
Examining The Moderating Role Of Performance Measurement System On Relationship Between Audit Results And Performance Of Indonesian Local Authorities

Rafrini Amyulianthy¹, Ruhaini Muda², Jamaliah Said³, Dyah Setyaningrum⁴

¹Universitas Pancasila

²Universiti Teknologi Mara Shah Alam

³Universiti Teknologi Mara Shah Alam

⁴Universitas Indonesia

e-mail: rafriniamyulianthy@univpancasila.ac.id, ruhaini@uitm.edu.my,
jamaliah533@uitm.edu.my, dsetyani@ui.ac.id

ABSTRACT

The objective of this study is twofold. First is examining the effect of audit results on the local government performance. Secondly is examining the moderating role of performance measurement system on the relationship between audit results and local government performance. This study collected 846 local governments' data from 282 local authorities in Indonesia from 2014 to 2016. The data that employed for audit results were extracted from findings and rectification of audit reports. For the Performance Measurement System, the data were taken from the Government Agency Performance Accountability Report which described the performances of government agencies on the activities and programs implementation which funded by the government. Meanwhile, the local government performances were measured using the total obtained revenue. This study uses multiple regression analysis to explain relationship between the audit results and performance measurement system on local government performance. As the results, it has a positive significant effect on both variables tested. This research also found a significant interaction effect between audit results and performance measurement system on local government. These results assert that local governments with strong Performance Measurement System are more effective in responding to negative findings of audit in order to improve their performances in the following years.

1. INTRODUCTION

New Public Management (NPM) concept has encompassed management techniques in public sector organizations (Jurnali & Siti-Nabiha, 2015). The concept of NPM is a new paradigm that seeks to transform the public sector through organizational reform which include

fundamental changes in accountability related to the control and performance measurement, including the application of accounting and auditing (Furqan *et al.*, 2020). However, many previous studies have analyzed the dynamic of changes in accounting systems in local government organizations, but a comprehensive study that analyze the relationship between the application of accounting systems and the performance of public sector organization especially local authorities is still hard to find. (Bruns, 2014).

The NPM concept emphasizes the role of Performance Measurement Systems (PMS) in performance evaluation (Speklé & Verbeeten, 2014). The PMS creates incentives of control that assist to align individual goals with the objectives of organization, provides valuable feedback information on the progress towards these objectives, and form the basis for internal and external accountabilities (Cavalluzzo & Ittner, 2004; Heinrich, 2002). For the local government, PMS assists both management and organization in order to obtain more efficient and effective performances (Akbar *et al.*, 2015). Local governments in Indonesia are subject to financial statements audits, in accordance with accounting standards, internal controls, laws and regulations. The reinforcement of Law No. 15 of 2004 requires local government to provide respond through answers or explanations to the BPK no later than sixty days after the audit report is received (Setyaningrum *et al.*, 2013). Accordingly, local governments are expected to follow up the audit findings.

There is a need to clearly distinguish between performance management and performance measurement. The performance management of local government is defined as a continuous process of identifying and developing the performances of both individual and team then aligning those performances with the strategic goals of the organization (Otley, 1999). While performance measurement refers to the reporting activity to the external stakeholders (Ryan *et al.*, 2000). According to Atkinson *et al.* (1997), performance indicators are used by management to monitor the performance of management over time and diagnose the aspects of performance therefore corrective action can be taken earlier. Conducted studies related to the performance of local government (Bernstein, 2001; Kluvers, 2003; Setyaningrum & Martani, 2018) found that performance indicators are employed to measure the accountability of public institutions in accordance with the utilization of resources, innovation strategy, and the quality of public services.

However, previous studies on performance measurement mainly focus on the private sectors. Hence, plenty of studies have been addressed the issues of performance measurement in the public sector (Hood *et al.*, 1998; Cavalluzzo & Ittner, 2004; Chenhall & Smith, 2007; Micheli & Neely, 2010). In Indonesia, the interest to study further on the performance measurement of government institution is begun to emerge since the enactment of Presidential Decree No. 7 of 1999. By implementing the PMS concept in the public sector, it can make the evaluation process easier and indirectly improve the government performance (Yang & Holzer, 2006). According to the results of previous studies, if the score of audit findings is high, it means that the accountability of local government is low thus the performance management of local government is low as well. Therefore, the implementation of performance measurement system will improve the lack of accountability through control function and local government will achieve higher management performance (Akbar *et al.*, 2012). Contrary, if the audit

rectification is high, it means that the accountability of local government is high as well as its performance management. This because recommendation for improvement has been carried out effectively and efficiently in accordance with the regulations. Implementing the PMS system will lead the enhanced accountability in accordance with the KPIs to be achieved and creates a better monitoring system from many parties for the achievement of higher local government performance (Jurnali & Siti-Nabiha, 2015). The purpose of this study therefore is examining the relationship between audit findings, audit rectification, performance measurement system and local government performance. This research is expected to enrich the literature of performance measurement system particularly for local government in Indonesia

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

a. Agency Theory and Information Asymmetry in Public Government Sector

Agency theory says that contract between the owner of economic resources (principals) and the agent who are charged to utilize and control the use of resources. This kind of contract may raise agency problem that will trigger agency cost (Jensen & Meckling, 1976). This theory is based on the premise that the agent has more information than what the principal gets so that this unbalanced information adversely results in moral hazard and affects the principals' ability to monitor effectively whether their interests are properly served by the agents.

The agency relationship also occurs in the public sector, where the public (voters) as the principal who delegates authority to the government official to act as an agent. Government officials are tasked to utilizes and control publicly available resources and responsible to the principal for implementing government programs and services (Halim & Abdullah, 2006). Siregar and Utama, (2008) suggest that the negative effect from agency relationships could be mitigated by independent third parties such auditor who assesses the accountability of financial statement. In this study, BPK RI as the auditor who plays the role as the third party to mitigate the agency relationship between legislative and executive bodies in conduct an effective supervision.

This is consistent with Olken, (2007) who described that monitoring the government administrations can be done through the audit process. With the audit procedures on local government financial statements, it allows the public to access more accurate information. Otherwise, moral hazard behavior from the agent due to asymmetric information that allows fraud or corruption will be reduced and causes such state losses will be avoided.

b. Institutional Theory

Institutional theory is a theory that seeks to explain the structure of organization (Scott, 1995). This theory describes what structure an organization adopts, including the code of ethics and culture that leads to a legitimacy and support from external organization. DiMaggio and Powell, (1983) suggest that organizations tend to move toward

homogenization in this well-established area, although at first, they show a fairly large diversity. Isomorphism is an appropriate term to describe this process of homogenization. In other words, institutional theory explains that an organization will maintain its existence against external pressure by doing adaptation. Meyer and Rowan, (1977) argue that to be survived, organizations must convince the public that the organization is a legitimate entity and deserves to be supported.

DiMaggio and Powell, (1983) distinguish two types of isomorphism, namely competitive isomorphism and institutional isomorphism. The competitive isomorphism relates to the efficiency matter (technical or economic explanations) and chooses the cheaper way, better, or more efficient way of doing things. While the institutional isomorphism developed base on three mechanisms: coercive, mimetic, and normative (DiMaggio & Powell, 1983). The coercive isomorphism comes from political influence, legitimacy problem and formal or informal pressures of other organizations. While the mimetic isomorphism arises as a result of a process in response to the uncertainty condition of organization surroundings. During uncertainty condition, organizations tend to replicate other parties to obtain legitimacy. Lastly, the normative isomorphism is usually associated with professionalism and ways of collaboration, formally or informally, that can lead to organizations homogenization. (Akbar *et al.*, 2012).

According to the Law No. 32 of 2004 Art. 184, regional government obliges to carry out the accountability and has a coercive force, namely delegated external pressure from the Central Government in the form of regulations to report accountability to external parties in terms of public financial management. It can be assumed based on the institutional theory that local governments must perform accountability because they are influenced by strong external pressures.

Several studies attempted to adopt the institutional theory and assumed that the organization did not only compete for resources and customers, but also for political power and institutional legitimacy (Akbar *et al.*, 2012). The institutional theory suggests that organizations, in pursuit for legitimacy, adapt the isomorphic pressures that exist in the environment (Ashworth *et al.*, 2009). Therefore, this theory is very relevant to explain the use of performance measurement systems as one of the NPM concepts which are expected to provide benefits from the improved efficiency, accountability and service quality of public sector organizations.

c. Government Auditor

Government auditor is an important component in improving accountability (Laffan, 2003). This particular auditor takes the supervision and control roles that contributes to every aspect in government accountability (Gong, 2009). In its application, fraud behaviour can be detected for instance excessive expenditure or missing asset (Olken, 2007). In addition, Khan (2006) explains that auditing process in public sector can improve transparency and accountability. With the enactment of regional autonomy, the local government is required to manage its administration independently and expected to realizing transparency and accountability in financial management (Setyaningrum & Syafitri, 2012). With the purpose of

increasing transparency as well as accountability of local government financial report, regular inspection should be conducted by BPK RI in accordance with the Law No. 15 of 2014 about Audit of State Financial Management and Responsibility.

Liu and Lin (2012) state that the ultimate objectives of government auditor are to monitor, ensure, and assess government accountability. According to the the Law No. 15 of 2004 about Audit on the State Finance Management and Responsibility, BPK RI acts as an external auditor of government, which guaranteed from intervention of any party in the third stage of financial investigation, namely planning, execution, and reporting the findings as well as providing recommendation (Adebayo, 2011).

Marfiana and Kurniasih (2013) declare that the audit findings in the BPK's report on the local government financial audit revealed the weaknesses in the internal control system and also violations of non-compliance with laws and regulations. These violations indicate the weak administration control of the local government (Dwiputrianti, 2008). According to the agency theory, the higher of non-compliance laws and regulations shows moral hazard carried out by agent (government agencies) may result in adverse selection. In sum, the obedience level on laws and regulations illustrates the performance level of the local government. Therefore, the first hypothesis this study propose is:

H1: There is a negative relationship between audit findings and local government performance.

According to Law No. 15 of 2004 Article No. 20 about audit on the state finance management and responsibility, states that all parties during the BPK examination are compulsory to respond and must submit the response no later than 60 days after the request is received. After conducting an investigation or an audit process, the following process is monitoring phase on the recommendation provided by the auditor. This stage is important enough to monitor the appropriate implementation of the recommendation given by the auditor (Din *et. al.*, 2017; Umor *et. al.*, 2016). Dwiputrianti (2008) found that the follow-up report which consistent with the findings and recommendations in the auditor's report indicates the quality of the audit report and would be more effective if the recommendations were carried out by organization that has been investigated. Similarly, Umar (2012) implies that with the input from auditor, the decision maker can prevent and stop the recurrence of errors, irrelevance, fraud, and improvidence. By implementing what has been recommended by the auditor, the local government has made effort to rectify mistakes in accountability for state administration and reflect government's performance. In addition, Liu and Lin, (2012) assert that auditor institution plays a role in the follow-up process of financial investigation results by giving direct sanction, delegating the case to other responsible parties, providing recommendation to improve the found weaknesses and monitoring the respond on recommendations given from financial investigation results.

In Indonesia, BPK audit rectification is followed with saving the money or asset of the State or company and/or administrative procedures. Redemption of money or asset can be done by returning the money or asset to the State/company, or by the way of administrative procedures

in the form of warning, advising or sanctioning to the responsible person. In line with Sari *et. al.*, (2013) who found that the more recommendations are applied, it will improve the financial accountability. Similarly, Din *et. al.* (2017) argue that following-up the financial investigation recommendation, it consequently reduces the level of financial losses. In other words, an increase in financial accountability and a decrease in financial losses may illustrate an increase in local government performances. Therefore, the second hypothesis in this study can be proposed as follow:

H2: There is a positive relationship between audit rectification and local government performance.

d. Performance Measurement System

A performance measurement system (PMS) is one of the key elements in implementation practice of NPM. Previous studies have addressed the different roles of these systems which relies on multiple classifications to define and operationalize the use of performance measurement systems. Hansen & Van der Stede, (2004) classify the use of performance measurement systems into four different roles as follow: (1) operational planning, (2) performance evaluation, (3) communication of goals, (4) and strategy formation. While Speklé and Verbeeten, (2014) reveal that in the context of its operational terms, a performance measurement system intends to measure the outputs and outcomes of organizations.

The operational activities contain operational planning (including the use of performance metrics for the preparation of performance), budget allocation, monitoring process, and provision of information. Some studies suggest that this role is commonly used in organization as a basic requirement (Hansen & Van der Stede, 2004; Speklé & Verbeeten, 2014). Moreover, Hansen & Van der Stede (2004) in their research found that operational planning, performance evaluation, and strategy formulation have positive impact on the performance of organizational unit, and performance measurement system plays a major role in the NPM concept, by trying to apply the principles and practices of private sector management to the public sector (Newberry & Pallot, 2004). In order to promote efficiency, effectiveness, and accountability in the public sector, NPM encourages the idea of a performance mechanism in which measurable and clear performance targets should be able to guide public official's efforts towards the achievement of organizational objectives.

In this point of view, performance measurement systems are supposed to create persuasion that help to align individual goals toward the organizational objectives, to provide valuable feedback information on the progress of achieving these objectives, and form a basis for internal and external accountabilities (Cavalluzzo & Ittner, 2004; Speklé & Verbeeten, 2014). In the context of Indonesian local government, the LAKIP (Government Institution Performance Accountability Report) is playing this role. Initially, the LAKIP established as an annual performance report, which has developed into a performance measurement system by requiring public sector agencies to describe their mission, vision, strategic objectives, key performance indicators (KPIs), and provide mechanism to connect the KPI with the agency's

objectives and budget (Rhodes *et. al.*, 2012).

Thus, the development of NPM is seen as a means of enhancing the governments accountability and transparency, and in turn, it requires information and performance systems that are more comparable, relevant and useful for public sector decision making. Based on these explanations, the third hypothesis is formulated as follows:

H3: There is a positive relationship between Performance Measurement System and local government performance

However, Barroso *et. al.*, (2016) suggest when examining the impact of PMS on performance, the auditor should not only expect results for higher levels of organizational performance. Accordingly, this study also investigates to what extent the performance measurement system influences organization to achieve higher performance. The assumption behind this is that most organizations have adapted their performance measurement system to an adequate context. Therefore, this research does not only expect a direct effect of the performance measurement system on organizational performance. In fact, this study also claims that high performance measurement systems provide valuable information that affects how organizations achieve performance.

Although the previous hypotheses predicted positive effects of performance measurement system on performance, this study also concerns on the moderating role of performance measurement systems. The intention behind this concern is the argument that performance measurement systems will influence how performance is achieved by organizations whose operational activities in complex environments.

Prior researches show that the number of audit findings at the local government indicate the extent to which the internal control structure is implemented as well as the level of compliance with the accounting standards and financial report regulations (Johnson *et. al.* 2012; Cohen & Laventis, 2013; Liu & Lin, 2012; Nguyen, *et. al.* 2017; Prabowo & Cooper, 2016). Therefore, a high number of audit findings in local government indicates that the financial management has not been carried out appropriately. Various laws and regulations have been violated. Hence, Speklé and Verbeeten, (2014) suggest the needs for more attention paid to the implementation of a comprehensive accountability system in facilitating the organization's internal monitoring activities.

Furthermore, Cohen, (2008) and Wouters and Sportel, (2005) suggest that performance measurement system improves the relationship between external input (i.e from auditor) and management performance. As mentioned earlier, performance measurement systems will create a comprehensive measurement in planning, performance evaluation, communication of goals, and strategy formation that will empower local government to become more accountable to achieve their strategic goal. All these arguments have led to the formulation of forth hypothesis as follow:

H4: Performance Measurement System has moderate relationship between audit findings and local government performance

Previous researches believe that audit rectification contains recommendations provided by the auditor in order to adjust weaknesses or correct errors found during the audit process which were expected to be followed up by the audited party (Furqan, *et. al.*, 2020; Umor, *et. al.*, 2016; Din, *et. al.*, 2017). If the recommendation has been provided, then the next responsibility lies and within the control of the local government as the auditee, including if the completion of audit recommendation involves a third parties in its settlement. By carrying out the supervision of audit rectification effectively in accordance with the recommendations, it is expected that the local government financial management is more accountable (Setyaningrum, 2017).

In the other hand, if the local government conducts the audit adjustment which is not in accordance with the external auditor recommendations, this means that the local government has not improved their internal control, financial management and the implementation of tasks (Liu & Lin, 2012). From this point of views , there is a need to create a strong support system for the successful implementation of audit recommendation so that errors do not recur in the future. The highlighted roles of the performance measurement system will create a suitable environment for improvement, influence all internal users in the system and increase the appreciation of others for potential contribution to the system to meet the organizational objectives (Putu, *et. al.*, 2007; Bernstein, 2001).

Therefore, performance measurement system is likely to change the internal control environment in local government to be more favorably, so the recurrence error after audit investigation can be prevented and consequently the local government will have better performance. According to these findings and arguments of prior researches, the following fifth hypothesis is formulated:

H5: Performance Measurement System weakens the relationship between audit rectification and local government performance

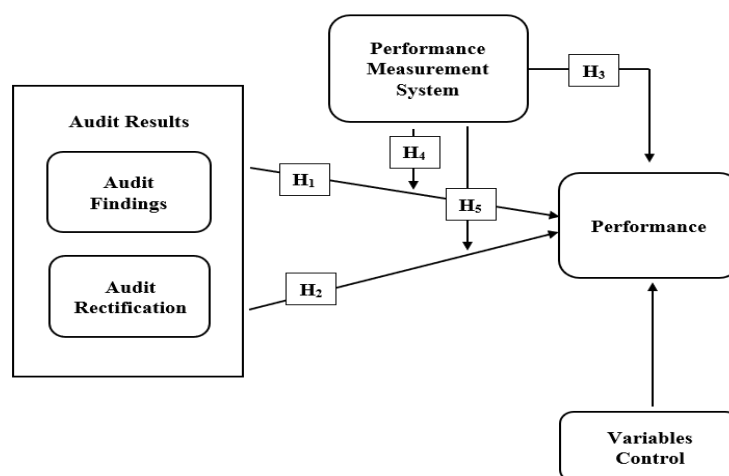


Figure 1. Research Framework Model

3. RESEARCH METHOD

a. Sample and Data Collection

All the employed data were gathered from Indonesian local administratives encompass cities and regional governments level in the period of time 2014–2016. There were 514 cities and regionals administrative in this period and 282 local administrative were excluded in this study due to a missing data. A total of 846 samples were observed from 282 local governments in Indonesia.

In regard of the audit findings and audit rectifications, the used data were taken from BPK RI. Meanwhile, the employed LAKIP reports in this study were obtained from The Ministry of Administrative and Bureaucratic Reform and the financial report performance data were taken from the Ministry of Finance.

b. Empirical Model and Operationalization Variables

With the objective to answers the research questions and simultaneously test the hypotheses, the empirical model in this study is formulated as follow:

$$\text{PERFORM}_{it} = \alpha + \beta_1\text{FIND}_{it-1} + \beta_2\text{RECTIF}_{it-1} + \beta_3\text{PMS}_{it} + \beta_4\text{FIND}*\text{PMS}_{it} + \beta_5\text{RECTIF}*\text{PMS}_{it} + \beta_{6-9}\text{CONTROL} + \varepsilon$$

A brief overview on the operationalization of variables and data sources in this study is presented in Table 1 below.

Table 1. Operationalization Variables and Data Source

| Variables | Operationalization Variables | Data Source |
|------------------------|--|--|
| PERFORM _{it} | Performance of local government, measured by natural logarithm (Ln) of local revenue | Audited local government financial statements |
| FIND _{it-1} | Audit findings, measured by total losses of local government budget and the decreasing in revenue | The Audit Board of Indonesia (BPK RI) |
| RECTIF _{it-1} | Audit rectification, measured by the ratio of audit recommendations divided by the total number of audit recommendations | The Audit Board of Indonesia (BPK RI) |
| PMS _{it} | The performance measurement system, measured by the achievement level of KPI's based on rating score from LAKIP | Ministry of Administrative & Bureaucratic Reform |
| SIZE _{it} | Local government size, measured by the natural logarithm (Ln) of the local government total assets | Audited local government financial statements |
| ISLAND _{it} | The geographical location of particular government, "1" for Java island, "0" for | Ministry of Home Affairs RI |

| | | |
|-----------------------|--|---------------------------------------|
| | outside of Java | |
| OPINION _{it} | Audit results from financial statement, unqualified = 3, qualified = 2, adverse = 1 and disclaimer = 0 | The Audit Board of Indonesia (BPK RI) |
| TYPE _{it} | Type of local government, "1" for city administrative, "0" for other | Ministry of Home Affairs RI |

The variable of PERFORM_{it} is adopted from Cohen, (2008). However, financial ratio analysis is not limited to private sector companies only but also for public sector as well (Anthony & Young, 2003; and Wilson & Katellus, 2004). One of the financial ratio indicators in local government performance is the wealth ratio. According to Masdiantini and Erawati, (2016), wealth ratio shows the ability of local government to generate, maximize income, and fulfil the regional goals.

In regard to the variable of FIND_{it-1}, this study adopts Agustiningsih *et. al.*, (2017) which consists of 67 types of findings and divided into two main groups, namely audit findings on compliance with legislation and internal control systems. The audit findings group on compliance with legislation is presented in the form of (1) local government losses; (2) the potential losses of local government; (3) decreased in revenue; This variable puts into account the monetary value to provide a more comprehensive picture of the number audit findings. RECTIF_{it-1} is measured by the followed-up percentage on audit recommendation compare to the total of audit recommendations provided by BPK auditors. This variable is based on the consideration that the Regional Government receives BPK audit reports on the financial statements, which contains several components as follow: (1) audit opinion on the financial statements, (2) audit findings on the financial statements and (3) audit recommendations based on the previous year of audit findings.

For PMS_{it} variable, this study follows Akbar *et. al.*, (2015) who measured by the score based on the results of the Government Institution Performance Accountability Report (LAKIP) (Presidential Decree No. 7 of 1999). The score is calculated based on the performance evaluation results such as: (1) planning; (2) measurement; (3) reporting; (4) internal valuation; and (5) achievement of the local government performance organized by the local government inspectorate. The score is based on the evaluation results whether success or failure in the programs implementation (Akbar *et. al.*, 2012). The more target or programs implemented, the higher the score or rating.

The control variables in this study are SIZE_{it}, ISLAND_{it}, OPINION_{it} and TYPE_{it}. The variable of SIZE_{it} is measured by the natural logarithm (Ln) of the total local government assets. Furqan *et. al.*, (2020) found a positive influence between the size of local government and the quality of public services which is also a reflection of local government performance. ISLAND_{it} is measured by a dummy, "1" means that the local government is located on the mainland of Java, while "0" indicates outside the mainland. This variable represents the cultural differences between local governments in Indonesia.

A study conducted by Hyndman and Connolly, (2011) found that ideological, political and cultural factors are also determine the successful implementation of accounting system in the

government. Variable of $OPINION_{it}$ is measured by ranking namely unqualified = 3, qualified = 2, adverse = 1 and disclaimer = 0. Lastly, $TYPE_{it}$ is measured by a dummy, where “1” represents if the local government is a city administrative and “0” if it is not. The city administrative has the characteristic of a dense population with more complex facilities compared to the regional administrative. Ziegenfuss (2001) revealed that there is a difference (between city and regency) in term of corruption that occurs in the local government.

4. FINDINGS AND DISCUSSION

a. Descriptive Statistics

The following Table 2 illustrates the descriptive statistics for all analyzed variables in this study. The mean value for variables $FIND_{it-1}$ and $RECTIF_{it-1}$ are equal to 3.82 and 0.53. If compared with minimum and maximum scores, this means that the variable has a low level of audit findings and more than half of the auditor’s recommendations have been followed up and implemented. Meanwhile, the mean value for variables $PERFORM_{it}$ and PMS_{it} , indicate a low level of revenue and low level of KPI’s achievement. However, the movements of local revenue and KPI’s achievement tend to increase rapidly during the year 2014 to 2016.

In addition, the $SIZE_{it}$ variable has a mean value of 2,965.93. This value means that the assets were almost three trillion rupiah. And the rest variables, $ISLAND_{it}$, $OPINION_{it}$ and $TYPE_{it}$ obtained the mean of 0.20, 2.54 and 0.29 which show that the average sample used in this study is local government outside the mainland of Java with regency status.

Table 2. Descriptive Statistics (n = 846)

| Variables | Mean | St. Dev | Min. | Max. |
|-----------------|----------|----------|--------|-----------|
| $PERFORM_{it}$ | 196.62 | 351.45 | 9.38 | 4,090.20 |
| $FIND_{it-1}$ | 3.82 | 11.24 | 0.00 | 218.19 |
| $RECTIF_{it-1}$ | 0.53 | 0.33 | 0.00 | 1.00 |
| PMS_{it} | 2.54 | 0.71 | 1.00 | 6.00 |
| $SIZE_{it}$ | 2,965.93 | 3,961.32 | 100.66 | 38,985.39 |
| $ISLAND_{it}$ | 0.20 | 0.40 | 0.00 | 1.00 |
| $OPINION_{it}$ | 2.54 | 0.62 | 0.00 | 3.00 |
| $TYPE_{it}$ | 0.29 | 0.46 | 0.00 | 1.00 |

b. Empirical Results

The hypotheses of this study were tested and analyzed using multiple regression application. At the initial stage, BLUE test was performed to check if there any normality issue in the data (see Appendix 1). After passing the normality test, the model fit test was applied, where Random Effect Model is selected for this study (see Appendix 2). After these two tests, hypotheses tests were performed and the result shows that the coefficient of β_1 is negative at the significant level of 1%. This result implies that the more breach and non-compliance of laws and regulations occurred, the lower the performance of local government. Thus, this

result is consistent with hypothesis 1. This result indicates that the local government losses, the potential losses of local government, and decreased in revenue determine the local government revenues.

Afterwards, audit rectification shows a positive coefficient, which means that the improvements made based on recommendations of auditors have a positive and significant effect at 1% level on local government performance. Moreover, this implies that recommendation for the local government will detain and stop the repeated mistakes and eventually the local government revenues will be increased as well as its performance. This analysis result asserts that the second hypothesis in this study is accepted.

Performance measurement system variable shows that the coefficient β_3 is positive at the significant level of 5%. This result indicates that higher KPI's achievement will improve the performance of local government. This is definitely consistent with the hypothesis 3 in this study, where accountable and clear performance targets can serve as guidelines for local government to strive for the achievement of government's objectives. The first variables interaction is between audit findings and performance measurement system show the increase of coefficients of β_2 and β_4 , from negative to positive value at the significant level of 5% level. This result supports the hypothesis 4 in this study, where performance measurement systems will gain the accountability of local government and improve the local government performance.

The second variables interaction is between audit rectification and performance measurement system that shows a negative value at the significant level of 1%. This result is in line with the hypotheses 5 in this study. This result indicates that the performance measurement system significantly weakens the audit rectification effect on local government performance because all the KPI targets were implemented, therefore errors and weaknesses in the system were corrected immediately. In consequences, recommendation from external auditor for improvement is no longer needed because the comprehensiveness of internal accountability where the system itself will correct any errors and failures.

The hypotheses testing in this study employed multiple regression tests, and the summary of results are presented in Table 3

Table 3. Regression Analysis

| Variable | Hypotheses | Exp. Sign | Coef. | P>t | Sig |
|------------------------|----------------|-----------|-----------|-------|-----|
| Const | | | 2.262044 | 0.000 | |
| FIND _{it-1} | H ₁ | - | -.0002687 | 0.001 | *** |
| RECTIF _{it-1} | H ₂ | + | .0050397 | 0.000 | *** |
| PMS _{it} | H ₃ | + | .0003638 | 0.024 | ** |
| FIND*PMS | H ₄ | + | .0000396 | 0.010 | *** |
| RECTIF*PMS | H ₅ | - | -.0019346 | 0.000 | *** |
| SIZE _{it} | | | .0383018 | 0.000 | *** |
| ISLAND _{it} | | | .0007562 | 0.008 | ** |
| OPINION _{it} | | | .0004908 | 0.095 | * |

| | | | | | |
|------------------------|--------|--|---------|-------|--|
| TYPE _{it} | | | .000113 | 0.351 | |
| Number of observations | 846 | | | | |
| Adjusted R-square | 83,16% | | | | |

Note: *** = 1%, ** = 5%, * = 10% (*one-tail test*)

c. Robustness Test

As previously described in the literature review section, BPK's report on audits of non-compliance with laws and regulations, BPK presented the audit findings into three groups, namely: local government losses, the potential losses of local government and decreased in revenue. In order to provide a clearer picture of the effect of each type audit findings on the local government performance, a sensitivity test was applied and also to verify the proposed hypotheses of this study. For audit rectification, the sensitivity test used the value of the number of audit recommendations and the results are presented in following Table 4.

The sensitivity analysis shows a similar result with the previous test. All dimensions of non-compliance to the laws and regulations in the audit findings, which consist of local government losses, the potential losses of local government and decreased in revenue, have a significant negative effect on local government performance. This negative effect implies that the performance measurement system weakens the effect of audit findings on local government performance. In addition, the correlation between the performance measurement system and the number of assets that have been rescued to the State Treasury shows that the performance measurement system is significantly declining the local government performance.

Table 4. Robustness Test

| Variable | Hypotheses | Exp. Sign | Coef. | P>t | Sig |
|----------------------------|-----------------|-----------|-----------|-------|-----|
| Const | | | 2.260231 | 0.000 | |
| LGLOSSFIND _{it-1} | H _{1a} | - | -.0001121 | 0.004 | *** |
| POTENCFIND _{it-1} | H _{1b} | - | -.0001409 | 0.009 | *** |
| DECREVFIND _{it-1} | H _{1c} | - | -.0000297 | 0.003 | *** |
| NUMRECTIF _{it-1} | H ₂ | + | .0001230 | 0.013 | ** |
| PMS _{it} | H ₃ | + | .0049358 | 0.008 | *** |
| LGLOSSFIND*PMS | H _{4a} | - | .0002337 | 0.013 | ** |
| POTENCFIND*PMS | H _{4b} | - | .000062 | 0.006 | *** |
| DECREVFIND*PMS | H _{4c} | - | .0000617 | 0.005 | *** |
| NUMRECTIF*PMS | H ₅ | - | -.0000883 | 0.007 | *** |
| SIZE _{it} | | | .0383018 | 0.000 | *** |
| ISLAND _{it} | | | .0007562 | 0.016 | ** |
| OPINION _{it} | | | .0004908 | 0.067 | * |
| TYPE _{it} | | | .000113 | 0.335 | |
| Number of observations | 846 | | | | |
| Adjusted R-square | 83,09% | | | | |

Note: *** = 1%, ** = 5%, * = 10%

5. CONCLUSION

This study analyze the relationship between audit results on local government performance. This study also analyzes the moderating effect on the relationship between the audit results and the PMS. With the total of 846 observations from 282 local administrative during the period 2014-2016. As the results, this study found both components of audit result (audit finding and audit rectification) have a positive effect on local government performance.

One of the findings that this research highlights is the significant interaction effect between audit results and performance measurement system on the local government performance. This result implies that the local governments with a good Performance Measurement Systems rating are more sensitive to negative audit findings and will therefore improve their performance in the following years.

In addition, one of the analysis results of this study implies that violation of laws and regulations will affect the local government performance due to local government losses, potential losses of local government, and decreased revenue. All of these outcomes have a significant and definitely effect the local government performance because it will adjust the achievement of KPIs. Moreover, the rectification as a result of auditor recommendation has a positive effect on the local government performance because the rectification will prevent further errors and failures in the next period. In addition, between audit rectification and performance measurement system has a negative effect because a comprehensive performance measurement system will detect the mistakes or weakness automatically, therefore the rectification already works without external auditor recommendation. In other words, auditor recommendation for rectification is no longer needed. This study cannot be separated from several limitations, but it can be used as recommendation for further studies.

This study assumes that a one-year time lag is enough for RECTIF variable, however data over one-year period may have a bigger effect. The study used 2016 data as the most recent data for RECTIF variable. Further studies are expected to empirically analyze the most recent year data to test the RECTIF variable. In the other hand, this study only discuss performance from financial indicator, therefore taking non-financial indicator into account to evaluate local government performance is considered important to capture wider perspective. There are plenty of available rooms to fit in regardless of these themes to be analyzed, for example, issues of good public governance or the application of control mechanism system in the government administration

6. REFERENCES

- [1] Adebayo, O. (2011). An Empirical Analysis of the Impact of Auditors Independence on the Credibility of Financial Statement in Nigeria. *Research Journal of Finance and Accounting*, 2(3), 82-98.
- [2] Agustiningih, S. W., Murni, S., & Putri, G. A. (2017). Audit Findings, Local Government Characteristics, and Local Government Financial Statement Disclosure. *Review of Integrative Business & Economics Research*, 6(3), 179–187.
- [3] Akbar, R., Pilcher, R. A., & Perrin, B. (2015). Implementing performance measurement systems: Indonesian local government under pressure. *Qualitative Research in Accounting and Management*, 12(1), 3–33. <https://doi.org/10.1108/QRAM-03-2013-0013>
- [4] Akbar, R., Pilcher, R., & Perrin, B. (2012). Performance measurement in Indonesia: the case of local government. *Pacific Accounting Review*, 24. <https://doi.org/10.1108/01140581211283878>.
- [5] Anthony, R. (1978). *Financial Accounting in Nonbusiness Organizations: An Exploratory Study of Conceptual Issues*, FASB Research Report (Stamford).
- [6] ——— and Young, D. (2003). *Management Control in Nonprofit Organizations*, 7th ed., McGraw-Hill Irwin.
- [7] Ashworth, R., George, B. & Delbridge, R. (2009). Escape from the iron cage? Organizational change and isomorphic pressures in the public sector. *Journal of Public Administration Research and Theory*, 19(1): pp. 165-87.
- [8] Atkinson, A.A. & McCrindell, J.Q. (1997). *Strategic performance measurement in government*, CMA Magazine, April 20–23.
- [9] Barroso, R., Burkert, M., Dávila, A., Oyon, D., & Schuhmacher, K. (2016). The Moderating Role of Performance Measurement System Sophistication on The Relationships Between Internal Value Drivers and Performance.
- [10] Bernstein, D.J. (2001). Local government measurement uses to focus on performance and results, 24, 95–101.
- [11] Bruns, H.J. (2014). Accounting change and value creation in public services-Do relational archetypes make a difference in improving public service performance? *Critical Perspectives on Accounting*, 25(4–5); 339–367. <https://doi.org/10.1016/j.cpa.2013.05.005>
- [12] Cavalluzzo, K.S., Ittner, C.D. (2004). Implementing performance measurement innovations: evidence from government. *Accounting, Organizations and Society*, 29: 243–267.
- [13] Chenhall, R.H. and Smith, K.L. (2007). Multiple perspectives of performance measures. *European Journal of Information Systems*, 25(4):266-82.
- [14] Cohen, S. (2008). Identifying the Moderator Factors of Financial Performance In Greek Municipalities. *Financial Accountability & Management*, 24(3), 265–294.
- [15] DiMaggio, P. J., and Powell, W.W. (1983). The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields. *American Sociological Review*, 48, 147-160.

- [16] Din, M., Munawarah, Ghazali, I., & Achmad, T. (2017). The follow up of auditing results, accountability of financial reporting and mediating effect of financial loss rate: An empirical study in Indonesian local governments. *European Research Studies Journal*, 20(4), 443–459.
- [17] Dwiputrianti, S. (2008). Efektivitas laporan hasil temuan pemeriksaan dalam mewujudkan reformasi transparansi fiskal dan akuntabilitas sektor publik di Indonesia. *Jurnal Ilmu Administrasi*, 5(4).
- [18] Furqan, A.C., Wardhani, R., Martani, D., & Setyaningrum, D. (2020). The Effect of Audit Findings And Audit Recommendation Follow-Up On The Financial Report And Public Service Quality In Indonesia. *International Journal of Public Sector Management*, 33(4), 1–25. <https://doi.org/10.1108/IJPSM-06-2019-0173>
- [19] Gong, T. (2009). Audit for Accountability in China: An Incomplete Mission. *The Australian Journal of Public Administration*, 68(1), S5–S16. <https://doi.org/10.1111/j.1467-8500.2009.00617.x>
- [20] Halim, A. & Abdullah, S. (2006). *Hubungan dan Masalah Keagenan di Pemerintahan Daerah*.
- [21] Hyndman, N. and Connolly, C. (2011). Accruals accounting in the public sector: a road not always taken. *Management Accounting Research*, 22, 36-45.
- [22] Hansen, S.C., & Van der Stede, W.A. (2004). Multiple facets of budgeting: an exploratory analysis. *Management Accounting Research*, 15(4), 415–439. <https://doi.org/10.1016/j.mar.2004.08.001>
- [23] Heinrich, C.J. (2002). Outcomes-based performance management in the public sector: implications for government accountability and effectiveness. *Public Administration Review*, 62, 712–725.
- [24] Hood, C., James, O., Jones, G., Scott, C. & Travers, T. (1998). Regulation inside government: where new public management meets the audit explosion. *Public Money & Management*, 18 (2), 61-8.
- [25] Jensen, M.C., & Meckling, W.H. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure.
- [26] Johnson, L.E., Lowensohn, S., Reck, J.L. & Davies, S.P. (2012). Management letter comments: their determinants and their association with financial reporting quality in local government. *Journal of Accounting and Public Policy*, 31(6), 575-592.
- [27] Jurnal, T., & Siti-Nabiha, A.K. (2015). Performance Management System for Local Government: The Indonesian Experience. *Global Business Review*, 16(3), 351–363. <https://doi.org/10.1177/0972150915569923>
- [28] Johnson, H.T. & Kaplan, R.S. (1987). *Relevance Lost – The Rise and Fall of Management Accounting*, Harvard Business School Press, Boston, MA.
- [29] Kaplan, R.S. (1983). Measuring manufacturing performance: a new challenge for managerial accounting research. *The Accounting Review*, 70(1), 71-9.
- [30] Khan, M.A. (2006). *Role of audit in fighting corruption, Paper for UN Ad Hoc Group Meeting on “Ethics, Integrity, and Accountability in the Public Sector: Re-building*

- Public Trust in Government through the Implementation of the UN Convention against Corruption*, St. Petersburg, Russia. Available at: <http://unpan1.un.org/intradoc/groups/public/documents/UN/UNPAN025122.pdf>
- [31] Kluvers, R. (2003). Accountability for performance in local government. *Australian Journal of Public Administration*, 62(1), 57–69. <https://doi.org/10.1111/1467-8500.00314>
- [32] Laffan, Brigid. (2003). Auditing and Accountability in the European Union. *Journal of European Public Policy*, 10: 762-777.
- [33] Liu, J., & Lin, B. (2012). Government auditing and corruption control: Evidence from China's provincial panel data. *China Journal of Accounting Research*, 5(2), 163–186. <https://doi.org/10.1016/j.cjar.2012.01.002>
- [34] Marfiana, N., & Kurniasih, L. (2013). Pengaruh Karakteristik Pemerintah Daerah Dan Hasil Pemeriksaan Audit BPK Terhadap Kinerja Keuangan Pemerintah Daerah Kabupaten/Kota. *Journal & Proceeding Universitas Jenderal Soedirman*, 3(1), 1–16.
- [35] Masdiantini, P. R., & Erawati, N. M. A. (2016). Pengaruh Ukuran Pemerintah Daerah, Pengaruh Ukuran Pemerintah Daerah, Kemakmuran, Intergovernmental Revenue, Temuan Dan Opini Audit Bpk Pada Kinerja Keuangan. *Akuntansi Universitas Udayana*, 1150–1182.
- [36] Meyer, J. W. & B. Rowan. (1977). Institutional Organizations: Formal Structure as Myths and Ceremony. *American Journal of Sociology*, 83(2), 340-363.
- [37] Micheli, P. & Neely, A. (2010). Performance measurement in the public sector in England: searching for the golden thread. *Public Administration Review*, Vol. 70 No. 4, pp. 591-600.
- [38] Newberry, S., & Pallot, J. (2004). Freedom or coercion? NPM incentives in New Zealand central government departments. *Management Accounting Research*, 15, 247–266.
- [39] Nguyen, T.V., Bach, T.N., Le, T.Q. & Le, C.Q. (2017). Local governance, corruption, and public service quality: evidence from a national survey in Vietnam. *International Journal of Public Sector Management*, 30(2), 137-153.
- [40] Olken, B. A. (2007). Monitoring Corruption: Evidence from a Field Experiment in Indonesia. *Journal of Political Economy*, 115(2), 200–249. <https://doi.org/10.1086/517935>
- [41] Otley, D. (1999). Performance management: a framework for management control systems research. *Management Accounting Research*, 10, 363–382. Retrieved from www.idealibrary.comon
- [42] Prabowo, H.Y. & Cooper, K. (2016). Re-understanding corruption in the Indonesian public sector through three behavioral lenses. *Journal of Financial Crime*, 23(4), 1028-1062.
- [43] Putu S., N., Jan van Helden, G., & Tillema, S. (2007). Public sector performance measurement in developing countries. *Journal of Accounting & Organizational Change*, 3(3), 192–208. <https://doi.org/10.1108/18325910710820265>
- [44] Rhodes, M., Biondi, L., Gomes, R., Melo, A., Ohemeng, F., Perez-Lopez, G., Rossi, A.

- & Sutiyono, W. (2012). Current state of public sector performance management in seven selected countries. *International Journal of Productivity and Performance Management*, 61(3), 235-271.
- [45] Ryan, C., Robinson, M., & Christine, T.G. (2000). Financial Performance Indicators for Australian Local Governments. *Accounting, Accountability and Performance*, 6(2), 89–106.
- [46] Sari, A. P., Martani, D., & Setyaningrum, D. (2013). Pengaruh Temuan Audit, Tindak Lanjut Hasil Pemeriksaan dan Kualitas Sumber Daya Manusia terhadap Opini Audit melalui Tingkat Pengungkapan Laporan Keuangan Kementerian/Lembaga Adelia Pramita Sari. Universitas Indonesia.
- [47] Scott, W.R. (1995). *Institutions and Organizations*. Thousand Oaks, CA: Sage.
- [48] Setyaningrum, D. (2012). *Analysis of Factors Affecting the Audit Quality of BPK-RI*. National Symposium on Accounting XV, Banjarmasin, South Kalimantan.
- [49] Setyaningrum, D. (2017). The Direct and Mediating Effects of An Auditor' s Quality and the Legislative' s Oversight on the Follow-up of Audit Recommendation and Audit Opinion. *International Journal of Economic Research*, 14(13), 269–292.
- [50] Setyaningrum, D., Gani, L., Martani, D., & Kuntadi, C. (2013). The Effect of Auditor Quality on the Follow-Up of Audit Recommendation. *International Research Journal of Business Studies*, 6(2), 89–104. <https://doi.org/10.21632/irjbs.6.2.89-104>
- [51] Setyaningrum, D., & Martani, D. (2018). Determinants of Local Government Performance in Indonesia. *Advances in Economics, Business and Management Research*, 55, 7–12.
- [52] Setyaningrum, D., & Syafitri, F. (2012). Analisis pengaruh karakteristik pemerintah daerah terhadap tingkat pengungkapan laporan keuangan. *Jurnal Akuntansi Dan Keuangan Indonesia*, 9(2), 154–170.
- [53] Siregar, S.V. and Utama, S. (2008). Type of earnings management and the effect of ownership structure, firm size, and corporate-governance practices: evidence from Indonesia. *International Journal of Accounting*, Vol. 43, p. 1
- [54] Speklé, R.F., and Verbeeten, F.H.M. (2014a). The use of performance measurement systems in the public sector: Effects on performance. *Management Accounting Research*, 25(2), 131–146. <https://doi.org/10.1016/j.mar.2013.07.004>
- [55] Speklé, R.F., & Verbeeten, F.H.M. (2014b). The use of performance measurement systems in the public sector: Effects on performance. *Management Accounting Research*, 25(2), 131–146. <https://doi.org/10.1016/j.mar.2013.07.004>
- [56] Umar, H. (2012). Pengawasan Untuk Pemberantasan Korupsi. *Jurnal Akuntansi & Auditing*, 8(2), 109–122.
- [57] Umor, S., Zakaria, Z., & Sulaiman, N.A. (2016). *Follow-up Audit as an Accountability Mechanism of Public Sector Performance Auditing*, (August).
- [58] Wilson, E and S. Katellus. (2004). *Accounting for Governmental and Non-profit Entities* (13th ed., McGrawHill).
- [59] Wouters, M., & Sportel, M. (2005). The role of existing measures in developing and implementing performance measurement systems. *International Journal of Operations*

& *Production Management*, 25(11), 1062–1082.
<https://doi.org/10.1108/01443570510626899>

- [60] Yang, K., & Holzer, M. (2006). The performance trust link: implications for performance measurement. *Public Administration Review*, 66(1):114–26
- [61] Ziegenfuss, D.E. (2001). The role of control environment in reducing local government fraud. *Journal of Public Budgeting, Accounting and Financial Management*, 13(3): 312.