The Effectiveness of BPKP Fraud Audit Finding on Determining the Level of Corruption in Indonesian Provinces[1]

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Abstract

This study aims to investigate the role of government auditing to restrain corruption. Hereby, it focuses on the effectiveness of performance of the Indonesian Finance and Development Supervisory Agency, known as Badan Pengawasan Keuangan dan Pembangunan (BPKP) as the internal auditor institution of the Indonesian President. The results show that BPKP fraud audit finding of irregularities has a positive relationship with the corruption level in Indonesian provinces. Data are used from provincial-level governments over the period 2012-2015 which produces 128 province-year observations. The study result shows that the irregularities found by BPKP fraud audit influence the level of corruption in the Indonesian provinces.

Keywords: government auditing, fraud, corruption, BPKP

A. INTRODUCTION

Many countries face the problem of corruption which can endanger the economy of those countries. A recent study by Transparency International (TI, 2017) placed Indonesia on the 90th position of the 176 countries surveyed. The Indonesian score was 37 whereas the average score of all investigated countries was 43. This indicates that Indonesia is perceived as a country with a high level of corruption. Another study estimates that the state financial loss because of corruption in Indonesia was around IDR 31.077 trillion in 2015 (ICW, 2016).

Indonesia has 34 provinces with 508 cities and counties (Indonesian Ministry of Home Affairs, 2015). Each province, city, and county has the authority to manage its own finance and performance (Indonesian

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Law Number 32 of 2004 about Local Government). The law was released to support the decentralization as one of the Indonesian public sector reforms. By giving the local governments autonomy to organize themselves, the Indonesian government assumes that decentralization can accelerate the development of the economy in each local government. Furthermore, the regions can increase the national development.

However, several problems appear because of decentralization. Rodrigo et al. (2009) describe that creating regulations in the local government with the same high quality as in the state government become one of the challenges in the decentralized country and also the problem of corruption. According to Maravic (2007), decentralization shifts corruption from the state to local government level, so-called decentralization of corruption. Rinaldi et al. (2007) also assume that corruption in regions can increase because of decentralization. Also, decentralization can create 'money politics' on the election of governors and mayors.

Indonesian law prescribes that each local government has to report their financial and performance each year through a financial report. This report is audited by an external audit institution by giving an opinion according to the public sector accounting standard. The local governments are also audited by the internal audit institution for their financial and performance management. These audits are conducted to maintain good governance of the local governments through transparency and accountability. Setyaningrum (2015) argues that society can use the financial report of local governments as a monitoring tool to evaluate performances of local governments.

The government audit function in Indonesia can be distinguished into external and internal audit institutions. The Supreme Audit Institution or Badan Pemeriksa Keuangan (BPK) is the external audit institution. BPK conducts a financial audit and gives an opinion on the financial report of local governments. They also conduct the performance audits and special purpose audits. Local governments and central government have their own internal audit agencies that conduct audit, except financial audit of the financial report. The task of the internal audit institutions is to ensure that the internal control system of the government has been implemented as requested by Indonesian Government Regulation number 60 of 2008.

Corruption, as described by Indonesian Law Number 31 of 1999 about Act Crime of Corruption article 2 and 3, is an unlawful act that enriches people or others and causes financial state loss. It means the act of corruption can be prosecuted if it causes loss to the financial state. Corruption acts in Indonesia can be investigated by The Indonesian Commission of Corruption Eradication or the Indonesian Police or the Indonesian Prosecutor institution. The investigators of law enforcer institutions can prosecute the act of corruption and calculate the loss of state finance by themselves or ask another institution that has the competency and professional expertise in calculating the state financial loss through audit investigations or audit of calculation state financial loss.

The study of Liu and Lin (2012) empirically investigates the role the Chinese government has in auditing. Using panel data in Chinese provinces from 1999 to 2008, it analyses how fraud detection and the follow-up measures contribute to the fight against corruption. The result shows that there is a positive relationship between the corruption level in Chinese provinces and the number of irregularities found in government auditing. Another result is that the corruption level has a negative correlation with the post-audit rectification effort. Masyitoh (2014) studies the impact of audit opinion and findings by BPK on corruption perception in Indonesian local government. The results show that there is a negative relationship between BPK's audit opinion of local government financial reports and the perceived level of corruption.

Audit institutions have a role in corruption eradication. The need of audit becomes crucial for resolving agency problems. An audit is a monitoring tool by which a principal can detect irregular behaviour by an agent. The policeman theory, as discussed in Hayes et al. (2014) states that the society calls for audits because it wants irregularities on government expenditures to be detected. BPKP as an internal audit institution has several tasks as required in the Indonesian President Regulation number 192 of 2014. BPKP has to evaluate the implementation of the government internal control system and fraud control system that can prevent, detect, and counteract corruption. BPKP can perform investigative audits, perform state financial loss calculation audits and provide expert testimony regarding the irregularity that gives an indication of corruption.

The research question that arises from this discussion is to what extent the irregularities found in BPKP fraud auditing influence the level of corruption in Indonesian provinces. However, there could be reverse causality between audit fraud detection efforts and level of corruption. In the more corrupt places, the audit institution will put more effort to detect the irregularities. Hence, the further question is to what extent the corruption level in Indonesian provinces can influence the effort of BPKP fraud auditing.

B. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Government fraud audit

The development of audit services can be described from various sources. Hayes et al. (2014) discuss the policeman theory which explains the demand and delivery of audit services. This theory emerged from a public perception that the responsibility of an auditor is to reveal fraud, which is similar to a cop. However, audit can also be seen as a verification of correctness and fairness of the financial statements. Fraud cases revealed recently become critical consideration that the duty of auditors in fraud detection and reporting back to the perception of when the policeman theory first appeared. The society wants to make sure that the funds collected from taxes and other sources are well managed. Therefore, the auditor is expected to detect irregularities from government expenditure.

Elder et al. (2013) distinguish three kinds of audits: (1) operational audit; (2) compliance audit; and (3) financial audit. The State Financial Inspection Standards contained in the Indonesian Supreme Audit Institution Regulation Number 01 of 2007, makes a distinction based on the type of examination (audit). The first audit is a financial audit which gives an opinion on financial reporting. The second audit is a performance audit whose aims are to check the aspects of performance effectiveness, efficiency, and economy in the management of state finances, examining the internal control system of government and the compliance with laws and regulations. The last is a specific purpose audit, which includes investigative audits. According to Indonesian Law Number 15 of 2004, the investigative examination is part of the examination for a particular purpose and implemented to reveal indications of fraud that may cause loss to the state and the presence of criminal elements.

The theory of such audit services in policeman theory shows that people expect the auditor can detect fraud and can expose it. According to DeAngelo (1981), audit quality can be defined by the ability of the auditor to identify and report a breach in the accounting system of audited entity. In government auditing, Zhao (2005) describes the factors of government auditing quality, which are technical factors, independence factors, and administrative factors. Particularly, the administrative factors are defined by determining the nature of irregularities, producing the right decisions and monitoring the rectification works. Special expertise is required to disclose fraud because it is hidden. According to Singleton and Singleton (2007), the reason why financial auditors could not detect more fraud is because many people and Congress members in U.S. believe that a financial audit is not adequate to detect fraud. A survey from KPMG and ACFE Report to Nation shows that the financial auditor can identify only about 10% of fraud (Singleton and Singleton, 2007). Fraud audit is believed to be more effective to detect fraud than financial audit because it is more intuitive whereas financial audit is more deductive even though both are important in the audit.

According to the Association of Certified Fraud Examiner (ACFE, 2002), "Fraud examination is a methodology for resolving fraud allegations from inception to disposition. More specifically, fraud examination involves obtaining evidence and taking statements, writing reports, testifying findings and assisting in the detection and prevention of fraud." It means that the fraud examinations (audits) are ways of audits regarding to the searching of evidence, reporting, and giving testimony based on the findings related to the fraud detection and prevention.

The BPKP Code Assignment of Investigation (2012) states that the audit of financial loss of state is an audit to express opinions regarding the value of the state financial losses arising from the alleged irregularities and used to support litigation. It can be concluded that the audit performed by BPKP auditors to detect irregularities and giving the testimony in the court shows that they had implemented forensic accounting in helping law enforcer institutions to reveal corruption.

Corruption

There are many definitions of fraud. The Association of Certified Fraud Examinations (ACFE, 2002) classifies

fraud to the: (1) fraudulent financial report; (2) asset misappropriation; and (3) corruption. Fraud has three axioms according to Tuanakotta (2007), fraud is always hidden, proof of fraud can be done from opposite side, and fraud occurred is only determined by the court.

Corruption can arise and persist when it meets three conditions, which are discretionary power, economic rents, and weak institutions (Adit, 2003). The famous quote 'power tends to corrupt and absolute power corrupts absolutely' shows that power can create the possibility for rent-seeking and the institution with the weak internal control system can encourage government officials that have authority producing rents. Therefore, corruption is connected with the abusing power to get own benefit.

In Indonesian Law number 31 of 1999 jo Law number 20 of 2001 regarding Corruption Act Crime Eradication, corruption is classified into several types including causing state financial loss (article 2 and 3), bribery (article 5, 6, 11, and 12), embezzlement (article 8, 9 and 10), manipulation (article 7 and 12), extortion, conflict of interest in the procurement, and gratification (article 12). The competency of the auditor in supporting law enforcement institutions

such as Corruption Eradication Commission, Police Department, and Prosecutor Institution, to eradicate corruption can be done through the irregularities found in government auditing report. According to Liu and Lin (2012), government auditing can play an important function to decide if the collection and spending of public funds is in accordance with the laws and regulation, to detect if there is any misconduct in management regarding the budgets, and to report the irregularities found in the audit report. Law enforcement institutions in Indonesia regarding corruption eradication can use a government fraud audit report from an audit institution to support their investigation of corruption crime acts. Particularly the report can be used to determine if state financial loss occurred and to assist the judges in determining economic verdicts.

Hypothesis development

A study of Liu and Lin (2012) examines the functions of government auditing in the provincial government in China from 1999 to 2008 to detect and to report irregularities that can potentially be fraud. Several factors are identified as potential determinants of corruption, namely market development, education

level or human capital, public officers' income, government size, and openness. The conclusion of the study is that audit findings in the previous year are positively related to the level of corruption. The more irregularities/fraud detected by the auditors, the higher the indication of corruption is. Another conclusion is that the rectification effort post audit is negatively related to the level of corruption. It shows that the more rectification effort after audit, the less corruption. However, Masyitoh (2014) investigated the influence of the audit opinion, the audit findings, and follow-up audit on the corruption perception, and found evidence that there is no relationship between the audit findings in the internal control system weakness and the perception of corruption.

In their study, Liu and Lin (2012) mention factors that determine corruption. Market development of the province is expected to be negatively related to the level of corruption. The higher the market development of a province, the lower the level of corruption of a province. Education level is also assumed to have a negative relationship with corruption. The higher the level of education in a province, the less severe corruption will be in that province. The public official's wage also

plays an influential role in bureaucrats' reasons to corrupt. The higher the public official's salary, the less motivation there is to show corrupt behaviour. Government size is expected to be a vital determinant affecting corruption, but in some studies, it has a different impact on the corruption level. The openness of the province for international trade is also assumed to be a determinant of corruption. The more openness in a province, the lower the level of corruption there will be. Masyitoh (2014) also adds opinion audit as a determinant of corruption. The higher the audit opinion acquired by the local government, the less corruption happened in that region.

According to the Indonesian Supreme Audit Institution Regulation Number 01 of 2007, there are four opinions generated by BPK on local government financial audit, i.e., adverse, disclaimer, qualified, and unqualified opinion. An unqualified opinion is assumed to be the highest opinion in the financial report because it shows that the financial reporting presented by the local government is in accordance with fairness in all material respects and related to the corruption level in the region. A qualified opinion is acquired when the auditors can obtain sufficient and appropriate evidence

and conclude that misstatements are material but not pervasive. An adverse opinion is obtained when the auditors can acquire sufficient and appropriate evidence and conclude that misstatements are material and pervasive. A disclaimer opinion is obtained when the auditors cannot acquire sufficient and appropriate evidence. Therefore, the undetected misstatements can be both material and pervasive.

In Indonesian Law, corruption is considered as an unlawful act that causes financial loss to the state by enriching the perpetrators or others. Gong (2010) explains that government auditors are required to detect fraud in government spending and activities and the misuse of government assets. Gong (2010) also states that the number of irregularities shows the effectiveness of audit institution to detect fraud. The number of corruption cases and irregularities found describe the quality of governance in the public sector.

From the aforementioned publications and our analysis, we define our hypothesis as follows:

> BPKP fraud audit finding of irregularities has a positive relationship with the corruption level in Indonesian provinces.

According to the literature review and the hypothesis stated above, the irregularities found in government fraud audit have a close relationship with the level of corruption. However, there may be a two-way relationship between them. Management improvements in the audit institutions will be forced when the potential corrupt bureaucrats get pressure from the misconduct exposure of audit institutions in the previous year. On the other side, in the more corrupt place, the more fraud will be detected, but this also will cost more effort. It means that government auditors can detect more irregularities in a higher corruption places. Therefore, we also perform a model to test whether fraud audit finding is influenced by the level of corruption.

The study of Liu and Lin (2012) mentions factors that affect a number of irregularities in government fraud audit findings, such as openness, market development, amount audited, auditor, reports, and newsletters delivered by local audit institutions. The number of irregularities is positively related to the total amount audited. The larger the amount of money audited, the more irregularities can be found. Auditors become the most critical element in the

government auditing. The more auditors in the local audit institution, the higher the possibility that they can detect fraud. Reports from local audit institutions is related to the problems found, suggestions for improvement, and rectification solutions for audited institution. When the leading government officials, higher audit institutions or related departments adopt these reports, there will be more incentives for auditors to prepare these reports and for audited institutions to improve the performance. We also add an audit opinion factor that is assumed to be related with fraud audit finding. The higher the audit opinion received by the local government, the fewer irregularities are found in government fraud auditing.

C. RESEARCH DESIGN

This study follows the papers of Liu and Lin (2012) and Masyitoh (2014) and uses data from multiple sources:

a. Fraud audit reports of financial loss of state calculation by the BPKP representative offices in each Indonesian province for the years 2011-2015.

b. Corruption case rulings by the Indonesian Supreme Court for the years 2012-2015.

c. Financial audit reports of local governments containing an audit opinion by the Indonesian Supreme Audit Institution or BPK for the years 2011-2014.

d. The economic growth level, education level, relative wage of public officials, final government consumption, the total amount of imports and exports, number of employees and the total amount of fiscal revenue and expenditure in Indonesian provinces from the Indonesian Central Bureau of Statistics for the years 2012-2015.

e. The number of auditors in BPKP representative offices in each Indonesian province for the years 2012-2015.

This study obtains data from 2012 to 2015 because corruption crime courts in most of the provinces in Indonesia have been established in that period. Population data in this study is extracted from all local governments and the study collects samples data from provinces that have all complete data needed.

This study adopts models from the research by Liu and Lin (2012). However, we made some adjustments. First, we employ audit opinion as a control variable as in the study of Masyitoh (2014) in our models. Second, we removed the report and newsletter delivered variable as the

determinant factor of fraud audit in the model 2 as in the Indonesian setting, this

data is not available. The models are shown as follows:

$$Corrupt_{it} = \beta_0 + \beta_1 FrAu_{it-1} + \beta_2 AuOpi_{it-1} + \beta_3 Growth_{it} + \beta_4 Educ_{it} + \\ \beta_5 Wage_{it} + \beta_6 Govsize_{it} + \beta_7 Open_{it} + \beta_8 Market_{it} + year + \varepsilon_{it}$$

(1)

$$FrAu_{it} = \beta_0 + \beta_1 Corrupt_{it} + \beta_2 AuOpi_{it-1} + \beta_3 Open_{it} + \beta_4 Market_{it} + \\ \beta_5 Amount_{it} + \beta_6 Auditor_{it} + year + \varepsilon_{it}$$

(2)

$Corrupt_{it}$	=	Corruption level in province i, in year t
$FrAu_{it-1}$	=	Fraud audit finding in province i, in year t-1
$FrAu_{it}$	=	Fraud audit finding in province i, in year t
$AuOpi_{it-1}$	=	Audit opinion in province i, in year t-1
$Growth_{it}$	=	Economic growth level in province i, in year t
$Educ_{it}$	=	Education level in province i, in year t
$Wage_{it}$	=	Relative wage of public officials in province i, in year t
$Govsize_{it}$	=	Government size in province i, in year t
$Open_{it}$	=	Openness in province i, in year t
$Market_{it}$	=	Market development in province i, in year t
$Amount_{it}$	=	Amount audited in province i, in year t
$Auditor_{it}$	=	Number of auditors in province i, in year t
Year	=	Year dummies
ε	=	Error

The operational variables of this study are presented as follows:

1) According to Liu and Lin (2012) corruption level in a province is measured by the number of corruption cases in the province that is investigated by law enforcement. The study of

Masyitoh (2014) uses the Corruption Perception Index (CPI) released by Transparency International for this variable Indonesia. In this research, the corruption level is measured by the number of appeals filed of corruption cases from the Supreme Court of the years 2012-

2015 as in the study of Monika (2015) and aggregates this to a total number for all local governments in a province.

2) Irregularities found in fraud audit reports in Liu and Lin (2012) are measured by the logarithm of the findings' values divided per capita. In this study, we follow Masyitoh (2014) and use the number of fraud audit reports of BPK as an external audit institution. However, this study uses the BPKP fraud audit reports as an internal audit institution and aggregates the total number for all local governments in a province.

3) The audit opinion has a significant impact on the corruption level in many studies such as Masyitoh (2014), Setyaningrum (2015), Monika (2015) and Ekasani (2016). In this study, the audit opinion variable is measured by the total audit opinion acquired by local governments multiplied by the rank of audit opinion from the highest unqualified (4), qualified (3), disclaimer (2) and adverse (1) and aggregated by the number of local governments in a province.

4) According to some studies (e.g., Braun and Di Tella (2004), Treisman (2007), Bhattacharyya and Jha (2013), Liu and Lin (2012) and Masyitoh (2014)), the economic growth rate has a negative impact on corruption. This study will follow the studies of Bhattacharyya and Jha (2009) and Ekasani (2016) that measure the economic growth rate using the Gross Regional Domestic Product (GRDP), more specifically the GRDP in 2010 per capita in constant prices. Data come from the Indonesian Central Bureau of Statistics. The year 2010 is the year of the latest survey which is conducted by them.

5) According to Liu and Lin (2012), education level has an adverse effect on corruption. They choose the average length of schooling as a proxy for the education level, whereas research of Ekasani (2016) uses the human development index from the Indonesian Central Bureau of Statistics. This study will follow the research of Ekasani (2016) employing the human development index from the

Indonesian Central Bureau of Statistics.

6) According to Liu and Lin (2012), the wage of public officials has a negative effect on the corruption level. Higher salary is assumed to cause less motivation to act corruptly. This study follows Liu and Lin (2012) in measuring relative public officials' wage. We measure it by the total governments' personnel expenditure of public officials divided by GRDP in each province.

7) Prior studies do not show a consistent relationship between, government size and the level of corruption. Fisman and Gatti (2002) found a negative relationship, whereas the results of a study by Ali and Isse (2003) show a positive relationship. We will follow Liu and Lin (2012) in measuring the size of government with the ratio of government's final consumption on GRDP in each province.

8) The openness variable in researches of Gatti (2004) and Zhou and Tao (2009) has a negative relationship with the

level of corruption. Countries or provinces with higher exports and imports are assumed to be less corrupt. We use the total amount of exports and imports adjusted by the province's GRDP as in the research of Liu and Lin (2012).

9) In the studies of Zhou and Tao (2009) and Wu and Rui (2010), market development has an adverse effect on the level of corruption. It means that a province with a higher market development tends to have less corruption. This study follows Liu and Lin (2012) by using the number employees of private companies divided by the total number of government staff in each province to measure market growth.

10) Amount audited is measured by using the total actual revenue and expenditure of a province as a proxy, adjusted by population size following the Liu and Lin (2012).

11) Auditor is the most important variable to investigate the quality of the audit. More qualified auditors will lead to a higher quality of the audit itself. It means that they can detect and report

fraud in a better way. This study follows Liu and Lin (2012) in how auditor is operationalized, but we will use the number of auditors in BPKP branch offices in each Indonesian province as they are the largest internal audit institution in Indonesia.

We use data from 34 provinces in Indonesia during the period 2012-2015. We exclude the province Jakarta because of its high values on almost all variables, making it an outlier. We also remove data from North Kalimantan since it has no complete data from 2012. Finally, the study obtains data from 32 provinces for four years observations, and it results in 128 province-year samples.

D. FINDINGS AND DISCUSSION

Descriptive Statistics

Table 1 Descriptive Statistics

	N	Min	Max	Mean	SD
Corrupt_it	128	0.000	4.500	1.287	0.951
FrAu_it_1	128	0.000	2.000	0.626	0.389
FrAu_it	128	0.000	2.000	0.667	0.376
AuOpi_it_1	128	1.8	4.0	3.2	0.3
Growth_it	128	17120	1331418	219217	295273
Educ_it	128	55.550	77.590	67.366	3.892
Wage_it	128	1.376	15.105	5.929	3.151
Govsize_it	128	3.960	42.600	13.885	8.303
Open_it	128	19.650	326.490	102.568	51.456
Market_it	128	7.651	59.281	21.075	10.455
Amount_it	128	2870732.98	43794860.45	9474745.27	6480864.70
Auditor_it	128	15.0	196.0	74.8	41.8

As can be observed from the descriptive statistics (refer to Table 1), the average number of corruption level in each province is 1.2875. It means that each local government experienced at least one case of corruption per year in the period of 2012-2015. Irregularities found

through fraud audit finding of BPKP on average are 0.626 (it-1) and 0.667 (it) which means the auditor could detect fraud in each of local government in a province 0.626 (it-1) or 0.667 (it) times. The average audit opinion received by local

governments is 3.187 which means they obtain the qualified opinion of audit for their financial reports on average.

Empirical Results

Table 2 Correlations

Variables	Corrupt_it	FrAu_it_1	AuOpi_it_1	Growth_it	Educ_it	Wage_it	Govsize_it	Open_it	Market_it
Corrupt_it	1.000	0.237	0.180	0.111	0.235	-0.058	-0.080	-0.107	0.093
FrAu_it_1	0.237	1.000	0.241	0.169	0.371	-0.206	-0.233	0.006	0.138
AuOpi_it_1	0.180	0.241	1.000	0.191	0.507	-0.306	-0.464	0.155	0.415
Growth_it	0.111	0.169	0.191	1.000	0.214	-0.542	-0.524	-0.096	0.721
Educ_it	0.235	0.371	0.507	0.214	1.000	-0.383	-0.421	0.416	0.292
Wage_it	-0.058	-0.206	-0.306	-0.542	-0.383	1.000	0.952	-0.247	-0.605
Govsize_it	-0.080	-0.233	-0.464	-0.524	-0.421	0.952	1.000	-0.196	-0.631
Open_it	-0.107	0.006	0.155	-0.096	0.416	-0.247	-0.196	1.000	0.068
Market_it	0.093	0.138	0.415	0.721	0.292	-0.605	-0.631	0.068	1.000

We checked our model for possible multicollinearity, heteroscedasticity, and autocorrelation problems (Gujarati, 2003). It seems that the variables Wage and GovSize both have multicollinearity problems since the correlation between them is almost 1 (refer to Table 2). Therefore, we deleted GovSize, which solved the multicollinearity problem. We did not

find heteroscedasticity problems in the model after we perform Glejser's heteroscedasticity test.

We regress model 1 using SPSS and the result exhibits that the independent variables in the model simultaneously influence the dependent variable. The goodness of fit test to check the correlation between variables in the model shows an adjusted R squared value of 0.260.

It means the dependent variable in the model 1 can be explained by the independent variables as much as 26% and the remaining is explained by other variables outside the model. The Anova F-value test results show that model 1 is significant. Furthermore, the fraud audit variable has a significant influence on the corruption level at the 5% level. The corruption level is positively influenced by irregularities found by a fraud audit report of BPKP from the previous year. This result supports our hypothesis that BPKP fraud audit finding of irregularities has a positive relationship with the corruption level in Indonesian provinces. The delay in the process of the fraud audit reports which are brought to the investigator or the court, thus adding the number of cases in the following year, becomes the cause of a positive relationship between fraud audit finding and the corruption level (Rosyadi, 2017). This result is consistent with the study of Liu and Lin (2012).

The regression result of the model 1 can be seen in Table 3.

Table 3 Regression result using *Corrupt_it* as dependent variable (Model 1)

Variables	Expected Sign	Corrupt_it
Cons.	?	-3.513**
FrAu_it_1	+	0.458**
AuOpi_it_1	-	0.287***
Growth_it	-	2.068E-7
Educ_it	-	0.064**
Wage_it	-	0.038
Open_it	-	-0.004**
Market_it	-	-0.002
Year dummies		Controlled
N		128
Adj R-squared		0.260

*Significance at the 1%

**Significance at the 5%

***Significance at the 10%

Meanwhile, the opinion of audit from previous year received by local governments in this study has a significant effect on the corruption level. The study of the Masyitoh (2014) finds that audit opinion is negatively related with the corruption level whereas this study shows a positive relationship. It describes that the unqualified opinion does not always mean that the financial statement is free from fraud. An unqualified opinion is obtained when a financial statement is presented by fair presentation framework, and evidence gathered can give the auditor reasonable assurance that the financial statements are free from the material misstatement (Hayes, et al., 2014). It means there is a chance that the evidences not gathered in audit sampling contains fraud.

Level of education is positively related to the corruption level which is consistent with Liu and Lin (2012). It shows that the higher education level in a province the higher the corruption level. This indicates that the perpetrators of corruption are well-educated people. Pradiptyo (2016) and Indonesian Corruption Watch (2017) state that the top perpetrators of corruption

in Indonesia are educated people such as private businessmen, bureaucrats, member of parliaments and the head of regions.

The result of this study also shows that the level of openness has a negative relationship with the corruption level. This result is consistent with the studies of Wu and Rui (2010) and Liu and Lin (2012). Local governments tend to be more transparent when they interact directly to other countries through exports and imports activities. Meanwhile, the other variables such as economic growth, relative wage of officials, and market development have no significant influence on the corruption level in this study. These results are not consistent with the studies of Liu and Lin (2012) and Wu and Rui (2010), but is in line with the study of Ekasani (2016).

To investigate the reverse causality of corruption level on fraud audit finding, we regress model 2 following the study of Liu and Lin (2012). Liu and Lin (2012) argue that the corruption level could also influence fraud audit finding effort. There is a possibility that the fraud detection effort in the current year could be affected by the number of cases of corruption in the same period. However, we exclude the variable of the adoption rate of reports and newsletter delivered because of the data availability. The regression result shows that the model

could not reject our null hypothesis. It describes that the independent variables in model 2 are not able to explain fraud audit effort in the current year. This finding is not consistent with the research of Liu and Lin (2012).

E. CONCLUSION, IMPLICATIONS, LIMITATIONS, AND FURTHER RESEARCH

Conclusion

This study examines the role of BPKP as the internal auditor institution of the Indonesian President in detecting fraud, hereby investigating whether fraud audit finding influences the level of corruption in Indonesian provinces. It uses panel data from 128 observations province-year during the period 2012-2015.

The results show that the hypothesis of this study is accepted. BPKP fraud audit finding of irregularities has a positive relationship with the corruption level in Indonesian provinces. This result confirms the research of Liu and Lin (2012) in saying that government fraud audit finding of irregularities is positively related to the level of corruption in the provincial-level governments. The more irregularities found through BPKP fraud audit, the more corruption cases can be revealed and can be

used to measure the level of corruption in the provinces at the following year (Rosyadi, 2017).

This study also discovers that audit opinion has a significant effect on the corruption level in Indonesian provinces. Unlike the study of Masyitoh (2014), this study finds a positive relationship between audit opinion and corruption level.

Education and openness are significantly related to the level of corruption in this study. Education has a positive influence on the level of corruption. The higher the level of education in a province, the higher the number of corruption cases. It is shown that the actors of corruption are mostly educated people in bureaucracy, parliaments, private business, and local government. Moreover, the more open the provincial trading with the other countries through export and import activities, the lower the level of corruption.

In this study, variables of growth, wage, and the market have no significant effect on the level of corruption. Economic growth, relative wage of public officials and market development are not determinants of corruption level based on this study finding.

We also regressed a model to investigate the reverse causality between corruption level and fraud audit detection effort in the same year. In places with a

higher level of corruption, more effort will be needed to detect more fraud. Unlike the research of Liu and Lin (2012), this study could not find the evidence that effort to detect fraud is influenced by the corruption level.

Implications

This study's results imply that fraud detection effort conducted by auditors of BPKP in the previous year is related with the level of corruption in Indonesian provinces. Based on the data acquired, fraud audit finding influences the level of corruption, which supports the hypothesis in this study. The performance of BPKP auditors in detecting fraud is associated with the number of corruption cases in the following year. The positive influence of fraud audit detection on the corruption level shows that the more irregularities found by BPKP auditors, the more cases of corruption can be revealed. It shows the effectiveness of BPKP activities as mandated by the President of Indonesia through President Law No. 192 The Year 2014.

Limitations

There are some limitations related to this study despite the comprehensive results. Firstly, the level of corruption data is measured only by the number of cases that is brought to the Indonesian Supreme Court as the highest level of court. There is a possibility that corruption cases are dealt with at a lower court level. Secondly, the audit opinion variable is measured by the sum of opinions obtained by the local governments in a province from the lowest to the highest level of opinion. Therefore, we aggregate it with the number of local governments in a province. This aggregation leaves a confused result since there is the decimal amount in the audit opinion variable.

Further Research

This study can be improved by using a better measurement for some variables such as the corruption level and audit opinion. The level of corruption can also be measured by using data from Transparency International or by using a public integrity index. Corruption level data in the provincial level can also come from law enforcement institutions such as data from police and attorney institutions since they have the authority to investigate corruption cases. The audit opinion variable can also be measured using a dummy variable by dividing unqualified or non-unqualified opinion. It can give the significant different

result between the highest of audit opinion and others.

We also recommend investigating corruption on the level of region since every region has its own data. It is also interesting to examine the political background of the head of the local government and the majority of political parliament party. The mayors and governors that have the same political background with the major party in local parliament are feared to have collusion to corrupt the local government's budget. We can also include the capabilities of internal auditor institution of each local government to the model as a determinant of the corruption. It can give insight into the role of internal control to prevent corruption. The higher the capability of the local internal auditor, the less the region suffers from corruption.

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