation follow-up reports, and court decisions (Hikam et al., 2020; Sukmadilaga et al., 2022; Budiman and Amyar, 2021; Azhar and Setyaningrum, 2015; Rini and Sarah, 2014; Rini and Damianti, 2017; Panji and Utomo, 2023). Documents were downloaded from the official websites of the agencies, *BPK*, and the Supreme Court (*Mahkamah Agung*) for fraud decisions spanning seven years (2018–2024). The unit of analysis was organizations managing public funds, with the population consisting of government agencies audited by *BPK*.

Purposive sampling was applied using these criteria: agencies managing finances with legally binding court decisions related to fraud (excluding 528 agencies that did not meet this criterion) and agencies whose data were available in *BPK*'s financial audit reports and follow-up reports (excluding 14 agencies). The full criteria are as follows:

**Table 1. Sampling test data collection technique**

<b>Information</b>	<b>Amount</b>
Population: State/regional institutions whose annual F/S are audited by <i>BPK</i> *	682
Reduced number of agencies that do not meet criteria 1**	-528
Reduced number of agencies that do not meet the criteria 2***	-14
<b>Number of agencies tested randomly</b>	<b>140</b>
<b>Number of reports subject to random testing (140 x 10)</b>	<b>1,400</b>
10 is the number of years of the agency being random tested (2010 – 2019)	

Source: Processed by the author

\* Based on the list of state financial management agencies in IHPS 1 *BPK* 2024

\*\* A total of 522 agencies did not find any legally binding court decisions in the form of fraud, a total of 6 agencies had court decisions in the form of fraud in the form of gratification, economic extortion and bribery

\*\*\* A total of 14 agencies are agencies with fraud cases whose financial statements are below 2010 and whose LHP LK are not available on the *BPK* portal, or whose LHP LK are incomplete on the *BPK* portal

Operationalization of variables is determined as follows:

**Table 2. Operationalization table of variables**

Variable	Variable Dimensions	Indicators	Scale
<b>1. Endogenous; Fraud Level in Ministries, Institutions, and Regional Governments in Indonesia (Y)</b>	1) Fraud Level Asset Misappropriation or Y1; namely misappropriation of assets that results in material state/regional losses and has been determined through a court decision that occurred in a government agency (i) in the current budget year (t) and the following year (t+1), but does not include cases of bribery, illegal gratification, conflicts of interest, and economic extortion.	Y1 dimension indicators: 1) Theft of cash receipts & cash on hand; 2) Fraudulent disbursement of cash; and 3) Non-cash larceny and misuse Indicator measurement: The level of fraud Y1 is measured by the formula: $\frac{\text{Value of state/regional losses (i,t)}}{\text{Total expenditure (i,t)}}$	Ratio
	2) Financial Statement Fraudulent or Y2; namely, an indication of financial statement fraud manipulation that occurs in government agencies (i) in the current budget year (t) and the following year (t+1).	Y2 dimension indicators: 1) Timing differences; 2) Fictitious/Understated revenues 3) Concealed/overstated liabilities and expenses 4) Improper disclosures 5) Improper asset valuation Indicator Measurement: using 3 variables from the Beneish (1999) model with the formula and benchmark score: 1) Asset Quality Index (AQI): $\frac{1-(\text{Current Assets (i,t)} + \text{Fixed Assets (i,t)})}{\text{Total Assets (i,t)}}$ $\frac{1-(\text{Current Assets (i,t-1)} + \text{Fixed Assets (i,t-1)})}{\text{Total Assets (i,t-1)}}$ Benchmark score AQI = 1.039 2) Leverage Index (LVGI): $\frac{\text{Total Debt (i,t)}/\text{Total Assets (i,t)}}{\text{Total Debt (i,t-1)}/\text{Total Assets (i,t-1)}}$ Benchmark score LVGI = 1.037 3) Depreciation Index (DEPI): $\frac{\text{Depreciation (i,t-1)}/(\text{Depreciation (i,t-1)} + \text{Fixed Assets (i,t-1)})}{\text{Depreciation (i,t)}/(\text{Depreciation (i,t)} + \text{Fixed Assets (i,t)})}$	Ratio

Variable	Variable Dimensions	Indicators	Scale
2. Exogenous; Audit Findings (X1)	<p>1) Findings of non-compliance with laws and regulations or X1.1; namely Audit findings of deviations from provisions/regulations detected from audits of government financial reports conducted by the BPK, which are significant and/or result in state/regional financial losses, in a certain year (t) in central and regional government agencies (i).</p> <p>2) Findings of weaknesses in ICS or X1.2; namely, Audit findings of weaknesses in internal control detected from audits of government financial reports conducted by the BPK, which indicates the risk of financial statement manipulation, in a certain year (t) in central and regional government agencies (i).</p>	<p>DEPI benchmark score = 1.001 If one of the benefit ratios of the tested agency is greater than the benchmark score, it indicates that the agency is manipulating the financial statement (FSF).</p> <p>1) Indicators of non-compliance findings or X1.1: a) Findings of state/regional losses (TKND) b) Findings of potential state/regional losses (TPKND) c) Findings of shortfalls in state/regional revenue (TKPND)</p> <p>2) Indicators of ICS weaknesses findings X1.2: a) Findings of weaknesses in the accounting and reporting control system (TSPAP) b) Findings of weaknesses in the revenue and expenditure budget realization control system (TSPRAPB) c) Findings of weaknesses in the internal control structure (T- Structure)</p> <p>Indicator measurement: 1) Findings of non-compliance Z(TK) are measured using the formula: <math display="block">\frac{\text{Value of loss findings (i,t)}}{\text{Total expenditure (i,t)}}</math> 2) ICS findings and potential loss findings are measured using the number of ICS weakness findings, X1.2. The greater the number of findings, the higher the level of fraud in financial statements Y(FSF) in the agency (i) and a certain year (t).</p>	<p>Ratio</p> <p>Ratio</p>
2. Exogenous; Follow-up on Audit Recommendations (X2)	<p>1) Follow-up on recommendations of non-compliance findings, or X2.1; namely, actions based on the audit recommendations based on the audit results, carried out by authorized persons and/or bodies to take action and/or</p>	<p>1) Indicator of Follow-up for recommendations on findings of non-compliance, or X2.1, namely: a) Follow-up on recommendations on findings of state/regional losses (TLRKND) b) Follow-up on recommendations on findings of potential state/regional losses (TLRPKND) c) Follow-up on recommendations on findings of shortfalls in state/regional revenue (TLRKPND)</p>	

Variable	Variable Dimensions	Indicators	Scale
	improvements to audit findings of non-compliance.	2) Indicator of Follow-up for recommendations on findings of weaknesses in ICS, or X2.2, namely:	
	2) Follow-up on recommendations of ICS weakness findings, or X2.2; namely, actions based on the auditor's suggestions based on the audit results, carried out by authorized persons and/or bodies to take action and/or improvements to audit findings of ICS weaknesses.	a) Follow-up on recommendations on findings of weaknesses in the accounting and reporting control system (TLRAP) b) Follow-up on recommendations on findings of weaknesses in the budget realization control system (TLRRAPB) c) Follow-up on recommendations on findings of weaknesses in the internal control structure (TLR Structure) Indicator measurement: 1) Indicator of Follow-up for recommendations on findings of non-compliance or X2.1, are measured by calculating the ratio of the return value to the State/regional Treasury in the follow-up monitoring report, to the value of losses from findings of non-compliance at an agency in the current budget year (i,t), which is carried out after the submission of the BPK LHP to the relevant agency (the audit has been completed), with the formula: $\frac{\text{Loss recovery value (i,t)}}{\text{Total loss finding value (i,t)}}$ *including recommendations that cannot be followed up for valid reasons	Ratio
Furthermore, the BPK monitors the completion of follow-up on these recommendations and improves governance in the next period.		2) Indicator of follow-up on recommendations of ICS weakness findings or X2.2, is measured using the ratio of the level of completion of follow-up on audit recommendations in government agencies and the current budget year (i,t), with the formula: $\frac{\text{Number of follow-up recommendations completed/in accordance (i,t)}}{\text{Number of ICS finding recommendations (i,t)}}$ *including recommendations that cannot be followed up for valid reasons	Ratio

The data used in this study is panel data, which includes cross-section and time series data (Gujarati, 2012) from 140 central and local government agencies for 10 years. The path analysis structure was chosen to show the influence of exogenous variable dimensions on endogenous

variable dimensions by taking into account the correlation between the exogenous variable dimensions of audit findings and follow-up on audit recommendations, in addition to using regression for hypothesis testing (Streiner, 2005; Retherford and Choe, 2011; Basuki and Prawoto, 2021).

The steps in the panel data analysis of this study are: 1) descriptive statistical analysis (Sekaran and Bougie, 2013); 2) path analysis, according to Garson (2013) and Sarwono (2020) by: forming a model based on theory, making hypotheses from the model, making path diagrams, making structural formulas, testing model fit, and calculating influence values (simultaneous, partial, other factors, correlation); 3) conducting hypothesis testing with F and t-tests. From the path diagram in Figure 3, the equations formed are as follows for the role of government audit detection on the level of fraud in the current year or  $Y1(t)$  and  $Y2(t)$ , as well as the role of government audit improvement/prevention on the level of fraud in the following year or  $Y1(t+1)$  and  $Y2(t+1)$ , namely:

1.  $Y1(t) = \rho_{(Y1)(X1.1)}X1.1 + \rho_{(Y1)(X2.1)}X2.1 + \varepsilon_1 \rightarrow$  detection role
2.  $Y1(t+1) = \rho_{(Y1)(X1.1)}X1.1 + \rho_{(Y1)(X2.1)}X2.1 + \varepsilon_2 \rightarrow$  improvement role
3.  $Y2(t) = \rho_{(Y2)(X1.2)}X1.2 + \rho_{(Y2)(X2.2)}X2.2 + \varepsilon_3 \rightarrow$  detection role
4.  $Y2(t+1) = \rho_{(Y2)(X1.2)}X1.2 + \rho_{(Y2)(X2.2)}X2.2 + \varepsilon_4 \rightarrow$  improvement role

Where the explanation is as follows:

$Y1(t)$	= Asset Misappropriation Fraud Level in the current year
$Y1(t+1)$	= Asset Misappropriation Fraud Level in the following year
$Y2(t)$	= Financial Statement Fraud Level in the current year
$Y2(t+1)$	= Financial Statement Fraud Level in the following year
$X1.1$	= Non-Compliance Audit Findings
$X1.2$	= ICS Weakness Audit Findings
$X2.1$	= Follow-up to Non-Compliance Audit Recommendations
$X2.2$	= Follow-up to ICS Weakness Audit Recommendations
$\rho$	= Path Analysis Coefficient
$\Upsilon$	= Correlation Coefficient
$\varepsilon$	= Error

After the path analysis structure is built, a test of the suitability of the Structure / Goodness of Fit (GoF) with real data is carried out through the Chi-Square test (Cochran, 1952), Root mean squared error of approximation (RMSEA) (Steiger, 1990), Comparative Fit Index (CFI) (Hu and Bentler, 1998), and Standardized Root Mean Square Residual (SRMR). Furthermore, a determination coefficient test (R2) is carried out to see how strongly the exogenous variables can explain the endogenous variable. The R2 results show the influence of the exogenous variables on the endogenous variable. The classification of R2 results includes strong (67%), medium (33%), and weak (19%) (Chin, 1998, p. 323; Ghozali, 2021).

The steps for testing the hypothesis in this study are as follows:

1. The F-statistical test is conducted to test  $H_{1.3.1}$ ,  $H_{1.3.2}$ ,  $H_{2.3.1}$ , and  $H_{2.3.2}$ , which aim to determine the influence of exogenous variables on endogenous variables simultaneously.  $H_0$  is rejected and  $H_a$  is accepted if the significance value is not more than 0.05 (Panji and Utomo, 2023).
2. The t-statistical test is conducted to test  $H_{1.1.1}$ ,  $H_{1.1.2}$ ,  $H_{1.2.1}$ ,  $H_{1.2.2}$ ,  $H_{2.1.1}$ ,  $H_{2.1.2}$ ,  $H_{2.2.1}$ ,  $H_{2.2.2}$ . The aim is to determine the influence of exogenous variables on endogenous variables partially.  $H_0$

is rejected and  $H_a$  is accepted if the calculated  $t$  is greater than the  $t$ -table or the significance value is not more than 0.05 (Panji and Utomo, 2023).

**RESULT AND DISCUSSION**

The results of the descriptive statistical processing of the Structure in Table 3 show the level of fraudulent misappropriation of assets Y1 maximum of 0.0320063 from the Supreme Court decision in 2019, is fraudulent misappropriation of assets in Katingan Regency in the 2014 fiscal year, namely the indicator of fraudulent cash disbursements of IDR 30.5 billion, while the minimum is 0.00 or without a decision of 1,217 data. The audit findings of non-compliance X1.1 maximum of 0.0842114, related to procurement at the National Population and Family Planning Agency (BKKBN) in 2013, with a potential state loss of IDR 203.09 billion. The minimum is 0.00 or without findings of non-compliance, as many as 9 data. Furthermore, the follow-up ratio on the recommendations of audit findings X2.1 maximum of 1.00, indicates 100% completion of the recommendation to return to the state, as many as 393 data. A minimum of 0.00 indicates no completion of the 216 data.

The results of the descriptive statistical processing of the Structure in Table 3 also show that the level of financial reporting fraud Y2 is a maximum of 5.237638, indicating manipulation by the North Maluku Provincial Government in the 2011 Fiscal Year from the AQI Index value. The minimum value is 0.00, with 451 data below the tolerance limit of the AQI, LVGI, and DEPI indices. The audit findings of ICS weaknesses X1.2 are a maximum of 30 of the ICS weakness findings in the DKI Jakarta Provincial Government in the 2011 Fiscal Year, with a minimum value of 2 findings of 30 data. In addition, the follow-up ratio on the recommendations of audit findings X2.2 is a maximum of 1.00, of 403 data, and a minimum value of 0 of 77 data.

```
. xtsum Y1it X11it X21it Y2it X12it X22it
```

Variable		Mean	Std. dev.	Min	Max	Observations
Y1it	overall	.0002571	.0016264	0	.0320063	N = 1400
	between		.0005591	2.27e-06	.0048364	n = 140
	within		.0015279	-.0045793	.0290628	T = 10
X11it	overall	.001525	.0035183	0	.0842114	N = 1400
	between		.001705	.0000741	.0137914	n = 140
	within		.0030805	-.0122489	.0719449	T = 10
X21it	overall	.6036337	.3901613	0	1	N = 1400
	between		.174461	.1606845	.9713757	n = 140
	within		.3492636	-.2963663	1.442949	T = 10
Y2it	overall	1.043724	.8936004	0	5.237638	N = 1400
	between		.3070455	.2278001	1.931638	n = 140
	within		.8395542	-.8879136	4.560671	T = 10
X12it	overall	6.440714	3.076703	2	30	N = 1400
	between		1.601793	3.9	19.1	n = 140
	within		2.629994	-5.659286	27.04071	T = 10
X22it	overall	.7638551	.2889069	0	1	N = 1400
	between		.151984	.2840731	1	n = 140
	within		.2460014	-.0897163	1.479782	T = 10

**Figure 2. Descriptive statistics of Structure**

Source: Processed with STATA 17

The next stage is path analysis, which aims to test the suitability of the correlation structure with two or more causal relationship models. Regression is applied to each variable in a structure

with endogenous variables as the responders, while the others are the causes. Regression weighting is predicted in a structure that is compared with the results of the correlation matrix observations for all variables, and statistical fit test calculations are carried out (Garson, 2013; Sarwono, 2022). The results obtained are the following formula:

1. Formula for the role of audit as a detection tool:

$$\text{Asset misappropriation fraud} \rightarrow Y1_{(i,t)} = 0.2791X1.1_{(i,t)} + 0.0000814X2.1_{(i,t)} + 0.00000168$$

$$\text{Financial reporting fraud} \rightarrow Y2_{(i,t)} = 0.1720768X1.2_{(i,t)} + 0.0512223X2.2_{(i,t)} + 0.5176943$$

2. Formula for the role of audit as a correction/prevention tool:

$$\text{Asset misappropriation fraud} \rightarrow Y1_{(i,t+1)} = 0.0853849X1.1_{(i,t)} - 0.0003746X2.1_{(i,t)} + 0.00000250$$

$$\text{Financial reporting fraud} \rightarrow Y2_{(i,t+1)} = 0.00197663X1.2_{(i,t)} - 0.2993404X2.2_{(i,t)} + 0.8002989$$

Path analysis diagram for the role of detection and the role of improvement as in Figure 4 below. From Figure 4, the diagram can also be seen that there is a correlation coefficient between the two exogenous variables  $X1.1_{(i,t)}$  and  $X2.1_{(i,t)}$  of 0.00013 in the form of a negative correlation in influencing the endogenous variable of the level of fraud in the misappropriation of assets in the current year or  $Y1_{(i,t)}$  and the following year or  $Y1_{(i,t+1)}$ . While the correlation coefficient between the two exogenous variables  $X1.2_{(i,t)}$  and  $X2.2_{(i,t)}$  of 0.0032 in the form of a negative correlation in influencing the endogenous variable of the level of fraud in the current year's financial statements or  $Y2_{(i,t)}$  and the following year  $Y2_{(i,t+1)}$ .

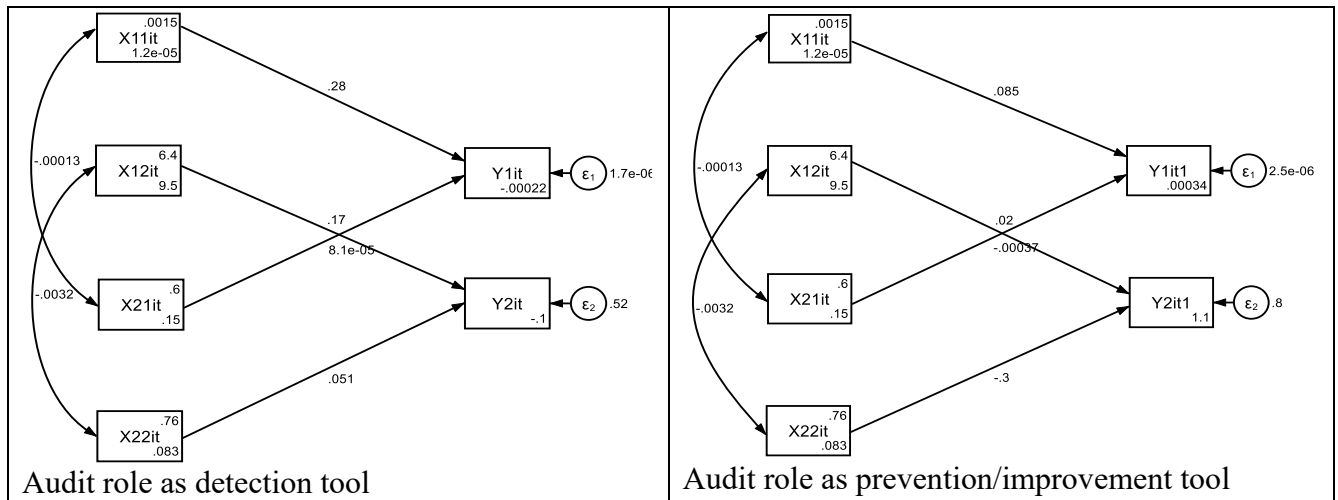


Figure 3. Path Analysis Diagram for detection and prevention roles

Source: Processed with STATA 17

The results of the Goodness of Fit test on the Structure in Figure 4 show the following results:

```
. estat gof, stats(chi2 rmsea indices residuals)
```

Fit statistic	Value	Description
Likelihood ratio		
chi2_ms(14)	35.597	model vs. saturated
p > chi2	0.001	
chi2_bs(22)	1356.933	baseline vs. saturated
p > chi2	0.000	
Population error		
RMSEA	0.033	Root mean squared error of approximation
90% CI, lower bound	0.020	
upper bound	0.047	
pclose	0.979	Probability RMSEA <= 0.05
Baseline comparison		
CFI	0.984	Comparative fit index
TLI	0.975	Tucker-Lewis index
Size of residuals		
SRMR	0.024	Standardized root mean squared residual
CD	0.605	Coefficient of determination

**Figure 4. Goodness of Fit test results for Structure**

Source: Processed with STATA 17

1. Chi-Square value (p > chi2) of 0.000 or less than 0.05 (Cochran, 1952);
2. Root mean squared error of approximation (RMSEA) value of 0.033 or less than 0.05 (Steiger, 1990);
3. Comparative Fit Index (CFI) value of 0.984 or more than 0.90 (Hu and Bentler, 1998); and
4. Standardized Root Mean Squared Residual (SRMR) value of 0.024 or less than 0.08 (Hu and Bentler, 1998).

The test results above indicate that the structure (model) that has been formed is said to be fit, and can be used in further research.

The results of the determination coefficient test on the Structure that has been formed based on Figure 4 above show that the exogenous variables are able to explain 0.605 or 60.5% of the endogenous variables, namely the level of fraudulent misappropriation of assets and financial reports for the role of detection and repair, while 39.5% is explained by other factors. The results of the determination coefficient (R2) are 60.5%, which indicates a moderate category (Chin, 1998; Ghozali, 2021). This is higher than the results of previous studies in the PRC and Indonesia, which ranged from 14.4% to 40.1% (Liu and Lin, 2012; Azhar and Setyaningrum, 2015; Masyitoh et al, 2015; Budiman and Amyar, 2021). The results of the hypothesis test are as follows:

. reg Y1it X11it X21it

Source	SS	df	MS	Number of obs	=	1,400
Model	.001341791	2	.000670896	F(2, 1397)	=	397.35
Residual	.0023587	1,397	1.6884e-06	Prob > F	=	0.0000
				R-squared	=	0.3626
				Adj R-squared	=	0.3617
Total	.003700491	1,399	2.6451e-06	Root MSE	=	.0013

Y1it	Coefficient	Std. err.	t	P> t	[95% conf. interval]	
X11it	.2791	.0099221	28.13	0.000	.2596362	.2985638
X21it	.0000814	.0000895	0.91	0.363	-.0000941	.0002569
_cons	-.0002176	.0000672	-3.24	0.001	-.0003494	-.0000858

. reg Y2it X12it X22it

Source	SS	df	MS	Number of obs	=	1,400
Model	392.359924	2	196.179962	F(2, 1397)	=	378.14
Residual	724.771995	1,397	.518806009	Prob > F	=	0.0000
				R-squared	=	0.3512
				Adj R-squared	=	0.3503
Total	1117.13192	1,399	.798521743	Root MSE	=	.72028

Y2it	Coefficient	Std. err.	t	P> t	[95% conf. interval]	
X12it	.1720768	.0062591	27.49	0.000	.1597986	.184355
X22it	.0512223	.0666559	0.77	0.442	-.0795341	.1819787
_cons	-.1036997	.0678454	-1.53	0.127	-.2367896	.0293901

**Figure 5. Regression results for the detection role**  
Source: Processed with STATA 17

. reg Y1it1 X11it X21it

Source	SS	df	MS	Number of obs	=	1,400
Model	.000168197	2	.000084099	F(2, 1397)	=	33.53
Residual	.003503913	1,397	2.5082e-06	Prob > F	=	0.0000
				R-squared	=	0.0458
				Adj R-squared	=	0.0444
Total	.00367211	1,399	2.6248e-06	Root MSE	=	.00158

Y1it1	Coefficient	Std. err.	t	P> t	[95% conf. interval]	
X11it	.0853849	.0120933	7.06	0.000	.061662	.1091078
X21it	-.0003746	.0001091	-3.44	0.001	-.0005885	-.0001607
_cons	.0003439	.0000819	4.20	0.000	.0001833	.0005045

. reg Y2it1 X12it X22it

Source	SS	df	MS	Number of obs	=	1,400
Model	15.6907732	2	7.84538658	F(2, 1397)	=	9.78
Residual	1120.41841	1,397	.802017473	Prob > F	=	0.0001
				R-squared	=	0.0138
				Adj R-squared	=	0.0124
Total	1136.10918	1,399	.812086621	Root MSE	=	.89555

Y2it1	Coefficient	Std. err.	t	P> t	[95% conf. interval]	
X12it	.0197663	.0077822	2.54	0.011	.0045003	.0350323
X22it	-.2993404	.0828758	-3.61	0.000	-.461915	-.1367659
_cons	1.066211	.0843548	12.64	0.000	.9007348	1.231686

**Figure 6. Regression results for the role of repair or prevention**  
Source: Processed with STATA 17

### F-statistic Test

The results of the F statistical test for  $H_{1.3.1}$ ,  $H_{1.3.2}$ ,  $H_{2.3.1}$ , and  $H_{2.3.2}$ , support a significant relationship between the exogenous variables of audit findings and follow-up on audit recommendations simultaneously on the endogenous variable of the level of fraud, both in the current year (t), and the following year (t+1). As in the results of the Structure with the role of government audit detection on the level of asset misappropriation fraud with a Prob value > F of 0.0000, and on the level of financial statement fraud with a Prob value > F of 0.0000 as seen in Figure 6 above. Furthermore, the Structure with the role of prevention and improvement of government audits on the level of asset misappropriation fraud with a Prob value > F of 0.0000, and on the level of financial statement fraud with a Prob value > F of 0.0001 as seen in Figure 7, all have a significance level below 5%. The results of the study support the findings of Liu and Lin (2012), which show that government audit results, including findings and follow-up recommendations, have a significant effect on the level of fraud. Audit findings are effective as a fraud detection tool, but without follow-up, audit findings do not act as a deterrent or have an impact on improvement.

### t-Statistic Test

The results of the study for  $H_{1.1.1}$  on the Structure for the role of government audit detection as seen in Figure 6 show that the relationship between the exogenous variable dimension of non-compliance audit findings or  $X_{1.1(i,t)}$  partially to the endogenous variable dimension of the level of fraudulent misappropriation of assets in the current year or  $Y_{1(i,t)}$ , has a coefficient value with a positive influence of 0.2791, a calculated t of 28.13 with a positive influence, and a P-value of 0.000. Likewise with the results of the  $H_{1.1.2}$  test on the Structure for the role of prevention/improvement of government audits in Figure 7, when the exogenous variable dimension of non-compliance audit findings or  $X_{1.1(i,t)}$  is partially connected to the endogenous variable dimension of the level of fraudulent misappropriation of assets in the following year or  $Y_{1(i,t+1)}$ , which turns out to have a coefficient value with a positive influence of 0.0853849, a calculated t of 7.06 with a positive influence, and a P-value of 0.000.

The results of the BPK audit show that non-compliance audit findings are effective in detecting and correcting fraudulent misappropriation of assets in government agencies. These findings are useful for stakeholders in supervision. This supports agency theory and management control theory by showing how auditors help uncover misappropriation of public funds and improve fund management. The results of this study indicate that the severity of fraudulent misappropriation of assets is influenced by the value of the audit findings, supporting the results of research by Liu and Lin (2012), Masyitoh et al (2015), Azhar and Setyaningrum (2015), Budiman and Amyar (2021). Additional analysis shows that the greater the value of the audit findings, the higher the likelihood of the value of fraud being decided by the court, and vice versa.

The results of the study for  $H_{1.2.1}$  on the Structure for the role of government audit detection as seen in Figure 6 show that the relationship between the exogenous variable dimension of follow-up on recommendations for non-compliance audit findings  $X_{2.1(i,t)}$  partially on the endogenous variable dimension of the level of fraud misappropriation of assets in current year  $Y_{1(i,t)}$ , has a coefficient value of 0.0000814 with a negative influence, t count of 0.91, and P-values of 0.363 or greater than the 5% significance level. The insignificant relationship between follow-up on non-compliance audit recommendations and the level of fraud misappropriation of assets supports the research of Budiman and Amyar (2021), which shows no influence.

However, different research results for  $H_{1.2.2}$  on Structure with the role of prevention/improvement of government audits as seen in Figure 7, which shows that the

relationship between the exogenous variable dimension of follow-up on recommendations of non-compliance audit findings  $X2.1_{(i,t)}$  partially to the endogenous variable dimension of the level of fraud misappropriation of assets in the following year  $Y1_{(i,t+1)}$ , which has a coefficient value of 0.0003746 with a negative influence, t count of 3.44 with a negative influence, and P-values of 0.001 or less than the 5% significance level. The significant relationship shows that follow-up on recommendations of non-compliance audits plays an effective role in improving or preventing fraud misappropriation of assets, supporting the research of Liu and Lin (2012), Masyitoh et al (2015), and Rini and Damianti (2017). This explains that auditor recommendations regarding state/regional financial losses that are followed up quickly and appropriately can reduce asset misappropriation in the future. The statistical t-test shows that increasing loss recovery has an impact on reducing asset misappropriation.

The results of the study for  $H2.1.1$  on the Structure with the role of government audit detection as seen in Figure 6 show that the relationship between the exogenous variable dimension of ICS weakness audit findings or  $X1.2_{(i,t)}$  partially to the endogenous variable dimension of the level of current year financial reporting fraud or  $Y2_{(i,t)}$  has a coefficient value with a positive influence of 0.1720768, a calculated t of 27.49 with a positive influence, and a P-value of 0.000 or less than the 5% significance level. Likewise, the research results for  $H2.1.2$  on Structure with for the role of prevention/improvement of government audits as seen in Figure 7 show that the relationship between the exogenous variable dimension of ICS weakness audit findings or  $X1.2_{(i,t)}$  partially to the endogenous variable dimension of the level of financial reporting fraud in the following year or  $Y2_{(i,t+1)}$  has a coefficient value with a positive influence of 0.197663, a calculated t of 2.54 with a positive influence, and a P-value of 0.011 or less than the 5% significance level.

The relationship between audit findings of ICS weaknesses and the level of financial statement fraud indicates that BPK audit results can reduce unbalanced information between management and stakeholders. These results also support previous studies which state that detected ICS weaknesses are related to financial statement manipulation (Huefner, 2011; Donelson, 2015) caused by deviations committed by management who lack integrity (Nindito et al, 2019; Sukmadilaga et al, 2022). The results of the study indicate that the discovery of ICS weaknesses can detect the level of financial statement fraud, thus reflecting an increase in fraud in the current year and the following year.

The results of the study for  $H2.2.1$  on the Structure with the role of government audit detection as seen in Figure 6 show that the relationship between the exogenous variable dimension of follow-up on recommendations for audit findings of ICS weaknesses or  $X2.2_{(i,t)}$  partially to the dependent variable dimension of the level of financial reporting fraud in the current year or  $Y2_{(i,t)}$  has a coefficient value of 0.512223, t count of 0.77, and P-values of 0.442 above the 5% significance level, this indicates that there is no relationship between the exogenous variable dimension of follow-up on recommendations for audit findings of ICS weaknesses and the endogenous variable dimension of the level of financial reporting fraud in the current year. The results of this study support the research conducted by Budiman and Amyar (2021), which shows that follow-up on audit recommendations is not significant in detecting fraud. This happens because auditor recommendations are often administrative in nature and do not address the main problems of ICS weaknesses.

However, it is different from the research results for  $H2.2.2$  on the Structure with the role of prevention/improvement of government audits as seen in Figure 7 shows that the relationship between the exogenous variable dimension of follow-up on recommendations for audit findings of ICS weaknesses or  $X2.2_{(i,t)}$  partially to the dependent variable dimension of the level of financial

reporting fraud in the following year or  $Y_{2(i,t+1)}$  has a coefficient value of 0.2993404, t count of 3.61 with a negative influence, and P-values of 0.000, or below the 5% significance level, then this indicates that there is a significant relationship between the exogenous variable dimension of follow-up on recommendations for audit findings of ICS weaknesses with the endogenous variable dimension of the level of financial reporting fraud in the following year. These results support the research of Liu and Lin (2012) that fast and accurate audit recommendations can have an impact on suppressing financial reporting fraud in the following period and help stakeholders in encouraging the government to make these improvements.

## CONCLUSION

Based on the analysis and discussion, the conclusions are as follows: Non-compliance audit findings have been effective in detecting and significantly affect the level of asset misappropriation fraud in government agencies in Indonesia. However, follow-up on non-compliance audit recommendations has not been effective in detection, though it significantly impacts asset misappropriation fraud. Together, non-compliance audit findings and follow-up recommendations have been effective in detecting and significantly affecting asset misappropriation fraud. Audit findings related to Internal Control System (ICS) weaknesses have also been effective in detecting and significantly affecting financial reporting fraud, but follow-up on ICS weakness audit recommendations has been ineffective in detection, though it still significantly impacts financial reporting fraud. Overall, audit findings and follow-up recommendations can explain 60.5% of the fraud rate, with the remaining 39.5% explained by other factors outside the research, and there is a negative correlation between audit findings and follow-up recommendations with both asset misappropriation and financial reporting fraud. The author suggests that BPK auditors provide more detailed fraud recovery recommendations, improve auditor training, and strengthen coordination with law enforcement agencies. Future researchers should consider additional factors such as institution size, funds managed, and auditor quality, and explore alternative measurement tools for financial statement manipulation. The author acknowledges the study's limitations and encourages further research in this area.

## REFERENCES

- Assakaf, EA, Samsudin, RS, & Othman, Z. (2018). Audit sektor publik dan korupsi: Sebuah literatur. *Asian Journal of Finance and Accounting* , 10 , 226-241.
- Azhar, K., & Setyaningrum, D. (2015). Pengaruh temuan audit dan tindak lanjut rekomendasi audit terhadap korupsi kementerian/lembaga di Indonesia. *Konferensi Tahunan AAAA* .
- Basuki, A. T., & Prawoto, N. (2021). Analisis data panel dalam penelitian ekonomi dan bisnis. *PT Rajagrafindo Persada*.
- Blume, L., & Voigt, S. (2011). Apakah desain organisasi lembaga audit tertinggi penting? Sebuah penilaian lintas negara. *Jurnal Ekonomi Politik Eropa* , 27 (2), 215-229.
- Budiman, MA, & Amyar, F. (2021). Pengaruh opini audit, implementasi rekomendasi audit, dan temuan kerugian negara terhadap tingkat korupsi pada kementerian dan lembaga di Republik Indonesia. *Jurnal Tata Kelola dan Akuntabilitas Keuangan Negara* , 7 (1), 113-129.
- Donelson, DC, Ege, MS, & McInnis, JM (2017). Kelemahan pengendalian internal dan kecurangan pelaporan keuangan. *Auditing: A Journal of Practice & Theory* , 36 (3), 45-69. Catatan: Dikutip sebagai Donelson (2015) tetapi referensi menunjukkan tahun 2017.
- Garson, GD (2013). Analisis jalur . *Statistical Associates Publishing*.

- Ghozali, I. (2021). Aplikasi analisis multivariate dengan program IBM SPSS 26. Badan Penerbit Universitas Diponegoro.
- Gujarati, DN (2012). Ekonometrika Dasar (edisi ke-4).
- Hikam, S., Nainggolan, Y. A., & Rizkarmen, M. (2020). Audit opinion and fraud in local government: Case of Indonesia. *BISNIS & BIROKRASI: Jurnal Ilmu Administrasi dan Organisasi*, 27(3), 107-118.
- Huefner, RJ (2011). Risiko kecurangan di pemerintahan daerah: Analisis temuan audit. *Jurnal Akuntansi Forensik & Investigasi*, 3 (3), 111-125.
- Ionescu, L. (2017). Kesalahan dan kecurangan dalam akuntansi. Peran audit eksternal dalam pemberantasan korupsi. *Jurnal Universitas Spiru Haret. Seri Ekonomi*, 17 (4), 29-36.
- Liu, J., & Lin, B. (2012). Audit Pemerintah dan Pengendalian Korupsi: Bukti dari Data Panel Provinsi Tiongkok. *Jurnal Riset Akuntansi Tiongkok*, 5, 163-186.
- Masyitoh, R. D., Wardhani, R., Setyaningrum, D., Pascasarjana, P., & Akuntansi, I. (2015). Pengaruh opini audit, temuan audit, dan tindak lanjut hasil audit terhadap persepsi korupsi pada pemerintah daerah tingkat II. *Simposium Nasional Akuntansi*, 17(100), 1-26.
- Nindito, M., Avianti, I., Koeswayo, PS, & Tanzil, ND (2019). Kecurangan laporan keuangan: Sebuah investigasi mengenai prevalensinya dalam industri lintas sektor di Indonesia. *Jurnal Ilmu Ekonomi Terapan*, 14 (4).
- Otalor, JI, & Eiya, O. (2013). Pemberantasan Korupsi di Nigeria: Peran Auditor Sektor Publik. *Jurnal Riset Keuangan dan Akuntansi*, 4 (4), 122-131.
- Panji, I., & Utomo, D. C. (2023). Pengaruh opini audit dan temuan audit terhadap tingkat korupsi pemerintah daerah di Indonesia (Studi empiris pada kabupaten dan kota di Jawa Tengah tahun 2015-2020). *Diponegoro Journal of Accounting*, 12(2).
- Retherford, RD, & Choe, MK (2011). Model statistik untuk analisis kausal. John Wiley & Sons.
- Rini, & Sarah. (2014). Opini audit dan pengungkapan atas laporan keuangan pemerintah kabupaten serta kaitannya dengan korupsi di Indonesia. *Jurnal Etikonomi*, 13(1).
- Rini, R., & Damiati, L. (2017). Analisis hasil audit pemerintahan dan tingkat korupsi pemerintahan provinsi di Indonesia. *Jurnal Dinamika Akuntansi dan Bisnis*, 4(1), 73-90.
- Saleh, L. O. I. H., & Ratmono, D. (2017). Analisis pengaruh korupsi terhadap audit pemerintahan pada instansi pemerintah di Indonesia. *Diponegoro Journal of Accounting*, 6(1), 1-13.
- Sarwono, J. (2022). Analisis jalur: Aplikasi analisis data. Catatan: Dikutip sebagai Sarwono (2020), tetapi referensi menunjukkan 2022
- Sekaran, U., & Bougie, R. (2013). Metode penelitian untuk bisnis (edisi ke-6).
- Sukmadilaga, C., Winarningsih, S., Handayani, T., Herianti, E., & Ghani, E. K. (2022). Fraudulent financial reporting in ministerial and governmental institutions in Indonesia: An analysis using hexagon theory. *Economies*, 10(4), 86.