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APAKAH ROTASI PIMPINAN ANTAR KANTOR AUDIT MEMENGARUHI KUALITAS AUDIT? STUDI KASUS DI BADAN PEMERIKSA KEUANGAN REPUBLIK INDONESIA

DOES THE ROTATION OF HEAD OF AUDIT OFFICE ACROSS OFFICES IMPACT AUDIT QUALITY? STUDY CASE OF THE AUDIT BOARD OF REPUBLIC OF INDONESIA

ABSTRAK/ABSTRACT

Penelitian ini menguji dua argumen dalam konteks audit sektor swasta. Pertama audit partner dari kantor audit yang lebih besar dianggap memiliki kemampuan dan pengalaman audit yang lebih baik dari audit partner dari kantor audit yang lebih kecil. Kedua, audit partner dari kantor audit yang lebih besar juga dianggap lebih mampu menghadapi tantangan rotasi. Penelitian ini menguji kedua proposisi ini dalam konteks audit sektor publik menggunakan Badan Pemeriksa Keuangan (BPK) Republik Indonesia sebagai studi kasus. Penelitian ini untuk menguji kedua proposisi tersebut dengan meneliti kualitas audit antar kantor perwakilan BPK, efek dari rotasi dan tipe rotasi kepala perwakilan BPK terhadap kualitas audit, dengan menempatkan kepala kantor perwakilan BPK sebagai ekuivalensi dari audit partner pada sektor swasta. Penelitian ini menggunakan jumlah temuan audit dalam laporan audit atas laporan keuangan pemerintah daerah sebagai pendekatan ukuran atas kualitas audit. Penelitian ini menemukan bahwa terdapat kesenjangan kualitas audit antar kantor perwakilan dengan kecenderungan kantor perwakilan yang memiliki entitas audit yang lebih banyak akan memiliki kualitas audit yang lebih baik dibandingkan dengan kantor perwakilan dengan entitas audit yang lebih sedikit. Penelitian ini juga menemukan bahwa rotasi kepala kantor perwakilan berdampak negatif terhadap kualitas audit. Lebih jauh, hasil penelitian ini menunjukkan bahwa dampak negatif tersebut disebabkan oleh dampak negatif perubahan ukuran kantor perwakilan, yang lebih besar dari dampak positif rotasi itu sendiri.

This study examines the effect of head of audit office rotation on auditing quality. This study is motivated by two propositions in private sector auditing. First, that audit partners from larger audit offices are argued to be more experienced compared with audit partners from smaller offices. Second, the audit partners from larger audit offices also argued to be more capable in handling the rotation challenges. This study aimed to examine these propositions in public sector setting by using the Supreme Audit Board of the Republic of Indonesia (BPK) as a case study, where the head of representative office as the audit partner equivalent. This study tested these propositions by examining audit quality across BPK's representative audit office sizes and the effect of rotation and types of rotation of the head of the representative audit office on audit quality. This study used the number of audit findings in the financial audit reports as the proxy of audit quality. This study found that audit quality varies across office sizes in the BPK, where the larger representative offices tend to have a better audit quality. This study also found that the rotation of the head of the audit office is negatively associated with audit quality. Lastly, this study found that the negative effect of rotation is caused by the negative effect of changes in the office sizes, which outweigh the positive effect of rotation.

INTRODUCTION

This study examines the effect of head of audit office rotation on auditing quality. This study is motivated by two existing auditing topics: audit office size effects and mandatory audit partner rotation. First, in the private sector, an audit partner from a larger audit office size is argued to be more experienced compared with an audit partner from a smaller office (Francis, Michas, & Yu 2013). Therefore, larger audit offices have a higher audit quality than their smaller counterparts (e.g., Choi et al. 2010; Francis & Yu 2009; Francis, Michas, & Yu 2013; Sundgren & Svanstrom 2013). Second, auditor rotation is argued to be a useful way to improve auditor independence, which is expected to improve audit quality (Bamber & Bamber 2009; Doti 2011).

The existing auditor rotation literature shows mixed results. Several prior studies found that mandatory audit partner rotation impaired audit quality in the initial years of rotation because of a deficiency in client knowledge (e.g., Cameran, Francis, & Marra 2014; Litt et al. 2014;). The negative effect of auditor rotation has also been found within public sector auditing (e.g., Cagle & Pridgen 2015; Schelker 2008). Conversely, other studies suggest that audit partner rotation improves audit quality through a positive peer review and a 'fresh eyes' perspective on the audit (e.g., Hamilton et al. 2005; Lennox, Wu, & Zhang 2014). The results of these studies raise the following research questions: (1) Does public sector auditing experience vary audit quality across office sizes, as in private sector auditing?; (2) What is the effect of rotation and type of rotations (promotion and demotion) on audit quality?

Rotation across offices sizes will expose an auditor to rotation challenges including: (a) auditor's inferior understanding and knowledge of the new client, and (b) audit experience discrepancy when an auditor is rotated to a larger office size. These challenges have a negative effect on audit quality, such as low audit quality in the initial year of audit engagement. Rotation across office sizes is a topic that has rarely been examined in prior studies, due to the lack of rotation data. This is because audit partners in private sector prefer to learn a new industry rather than being rotated through other offices (Daugherty et al. 2012). In contrast, in the Audit Board of Republic of Indonesia (BPK RI), mandatory auditor rotation is performed across different office sizes. This unique rotation pattern provides data to address the research questions.

The BPK RI is the Indonesian Government's external auditor and is established by the national constitution. The BPK RI has a unique organisational setting. The BPK RI has 34 representative audit offices of different sizes. There are three sizes of audit representative offices based on the number of audit clients in each office (BPK RI, 2011). Office size Type A has 25 or more audit clients; Type B has more than 10, but fewer than 25, audit clients; and Type C has fewer than 10 audit clients.

In each office there will be one auditor who is assigned as the head of the representative audit office (HRO). The HRO's responsibilities are similar to those of signing or reviewing partners in private sector auditing. In the several audit offices HROs responsibilities are not only as the reviewing partner but also the signing partner. While, in the other audit offices HROs are only responsible as reviewing partner for financial audit report. This difference responsibility depends on the background education of the HRO and the complexity of the audit assignment itself. The HRO is subjected to mandatory auditor rotation across office sizes after 2 years of service (BPK RI, 2014; BPK RI, 2011). This mandatory rotation aims to maintain the HRO's independence, which is expected to improve audit quality. Because of the rotation pattern in the BPK RI, these HROs

experience the rotation challenges mentioned above.

Using the BPK RI as a case study, this study replicates and extends Francis, Michas and Yu's (2013) study, which examined client restatement and audit office sizes, in a public sector setting. The replication is performed by testing whether the audit quality across office sizes at the BPK RI has the same pattern found in prior literature, and extends it by investigating the effect on audit quality of HRO rotation from smaller to larger offices, and vice versa.

Francis, Michas and Yu (2013) suggest that audit quality varies across the Big 4, where larger office sizes are more likely to have a higher audit quality compared with smaller offices. Francis, Michas and Yu (2013) contend that varying audit quality across different office sizes is caused by audit experience discrepancies among audit partners. In the BPK RI context, the different sizes of representative offices may result in varying audit quality across offices. Type A offices may yield better audit quality than Types B or C, and vice versa. Therefore, the first testing hypothesis in this study is the (1) *larger representative audit offices have relatively higher audit quality compared with smaller representative audit offices.*

In the HRO rotation context, Francis, Michas and Yu's (2013) finding implies that HROs from smaller office sizes have less experience compared with HROs from larger office sizes, and not only have less audit experience but also an inferior understanding and knowledge of the new client in the larger office. Therefore, HRO rotation from smaller to larger office sizes might result in a lower audit quality in the new office. From the opposite view, HRO rotation from smaller to larger office sizes could indicate promotion, with the opposite rotation pattern implying demotion. In the private sector, these methods are commonly used by the companies to place their employees into the most suitable job based on their past

performance (Campbell, 2008). This implies that the promoted HRO enjoyed exceptional performance in the past and is expected to perform in a similar manner in the larger and more complex office. In contrast, the demoted HRO may indicate deficient performance in the previous office, and thus may be expected to perform better in the smaller and less complex office.

Although the promoted HROs may demonstrate outstanding past performance, they have less audit experience due to fewer audit assignments in the previous office. This study argues that a greater number of clients and the presence of more complex problems in the larger office will have a negative effect on the promoted HRO's audit performance. Conversely, the demoted HRO may demonstrate an inferior past performance, but they possess more audit experience, moving from a larger office. This study contends that moving to fewer clients with less complex problems will have a positive effect on the demoted HRO's audit performance. This lead to the second and third hypotheses in this study, which are: (2) *HRO rotation is negatively associated with audit quality; (3a) HRO rotation from a larger to smaller office is positively associated with audit quality;* and *(3b) HRO rotation from a smaller to larger office is negatively associated with audit quality.*

This study followed Lennox, Wu and Zhang's (2014) approach in measuring audit quality, and used the changes in the number of audit findings in audit reports as the proxy of audit quality. Audit findings occur when the auditor detects and reports incompatibility between accounting regulations and the client's accounting practices. The auditor's ability to detect and disclose such discrepancies in audit reporting reflects DeAngelo's (1981) concept of audit quality: the joint probability of detecting and disclosing a client's deviations from accounting systems. The number of audit findings in this study consists of the

number of audit findings in the audit report of internal control system and the audit report of compliance to standards.

This paper is organised as follows. The next section addresses the research methods, the third section presents the empirical results and discussion. Last section discusses the research conclusion and implications for policy-makers.

RESEARCH METHODS

Research Samples

The sample in this study comprises data on HRO rotation and local government financial audit reports. The local government audit reports consist of the audit reports for province, district and municipality. These data are drawn from the BPK RI database for the period 2011–2014[11]. This study used one full sample and is summarised in Table 1.

Data in this study were manually identified and hand-collected from each local government audit report and HRO rotation data. This study also compared each audit report date with HRO data rotation to differentiate audit reports produced by previous and new HROs. Further explanation of each variable that collected from each financial audit report will be presented in section 3.

Research Design

This study used three linear models to test the hypotheses. Table 2 presents the summary of variables definition and expected sign.

The office size and rotation effect on audit quality

The purpose of Model 1 is to test the first and second hypotheses. This model simultaneously

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1   The audit report for a given fiscal year is published in the following year.

examines the effect of office size and rotation. This model does not distinguish between different types of rotation (i.e., promotion, demotion or position). This model only classifies the sample into rotation and non-rotation. This regression model combines and modifies the models in Francis, Michas and Yu (2013) and Lennox, Wu and Zhang (2014).

$$DeltaAF_{i,t} = \beta_o + \beta_1 OfficeSize_{i,t} + \beta_2 Rotation_{i,t} + \beta_2 Gen_{i,t} + \beta_3 YoS_{i,t} + \beta_4 ClientSize_{i,t} + \Sigma_{i,t} Government \ types \ Indicator + \varepsilon_{i,t}$$
$$(1)$$

DeltaAF, the dependent variable, is the measurement of audit quality. In this study audit quality is measured by changes in audit findings for audit reports *i* in year *t*. *OfficeSize* is the size of the BPK RI representative office that conducts the financial audit for audit report *i* at year *t*. *Rotation* is an indicator to distinguish the audit report *i* in year *t*, produced by the new HRO. *Gen, YoS* and *ClientSize* are control variables. Each variable in this model is explained as follows.

This study follows Cagle and Pridgen (2015) in using the changes in the number of audit findings as a proxy for audit quality. The changes in the number of audit finding, hereafter DeltaAF, is measured as the differences in the number of audit findings at year *t* and the number of audit findings at year *t−1*. Audit findings are the number of findings that is reported by the auditors in their audit reports, which are report of internal control system and compliance to standards. These findings occur when the auditor detects incompatibilities between accounting regulations and the client's accounting practice. The auditor's ability to detect and disclose this discrepancy in audit reporting reflects DeAngelo's (1981) concept of audit quality. This study argues that the HRO's function as audit planner, audit arranger and reviewer has a substantial effect in directing auditors to find more audit findings. Therefore,

Table 1. Sample

Panel A: Full Sample	No.
Number of audit reports for the sample period 2011–2014	2113
Less:	
Number of audit reports that do not have rotation data	(285)
Number of audit reports that do not have audit findings data	(127)
Number of audit reports that do not have total asset data	(8)
Sample Anomaly[2]	(4)
Final full sample	1689

high quality HROs will have more audit findings in their audit reports compared with low quality HROs.

This study follows Francis, Michas, and Yu (2012,3) in using office size as the test variable in this model. *OfficeSize* is the size of the IAO representative audit offices. There are two measurements of *OfficeSize* in this study: *OfficeSize1* and *OfficeSize2*. *OfficeSize1* is measured by the BPK RI decree number 24 year 2011 about employee carreer pattern (BPK RI, 2011) that states that the BPK RI Type A office has 25 audit clients or more, the Type B office has more than 10 but fewer than 25 audit clients, and the Type C office has fewer than 10 audit clients. In this study, the decree categorising Type A offices (of a large size) are coded 3, Type B offices (of a medium size) are coded 2 and Type C offices (of a small size) are coded 1.

OfficeSize2 is measured as a continuous variable using the actual number of audit clients. The purpose of the second measurement is to mitigate the noise in *OfficeSize1*. In *OfficeSize1* there is a possibility that the HRO is rotated to a larger or smaller office within the same category. This is because the range of office size based on the decree number 24 year 2011 is quite wide. Therefore, *OfficeSize2* is expected to control this condition.

Consistent with H_1, *OfficeSize1* and *OfficeSize2* are expected to have a positive sign. The positive sign implies that the HRO from larger representative offices have a superior ability to find incompatibilities between accounting regulations and a client's accounting practices compared with smaller representative offices.

This study follows prior studies (e.g.., Cameran, Francis, & Marra 2014; Litt et al. 2014) in using an indicator variable to distinguish the rotation effect on audit quality. *Rotation*, in this study, is an indicator variable that is coded 1 if the audit report is produced by the new HRO, and 0 otherwise. The new HRO needs time to adjust and become familiar with clients in the new office. Therefore, it is expected that the new HRO will produce fewer audit findings than the existing HRO. Consistent with H_2, this study expects that *Rotation* has a negative sign.

The control variables in this model are gender (*Gen*), Year of Service (*YoS*) and *ClientSize*. Recent studies have highlighted the difference in audit quality between male and female auditors (e.g., Hardies, Breesch, & Branson 2014; Ittonen, Vähämaa, & Vähämaa 2013). These studies concluded that female auditors are risk averse and are negatively related to discretionary accruals. The risk-averse female HRO will conduct audits more carefully to avoid litigation risk. As a result of their prudent behaviour, the female HRO is expected to

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2   This study excluded one audit office for 4 year observations due to an anomaly. This audit office only had one client, but is categorized as a Type A office because of the size of its client.

produce a better audit quality, in this case more audit findings, than their male counterparts. Consistent with prior studies, this study expects that female HROs are positively related with *DeltaAF*. *Gen* is coded 1 if the audit reports i in year t is produced by the HRO who is female, and 0 otherwise.

This study follows prior studies in using experience and *ClientSize* as control variables (e.g., Francis, Michas, & Yu 2013; Gul, Wu, & Yang 2013). This study uses year of experience or *YoS* as a *proxy* of the HRO experience. It is expected that the more experienced HRO will produce more audit findings. Therefore, *YoS* is expected to have a positive sign. *ClientSize* is measured by the logarithm natural of client total assets. The purpose of this variable is to control the possibility of larger clients experiencing more accounting problems that will lead to more audit findings. In this model, this study also controls for the fixed effect of entity type (provincial, city or district). This study will use the same control variables and fixed effect indicator for the other two models.

The types of rotation effect on audit quality

Model 1 classifies *Rotation* according to HROs who are rotated and those who are not rotated. Model 2 modifies Model 1 by differentiating the *Rotation* into three different indicator variables. The assumption is that the non-rotation sample is a homogenous group; that is, this study does not distinguish whether the non-rotation HROs were previously promoted or demoted. This assumption is made for the simplicity of model analysis, since the main interest of this study is to examine the rotation pattern effect (promotion, demotion and position).

The purpose of Model 2 is to examine hypotheses H_{3a} and H_{3b}. In this model, *Rotation* from Model 1 is classified into three indicator variables: promotion, demotion and position. This study defines promotion, demotion and

position based on the BPK RI decree number 13 year 2014 about job level and remuneration (BPK RI, 2014). The promoted HROs are those who experience an increase in the job level (i.e., promoted to a higher job level). The demoted HROs are those who experience a decrease in the job level. The positioned HROs are those who are rotated to a different office but remain at the same job level. The promotion, demotion and position determined using these methods are denoted as *Pro, Dem* and *Pos*, respectively.

$$
\begin{aligned}
DeltaAF_{i,t} = {} & \beta_0 + \beta_1 Pro_{i,t} + \beta_2 Dem_{i,t} + \\
& \beta_3 Pos_{i,t} + \beta_4 OfficeSize1_{i,t} \\
& + \beta_5(Pro*OfficeSize1) + \\
& \beta_6(Dem*OfficeSize1) + \beta_7 Gen_{i,t} \\
& + \beta_8 YoS_{i,t} + \beta_9 ClientSize_{i,t} + \\
& \Sigma_{i,t} Government\ types\ Indicator \\
& + \varepsilon_{i,t} \\
& (2a)
\end{aligned}
$$

$$
\begin{aligned}
DeltaAF_{i,t} = {} & \beta_0 + \beta_1 Pro_{i,t} + \beta_2 Dem_{i,t} + \\
& \beta_3 Pos_{i,t} + \beta_4 OfficeSize2_{i,t} \\
& + \beta_5(Pro*OfficeSize2) + \\
& \beta_6(Dem*OfficeSize2) + \\
& \beta_7(Pos*OfficeSize2) + \beta_8 Gen_{i,t} \\
& + \beta_9 YoS_{i,t} + \beta_{10} ClientSize_{i,t} + \\
& \Sigma_{i,t} Government\ types\ Indicator \\
& + \varepsilon_{i,t} \\
& (2b)
\end{aligned}
$$

Where:

Pro is coded 1 if the audit report i in year t is produced by the promoted HRO, or an auditor who experiences vertical promotion to become an HRO. *Pos* is coded 1 if the audit report i in year t is produced by an HRO who is rotated to the same size office. *Dem* is coded 1 if the audit report i in year t is produced by a demoted HRO. This study expects the *Pro* sign to be negative and *Dem* to be positive. Non-rotation samples are captured by the constant. In this model, *OfficeSize1, OfficeSize2, Gen, YoS* and *ClientSize* are the same variables as in Model 1.

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Model 2a uses *OfficeSize1* and interaction between *OfficeSize1* with *Pro*. Model 2b uses *OfficeSize2* and interaction between *OfficeSize2* with *Pro*. This model includes the interactions between promotion and demotion with office size. The *Pro* represents the HRO who is rotated to the larger office. *Pro* captures two effects. First, *Pro* indicates that rotation occurred in that particular year. Second, it indicates that rotation is to a larger office. Hence, there are two effects in *Pro*: a rotation effect and a larger office size effect. Therefore, the interaction between promotion and office size controls the effect of office size on promotion. Conversely, the *Dem* captures the effect of rotation and smaller office size. The effect of office size and the effect of rotation types may be contradictory. The effect of office size reduces the effect of rotation, or vice versa. There is also the possibility that the effect of office size and the effect of rotation are in the same direction, with the effect of office size compounding the effect of rotation. Therefore, this study does not state specific expectations of sign for these two interactions.

RESEARCH RESULT

Table 4 presents the regression results of Model 1. The regression results show that *OfficeSize1* is positive and significant at $\rho<0.05$, and *OfficeSize2* is positive and significant at $\rho<0.1$. *Rotation* is negative and strongly significant at $\rho<0.01$. *Gen* is negative and significant at $\rho<0.1$. *YoS* and *ClientSize* are insignificant. The *R-squares* for both models are similar.

OfficeSize1 and *OfficeSize2* are the test variables for the first hypothesis. The positive sign of *OfficeSize1* and *OfficeSize2* suggest that the larger the audit office size, the greater the number of audit findings. Since the proxy of audit quality in this study is the number of audit findings, this result suggests that larger offices will have a higher audit quality compared with smaller offices. This finding indicates that audit quality varies across office sizes, with a tendency for larger offices to have a higher quality. This result supports the first hypothesis, and is consistent with prior study results that found that larger offices had a better audit quality compared with smaller offices (e.g., Choi et al. 2010; Francis & Yu

Table 3. The Summary of Variables Definition and Sign Expectation

Variable	Definition	Expectation of Variables Sign
DeltaAF	Changes in the number of audit findings	
Rotation	Indicates HRO rotation for year *t*	-
OfficeSize1	Size of the IAO representative offices based on the IAO decree (45/2011)	+
OfficeSize2	Size of the IAO representative's office based on the actual number of clients	+
Gen	HRO gender	+
YoS	Years of service	+
ClientSize	The size of clients	+
Pro	Promotion	-
Dem	Demotion	+
Pos	Position	?
*Pro*OfficeSize*	Interaction between promotion and office sizes	?
*Dem*OfficeSize*	Interaction between demotion and office sizes	?

Table 4. The Office Size and Rotation Effect on Audit Quality

Variable	Prediction	Coefficient	
Intercept	?	−3.000	−2.444
		(−0.468)	(−0.380)
OfficeSize1	+	0.567**	
		(2.153)	
OfficeSize2	+		0.032*
			(1.910)
Rotation	-	−1.214***	−1.191***
		(−3.692)	(−3.599)
Gen	+	−0.788*	−0.824*
		(−1.876)	(−1.959)
YoS	+	−0.022	−0.015
		(−0.424)	(−0.299)
ClientSize	+	0.095	0.092
		(0.418)	(0.402)
Clients Type Fixed Effects		YES	YES
Total Number of Observations		1,689	1,689
R-squared		0.014	0.013

Notes: *, ** and *** indicate significance at $\rho<0.1$, $\rho<0.05$ and $\rho<0.01$, respectively. T-statistics are in parentheses.

$$DeltaAF_{i,t} = \beta_0 + \beta_1 OfficeSize_{i,t} + \beta_2 Rotation_{i,t} + \beta_2 Gen_{i,t} + \beta_3 YoS_{i,t} + \beta_4 ClientSize_{i,t} + \Sigma_{i,t} Government\ types\ Indicator + \varepsilon_{i,t} \qquad (1)$$

The dependent variable used in all models is *DeltaAF*, which is the change in audit findings. *OfficeSize1* is the size type category of the BPK RI representative offices based on Decree 45/2011. *OfficeSize2* is the actual number of audit clients in each audit office. *Rotation* is an indicator variable that is coded 1 if the audit report is produced by the new HRO. *Gen* is the HRO's gender. *YoS* reflects the HRO's experience. *ClientSize* is measured by the logarithm natural of client total assets.

2009; Francis, Michas, & Yu 2013; Sundgren & Svanstrom 2013). Type A offices are large offices with more than 25 clients; they will possess more diverse audit experience compared with Type B or C offices, which have fewer clients. Further, clients in Type A offices are in the top 10% of total assets and government expenditures (Indonesian Bureau of Statistics 2014). Intuitively, local governments with larger government expenditures have more diverse and complex problems. Therefore, the HROs in Type A offices are more likely to encounter more difficult audit problems than HROs in Types B and C offices. These audit problems shape and enhance the HRO's audit performance, which results in a more experienced HRO. The coefficient of *OfficeSize1* is greater than *OfficeSize2*. This indicates that the difference of audit quality across offices is more pronounced in *OfficeSize1*. This may be caused by the categorisation of office sizes. Therefore, the discrepancy of audit quality between office size categories is wider.

Rotation is negative and significant at $\rho<0.01$. This suggests that the number of audit findings will decrease in the year of rotation. This result corroborates prior studies that found that auditor rotation impaired audit quality due to the auditor's inferior knowledge of new clients (e.g., Cameran, Francis, & Marra 2014; Litt et al. 2014). The negative coefficient suggests that the new rotated HROs are more sceptical and need time to learn and become familiar with the new client's characteristics and risks before they can perform high quality audits.

Among control variables, the *Gen* variable shows consistently negative sign under the two regressions. However, the sign of *Gen* is not as

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predicted. The negative sign suggests that the female HRO produces fewer audit findings than male HROs. Although contrary to predictions, a plausible explanation for this negative relationship is the risk-averse characteristic of female HROs. The female HROs may produce fewer audit findings because they focus on the substance of the finding. Their findings may be more significant in terms of materiality; that is, their findings may be more substantial in content than in the overall number of findings. Therefore, this result should be interpreted cautiously.

Table 4 presents the regression results of Model 2. This model examines Hypotheses 3_a and 3_b. Model 2 classifies *Rotation* into three different indicator variables: promotion (*Pro*), demotion (*Dem*) and position (*Pos*). In the regression, this study also interacts with these rotation types with *OfficeSize1* and *OfficeSize2*. The purpose of this interaction is to examine the extent of the office size effects. The new office size may have negative or positive effects on the new HRO's audit performance.

Model 2a uses *OfficeSize1*. Model 2b uses *OfficeSize2*. The dependent variable used in all models is *DeltaAF*. *DeltaAF* is the change in audit findings. *OfficeSize1* is the size type category of the IAO representative offices based on decree number 24 year 2011 (BPK RI, 2011). Type C office is the base level in this regression. *OfficeSize2* is the actual number of audit clients in each audit office. *Rotation* is an indicator variable that is coded 1 if the audit report is produced by the new HRO. *Pro* is promoted HROs. *Pos* is HROs rotated to the same size office. *Dem* is demoted HROs. *Gen* is the HRO's gender. *YoS* reflects the HRO's experience. *ClientSize* is measured by the logarithm natural of client total assets.

The results show that *Pro* is positive and significant at ρ<0.01 in Model 2a and significant at ρ<0.05 in Model 2b. *Pro*OfficeSize1* and *Pro*OfficeSize2* interactions are negative and significant at ρ<0.01. Among control

variables, *Gen* is significant and negative at ρ<0.1 in Model 2b. *Dem*, *Pos*, *YoS* and *ClientSize* are insignificant. Regression under decree benchmark has a larger *R-square* than regression under actual number of client benchmark.

The Model 2a results show that *Pro* is positive and significant at ρ<0.01. Since *DeltaAF* is the audit quality proxy in this study, this association suggests that promotion improves the quality of audit. This result is consistent with the proponents of auditor rotation (e.g., Hamilton et al. 2005; Lennox, Wu, & Zhang 2014). In contrast, the interaction of *Pro*OfficeSize1* is negative and significant at ρ<0.01. In Model 2 there are two interactions of *Pro*OfficeSize1*. This is because *OfficeSize1* is a categorical variable. In the results, Type C offices (small offices) are used as a base because the effect of office size is likely to be stronger in the medium (Type B) and large (Type A) offices. The *Pro*OfficeSize1TypeB* coefficient is −6.373, significant at ρ<0.01. The *Pro*OfficeSize1TypeA* coefficient is −8.184, significant at ρ<0.01. The interaction coefficient of *Pro*OfficeSizeTypeA* is larger than *Pro*OfficeSizeTypeB*. This result suggests that, when an HRO is promoted to a larger office, the larger the new office the greater the incremental negative effect. Hence, the larger the office size, the more effort required from an HRO to catch up his or her discrepancy of audit experience and inferior understanding of the new clients. This result is consistent with Bills, Swanquist and Whited (2016), who suggest that an increase in the number of audit assignments impairs audit quality.

The net effect of *Pro* is negative. This is because the coefficients of the interaction between *Pro*OfficeSize1TypeA* and *Pro*OfficeSize1TypeB* are larger than the positive coefficient of *Pro*. The net effect for promotion to a Type B office is −0.918[33], and

the net effect for promotion to a Type A office

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3   (5.455 + (−6.373)) = −0.918.

is −2.279[4]. The net effect shows that promotion to a Type A office has a larger detrimental effect on audit quality than promotion to a Type B office. The *Pro* net effect supports H_{3b}.

The Model 2b result shows that *Pro* is positive and significant at $\rho<0.05$. This result is similar to *Pro* in Model 2a. The interaction of *Pro*OfficeSize2* is negative and significant at $\rho<0.01$. In contrast to Model 2a, the negative coefficient of *Pro*OfficeSize2* is smaller than the positive coefficient of *Pro*. This result in the positive net effect of *Pro* for 1.700.[5] This suggests that the positive effect of rotation is larger than negative effect of office sizes. This result does not support H_{2b}.

Although the final effect of *Pro* is different under the two models, the interaction shows that the new office size does affect the HRO's audit performance. This study argues that the difference in the final effect for *Pro* is caused by the noisy measurement of *OfficeSize1*. Therefore, *Pro*OfficeSize2* is m[4]ore reflective of the rea[5]l condition. The interactions between promotion and office size results support Bills, Swanquist and Whited's (2016) proposition that increasing workload has detrimental effects on audit quality. In this study, the increase in workload is through an increase in the number of audit clients, which is experienced by the promoted HRO.

These interactions result may also provide an explanation for the mixed results of the effect of auditor rotation on audit quality in the private sector. Prior studies on audit partner rotation have focused on the rotation effect on the firm's financial reporting quality, and did not take into consideration the past experience of the audit partners. In contrast, this study considered the past experience of the HRO and took into account the next audit engagement (i.e., the new office). As mentioned above, promotion has a positive effect, but this is diminished by the size of the new office. The larger the new office is, the more severe its detrimental effect. This result gives two insights that relevant to private sector auditing. First, lower audit quality in the initial year may be caused by new clients that are larger and more complex than the audit partner's previous clients, similar to the promoted HRO in this study. Experience with past clients is not taken into account by prior studies when examining the effect of auditor rotation. Second, the audit partners' new clients may be in a different industry to their previous clients, similar to a vertical promoted HRO in this study. The audit partners' preferences to learn a new industry instead of rotating to other offices have been documented by Daugherty et al. (2012). Therefore, these audit partners also experience the negative effect of auditor rotation.

Models 2a and 2b in Table 5 provide mixed results in terms of support for the third hypothesis. The results under the two models do not support H_{3a}. In contrast, this study finds mixed results regarding hypothesis H_{3b}. *Pro* represents the rotation from smaller to larger offices, and under both regressions *Pro* is positive and significant. The net effect of *Pro* under Model 2a is negative, which supports hypothesis H_{3b}. Conversely, the net effect of *Pro* under Model 2b is positive, which does not support hypothesis H_{3b}.

CONCLUSION

This study addresses the following research questions: (1) Does public sector auditing experience vary audit quality across office sizes, as in private sector auditing?; (2) What is the effect of rotation and type of rotations (promotion and demotion) on audit quality?

This study investigated these issues in the context of the BPK RI. First, this study tested whether the larger representative offices in

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4   (5.455 + (−8.184)) = −2.279.

5   (1.840 + (−0.140)) = 1.700.

DOES THE ROTATION OF HEAD OF AUDIT OFFICE ACROSS OFFICES IMPACT AUDIT QUALITY?...

Nurul Komalasari

Table 5. The Effect of Types of Rotation on Audit Quality

Variable	Prediction	Model 2a	Model 2b
		Coefficient	
Intercept	?	−7.894	−5.759
		(−1.222)	(−0.891)
Pro	-	5.455***	1.840**
		(−3.608)	(1.985)
Dem	+	1.552	−0.956
		(1.203)	(−0.367)
Pos	?	−0.756	0.351
		(−1.462)	(0.235)
OfficeSize1	+	1.607***	
		(4.017)	
OfficeSize2	+		0.093***
			(4.155)
*Pro * OfficeSize1 Type B*	?	−6.373***	
		(−4.058)	
*Pro * OfficeSize1 Type A*	?	−8.184***	
		(−5.172)	
*Dem * OfficeSize1 Type B*	?	0.381	
		(0.193)	
*Pro*OfficeSize2*	?		−0.140***
			(−3.845)
*Dem*OfficeSize2*			0.212
			(0.902)
*Pos*OfficeSize2*			−0.0583
			(−0.659)
Gen	+	−0.558	−0.713*
		(−1.297)	(−1.695)
YoS	+	0.023	0.004
		(0.445)	(0.072)
ClientSize	+	0.140	0.141
		(0.616)	(0.617)
Client Type Fixed Effect		YES	YES
Total Number of Observations		1,689	1,689
R-squared		0.034	0.025

Notes: *, ** and *** indicate significance at $\rho<0.1$, $\rho<0.05$ and $\rho<0.01$, respectively. T-statistics are in parentheses.

$DeltaAF_{i,t} = \beta_0 + \beta_1 Pro_{i,t} + \beta_2 Dem_{i,t} + \beta_3 Pos_{i,t} + \beta_4 OfficeSize1_{i,t} + \beta_5(Pro*OfficeSize1) + \beta_6(Dem*OfficeSize1) + \beta_7 Gen_{i,t} + \beta_8 YoS_{i,t} + \beta_9 ClientSize_{i,t} + \Sigma_{i,t} Government\ types\ Indicator + \varepsilon_{it}$ (2a)

$DeltaAF_{i,t} = \beta_0 + \beta_1 Pro_{i,t} + \beta_2 Dem_{i,t} + \beta_3 Pos_{i,t} + \beta_4 OfficeSize2_{i,t} + \beta_5(Pro*OfficeSize2) + \beta_6(Dem*OfficeSize2) + \beta_7(Pos*OfficeSize2) + \beta_8 Gen_{i,t} + \beta_9 YoS_{i,t} + \beta_{10} ClientSize_{i,t} + \Sigma_{i,t} Government\ types\ Indicator + \varepsilon_{it}$ (2b)

the BPK RI have a higher audit quality than the smaller representative offices. Second, this study examined the effect of rotation on audit quality. Third, this study classified the rotation variable into three different indicator variables (promotion, demotion and position) and examined the effect of these variables on audit quality.

Using changes in the number of audit findings as the proxy for audit quality, this study found that audit quality varies across office sizes in the BPK RI. The larger audit offices have relatively higher audit quality in comparison with smaller offices. This study also found that the HRO rotation had a negative and significant association with audit quality. Further, this study found mixed results regarding the effect of promotion on audit quality. This mixed result is caused by the measurement of the office size. Measuring the size of audit offices based on the BPK RI decree, this study found that promotion has a positive and significant effect on audit quality; however, the negative effect of office size exceeds the positive effect of promotion. Therefore, the net effect of the promotion on audit quality is negative and significant. In contrast, measuring office size based on its actual number of clients showed that the office size effect is smaller than the positive effect of promotion. Therefore, based on this measurement, promotion has a positive and significant effect on audit quality.

Despite the result of the final effect, this study found that there is a trade-off effect between the effect of rotation and office size. This result suggests that the size of the office does matter when the rotation is across different office sizes. This result can be extended as an additional explanation regarding audit partner rotation research in the private sector. The mixed results of audit partner rotation research in the private sector might be influenced by the size of previous and new clients.

This study's result also contributes to the BPK RI's rotation policy. In the BPK RI, rotation across offices size cannot be circumvented; however, the detrimental effects of such rotation can be minimised. This study shows that the larger the new office size is, the more severe the effect will be. The BPK RI can apply the rotation across office sizes in consideration of the difference in the size between the previous and new office. The smaller the difference, the less negative the effect is. In this way, the positive effect of rotation will outweigh the negative effect of office size. This will eventually give a greater benefit for the BPK RI itself.

Despite this study's findings, this study acknowledges its research limitations. This study used changes in the number of audit findings as a proxy for audit quality. This study acknowledges that this proxy is noisy. It is possible that an auditor found fewer audit findings because of the client's strong accounting practices, instead of the auditor's inferior competency. It is also possible that the number of findings may decrease, but the significance and materiality of findings may increase. In this scenario, the audit report will have fewer audit findings. This study interpreted this scenario as a lower audit quality, while it is not. Therefore, future studies may use a better audit quality proxy to avoid this problem. The future study may use changes in the number of significant findings instead of changes in the number of audit findings.

Furthermore, the results of this study suggest future research opportunities. Future research can examine other audit quality proxies that are less noisy. The research findings of the present study can also be tested in the private sector by examining audit partner rotation, taking into account the audit partner's previous and new clients.

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