

CORRUPTION IN INDONESIAN LOCAL GOVERNMENT: STUDY ON TRIANGLE FRAUD THEORY

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ABSTRACT

The paper examines the effect of performance accountability, regional income, e-government, internal audit capabilities, audit responses, and public officials wage on corruption in local government using fraud triangle theory framework. The increasingly widespread corruption cases even though abundance of government's programs have been done to overcome them, let this research seeks to answer whether government's priority programs are aligned with corruption eradication strategy. This paper uses local government panel data in Indonesia from 2010 to 2013 analyzed using multiple linear regression method. The result shows that performance accountability and public official wage have negative effect on corruption, while audit responses have positive effect on corruption. On the other hand, regional income, e-government, and internal audit capabilities show no evidence on effect on corruption. This finding is fairly robust in separate analysis on municipalities and local government outside Sumatra and Java. This paper provides empirical evidence that audit responses can detect corruption whereas performance accountability and the increase in regional income increases can contribute to curbing corruption.

Keywords: Audit response; Corruption; E-government, Fraud triangle, Local government; Performance accountability.

1. INTRODUCTION

Corruption is one of big problems in world economy in 2016. This case covers 35% of all frauds on job and inflict economic loss of Rp 2.7 billion in average (Association of Certified Fraud Examiners/ACFE, 2016). The last data in this field shows that corruption cases in Indonesia are getting worse. The number of people convicted with corruption cases is increasing around 38% each year with the total of 3,109 people convicted in the last 15 years and each case has incur financial losses of Rp 40.6 billion on average (Pradiptyo, Partohap, & Pramashavira, 2016). Compared to the other countries, Indonesia placed 90th from 176 countries with Corruption perception Index (CPI) of 37 under the average global CPI; 43 (*Transparency-International*, 2017). In the Asia-Pacific region, Indonesia placed 15th from 30 countries, below the other developing

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countries such as China and India, but above of the ASEAN countries except of Singapore, Brunei, and Malaysia.

Indonesia is included in the category of country with high corruption level (Pradiptyo et al., 2016). This encourages the government to perform correction started from business process up to institutional level by by setting clear regulatory framework. Government's commitment to eradicate corruption started from the early reformation by the issuance of the package of laws on corruption eradication: Law No. 28/1999 and Law No. 31/1999. Besides that, as the implementation of new public management, the government issued Law No. 22/1999 to draw the government and the people closer, which is aimed to improve public services. Financial reform has been implemented by the issuance of a package of law in state finance and PP 8/2006 that aims to realize the accountability and transparency in the management of funds used in state administration.

The demand for transparency and openness in public information made the government issued Law No. 14/2008 that aimed to provide an access to information for the people to improve the transparency in the government administration that creates accountability and fight corruption. The openness in information that has been performed by the government raises the question on whether the information available to public are related to the government's performance and operation, and thus can be used to detect or prevent corruption in the government. In reality, there are countries that have not integrate the openness of information with the strategy to eradicate corruption due to the poorly trained information management and overlapping regulations (Vrushy & Hodess, 2017).

Research on corruption has been largely conducted, either from macro perspective such as in Lambsdorff (2006) and M. H. Khan (2006), micro aspect as performed by Capasso & Santoro (2017); Liu & Lin (2012); Pellegrini & Gerlagh (2008), and psychological aspect by Ramamoorti (2008). Most of research on corruption or fraud are performed on public companies on business sector, such as the research by Dalnial, Kamaluddin, Sanusi, & Khairudin (2014); Henderson & Kuncoro (2006); Kaminski, Wetzel, & Guan (2004); Spathis (2002). While in Indonesia corruption is present when someone break the law which will benefits him/herself or other person and may inflict financial or economic loss to the country (Tuanakotta, 2016). In Indonesia, the topic around corruption has been studied by Arifianto (2001); Henderson & Kuncoro (2006); Arifin et al. (2015); Ganie-Rochman & Achwan (2016); and Maria & Gudono (2017).

Arifianto (2001) states that there are three theoretical perspectives that explain the cause of corruption in the developing countries, including Indonesia: mainstream economic theory, patrimonialism, and kleptocratic state theory. Maria & Gudono (2017) proves that fraud triangle theory is effective to explain the phenomena of fraud in Indonesia's government. Fraud triangle theory is considered as the most appropriate theory to explain corruption because it can explain corruption on individual (Ramamoorti, 2008) and institutional level (Dellaportas, 2013)

This research is aimed to test the factors that affect corruption using fraud triangle theory (Cressey, 1953) which has been refereed in some empirical studies (e.g. Dorminey et al., 2010; Mackevicius and Giriunas, 2013; Fazli et al., 2014; Abdullahi et al., 2015). Fraud triangle theory explains that there are three factors that must present in fraud, which are pressure, opportunity, and rationalization. This study uses performance accountability and regional income as the pressure factors. The opportunity factors are represented by e-government and internal audit capabilities.

While rationalization factors to rationalize the action are represented by the response on audit result and public officials' wage.

Statements on Auditing Standards (SAS) Number 90 mentions that one component of pressure is the pressure from external party, which is to fulfill the targeted performance set by stakeholders in order to indicate accountability. Previous studies have proved that political accountability (Lederman, Loayza, & Soares, 2001) and social accountability (Grimes, 2013) reduced corruption. Shah (2007) also explains that based on new public management framework, the decrease in vertical accountability will leads to corruption. This is different from Mondo (2016) finding which concludes that accountability does not affect corruption.

The opportunity appears as a result of weak controls, both from internal such as weak system and regulatory uncertainty, and external in the form of external control by stakeholders or people. Lupu & Lazăr (2015) explain that e-government may improve public transparency that will strengthen the control from people. Andersen (2009); Lupu & Lazăr (2015); Prasad & Shivarajan (2015); Saghafi, Zarei, & Fadaei (2016) have proved empirically that e-government will reduce corruption. Mistry (2012) explains further that the effect of reduction in corruption is stronger in developing countries.

Rationalization takes place to justify the corruption performed by the corruptors. Maria & Gudono (2017) measures rationalization in local government context with auditee's response on audit result, finding, and recommendation. Rationalization is related with each individual and in certain phenomenon, thus it is hard to quantify it in general (Olken, 2007).

This study provides several contributions. First, this study presents recommendation for policy maker, in this case the government, so that the strategy of corruption eradication can be integrated with the currently prioritized development. Second, this study provides considerations for auditor in planning and programming more skeptical audit, and in performing risk-based audit by finding information that indicates the presence of corruption. Third, this study contributes in enriching knowledge, especially in audit and public finance field, by presenting empirical evidence on the factors that affects corruption based on fraud triangle theory from Cressey. Fourth, this study assists people in overseeing and supervising the course of development, so that it is freed from corruption by understanding the indications of fraud based on the information published by the government.

2. HYPOTHESIS DEVELOPMENT

This study is based on fraud triangle theory from Cressey (1953) because this theory explains frauds both in individual (Ramamoorti, 2008) and organizational level (Dellaportas, 2013). This theory explains frauds in public companies (Skousen, Smith, & Wright, 2009) and local government (Maria & Gudono, 2017) effectively. Fraud triangle theory is a theoretical framework to investigate the causes of frauds or breach of trust. This theory is introduced by Cressey (1953) who states that there are three factors that must present in frauds: (1) pressure or incentive that motivates frauds (pressure/incentive), (2) opportunity to perform fraud (opportunity), and (3) behavior that rationalized the frauds (rationalization). Pressure, according to Murdock (2008) may materialized into financial and non-financial pressure, as well as socio-politic pressure. There are two components that form opportunity; they are the availability of general information and

technical skill (Cressey, 1953). Abdullahi, Mansor, & Nuhu (2015) state that opportunity pears due to weak system of ineffectiveness of control, in this case internal control. SAS Number 99 mentions that the factors that may bring out opportunity are (1) industrial characteristic or entity operation, (2) ineffectiveness of management control, (3) complexity in organizational structure, and (4) lack of internal control. Rationalization is needed as judgment for the frauds to maintain his/her image as trusted person (Cressey, 1953). Rationalization arises due to the lack of integrity and moral reasoning. Abdullahi et al. (2015) simplify the explanation of fraud triangle with opportunity as the ability to break through fraud control, and pressure as the motivation to perform frauds as a result of opportunity, and rationalization as moral and ethical assessment that justifies the frauds.

Albrecht, Albrecht, & Albrecht (2008) explain that non-financial pressure can materialized in the unachieved targeted performance that has been set. Performance indicator is the manifestation of government accountability for the people in non-financial aspect, which is expected to realize good governance. Low accountability will lower public's trust so that they stop supporting the current government (Grimes, 2013; Lederman et al., 2001) and encourage corruption (Shah, 2007). With high performance accountability, local government has presented good accountability in managing the funds, which is expected to reduce corruption. Because of that, to test the effect of performance accountability on the corruption in local government in Indonesia, the first hypothesis in this study is as follow.

H₁: Performance accountability has negative effect on the corruption in Indonesian local government.

Regional income shows the economic development in an area, thus it can be used to assess the economic stability in the mentioned area (McConnell, Mosser, & Perez-Quiros, 1999; Rodrik, 2000). Economic stability based on SAS Number 99 is one of the components from pressure factor in the fraud triangle. Andersen (2009); DiRienzo, Das, Cort, & Burbridge (2007); Mistry (2012); Mondo (2016) prove that Gross Regional Domestic Products (PDRB) has negative effect on corruption, thus high income countries have lower corruption than low income countries (Elbahnasawy, 2014), however, medium income countries have lower corruption than low income countries (Saha & Gounder, 2009). Based on the description, the second hypothesis in this study is as follow.

H₂: Regional income has negative effect on financial corruption in Indonesian local government.

Opportunistic behaviors to perform corruption appear when there is weakness in internal control (Manurung & Hadian, 2013) or ineffectiveness in organizational control (Abdullahi et al., 2015). Corruption is viewed as a problem of information asymmetry between the government and the people, in which the government understand the information on state administration better, so they can perform opportunistic behavior for their self interest by abusing their authority through corruption (Elbahnasawy, 2014). With this in mind, a tool is needed to supervise government performance effectively. The openness and easiness in information access to public through the implementation of e-government will improve transparency and reduce corruption (Andersen, 2009; DiRienzo et al., 2007; Elbahnasawy, 2014; Lupu & Lazăr, 2015; Mistry, 2012; Prasad & Shivarajan, 2015). Thus, to test the effect of e-government on the corruption in local government in Indonesia, the third hypothesis in this study is as follow.

H₃: e-government has negative effect on financial corruption in Indonesian local government.

Weak internal control becomes one of the factors that lead to the perception that there is an opportunity to perform frauds (Abdullahi et al., 2015; Zimbelman, Albrecht, Albrecht, & Albrecht, 2014). When internal control is ineffective, the perpetrators will perform frauds, hide it, and avoid findings and punishments (Hillison, Pacini, & Sinason, 1999). The function of control in local government is performed by internal auditor in this case each inspectorate in local government and BPKP. Internal audit has important role in preventing and detecting frauds (Hillison et al., 1999) including corruption, because of their professional capabilities and their exposure in operational management (Zanzig & Flesher, 2015). M. A. Khan (2006) states that internal auditor may report the opportunity of corruption, thus the government will be able to prevent corruption by eliminating the opportunity. Therefore, to test the effect of internal audit capabilities on the corruption in local government in Indonesia, the fourth hypothesis in this study is as follows.

H₄: Internal audit capability has negative effect on financial corruption in Indonesian local government.

Rationalization is the factor of corruption which that is difficult to measure (Skousen et al., 2009), because rationalization related with each corruptor and the condition in which the corruption take place (Mohd-Sanusi, Khalid, & Mahir, 2015), therefore it is impossible to read corruptor's mind (Cressey, 1953). Rationalization is attitude, character, or moral values owned by corruptor which justify their action (Manurung & Hadian, 2013) as the result of the lack of integrity and wrong moral reasoning (Mohd-Sanusi et al., 2015; Rae & Subramaniam, 2008). Rationalization is not ex post facto which justify frauds, but the component that must present before frauds occur (Free, 2015; Mohd-Sanusi et al., 2015). Maria & Gudono (2017) prove that rationalization with proxy auditee's response has positive effect on frauds. Therefore, to test the effect of audit responses on the corruption in local government in Indonesia, the fifth hypothesis in this study is as follow.

H₅: Audit response has positive effect on corruption in Indonesian local government.

Dissatisfaction on management policies based on SAS 99 becomes a form of rationalization that justifies frauds. One of management's policies that are related with corruption is compensation or salary management for their employees. Gong & Wu (2012) assume that when government apparatus' salary is low, while the expected service is high, government officials will demand for more compensation informally or even illegally, which is why corruption happened. This underlies the statement that high government officials' salary will reduce corruption (Lederman et al., 2001; Liu & Lin, 2012; Pellegrini & Gerlagh, 2008). However, other studies do not find the relationship between high government officials' salary and the decrease in corruption (Abbink, 2002), and even prove contrary (Foltz & Opoku-Agyemang, 2015), thus the policy that increase the allocation of public official's wage cannot be used as a strategy to eradicate corruption (Gong & Wu, 2012). Thus, considering the inconsistency result of studies on the effect of public officials' wage on corruption, the sixth hypothesis is formulated as follows.

H₆: Public officials' wage has negative effect on corruption in Indonesian local government.

3. RESEARCH METHOD

3.1. *Sample and Data*

The population of this study is all local governments in district and municipal level in Indonesia during 2010 – 2013. The samples in this study are district and municipal level local governments. The result of samples selection is presented in Table 1. The data used in analysis is secondary data. The corruption data in the form of verdicts from Supreme Court on corruption cases are collected from Supreme Court. The other data in independent variables are collected from the Ministry of Empowerment of State Apparatus and Bureaucratic Reform (Kementerian PAN-RB), Ministry of Communication and Information (Kementerian Komunikasi dan Informasi), Ministry of Finance (Kementerian Keuangan), Audit Board of Republic of Indonesia (BPK), BPKP, and Sentral Bureau of Statistic (BPS).

Table 1: Result of Samples Selection

Explanation	2010	2011	2012	2013	Total
Total number of district and municipal governments based on Autonomous Local Government List	490	490	494	508	1.982
Total number of new district and municipal government after 2010	-	-	-4	-18	-22
Total number of district and municipal government sampled	490	490	490	490	1960
Total number of district and municipal governments not listed in Supreme Court's verdicts	-349	-343	-344	-413	-1449
Total research samples	141	147	146	77	511
Unobserved data	-128	-141	-73	-25	-367
Observed data	13	6	73	52	144

3.2. *Operational Definition and Variable Measurement*

Operational definition and variable measurement can be described as Table 2 follows.

Table 2: Measurement of Variable

Variable	Proxy	Code	Measurement	Reference
Corruption	Financial Loss	CORRUP	Natural logarithm of total of government finance losses	ACFE, 2016
Performance Accountability	AKIP score	PERAC	Ordinal scale with 1= very deficient, 2= deficient, 3= enough, 4= good, 5= excellent, 6= satisfying, and 7= very satisfying.	Law No. 29/2014
Regional Income	PDRB Per capita	REGI	Product domestic regional brutto deflated by total of population	BI, 2014
e-Government	PeGI score	EGOV	Dummy variable, 1 if local government has PeGI score and 0 if local government does not have.	UNDP, 2006
Internal audit capabilities	IACM	IACM	Ordinal scale with 1= initial, 2= infrastructure, 3= integrated, 4= managed, and 5= optimizing	IIARF, 2009
Audit Responses	Follow-ups ratio	RAUDT	Auditor recommendation responses deflated by total of recommendation.	BPK, 2017
Public Official's Wage	Public Official's wage ratio	GWAGE	Wages expenditure deflated by total government expenditure	Law No. 94/2017

3.3. Method of Data Analysis

The regression formula is presented in the following formula.

$$\text{CORRUP}_{it} = \beta_0 + \beta_1 \text{PERAC}_{it} + \beta_2 \text{EGOV}_{it} + \beta_3 \text{IACM}_{it} + \beta_4 \text{RAUDT}_{it} + \beta_5 \text{GWAGE}_{it} + \varepsilon_{it}$$

CORRUP is financial loss experienced by the state as the result of corruption, i is local government index, t is the index fro year, β_0 is constant, β_{1-6} regression coefficient for independent variable; performance accountability (PERAC), regional income (REGI), e-government (EGOV), internal audit capability (IACM), audit responses (RAUDT), public officials' wage (GWAGE), and ε is error term.

Panel data regression model is generated through two stages. First stage analysis tests whether the samples need simple regression analysis or panel data regression analysis using Chow test. The second stage selects the appropriate estimation model between Fixed Effect Model (FEM) and

Random Effect Model (REM). Hausman test is used to determine the selection of FEM or REM (Gujarati & Porter, 2009). The third stage is conducting evaluation on the result of regression performed to the estimation model selected based on theoretical, statistical, and econometric criteria.

4. ANALYSIS AND DISCUSSION

4.1. Descriptive Statistics

Table 3 shows the descriptive statistics and correlation between the dependent variable and the six independent variables.

Table 3: Descriptive Statistic and Correlation

	LnCORRUP	PERAC	REGI	EGOV	IACM	RAUDT	GWAGE
N	511	201	511	511	326	511	511
Mean	6.211	2.239	31.039	0.194	1.061	0.432	0.535
Std. Dev.	1.789	0.723	37.293	0.396	0.240	0.362	0.111
Minimum	1.938	1	1.989	0	1	0.000	0.192
Maximum	14.02	4	377.628	1	2	1.000	0.734
LnCORRUP	1.000						
PERAC	-0.048 0.566	1.000					
REGI	0.319 0.0001***	0.079 0.348	1.000				
EGOV	0.113 0.176	0.021 0.806	0.283 0.001***	1.000			
IACM	-0.067 0.422	0.138 0.098*	0.073 0.385	0.030 0.719	1.000		
RAUDT	0.112 0.181	0.021 0.804	0.161 0.055*	-0.015 0.855	0.122 0.144	1.0000	
GWAGE	-0.162 0.052*	-0.056 0.508	-0.315 0.000***	-0.103 0.220	-0.046 0.584	-0.0365 0.6638	1.000

Note: CORRUP: financial corruption in state level; PERAC: Performance Accountability; REGI: regional income, EGOV: e-government; IACM: internal audit capabilities; RAUDT: audit responses; GWAGE: public officials' wage, *** significant at $p < 0.01$, **significant at $p < 0.05$, *significant at $p < 0.1$

The average natural logarithm for corruption is 6.21 with dispersion of 1.79 this number means that each corruption in local government in Indonesia inflicts financial loss to the state or the local government at the average of Rp 498 billion each year. Two variables that reflects pressure factor is performance accountability and regional income. The mean value of performance accountability is 2.24 with dispersion of 0.72 that shows that the performance accountability score of local

government in Indonesia is in the category C (deficient). There are 24 local governments that have lowest performance accountability with score 1 (D/very deficient), while eight local governments have highest performance accountability with score 4 (B/Good). Regional income is in the average of Rp 31 million annually. The lowest regional income is Rp 1.99 million in Lanny Jaya district, Papua, while the highest regional income is generated by Bontang city, Kalimantan Timur.

Opportunity factor is reflected by e-government and internal audit capability. In the average 19% of the local governments have adopted e-government, while the rest have not implemented or have implement but have not include it in PeGI ranking. Local government internal audit capability in Indonesia is still at initial level with the mean score of 1.06. Sixty percent of local governments are at initial level (score 1) and 4% of local governments are at infrastructure level (score 2), while the rest have not performed assessment on the matter.

Rationalization is reflected in the variable audit responses and public officials' wage. Audit responses shows that total recommendations on audit result that received no follow-up or have not received follow-up from local government are 43%. Only 15% of local governments have perform follow-up on all recommendation, and on the other hands 15% of local governments have conducted zero follow-ups on the audit recommendation. The proportion of public officials' wage on total average expenditure is 53%, with the lowest at 19% in Penajam Paser Utara district, Kalimantan Timur to the highest 73% in Ambon city, Maluku.

Inter-variable correlation shows that there are four significant correlations among independent variables. The explanation on the all these four correlations based on the classification of correlation level from Evans (1996): (1) very weak positive correlation (0.1384) between performance accountability and internal audit capabilities significant at 10%; (2) weak positive correlation (0.2832) between regional income and e-government significant at 1%; (3) very weak positive correlation (0.1607) between regional income and audit responses significant at 10%, and (4) weak negative correlation (-0.3153) between regional income and public officials' wage significant at 1%. Because most of independent variables do not show significant and strong correlation or in other words there is no multicollinearity, thus multivariate analysis can proceed (Hair, Black, Babin, & Anderson, 2010).

4.2. Result of Hypothesis Testing

As explained in the previous chapter, this study uses multiple linear regression analysis on panel data in determining the factors of corruption. The result of regression analysis is presented in Table 4. The analysis for panel data is started by performing simple regression on panel data or pooled least square (PLS). Observing the level of significance from each independent variable's regression coefficient, at 1%, 5%, or 10%, performs hypothesis testing. Performance accountability is significant at 5% level with regression coefficient of -0.7924, thus the hypothesis that states that performance accountability has negative effect on the corruption in Indonesian local government is supported. However, the next independent variable, regional income has no significant effect, thus hypothesis 2 is not supported, which means regional income does not affect the level of corruption in Indonesian local government.

Table 4: Panel Data Regression – Dependent Variable Corruption

Variables	PLS		FEM		REM	
	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
PERAC	-0.009	0.971	-0.792**	0.037	-0.192	0.383
REGI	0.019**	0.011	-0.032	0.502	0.018**	0.028
EGOV	0.415	0.228	-0.264	0.576	0.047	0.883
IACM	-0.999	0.108	0.1670	0.859	-0.588	0.333
RAUDT	0.832*	0.074	1.167**	0.028	0.833**	0.037
GWAGE	-1.499	0.477	-10.979**	0.058	-2.198	0.321
Constant	6.946***	0.000	14.599***	0.001	7.498***	0.000
Observations	144		144		144	
R-squared	0.1492		0.2588		0.135	
F-value	4.00	0.0010	2.56	0.0325	17.40	0.008
Chow Test	3.43	0.0000				
Hausman Test			15.36	0.018		

Notes: PERAC: Performance accountability; REGI: regional income, EGOV: e-government; IACM: internal audit capabilities; RAUDT: audit responses; GWAGE: public officials' wage, *** significant at $p < 0.01$, ** significant at $p < 0.05$, * significant at $p < 0.1$

E-government shows no significant result at the determined level, thus the hypothesis that states that e-government has negative effect on the corruption in the local government in Indonesia is not supported. Internal audit capability also has non-significant result at 10% level, thus fourth hypothesis is not supported, which means internal audit capability does not affect the level of corruption in Indonesian local government.

Audit responses have significant result at 5% level with regression coefficient of 1.1673. This means that the hypothesis which states that audit responses have positive effect on corruption level in Indonesian local government is supported. The same result is showed by public officials' wage which shows regression coefficient of -10.9794 significant at 10% level, thus sixth hypothesis is supported, which means that public officials' wage affects the level of corruption in Indonesian local government.

Pressure factor can come in the form of pressure from external party, in this case the people who demand performance accountability from the government and economic stability that manifested in regional income. Performance accountability has negative effect on corruption in Indonesian local government. This may be explained through simple rational that with good performance accountability implemented by local government, the pressure to fulfill people's expectation is lower so that corruption can be prevented. In line with the argument from Shah (2007) which states that an effective accountability will control the abuse of authority performed by public officials, which will reduce corruption. This result support the finding from Lederman et al. (2001) and Grimes (2013) which proved that social and political accountability will reduce corruption.

The second variable from pressure factor is regional income, based on the regression result, regional income does not affect corruption level in Indonesian local government. This result contradicts Andersen (2009); Elbahnasawy (2014); Mistry (2012), and Mondo (2016) who find that PDRB has negative effect on corruption level. This result can be explained by using the logic

that regional income in this study is measured using nominal PDRB which is different from previous research that use real PDRB. Besides that, regional income has homogenous value, 96.7% of local governments have Rp 80 million or 62.6% have regional income in the range of Rp 11 million – Rp 30 million to be exact. This shows that pressure factors that push local government to perform or not perform corruption is the same, thus regional income cannot show the indication of corruption in local government.

The second factor from fraud triangle is opportunity as a result of lack of transparency, reflected in e-government and ineffective control, reflected in internal audit capability. Based on the regression result, e-government has no effect on the level of corruption in the local government in Indonesia. This result contradicts Mistry (2012); Shah (2007), and Elbahnasawy (2014) who prove that e-government reduces corruption. However, in line with Andersen (2009) who states that e-government is a new phenomena, thus it does not affect the level of corruption because of the limitation in the adoption coverage and usage, especially in local government in developing country like Indonesia. This can be explained through the logic that the implementation of e-government is only implemented by a few of local government in Indonesia. There are only 44% of local governments that have implemented e-government until 2013. Based on the number, from the quantity, the implementation of e-government is still low, which is less than 50%. Besides, from the quality point of view, the implementation of e-government is still in deficient level, which is 57% are in deficient level and 36% are in very deficient level. Thus, the implementation of e-government in Indonesia cannot be used to prevent corruption in local government.

Lupu & Lazăr (2015) state that e-government will create transparency that will improve the control from the people. The implementation of e-government in Indonesia will reduce corruption when all local governments have implemented and integrated it with the existing system. This is in line with the statement from Joko Widodo as the president of the Republic of Indonesia that integrated e budgeting; e planning, and e-government system will reduce the opportunity to perform systematic corruption¹.

Internal audit capability reflects the ability of internal control system to ensure that there is no opportunity to perform corruption. Based on the regression result, internal audit capability has no effect on corruption in the local government in Indonesia. This result does not support Hillison et al. (1999) and Zanzig & Flesher (2015), but support M. A. Khan (2006) who states that auditor has no ability to quantify corruption or report corruption that take place. A good internal control does not guarantee that an organization will be free from corruption because the perpetrators are the high officials whom with their power are capable of intervene internal control system (Beasley, Carcello, Hermanson, & Neal, 2010). The condition is made worse by the weak internal control system in Indonesian local government. From the quantity, the number of local governments that have not implemented internal control system effectively is still high, 44%. While from quality point of view, local government internal control capabilities is low, around 54% are in level 1 (initial) and 2% in level 2 (infrastructure). This means that internal audit is implemented at the level of obeying rules and cannot provide guarantee on good governance system, thus internal audit is not capable to prevent corruption (BPKP, 2011).

¹ Speech by President of the Republic of Indonesia in the National Conference on Corruption Eradication (KNPK) 2017

Internal audit capabilities will prevent irregularities in the financial management in the local government and improve governance quality in local government as stated by the Head of Chief Representative of BPKP in Kalimantan Barat Province, Arman Sahri R. Harahap², when local government has implemented effective internal control and reach integrated level. At this level APIP is no longer a watchdog but a strategic partner for local government in managing local government finance, governance, risk management, and internal control, as well as providing assurance activity to ensure efficiency, effectiveness, and the economic value of a program and activity (BPKP, 2011).

The third factor that must exist for corruption to take place is the rationalization or justification from the corruptor on the activity they perform. Rationalization can materialize in the form of circumvention of audit result and dissatisfaction toward organization's policy regarding incentive. The audit responses, based on the above regression analysis, show positive effect on corruption in local government in Indonesia. This result supports the finding from Liu & Lin (2012) and Maria & Gudono (2017) who prove that audit responses has positive effect on corruption. The reason local government justify their action is due to the absence of regulation or operation system regarding the procedure which regulated the action in question, argues that the action is not their responsibility, and assume that the action is something ordinary (Dellaportas, 2013) and most importantly lack of integrity and moral reasoning (Abdullahi et al., 2015).

Incentive management policy that deemed unfair is reflected in public officials' wage. The higher demand on service performance makes local government justify their action to find income aside from the legal source. The regression result shows that public officials' wage has negative effect on corruption. This result is in line with the finding from Lederman et al. (2001) and Liu & Lin (2012) who prove that public officials' wage has negative correlation with corruption. However, the relationship between public officials' wage and corruption must be treated with caution (Gong & Wu, 2012) because increasing public officials' wage to reduce corruption is not an effective measure without effective supervision and controlling system (Lindner, 2013), transparency and easy access to information (Lindner, 2013), as well as integrity and moral improvement for government officials (Abdullahi et al., 2015).

4.3. Additional Test

Additional test is performed on six different models. First, the testing is performed by changing the proxy of corruption with the number of total corruption cases on total samples (Model 1 & 2). Second, the testing is performed based on the typed of local government by separating regression analysis between district (Model 3) and municipal government (Model 4). Third, the testing is performed based on geographical position by separating regression analysis between local government in Sumatera and Java (Model 5) and other regions (Model 6).

Model 2 in Table 4 shows that performance accountability, e-government, and audit responses affect corruption, while regional income, internal audit capability, and public officials' wage do not affect corruption. Model 4 provides consistent result with the initial result that three variables, performance accountability, audit responses, and public officials' wage affect corruption. Meanwhile, in Model 3 only regional income affects corruption. Thus, based on local government

² In the workshop of improvement of capability of APIP in Kalimantan Barat 2017

type, corruption takes place mostly in district government because performance accountability and compensation management cannot reduce the level of corruption cases in district government.

Model 6 provides consistent result with the initial result with performance accountability, audit responses, and public officials' wage that affect corruption. Model 5 proves that only regional income affects corruption. This means that geographically, corruption are mostly found and inflict financial loss to local government in Sumatera and Java compared to other regions because performance accountability, audit responses, and public officials' wage have not run as expected.

Based on the result of additional testing, the variables that provide consistent result in affecting in affecting corruption in local government in Indonesia are performance accountability, audit responses, and public officials' wage. The other variables are regional income, e-government, and internal audit capability do not show any correlation with corruption, thus these variables are open for improvement and further research.

Table 4: Robustness Test

Variables	Total Sample		Sample Based on Government Type		Sample Based On Government Location	
	(1) FEM	(2) REM	(3) DISTRICT	(4) MUNICIPALITY	(5) SUM-JAWA	(6) OTHER
PERAC	-0.408 (0.257)	-0.446* (0.085)	-0.215 (0.319)	-1.156** (0.049)	-0.162 (0.633)	-0.755* (0.053)
REGI	-0.0608** (0.037)	-0.005 (0.555)	0.021*** (0.000)	-0.021 (0.657)	0.0264*** (0.006)	-0.137 (0.400)
EGOV	2.051*** (0.005)	0.763* (0.055)	-0.251 (0.429)	0.337 (0.613)	-0.300 (0.489)	-0.223 (0.707)
IACM	0.100 (0.873)	-0.298 (0.625)	-0.464 (0.134)	1.934 (0.137)	-0.258 (0.599)	-
RAUDT	1.228*** (0.008)	1.032*** (0.004)	0.487 (0.350)	1.206** (0.049)	0.477 (0.452)	1.636*** (0.002)
GWAGE	13.936 (0.844)	-17.190 (0.128)	-1.329 (0.163)	-5.405** (0.031)	-0.804 (0.758)	-28.355* (0.057)
Constant	0.561 (0.872)	2.428* (0.093)	6.879*** (0.000)	11.399*** (0.001)	6.152*** (0.002)	26.912** (0.036)
Observations	144	144	87	57	82	62
R-squared	0.899	0.660	0.269	0.347	0.172	0.446
F-value	8.98 (0.009)	20.01 (0.003)	40.76 (0.000)	3.41 (0.005)	30.77 (0.000)	5.39 (0.001)
Y	LnCORRUP	LnCORRUP	LnCORRUP	LnCORRUP	LnCORRUP	LnCORRUP
Hausman Test	6.78	0.3419				
MODEL			REM	FEM	REM	FEM

Notes: PERAC: Performance accountability; REGI: regional income, EGOV: e-government; IACM: internal audit capabilities; RAUDT: audit responses; GWAGE: public officials' wage, *** significant at $p < 0.01$, ** significant at $p < 0.05$, * significant at $p < 0.1$

5. CONCLUSION

The result of this study proves that performance accountability and public officials' wage have negative effect on corruption, while audit responses has positive effect on corruption. This means that corruption mostly happened in local governments with low performance accountability and high audit responses. While regional income, e-government, and internal audit capability have no effect on corruption. This result is supported by the result from additional regression analysis; in which municipal government's result and outside Sumatera and Java local governments have the same result. The result of additional testing also proves that from the type of local governments, corruption mostly take place in district level, while geographically, corruption mostly found and inflict financial loss in local government in Sumatera and Java.

From the analysis result we can conclude that government programs to improve performance accountability, independent audit, and incentive management for employees have support corruption eradication strategy. Therefore, government (Kementerian PAN-RB) can improve the quality and timeliness in AKIP assessment so that the information can be used to detect and prevent corruption as well as ensuring that compensation management for employees is integrated with employee's performance and compliance with rules, code of ethics, and employee's morality. BPK has to monitor the effort taken by local government in following up the finding, recommendation, and audit result by include it into next year audit.

This study has limitations: the dependent variable is assessed from state or local government financial loss caused by corruption case verdict by Supreme Court, does not include cases verdict in District Court and High Court. Future study may expand the operational definition for dependent variable by including corruption verdicts in all courts level. Future study may consider whether corruption inflict financial loss to the state, provincial government, district government, or municipal government. Besides, the measurement for performance accountability, e-government, and internal audit capability which use the data from assessment result conducted by government agencies. This data has limitation that the assessment does not performed annually and not to all local governments in Indonesia, thus limiting the number of samples observed.

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REGULATIONS

- Statements on Auditing Standards Number 99 Section 316 Consideration of Fraud in a Financial Statement Audit.
- Law No. 31/1999 regarding Corruption Eradication
- Law No. 14/2008 regarding Disclosure on Public Information
- Presidential Regulation No. 8/2006 regarding Reporting of Financial and Performance of Governmental Agency