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THE EFFECT OF MANDATORY AUDIT ROTATION ON THE AUDIT QUALITY: EVIDENCE FROM INDONESIA

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CHAPTER 1: INTRODUCTION

Auditors' reputations have been damaged by numerous accounting scandals during the last decades. It started with the collapse of one of the world's top audit firms, Arthur Andersen, due to the Enron scandal in 2002. The credibility of audited financial reports, audit quality and independency of auditors were questioned by different stakeholders (Chaney & Philipich, 2002; Firth, Rui & Wu, 2010). Moreover, the improvement of auditor independency also became a concern to repair the audit firm reputation. Independency is one of the essential attitudes expected from an auditor in delivering their service (Corbela et al, 2015). The users of the audit service are assessing the independence of the audit firm from the financial statement of the client's companies which are supposed to fairly represent the risks and misstatements.

However, there has been an assumption that the independency of an audit firm could be harmed by the influence of close relationships or unnecessary social ties between auditors and the audited due to the relationship built during the auditing period (Arel et al., 2005; Gates et al., 2007; Dao et al., 2008). As an attempt to restore public trust and improve audit quality, there have been developments related to regulation, standards and codes of conduct. One of the changes with the regulations proposed is the mandatory rotation of auditors (Gates, Lowe & Reckers, 2007; Firth, Rui & Wu, 2010).

The mandatory audit rotation regulations vary among countries and differ in its length of the time frame and form (Firth, Rui & Wu, 2010; Rong, 2017). The mechanism of limiting the years for an audit engagement is intended to ensure the efficiency and effectiveness of the auditing processes in order to improve audit quality (Rong, 2017). The Sarbanes-Oxley Act (2002) requires the leading audit partner and audit review partner (or concurring reviewer) to be rotated every five years on all auditing engagement of a public company. The audit firm rotation has also been implemented in some countries such as Israel, Brazil, Spain and Italy (Catanach & Walker, 1999). The EU formally

adopted mandatory audit firm rotation into law on May 27, 2014. The legislation mandates a change in auditors after ten years of service for publicly traded entities (effective from June 2016).

Additionally, of long audit tenure, it is assumed that it could decrease auditors' independence, since over a long-time period there may be over-familiarity between the client and auditors (Mautz and Sharaf, 1961; Rong, 2017). Over-familiarity decreases auditors' awareness in assessing and detecting the risk of the client due to over confidentiality in performing the procedures since it has become a routinized activity. Consequently, the likelihood of auditor issuing a biased opinion will increase (Sayyar et al., 2014). Thus, by regularly switching auditors assigned seems promising to address this issue.

Despite the positive impacts of mandatory audit rotation on audit quality, there are some arguments against the regulation of the mandatory audit rotation. From the point of view of audit rotation's opposing side, long audit tenure is believed to enable the creation of deeper knowledge and understanding about the client's company business and industry which in turn leads to higher audit quality (Johnson, Khurana, & Reynolds, 2002; Myers, Myers, & Omer, 2003; Carcello & Nagy, 2004). Thus, they argue that audit rotation will cause the loss of such knowledge and consequently increase the likelihood of audit failure (Chi et al., 2009; Williams & Wilder, 2017).

Therefore, this study aims to draw attention to the ambiguity role of mandatory audit rotation and the influence of audit tenure to the audit service quality. In regards to the debates from previous studies related to the effect of audit tenure and mandatory audit rotation to audit quality, the research question formulated to guide this study is as follows:

“Do the length of audit tenure and the implementation of mandatory audit rotation influence the quality of audit service in Indonesian companies?”

In order to investigate the association between mandatory audit rotation, audit tenure and audit quality, this study employs a literature review and is linked to empirical evidence gathered from secondary data analysis.

1.1. THEORETICAL RELEVANCE

The objective of this thesis is to provide an evidence-based research on the actual impacts of the audit tenure and mandatory audit rotation on the audit service quality delivered by audit firms in Indonesia. The thesis may contribute to the current debate related to the effect of mandatory audit rotation for audit quality. Older studies indicate mixed results and opinions regarding to this issue. On one hand, some papers show the contrast relation of the audit tenure and audit quality (Arel et al., 2005; Gates et al., 2007; Dao et al., 2008). On the other hand, there are also some recent studies which generally show a positive trend between auditor tenure and audit quality (Johnson, Khurana & Reynolds, 2002; Myers, Myers, & Omer, 2003; Carcello & Nagy, 2004) and indicate that mandatory rotation may prove to be harmful to audit quality (Chi et al., 2009; Williams & Wilder, 2017).

Therefore, this study focuses on the effect resulting from the mandatory auditor switching and audit tenure for the quality of audit. This research is expected to offer additional clarification points with regard to the ambiguity of prior results in the existing literature. Furthermore, considering the focus of the literature is frequently placed on developed countries, this thesis adds contribution to widen the perspective of the existing literature related to this issue in developing countries, by studying the topic in the Indonesian setting.

1.2. PRACTICAL RELEVANCE

Another contribution is made by analyzing the impact of audit tenure and the implementation of mandatory audit rotation to audit quality by using evidence from Indonesia. In Indonesia, the bankruptcy of many companies after the Global Crisis of 2008 has raised concern about the poor audit quality which caused by the lack of auditor independency (Siregar et al., 2012). The phenomenon of audit rotation occurring in Indonesia is interesting and worthy of deeper study considering the regulation for mandatory audit rotation that has been officially published by the government (Finance Minister Decree No. 423/KMK.06/2002; PMK No. 17/PMK.01/2008). The implementation of audit rotation applied in Indonesia, which has been already legally the part of the Finance Minister regulation and mandated for public companies listed in the Indonesian Stock

Exchange. Hence, the findings of this research could be used as input for the future development of the regulation in order to improve the audit service quality in Indonesia.

Since there has been only a limited number of studies related to this topic with a focus on Indonesia, the results of this study could contribute to enrich knowledge on the effect of mandatory auditor rotation regulation in Indonesia.

1.3. THESIS STRUCTURE

The structure of this thesis is as follows. Firstly, the explanation of the research problem and the research's objective are provided in chapter one the Introduction section. Chapter two offers a discussion about the earlier literature and theory used as the framework to answer the research question: “Do the length of audit tenure and the implementation of mandatory audit rotation influence the quality of audit service in Indonesian companies?”

The strategy and planning related to the research method used in this study are discussed and explored in chapter three. The fourth chapter provides the results and findings of this study by examining and analyzing the data and information gathered in chapter three. Furthermore, the process of this study will be summed up and concluded in the last chapter. In addition, chapter five also provides the limitations of this study and provides recommendations for the future research

CHAPTER 2: LITERATURE REVIEW

2.1. INTRODUCTION

This chapter provides a review of prior research related to the main elements of this study namely, the effect of audit tenure, mandatory rotation to the quality of audit service. This section is expected to support the process of identifying the gap existing in the previous studies, specifically related to the issue investigated in this thesis. This review is used as a guide to the framework developed in order to answer the research question of this study. Based on the study of findings from prior research, there are mixed results regarding the relationship investigated in this study. Therefore, this section is arranged from both the opponents and the proponents' side of audit tenure and audit rotation to audit quality improvement to help in contributing the additional clarification points to the ongoing debate related to the topic of this research.

The literature review in this chapter is structured into six sections. Followed by the second section on the discussion of the effect of long-term audit tenure on audit quality. Similar to the previous discussion, the third element is used to describe both pros and contras perspective over the effect of audit rotation regulation to the quality of audit service. The fourth section covers a discussion about audit quality which in this study is proxied by auditors' intention to issue a going-concern statement, associated with their required level of competence and independence as a professional assurance provider. The last section represents the summarized review of the related topic which leads to the postulation of hypotheses to help answer the research question of this thesis.

2.2. AUDIT TENURE

Auditors must be aware of the circumstances which may influence their independence in performing audit procedures. Audit tenure is highly related to the professionalism of auditors and consequently audit quality. Nevertheless, this topic is still being debated from different perspectives. There are two primary streams related to the effect of audit tenure. The first stream of thought assumes that longer audit tenure could create deeper knowledge of the company

business and industry for auditors and thus lead to higher audit quality (Johnson et al., 2002; Myers et al., 2003; Carcello & Nagy, 2004). While, the other stream claimed that the independence of auditors could be harmed by the impact of close relationship or the presence of unnecessary social ties between auditor and auditee due to the relationship built through long audit period (Arel et al., 2005; Gates et al., 2007; Dao et al., 2008).

Prior research from Johnson et al., (2002) empirically demonstrates that audit tenure positively influences the improvement of financial reporting outcomes. By exploring the notion of agency theory, they stated that,

“Financial reports are a principal means of communicating financial information to those outside an entity. Given the existence of information asymmetries and the potential for conflicts of interest between company management and outside users of financial information, an audit of financial reports by a third party (or alternative monitoring arrangements) can enhance the quality of the financial information reported by management”(p. 641).

The role of auditors thus has an influence on the agency problems existing within a company. Therefore, within this study the quality of audit services is investigated to see whether their practice in mitigating agency problem within companies is reliable and trustworthy or instead will worsen the conflict of principal-agents' interest problem due to the lack of competence and independency.

Myers et al. (2003) also provide compelling ideas regarding the advantage of audit tenure by providing evidence from the AICPA's Quality Control Inquiry Committee of the SEC Practice Section. There are 406 cases of alleged audit failure between 1979 and 1991 which suggests that the likelihood of audit failure is three times higher in its first or second audit of a given client (AICPA 1992). Their research finding empirically showed that the longer audit tenure is generally correlated with less dispersion in the distribution of Discretionary Accrual and that auditors caused greater constraint on accruals earning managements as the tenure is increased. The differences of the results of Myers et al. (2003) with Johnson et al.'s (2002) is that their results do not imply that letting firms remain with the same auditors would improve audit quality .

Additionally, the study by Carcello and Nagy (2004) supports these findings with their results which indicate that incidences of fraudulent financial reporting mostly occur in the early years of an audit engagement and not when audit tenure is long. Based on the assumption of agency theory, they see that there is a strong interest from regulators, policy makers, private sectors and large institutional investors which somehow interferes with the relation between audit tenure and audit quality. The findings of Carcello and Nagy (2004) are similar to Johnson et al. (2002) which provide statistical evidence on the positive influence of long audit tenure on audit quality by examining the association between the audit years (three years or less as short tenure; and nine years or more as long tenure) and fraudulent financial reporting from SEC Accounting and Auditing Enforcement Releases (AAERs) about the rule violation cases of Securities Exchange Act.

In contrast, a CPA journal written by Arel et al. (2005) theorized that regulators and business actors have interest in considering long-term relationship with auditors to create a level of closeness which could impede the independence of auditors. Arel et al. (2005) thus analyze the potential conflict of interest existing in the companies which apparently involve the role of auditors.

Furthermore, a study by Gates et al. (2006) revealed that forcing companies to limit the length of audit tenure and regularly rotate their external auditor generates greater confidence of the user of financial statement, especially in a company with strong control and an emphasis on corporate governance. By using two different settings for behavioral studies into the behavior of participants from the business and legal community, they provide statistical evidence in support of the negative effects from long audit tenure.

In addition, the concern for long-term audit tenure on auditors' independence, and consequently audit quality is also analyzed by Dao et al. (2008) through an examination of investors' perceptions. Their aim is to fill a void in literature by using shareholders "perception as the empirical grounding to examine the effects of audit tenure" (p. 309). Dao et al. (2008) emphasize that the perception of investors is important to generate greater confidence with regard to the reliability of financial statement. The investor's confidence means company has a strong and vibrant foundation in

capital market. From their study to 898 companies of U.S listed firms, they found that there is a significant proportion of opponents or abstaining vote in long audit tenure. This suggest that the passivity of investors has an adverse for audit quality.

Summarizing, all of the prior research reviewed for this topic leads to a view that long audit tenure may have two alternative outcomes. One alternative which assumes that it is better to have longer engagement with the same auditing firm, while the opposing side pose a doubt and concern of long audit tenure that it may hamper audit quality. Therefore, the following section shows a more in detail explanation with regard to the positive and negative effects of long audit tenure.

2.2.1. Positive effects from long tenure

Most of the client companies which need an assurance from the auditing firm for their financial statements are multinational or government-owned enterprises. These companies have complex and extensive business segments and activities. With regard to this complexity, it is important that auditors as the assurance provider of their performance to have sufficient knowledge basis and expertise in the industry-specifics of the companies (GAO, 2003; PwC, 2013). Hence, if auditor tenure is longer, auditors will have sufficient time to appropriately explore and enrich their information and understanding related to the clients' business process.

Moreover, by having a longer working period with one specific client auditors could reduce reliance on clients' management estimation and representation and consequently resulting in a more effective and reliable audit report (Crabtree et al., 2006). This assumption is supported by the research findings of Myers et al. (2003) which indicate that longer audit tenure is not associated with a decline in audit quality.

Another supportive argument of long audit tenure is provided by the research of Geiger & Raghunandan (2002) which suggests that longer audit tenure resulted in better audit quality. This is shown through a positive correlation between the length of audit tenure and audit quality in

their analysis. The likelihood of restricted going concern opinions increases along with the longer period of the audit tenure due to higher experience gained by auditors in detecting risks and misstatement over time. A similar outcome is provided by Kaplan & Mauldin (2008) which also believe that longer audit tenure creates a higher quality of audit service. They found that audit quality, represented by earnings quality, increases along with the length of audit tenure.

Furthermore, most of the audit failures and lawsuit issues occur in the initial years of audit engagement due to the vulnerability of the starting process (Pierre & Anderson, 1984; Stice, 1991; Said & Khasharmeh, 2014). In other words, longer audit tenure will enhance audit quality, as it helps to secure auditors from failure and lawsuits. Casterella et al. (2010) also pointed out another vulnerability of short-period audit engagements by using the sample of companies charged by the Security Exchange Commission (SEC) with fraudulent financial reporting. They concluded that there is more likelihood of undetected fraud in the early years of an audit engagement.

In addition, Johnson et al. (2012) also pointed out that there are more audited financial-reporting with lower quality produced from short audit tenures and not from long audit tenures. The poor quality of audited financial reporting is resulted by the lack of knowledge of auditors in early audit stage which hamper the audit processes effectiveness (Lu & Sivaramakrishnan, 2009). In sum, all of these studies believe that long relationship of auditors and clients are actually enhancing the quality of the audit.

2.2.2. Negative effects of long tenure

The long company-auditor relationship has raised concern related to the threat of auditors' independence, as there may exist a conflict of interest between these two entities. This section draws the attention to several concerns for the potential negative problems that result from longer periods of tenure.

From Management

Davis et al. (2003) provide evidence that audit tenure is associated with lower financial-reporting quality, and suggest that management gains greater opportunity to interfere with the auditing processes, as auditor tenure increases. Although knowledge and a proper understanding of the industry-specific business of the clients' company are essential, independence is also another critical attribute needed by auditors to produce a high-quality audit. Management intervention could be considered as one of the threats to independence which should be aware of (Arel et al., 2005).

From Auditors

Multiply repeated engagements could decrease auditors' effort in performing the audit procedures. Routinized activity with the same clients in several consecutive years leads to an over-familiarity and over-confident. This statement is strengthened by study results of Chi et al. (2005) which suggest that lower earnings quality occur when auditors has "excessive familiarity" with the client and their business. In other words, over-familiarity reduces the skepticism and awareness of auditors to properly detect and assess material misstatement and risks in an audit engagement. In addition, Vanstraelen (2000) provides an evidence that long-term relationship of auditors and client essentially increases the likelihood of an unqualified opinion issuance. Most of auditors are more willing to issue an unqualified audit report only in first two years of their engagements than in the late years of their mandate.

From Both Sides

Besides management intervention and auditors' effort reduction, the close relationship from long tenure should be considered as one of the most important concerns in securing independence. Based on Dao et al. (2008), a survey of 635 US entities in long-term engagements reflects that investors realized a negative impact on audit quality. Their findings show that the longer audit tenure causes lower audit quality due to the existence of auditor-client relationship (Catanach & Walker, 1999; Kingstone et al. 2017). Additionally, International Federation of Accountants (IFAC)

and US Government Accountability Office (GAO) also stated that long audit tenure may compromise auditor independence and consequently, the objectivity in the audit (IFAC, 2003; GAO, 2004; EU, 2010). A close relationship between two entities raises an opportunity to the occurrence of opinion shopping due to an eagerness of auditors to please the client instead of being the objective third party (Arel et al., 2005).

2.3. MANDATORY AUDIT ROTATION

Due to the big Enron financial scandal and other scandals during last decade, the trustworthiness and independence of auditing firms are questioned (Daniel & Booker, 2011; Onwuchekwa et al., 2012). There is a significant decrease of public trust towards the auditing firms' integrity. Thus, there has been some regulation development made to improve and repair the reputation of the audit service and restore public trust in audit firms. One of the regulations developed is mandating the rotation of audit engagement for all active auditing firms. The mandatory rotation of auditor is expected could raise the independence of audit profession.

Concept

As defined by Onwuchekwa et al. (2012), audit rotation requires a specific limitation to the period of an auditing firm to be allowed in performing audit service for their clients. The auditing firm has to be switched after a certain period in order to secure the independence quality, trust of the audit service quality. Auditors changing rule is expected to be a solution for the potential over-familiarity issue in audit service. This statement was reinforced by Gates et al. (2006) that mandatory firm rotation is one of the effective corporate governance measures.

Variety

In Indonesia, the mandatory rotation of auditors has become a national concern, especially after the Sarbanes-Oxley Act of 2002 was enacted (Siregar et al., 2012). This country has experienced some changes and alterations of the mandatory auditor rotation regulations. First of all, the Decree of the Minister of Finance No.423/KMK.06/2002 which stated that companies have to

replace the external auditor's contract after 5-years audit period and for a public accountant's after 3-years period. After that, this regulation was revised by the Decree of the Minister of Finance No.17/PMK.01/2008 which extent the external auditor period from 5 years to 6 years. Whereas, the regulation of public accountants' service rotations was enacted in the Article 11 PP 20/2015, Article 11 Verse (1), which stated: The service of audit engagement by a public accountant is limited to 5 (five) year's financial records in succession. In accordance with a study conducted by Junaidi et al. (2012), mandatory audit rotation regulation is potentially able to address two issues: (1) The intervention of client to auditors' neutrality and objectivity due to the existence of long and close relationship and; (2) Potential negative impacts resulted from the closeness of auditors and client relationship such as a modified audit opinion.

Besides Indonesia, there are some other countries in Asia which also adopt regulation of audit switching. Started from March 2002, The Monetary Authority of Singapore requires maximum 5 consecutive years of audit engagements between public accounting firm and incorporated local bank in Singapore. In addition, Government of India mandated all banks, insurance firms, and listed government institution to regularly switch their external auditor every 4 years.

The development of mandatory audit rotation in Asia was triggered by a major bankruptcy suffered by many companies and banks due to the poor quality of audited financial statement in association with lack of auditor independence in (Siregar et al., 2012). Table 1 provides various developed regulations of mandatory audit rotation which have been enacted by some countries in Asia.

Table 1. Comparison of Mandatory Audit Rotation Regulations in Asia

COUNTRY	MANDATORY AUDIT FIRM ROTATION
Indonesia	Every 6 years for listed companies and SOE
Singapore	Every 5 years for local banks

India	Every 4 years for banks, insurance firms and government institutions
China	Every 5 years for State-owned Enterprises (SOE)
Thailand	Every 5 years for listed companies

Despite all the advantages expected from mandatory audit rotation, there are some critics to the effectiveness of audit rotation. These critics lead to a long debate between the opponent and the proponent of this regulation. On the one hand, audit rotation may address the independence problem of auditors since there will be no over-familiarity in the relationship between auditors and the clients (Mautz and Sharaf, 1961; Davis et al. 2000; Rong, 2017). On the other hand, Cameran et al. (2005) state that audit rotation has negatively influenced the effectiveness and raised agency cost in auditing service in practice. Therefore, the following sections provide reviews regarding previous studies with different perspectives regarding the mandatory audit rotation to ground this research in seeing audit rotation either is a solution or a limitation to improve audit quality.

2.3.1. Mandatory Audit Rotation as Solution

One of the main cause of the lack independence of auditors in performing audit procedure is the presence of unnecessary social ties between auditors and the clients. The presence of a personal close relationship between the management of the client's company and auditors could be a threat to the objectivity and neutrality of the audit team in performing audit procedures. Therefore, these ties are supposed to be reduced or eliminated to secure auditors' independence.

Davis et al. (2000) shows that the mandatory audit rotation is positively affect the quality of audit service. The longer time of auditors work on the same client, the lower will be the awareness of auditors in detecting material misstatement due to a behavior shifting of treating the audit procedures as a routine activity or, so called, over-confident. The awareness degradation of auditors could potentially cause a greater possibility of auditing service failure. Therefore, by

implementing audit rotation the problem of social ties and the excessive-familiarity could be reduced.

The switching regulation will bring a brand-new neutral face to assess the financial statements of the client which will increase the probability of misstatement to be uncovered (Said & Khasharmeh, 2014). Moreover, rotating the audit team will create greater skepticism and fresh point of view in inquiries procedures of audit service in order to retest the accounting practices used or the internal control over financial reporting of the clients. Hence, auditors could properly address and assess the risk and others financial issues of the client under the mandatory audit rotation. In other words, audit rotation system is enabling the auditing firms to explore more innovation in delivering the best and most efficient audit service for their clients.

In addition, The Commission on Public Trust & Private Enterprise's Report (2003) stated that although the rotation process is likely to raise the auditing costs in initial years, the burden is lighter compared to the possible future costs resulted from the investor confidence crisis. Additionally, audit rotation is also able to reduce low-balling of other non-audit services and eliminate the revolving door phenomenon (Biggs, 2002). The revolving door phenomenon is the condition where there is a potential threat to independence by the hire of an audit firm's employee by the client's company due to a close relationship. This phenomenon may cause lack of professional skepticism as the remaining personnel in the audit team possibly put too much confidence in the decision of the ex-auditor (Warrick & Booker, 2012).

Both the client companies and the auditing firm could be considered as an economic agent which have their own interest. Thus, there will always be potential agency problem occur in the auditing process. The regulation of mandatory audit rotation seems promising to be a solution to mitigate the agency problems.

2.3.2. Mandatory Audit Rotation as Limitation

In spite of the assumptions that audit rotation is beneficial in improving auditors' independence and reducing the agency problems, there are also some contra arguments against mandatory audit rotation. Chi et al.'s (2009) findings do not support that mandatory audit rotation increases audit quality. In accordance with case studies from Taiwan which implemented a rotation period requirement every five consecutive years in 2004. Their results showed **inconsistent and insufficient supporting evidence** to the fact that the mandatory audit firms' rotation could convincingly increase audit quality.

Furthermore, Copeland (2002) and Myers et al. (2003) argue that the rotation process may result in **increasing cost at the start-up process for auditing firm**. Besides the increasing of cost, he also mentioned that requiring rotation of auditors would mean that institutional knowledge will be lost and on each new engagement auditors will climb **a steep learning curve** all over again. In other words, the audit rotation will **cause a deficiency both in cost and audit procedure implementation**. This contra-perspective is strengthened by Williams and Wilder (2017) who suggest that deficiencies in audit rotation occur due to repeated learning and understanding process of new engagement.

In addition, Catanach and Walker (1999) were also seeing the issue of **"destroyed value by rotation"** because the prior auditors could not share the information about the industry, specific accounting system used and business market of the client companies to the successor auditors. This statement is supported by Dunham (2002), which argued that there will be another concern of current auditors may **not have the same level of skill and expertise needed** to perform the audit procedure for certain specific industry of clients. However, the management of client companies also tends to resist auditor rotation due to intricate, time-consuming and costly of the new auditor selection and familiarizing processes (AICPA, 1992). Hiring new audit firm means all the understanding and assessment of client's business processes and risks have to be restarted again.

Moreover, from the auditing firm's side, the increasing frequency of audit engagement rotation may **cause higher employees turnover**. According to Ernst & Young (2011), employing audit firm rotation would also be cumbersome from a staff retention perspective, where rotation among entire teams of auditors might cause professionals to seek other careers to avoid excessive travel or work relocation. Continuous turnover of clients could also inflate firms' direct costs through incessant recruiting expenses, relocation of personnel, and severance payments (BDO, 2011). There are many auditing firms having a high disruption in the workforce management due to continuous demand (Williams & Wilder, 2017).

2.4. AUDIT QUALITY

According to DeAngelo (1981), audit quality is evaluated from two characteristics, namely auditor's competency and independence. Since the quality of audit represents the probability of auditors detecting a mistake and reporting the mistake, these two characteristics are needed to enable auditors enhancing audit quality (DeAngelo, 1981; Coram et al., 2008; Peecher & Piercey, 2008). Firstly, competence means that auditing must be done by auditors who have the sufficient knowledge regarding the client-specific business and adequate technical training qualification. Secondly, the independence means that auditors have a neutral point of view and objective professional judgment in performing all audit procedures and reporting the audited financial report for the client.

The quality of audit critically depends on the capability and professionalism of auditors. The absence of these characteristics will raise the likelihood of audit failures such as an issuance of the qualified report for statements containing material errors (Lee et al., 1999) or a failure on detecting risk and material misstatements. Auditors must act as an honest and neutral entity which free from taking any side of particular parties because their assurance will affect the public, especially if their client is a multinational or a state-owned enterprise. Besides honesty and neutrality, adequate technical capability which is represented by experience and relevance educational background also play an essential role in improving audit quality. In accordance with

Peecher & Piercey (2008), to find the violation of clients' report and accounting system an auditor must have well-trained skepticism and sufficient knowledge in the related field.

The measurement basis used for audit quality is varies, thus it is hard to precisely measuring audit quality. These proxies could be classified into two groups namely, input-based proxies and output-based proxies of audit quality. The input-based proxies of audit quality include auditor-specific characteristics and auditing fee. The output-based measurement of audit quality refer to material restatement, financial reporting characteristics or going-concern opinion (Francis and Michas, 2012).

The first input-based proxy, auditors-specific characteristic, is commonly measured through the size of the auditing firm, which particularly categorized into big N and non-big N auditing firm. Big N auditing firm is assumed having higher likelihood to deliver better audit quality. Another proxy of input-based proxy is auditing fee which is used by Hoitash et al. (2007). In their research, auditing fee is considered as a representation of how much effort auditors in assessing the client's financial statement. They implied that higher auditing fee indicates higher motivation and effort of auditors in detecting risk on the financial statement, consequently, generate higher chances to deliver better quality of auditing service.

In addition, the first output-based side of audit quality proxies, material restatement, is actually a good representation to audit quality because it directly point out the quality of audit process. Unfortunately, the observation found related to material statement is rare. Another alternative measurement for audit quality is financial reporting characteristics which is measured by calculating the discretionary accruals. Nevertheless, this proxy is a vulnerable container with measurement error and bias due to an intertwined inextricably between financial reporting and audit quality (Ball et al., 2012).

Not all of these audit quality proxies will be used in this research due to limited availability of specific auditing data for Indonesian Listed Companies. As a proxy to help answering the research question of this study, the going concern opinion is chosen as the representation of audit quality. Going concern opinion is selected as the proxy of audit quality due to its functionality to predict a potential bankruptcy of a company which reflects a prominent expected role of auditors (Peursem et al. 2005). Moreover, audit opinion is a final product of auditing job, thus, it could be assumed that the whole auditing process is reflected on the final product.

Naturally, as the assurer, auditor will assess the credibility of the financial report in form of professional opinion. On one condition, when the financial condition of the client is unstable or in distress, auditors are supposed to issue a Going-Concern Opinion or even in extreme difficulties certain companies may have to liquidate (Foster & Shastri, 2016). On the other hand, if the company performance is in a favorable position the professional opinion should be issued by auditors is Non Going-Concern. All of these responsibility are obviously required auditors to unexceptionally have competency and independency in order to provide credible opinion. Hence, audit quality main components which are independence and competence could be mirrored by looking at the audit opinion.

In addition, issuing going concern opinion as the result could possibly upset the clients' shareholders. In this sense, the independence of auditor is tested and there will not be any ulterior motive of getting "additional incentives" from sugar coating the issue of the company. Furthermore, this opinion could potentially increase the shareholders' awareness and boost the management's future performance the shareholders and the management of the client.

As the reinforcement, the study of Menon and Williams (2010) revealed that obtaining a going-concern opinion is related to negative stock price reactions which consequently stimulate or require management to take a more active role in signaling company's difficulties in order to get help for fixing their financial health. Auditors is obliged to provide information that they believe investors should be aware of, and since the audit report is a public record, what is stated in the

report will come to the public's attention. Thereby, auditors' going concern opinion plays an important role in making shareholders aware of companies' financial distress, as it serves as a warning of potential bankruptcy (Sormunen et al., 2013).

Hence, from the going-concern opinion the quality of audit service represents the real working integrity of auditors as they issue this opinion purely for to reveal financial condition of the company and not to please the client. In other words, the audit service which is proxied by this opinion is encouraging the poor performer company to be better. Therefore, the role of auditors is extended from an assurance provider to an indirect performance booster especially for company with financial distress.

In sum, the going-concern opinion is chosen as the proxy for the quality of auditing service due to its capability as the final product of auditing job to mirror the required main components of audit quality, pure auditors' integrity and the post-issuance effect for future performance of the client.

2.4.1. Audit Tenure and Audit Quality

As a prominent element to the quality of audit, audit tenure has been debated among prior literature. On one hand, audit tenure seems better when it lasts longer (Johnson et al., 2002; Myers et al., 2003; Carcello & Nagy, 2004). The greater knowledge, deeper and higher experience regarding one specific client and lower reliance on client's management estimation and presentation are expected could be sufficiently gathered from a longer audit tenure. On the other hand, as a threat to auditors' independence and consequently to audit quality, it constructs a perspective of 'the longer tenure cause the worse quality' (Arel et al., 2005; Gates et al., 2007; Dao et al., 2008).

First, the impact to client's management, longer audit tenure is potentially widened the opportunity of management to interfere the auditing processes to hide their bad performance (Davis et al. 2003; Arel et al., 2005). Secondly, the impact of long audit tenure to auditors is the

potential problem of audit effort and skepticism degradation due to over-familiarity and over-confident (Vanstraelen, 2000; Chi et al., 2005). Another impact to both sides is a higher chance of opinion shopping and willingness of auditors to please the clients due to the existence of close relationship they have during long audit engagement (Catanach & Walker, 1999; Arel et al., 2005; Kingstone et al., 2017).

Based on these debates, to direct this research in contributing for additional clarification points to the current debates regarding this topic in the existing literature with a focused evidence to Indonesian cases, two hypotheses are postulated on the association of audit tenure and its effect to audit quality as below:

Hypothesis 1a: The relationship between the length of audit tenure and the quality of audit service is positively correlated.

Hypothesis 1b: The relationship between the length of audit tenure and the quality of audit service is negatively correlated.

2.4.2. Mandatory Audit Rotation and Audit Quality

Based on the existing literature, mandatory audit regulation, as one of the attempt to restore public trust regarding auditing firm's integrity, specifically the quality of audit product, (Onwuchekwa, 2012) is still being debated by the proponents and the opponents side. One school states mandatory audit switching is able to secure auditor independence, reduce the excessive familiarity problem and elevate the skepticism in auditors' professional judgments (Davis et al. 2000; Said & Khasharmeh, 2014).

Another school is conversely seeing audit rotation as a constraint which cause a higher cost at the start-up process of audit engagement, a steep learning curve for auditors, resistance from management due to complexity in auditing selection procedures and higher employees' turnover in auditing firm (Catanach & Walker, 1999; Copeland, 2002; Myers et al. 2003; Ernst & Young, 2011; Williams & Wilder, 2017). These assumptions suggest that the impacts of mandatory audit

rotation are still mixed between the proponents who see it as a solution and the opposing side who see it as a limitation to the effort of improving the quality of audit service. Therefore, the second hypotheses are formulated as follows:

Hypothesis 2a: The relationship between the mandatory auditor rotation and the quality of audit service is positively correlated.

Hypothesis 2b: The relationship between the mandatory auditor rotation and the quality of audit service is negatively correlated.

CHAPTER 3: RESEARCH METHOD

3.1. DATA COLLECTION

Due to the intention of this study to draw an evidence from developing country, specifically from Indonesia, the population used is referred to the public companies listed in Indonesian Stock Exchange. However, all companies from financial sectors are excluded from this study due to the incomparability with the other companies. Based on the study of Fama and French (1992), high leverage which is considered normal for financial firms is more likely as an indicator of distress circumstances for non-financial firms.

In addition, the sample for this study is selected by using the non-probability sampling method. Non-probability sampling is utilized to select units from a population based on personal judgment of the researcher (Saunders, 2012). This technique is also called a purposive sampling method because of the criteria which are pre-set to frame the sample. The criteria used to select the sample for this study consists of two points, namely: (1) The non-financial sector companies listed in Indonesian Stock Exchange; (2) Companies published financial report consecutively in research period; and (3) Companies with complete availability of data to get a complete observation. From these criteria, the total sample firms selected are 114 firms and in total 912 firm data observations which are used for the material for the analysis process.

All financial and audit data are obtained through a database platform provided in Radboud University, namely Thomson Reuter DataStream and Eikon. Moreover, the period of observation chosen for this thesis is after the financial crisis, from 2009 - 2016.

3.2. RESEARCH MODEL

The objectives of this research are to investigate whether the length of audit tenure and the implementation of audit rotation regulation influences the quality of audit service, by using quantitative statistical approach. The research model used to measure the relationship between

audit tenure and mandatory audit rotation on audit quality which is tested to answer the research question and the hypotheses developed in the prior section. Based on Richardson (2010), the regression analysis is calculated by several tests such as percentages, means, and standard deviation. The results of these formulas are applied and used in the regression analysis, as shown in the equation below:

$$QUA = \alpha + \beta_1TEN + \beta_2ROT + \beta_3SIZE + \beta_4ROA + \beta_5LEV + \beta_6REP + e$$

Notation:

QUA	: Audit quality delivered by the audit firm which will be reflected through the going-concern opinion given by auditors for the client' companies.
TEN	: The relationship length periods between auditor and client which substantively happened, measured in years.
ROT	: Dummy variable, which equals to 1 for the rotation is in compliance with Indonesian mandatory rotation regulation, and 0 the otherwise.
SIZE	: Natural logarithm of company's total assets.
ROA	: Return on Assets, measured by dividing net income with total assets of the company.
LEV	: The leverage of debt, measured by dividing total debts with total capital of the company.
REP	: Dummy variable, which equals to 1 for big 4 auditing firms, and 0 for non-big 4 auditing firms.
α	: Constants
e	: Error

3.2.1. Dependent Variable

As a guide to answer the question of this research, audit quality measurement proxy used is auditors' decision of issuing going concern opinion. The left-hand side variable which is showed in

term of QUALITY is divided into two categories namely: (1) Going-Concern Opinion (given as 1); and (2) non-Going Concern Opinion (given as 0). The measurement of going-concern reflects the main characteristics of audit quality which are independence and competence. The competence of auditors in detecting and assessing the risks of the company before forming the judgment that a company is in a distress condition and the independence to report their finding will be reflected in the issuance of the going-concern opinion. Hence, the quality of audit service is proxied by this variable.

3.2.2. Independent Variables

The first independent variable represents the duration of the relationship between an auditor and client which is measured in years (TENURE). The length of audit tenure data is gathered by calculating total engagement year between one auditing firms with one specific client company.

The second independent variable is the mandatory auditor rotation (ROTATION) which shows whether there has been a change or switch of auditor done by the client or not. As regulated in Indonesia, the maximum length of audit engagement is 5 years consecutively. Therefore, this variable is measured by using the dummy variable, where 1 shows that there has been an auditor rotation in compliance with the mandatory rotation regulation in Indonesia, and 0 represents there is no auditor switching in a company for more than 5 years.

3.2.3. Control Variables

This study uses some additional variables as the control variables in order to enhance the expected results. By adding control variables, there are some advantages which will potentially beneficial for the credibility of the results since it could lower the available degrees of bias and introduce some complication which is usually underestimated or ignored (Bernerth et al., 2017).

The selection process of control variables used in this study is based on some existing studies. First, the firm size (SIZE) which is represented by the natural logarithm of company's total assets. This variable is chosen due to its capability to differentiate various potential risks a firm may have such

as larger negotiating power for larger firms in compared with smaller size company (Carey & Simnett, 2006). The second control variable is Return on Asset (ROA) of the company, as the proxy of the company's level of profitability. This variable is measured by calculating the total net income with the total asset of the company. Thirdly, the debt leverage of company (LEV) is used as one of the control variables. This variable is proxied by the calculation of total debts divided by total capital of the company. Based on Carey and Simnett (2006), this notion is important to be observed due to its potential risks related to the level of debt.

In addition, the reputation of auditing firm (REPUTATION) which is categorized into big-4 firms (given as 1) and non-big4 firms (given as 0). This variable is used as a control variable because it may have direct influence on the audit service quality, as stated in Firth and Tan (1998) big 4 has higher likelihood to produce greater quality of audit service due to larger size, higher provided resources, wider geographical scope and broader experience in auditing various sectors of companies. The selection of control variables incorporated for this study is reflected some of the essentials aspects which used for the prediction process of a going-concern opinion.

3.3. Data Analysis and research quality indicators

This thesis uses a regression analysis to test the association between audit firm rotation, audit firm tenure and the quality of audit, additionally the selected control variables. By using regression technique this research will shows the level significance or insignificance of the relationship between independent and dependent variables. Based on Gauss-Markov theorem, the regression assumption has to be the Best, Linear, Unbiased Estimator (BLUE) of each linear combination of the observation (Berry & Feldman, 2011). In doing so, several additional tests are included such as elimination of multicollinearity and autocorrelation.

Furthermore, to ensure the quality of this research, the literature and theory used in this research are obtained from top world-wide journal platforms. Besides, all of financial and audit data utilized for this study are gathered from the verified database provider.

CHAPTER 4: DISCUSSION AND RESULTS

4.1. DATA EVALUATION

4.1.1. Data Description

Descriptive statistics for each variable is explained in table 2. This table explains the total observations of the Indonesian public companies regarding the sample in this research which in total consists of 912 data observations. The variables listed consist of one dependent variable, two independent variables and four control variables, namely: QUA (Audit Quality), ROT (Audit Rotation), TEN (Audit Tenure), SIZE (Firm Size), ROA (Firm Profitability Level), LEV (Firm Debt Leverage), and REP (Auditing Firm Reputation).

The audit tenure variable represents the duration of the existing audit engagement between auditing firm and one specific client's company, which has a minimum value of 1 year and a maximum value of 19 years, with an average value of 5,764254 years and a standard deviation of 2,292545. Audit quality, audit rotation and auditing firm reputation are categorical variable with a minimum variable value of 0, and a maximum of 1 with the standard deviation of 0, 4039552; 0, 464559 and 0, 4838167, respectively. The variable of Firm Size is measured by the natural logarithm of total assets which has range from IDR 8.532.539 to IDR 91.066.070.129 with an average and standard deviation at IDR 6.349.274.974 and IDR 13.473.810.232, respectively. Additionally, the profitability and the debt leverage level of the public firms in this research have minimum value of -91,45 and -820,27 and maximum point of 245,97 and 747,22 by using the ratio of return on assets (ROA) and the ratio of total debts per total capital of the company. Furthermore, the dependent variable in this research is a dummy variable with categories of 1 and 0, which indicate Going Concern and non-Going Concern opinion.

In addition, table 2 shows three control variables with incomplete observations. Firm Size, Return on Assets and Firm Leverage only have 910,906 and 892 observation out of total 912 observations

needed for this research. Therefore, these missing value are replaced by the mean value or the average amount of each variable.

Table 2. Summarization and Descriptive Statistics of Variables

Variable	Observation	Mean	Standard Deviation	Minimum	Maximum
TEN	912	5,764254	2,292545	1	19
ROT	912	0,5822368	0,464559	0	1
SIZE	910	6349274974	13473810232	8532539	91066070129
ROA	906	6,851236	14,95401	-91,45	245,97
LEV	892	34,35493	79,86788	-820,27	747,22
REP	912	0,372807	0,4838167	0	1
QUA	912	0,7949561	0,4039552	0	1
Size_Complete	912	6349274974	13473810232	8532539	91066070129
Logsize	912	21,10092	1,775701	15,9594	25,23485
Leverage_Complete	912	34,35493	78,98631	-820,27	747,22
Loglev	912	3,012145	1,546213	-4,60517	6,61636
ROA_Complete	912	6,851236	14,90468	-91,45	245,97
Qua_Fixed Effect	912	0,125	0,1208762	0,0001633	0,4580442

Moreover, the table 3 shows data of audit engagement duration from Indonesian public companies. In accordance to the audit rotation regulation of Indonesia and SOX in 2002, the maximum period of audit engagement is supposed to be 5-6 year in consecutive. This table indicates 35, 64 % out of total observation which have more than 6 years of audit tenure and the remaining 64, 36 percent of the samples are in compliance with the regulation to have maximum 5-6 years of audit engagement year.

From table 3, the shortest tenure of auditing firm and the client's company from period after financial crisis in 2009 to 2016 is 1 year, whereas the longest duration is 19 years.

Table 3. Descriptive Statistics of Audit Tenure

YEAR	TEN																			TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
2009	47	15	10	4	6	6	7	3	4	8	0	4	0	0	0	0	0	0	0	114
2010	28	35	7	7	3	5	5	6	3	3	8	0	4	0	0	0	0	0	0	114
2011	20	21	27	4	7	2	5	5	6	3	3	8	0	3	0	0	0	0	0	114
2012	17	17	16	19	3	7	2	5	5	6	3	3	8	0	3	0	0	0	0	114
2013	16	12	13	14	15	3	6	2	5	5	6	3	3	8	0	3	0	0	0	114
2014	16	13	10	10	10	13	2	6	2	4	5	6	3	3	8	0	3	0	0	114
2015	4	15	12	8	10	10	13	2	6	2	4	5	6	3	3	8	0	3	0	114
2016	1	5	14	12	8	10	10	13	1	6	2	4	5	6	3	3	8	0	3	114
TOTAL	149	133	109	78	62	56	50	42	32	37	31	33	29	23	17	14	11	3	3	912

In addition, the dummy variable of audit rotation is represented by the data summarization in table 4. This table provides the comparison between company with rotation and company without audit rotation in Indonesia. Company with rotation is proxied by value of 1 and 0 is for company without rotation. Based on the table, there are 381 cases or 41, 78% of total observations in period 2009 – 2016 do not comply with the rotation regulation in Indonesia and SOX 2002. On the other hand, of the remaining 58, 22% of the samples or 531 cases in period 2009 - 2016 regularly conduct switching of audit engagement in every 5 years.

Table 5 reflects another dummy variable in this research, audit quality, the only dependent variable in the research. In accordance with the explanation in chapter 3, audit quality in this thesis is measured through the Going Concern Opinion. This opinion is issued when a client's company needs a further concern due to the distress condition (Peursem et al., 2005).

In order to reach the conclusion of giving a going concern opinion, the competence and independence of auditors are sufficiently required, especially the tasks of detecting misstatements, assessing risk and neutral intention for reporting all information to the users of the financial statement. In other words, going concern opinion is a reflection of the expected role of auditors (Peurse et al., 2005).

Table 4. Descriptive Statistics of Audit Rotation

YEAR	ROT		TOTAL
	With Rotation	Without Rotation	
2009	82	32	114
2010	80	34	114
2011	79	35	114
2012	72	42	114
2013	70	44	114
2014	59	55	114
2015	49	65	114
2016	40	74	114
TOTAL	531	381	912

Table 5 shows 725 cases or 79, 49% of all samples which receive a going-concern opinion from their auditors, whereas the remaining 20, 51% of the sample have a non-going concern opinion. Additionally, to ensure the reflection of going concern opinion of the real firm's financial condition, the other firm performance indicators such as firm profitability and firm leverage are also measured as the control variables.

Table 5. Descriptive Statistics of audit quality (Going Concern & Non-Going Concern Opinion)

YEAR	QUA		TOTAL
	Going Concern	Non-Going Concern	
	Opinion	Opinion	
2009	101	13	114
2010	103	11	114
2011	105	9	114
2012	111	3	114
2013	109	5	114
2014	87	27	114
2015	54	60	114
2016	55	59	114
TOTAL	725	187	912

Besides, the auditing firm reputation which is classified to two categories, big four and non-big four auditing firm, is also used as another control variable. According to Firth and Tan (1998), the popularity of big four auditing firm somehow affects the quality of audit service. Big four auditing firms are more likely to deliver a better quality of audit service due to larger resources and labor availability and wider scope of clients. Nevertheless, some companies are reluctant to use big 4 service due to higher or premium audit fee of the big four compared to the non- big four firms (Campa, 2013).

From table 6, the empirical data show that there are more public companies which hire non-big four auditing firm, at 62, 71 % or 572 observations of total observation data. On the contrary, the remaining 340 companies' observation in 2009-2016 placed their trust to be audited by the big four auditing firm.

Table 6. Descriptive Statistics of Auditing Firm Reputation

YEAR	REP		TOTAL
	Big-4	Non Big-4	
	Auditing Firm	Auditing Firm	
2009	40	74	114
2010	43	71	114
2011	42	72	114
2012	42	72	114
2013	44	70	114
2014	43	71	114
2015	43	71	114
2016	43	71	114
TOTAL	340	572	912

4.2. TEST OF HYPOTHESES

4.2.1. Multicollinearity Test

The hypotheses are tested by conducting a logistic regression analysis. Before testing the hypotheses, a test has to be performed to control the multicollinearity. Multicollinearity occurs when there are two or more variables have correlation. The presence of correlation among multiple variables within the model could harm the result of this research which is caused by the predictors' effect which are not pure due to the correlation.

One way to detect multicollinearity is by testing the correlations between the variables. Multicollinearity is indicated by correlations among the variables higher than 0.7. The correlation matrix is presented in table 7 below. The correlation matrix shows that no correlation is higher than 0.7. Therefore, there is no multicollinearity issues have arisen in this research. As the absence of multicollinearity issues in this research means there is no violation in the observations and the logistic regression method are allowed to test the hypotheses.

Table 7. Correlation of Variables Matrix

	TEN	ROT	REP	QUA	Logsize	Loglev	ROA _Complete
TEN	1,0000						
ROT	-0,8448	1,0000					
REP	0,6390	0,6100	1,0000				
QUA	0,0133	0,0332	0,2118	1,0000			
Logsize	0,4015	0,3653	0,4807	0,2861	1,0000		
Loglev	0,006	0,0096	-0,0163	-0,0546	0,0095	1,0000	
ROA_Complete	0,1796	0,1668	0,2766	0,2199	0,2517	-0,2166	1,0000

4.2.2. Panel Data Set Analysis

The empirical data used for this research is reflecting a panel data set. Due to multiple companies or cases involved in the observation of 9-years period, panel data analysis is the most suitable approach to be used for testing the hypotheses of this research.

In accordance with Mummolo and Peterson (2017), the fixed effects regression is frequently used to reduce the likelihood of selection bias. They stated that panel data set is used to systematically differ the unobserved ways that could affect the outcome of interest. In other words, the fixed effect is more frequently used due to its capability to produce an estimation of a variable's average effect within units over time (Allison, 2009). Furthermore, more explanation of the application of the fixed effects regression to the observations in this research is provided in table 9.

However, in order to ensure the validity of fixed effects regression used in the panel data set an additional test from Durbin-Wu-Hausman is performed. Based on the research of O'Brien and Patacchini (2006), in the case of measurement error the Hausman test is used to distinguish the difference in asymptotic biases between and within the estimators group. The Hausman test is

included in the standard procedure for analyzing the panel data set by discriminating the fixed effects and random effects model. In the following section the result of Hausman test is provided in the Table 8.

4.2.2.1 Hausman Test

Table 8. The Hausman Test Results

	Coefficients			
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	QUA_fe	QUA_re	Difference	S.E.
TEN	-0,537329	-0,217482	-0,319848	0,0697673
ROT	0,446423	1,261998	0,815575	0,2944739
Logsize	-0,356627	0,563394	0,920021	0,3632217
ROA_Complete	0,035767	0,037729	0,001962	0,0113212
Loglev	-0,077358	-0,114062	0,036704	0,1375503
REP	2,776317	2,690887	0,08543	1,227877

$$\begin{aligned} \text{Chi2 (6)} &= (b-B)'[(V_b - V_B)] (b-B) \\ &= 46,64 \\ \text{Prob} > \text{Chi2} &= 0,0000 \end{aligned}$$

From the Table 8, the result of the Hausman test to determine the most appropriate model between random effects estimator and fixed effects estimator could be seen. Based on Hausman's formulation (1978), the significant difference required or alpha (α) is 0, 05 or 5%. The calculation under the Hausman test table shows Probability > Chi (cross section random value) is at 0, 0000 which is lower than 0, 05. This indicates that there is no significant difference ($p > 0,05$) which necessarily suggests that the random effects estimator is securely free from bias, and preferably suggests to use the fixed effects estimator (Clark and Linzer, 2012). Hence, the most suitable

model for this research is Fixed Effects Regression. In sum, Hausman test's result assures that the Fixed Effects Regression is allowed to test the hypotheses of this thesis.

4.2.2.2. Fixed Effect Regression

Table 9. Fixed Effects Regression Results

QUA	ODDS RATIO	STANDARD ERROR	Z	P> z	{95% Conf. Interval}	
TEN	0,584307	0,575261	-5,46	0,000	0,481769	0,708669
ROT	1,562713	0,797008	0,88	0,381	0,575113	4,246249
Logsize	0,700034	0,26698	-0,94	0,35	0,331502	1,478263
ROA_Complete	1,036414	0,166413	2,23	0,026	1,004305	1,069549
Loglev	0,925559	0,151447	-0,47	0,636	0,67162	1,275511
REP	16,05976	21,55837	2,07	0,039	1,156378	223,0377

Based on the result in Table 9, the regression shows that variable tenure (TEN) has a significant effect on the dependent variable which is audit quality (QUA). This is indicated by the P-value of variable TEN which is 0, 0000. Since this amount is lower than the minimum P-value (0, 05) required to be significant, thus variable TEN has no effect on audit quality in Indonesia. Furthermore, for every unit increase in variable audit tenure (TEN), the odds ratio indicates 0,584307 probability of audit quality will increase as well. This finding is in align with the results of Johnson et al. (2002), Myers et al. (2003) and Carcello & Nagy (2004) who assumed that audit tenure will not harm the competence and independence of auditors, consequently, as well as the quality.

Another hypothesis is about the influence of mandatory audit rotation (ROT) to audit quality has a contrast finding with the variable TEN. The P-value of variable ROT shows an insignificant correlation to audit quality, at 0,381 > 0, 05. From the odds ratio, there shows 1,562 higher

probability of audit quality will still increase when the mandatory audit rotation is not performed. This result is reinforcing the perspective of audit rotation's opposing side such as Chi et al. (2009) and Williams and Wilder (2017). They stated that performing audit rotation will raise deficiency due to repeated learning and understanding process of new engagement which consequently reduce audit quality. In other words, based on the observation in Indonesia the mandatory audit rotation does not positively influence the improvement of audit quality.

As mentioned before, the choice of control variables in the model is informed by the literature that aids the prediction and assessment processes of a going-concern opinion (DeFond et al. 2002; Carey & Simnett, 2006). Logsize and Loglev are the representation of Firm Size (SIZE) and Firm Leverage (LEV) variable which specifically made to be used on the STATA program for these variables. From the findings, there are two control variables which have significant relationship to audit quality, namely, variable Return on Assets (ROA) as the proxy for firm profitability and variable auditing firm reputation (REP), as the proxy of big 4 and non-big 4 classification. P-value of ROA is lower than the minimum required amount of P, at $0,026 < 0,05$. Additionally, REP also shows its significance to audit quality through its low P-value at $0,039 < 0,05$.

The odds ratio defines that every unit increase in variable ROA has 1,0364 probability of audit quality will increase as well. ROA is a financial ratio which commonly used as an indicator of the effectiveness of the firm management by assessing how well a firm is performing and effectively allocate their resources (Samiloglu et al., 2017). Thus, ROA is one important element used by the auditor as a consideration material before issuing going concern opinion. If the company does investments that lower the ROA value, auditors could assess how corporate risk management measures in judging and addressing the causes and effect of the problem. In other words, return on assets has a significant effect on audit quality which consistent with the studies of Mutchler (1985) and Rudkhani & Jabbari (2013).

Similar to ROA, the other control variable with significant effect to audit quality is variable auditing reputation (REP). There is 16, 05976 higher probability of audit quality will be better when the auditing firm is coming from the big 4 group of auditing firm (PwC, KPMG, EY and Deloitte). This finding is supporting the assumption that big 4 auditing firms are more likely to give a better quality of audit service due to their wider experience, better resources and bigger responsibility to retain global reputation and credibility of delivering a high quality audit service.

In addition, since big 4 auditing firms have more resources and assets, thus, the economic dependence to a client's company which harmful for auditors independence could be eliminated. This result empirically suggests that the case in Indonesia related to the relationship between auditing firm reputation and audit quality is consistent with the studies of Firth and Tan (1998). They stated that big 4 firms have higher likelihood to produce greater quality of audit service due to the firm's size, better resources available, wider geographical scope of clients and broader experience in performing audit in various sectors of clients.

On the other hand, the remaining control variables in this research apparently showed insignificant correlation with audit quality, namely Firm Size (SIZE) and Firm Leverage (Loglev). From the P-value of SIZE and Loglev which are 0, 35 and 0,636. These value are higher than 0, 05 or 5 % which defines that firm size and the leverage level of the company are not significantly influence to the quality of audit. Thus, in Indonesian case these results are in contrast with the assumption of Carey and Simnett (2006) which stated that the size of the company and leverage debt ratio are important to be assessed by auditors before issuing the opinion due to its capability to reflect the financial capability of a company.

The finding of firm size's insignificancy relationship with audit quality is reinforced by Ettredge et al. (2011), which similarly found that apparently the size of a company is not a significant determinant for a company to transparently disclose their bad performances. Additionally, the finding related to the insignificant correlation between the firm's debt leverage ratio and audit

quality is supported by the study of Aledwan et al. (2015) which assumed that the debt composition or debt size of a firm is not supposed to have effect on auditors' professional opinion.

4.3. DISCUSSION OF THE FINDINGS

Based on the analysis, the fixed effects regression shows that audit tenure has a positive effect on audit quality in Indonesia. The result is supported by 58% probability of odds ratio that implies the quality of audit service will increase in line with the increase of the audit tenure. This gives a clarification points to the proponent side of long audit tenure, specifically based on the empirical evidence in Indonesia. The advantages from long audit tenure are expected to provide a deeper knowledge and understanding for auditors in Indonesia to improve their competence without harming their independence in order to give professional audit opinion. Therefore, the result is supporting hypothesis 1a, which stated that audit tenure has a positive influence on audit quality and hypothesis 1b is rejected.

On the contrary, mandatory audit rotation which is initially made to improve auditors' independence does not significantly work in Indonesia. Hence, hypothesis 2a is rejected and hypothesis 2b is accepted. Based on the data gathered, there is a grammatical increase in the number of companies without rotation from 2009 – 2016. This indicates that until the latest period of the research, the regulation on auditor switching has not been effectively enforced. This result is similar to the study of Junaidi et al.(2016) which also discovered an insignificant correlation between the mandatory rotation regulation and audit quality. They find that there were a lot of companies in their observation which replace the mandated audit rotation with an artificial rotation. In an artificial audit rotation, the rotation is conducted only by changing the names of the auditing firm.

CHAPTER 5: CONCLUSIONS

5.1. CONCLUSIONS

Several accounting scandals in last decades, such as, Enron Case have dropped the public trust in the quality of audit service (Chaney & Philipich, 2002; Firth, Rui & Wu, 2010). The quality of audit is supposed to represent adequate competence and the independence of auditors (DeAngelo, 1981). Nevertheless, there are many suspected factors that influence the competence and independence of auditors. One of these factors is the intervention of auditor-client close relationships which leads to over-familiarity.

On one hand, over-familiarity could potentially harm the independence of auditors because the relationship between the client and auditors may lower the skepticism and effort of auditors. On the other hand, instead of damaged auditors' independence, audit tenure is believed able to generate a deeper knowledge and understanding of the client's company business for auditors. In other words, long audit tenure is able to improve the competence of auditors in delivering their tasks.

Furthermore, another focus of this study is on the effect of mandatory audit rotation to the quality of audit service in Indonesia. In 2002, the SOX and government of Indonesia have officially announced that regularly switching the auditing firm assigned at one company at certain duration is mandatory (The Sarbanes-Oxley Act, 2002; Finance Minister Decree No. 423/KMK.06/2002). They assumed that by rotating the audit firm, over-familiarity and other agency problems could be addressed. Thus, audit rotation is expected to enhance the independence of auditors as well as restore public trust in auditing firm's integrity.

Nevertheless, this regulation is criticized by some opponents who found out that by performing audit rotation may increase deficiency and destroy auditors' client-specific knowledge and

understanding (Catanach and Walker, 1999; Williams and Wilder, 2017). Additionally, most of the management of client's companies also tend to resist auditor rotation due to intricate, time-consuming and costly of the new auditor selection and familiarizing processes (AICPA, 1992).

Based on the mixed results of the previous study, this thesis is aimed to provide additional clarification points for the on-going debate about the influence of audit tenure and the effect of mandatory audit rotation regulation to audit quality, specifically in Indonesia. **By formulating the research question as follows, "Do the length of audit tenure and the implementation of mandatory audit rotation influence the quality of audit service in Indonesia?"**. The regression analysis is performed on the panel dataset of non-financial sector companies in Indonesia Stock Exchange. The total sample companies are 114 companies with 912 observation data in period after financial crisis, 2009 - 2016.

Firstly, the result shows that apparently in Indonesia audit tenure has a positive influence with the quality of audit service. There is a linear relationship between audit tenure and the quality of audit. The regression analysis of this study has suggested that in Indonesia long audit tenure has positive effect to audit quality. Most of auditors in Indonesia get a deeper knowledge and clearer understanding of the client's business process and risk from the longer audit engagement period without harming their independence. This result is reinforced by the previous study conducted by Johnson, Khurana & Reynolds (2002), Myers et al. (2003) and Carcello & Nagy (2004) which stated that long audit tenure leads to a higher audit quality.

The second result is related to the effect of mandatory audit rotation in Indonesia. **From the regression analysis, the mandatory regulation has no significant influence to audit quality.** Additionally, the table statistic descriptive of audit rotation shows that more than half of the sample do not comply to the audit rotation regulation in Indonesia. Thus, further concern related to the enforcement of mandatory audit rotation in Indonesia is urgently needed. If the assumption

of the audit rotation's opponents is right, then the audit rotation is refused due to intention to retain the auditing firm's clients and a complex process needed in the rotation (Copeland, 2002; Myers et al., 2003).

An alternative solution could be considered by the government is by replacing form of this switching regulation in Indonesia by shifting the target of mandatory rotation regulation to the rotation of partners within the auditing firm. Partner switching regulation requires less complex processes compared with the whole auditing firm rotation. Additionally, the problem of high turnover in auditing firm may be addressed because there will be less travel relocation. Thus, the mandatory rotation could be easier to effectively enforce in order to improve auditors' independence without destroying the knowledge and understanding built within an audit engagement.

Furthermore, during the analysis, some variables were controlled to enhance the results. On one hand, Firm Profitability (ROA) and Auditing Firm Reputation (REP) have a significant relationship to the quality of audit. Similarly, with the previous studies of Mutchler (1985) and Rudkhani & Jabbari (2013) which described that ROA gives essential aid for auditors in assessing corporate risk management which consequently affected the quality of audit. Whereas, the findings of Firth and Tan (1998) enhance the result of a significant correlation from variable REP in this thesis due to likelihood of big 4 auditing firms to produce greater quality of audit service based on higher availability of resources, bigger responsibility to retain their reputation and wider experience in auditing international scale of companies.

On the other hand, the remaining control variables, Firm Size (SIZE) and Firm Debt Leverage Ratio (LEV) show no significant effect to the quality of audit. The result of an insignificant effect of variable SIZE is supported by the finding of Ettredge et al. (2011), which found out that the size of a company could not essentially help auditors in tracing a company's risk or misstatements. For

the reinforcement of the result of variable LEV, the study of Aledwan et al. (2015) defined that the debt composition or debt size of a firm is not supposed to have a prominent effect on auditors' professional opinion.

In conclusion, the aim of this thesis to give additional clarification points to the ambiguity of the effect from audit tenure and the effect of mandatory audit rotation to the quality of audit in the current debate is made up through the empirical analysis over the panel data of public companies in Indonesia. The research question is formulated as **"Do the length of audit tenure and the implementation of mandatory audit rotation influence the quality of audit service in Indonesia?"** and is answered throughout an analysis which generates two answers. **Firstly, hypothesis 1a, which states that audit tenure has a positive significant effect to audit quality.** This indicates the case of most auditors in Indonesia need more time in audit engagement to gather a better understanding in order to improve their competence, thus, improve audit quality. **Secondly, an insignificant influence of the mandatory audit rotation to audit quality** reflects that the mandatory rotation regulation in Indonesia has not been effectively enforced as it was intended by the authorities. Therefore, an alternative to repair this condition is required, such as shifting the form of audit rotation to the mandatory audit partner rotation.

5.2. LIMITATIONS

There are several limitations which possibly influence the results or why the hypotheses were accepted or rejected in this research. The first and foremost limitation of this thesis is the limited availability of Indonesian companies' data. The completeness of data is dependent of the availability of related data in the database. Since the focus of this thesis is to provide an evidence specifically from Indonesia, it is difficult to find and access complete auditing data from one specific country. The absence of several data which could have been used as the measurement basis of some essential variables such as, auditing fee data made the proxy for audit quality in this research is limited only to one element. The measurement of the variable used in this thesis could actually have been better with more proxies.

Another limitation is the use of dummy variable as the proxy to audit quality. There are only two possible values of audit quality in this research. Both category of 1 and 0 are somehow still lack ability to cover in-depth explanation of possible variation in the audit quality variable.

5.3. SUGGESTIONS FOR FUTURE RESEARCH

There are several suggestions which could be used for the future research regarding this topic. Firstly, this research could be done into the same topic and methodology but with different measurements of audit quality such as, auditing fee or number of material restatement. Thus, the possible variance in audit quality could be covered in a broader point of view. By using multiple measurement basis to cover different perceptions of various stakeholders regarding this topic, hopefully the flaw of this study could be overcome.

The second suggestion is since this thesis aims to provide additional clarification points to current debate regarding the influence of long audit tenure and the mandatory audit rotation to audit quality in Indonesia, future research could have been done better by broadening the scope of the sample. This research focuses only on companies which were listed on the Indonesian Stock Exchange, whereas there many other medium and small-scale companies that could be included in the research. By using broader scope of sample, the results of future research are expected to be able in providing more complete and stronger evidence from Indonesia regarding the influence of long audit tenure and mandatory audit rotation to the audit quality.

Additionally, what could also be considered to be done for future research is by extending the use of variable in this research such as, audit rotation. Based on the auditing data about the mandatory audit rotation in Indonesia from 2009 - 2016, there are a lot of companies which perform an artificial rotation to avoid the complex process of real audit rotation. Hence, it is expected that by separating artificial rotation data from real audit rotation could generate result which could show clearer finding regarding relationship between audit rotation and audit quality in Indonesia.

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APPENDICE

Appendix 1. Random Effects Regression Results

QUA	ODDS RATIO	STANDARD ERROR	Z	P> z	{95% Conf. Interval}	
TEN	0,8045424	0,558871	-3,13	0,002	0,7021351	0,9218859
ROT	3,532472	1,470974	3,03	0,002	1,561801	7,989722
Logsize	1,756625	0,2042701	4,84	0,000	1,39861	2,206284
ROA_Complete	1,03845	0,011824	3,31	0,001	1,015532	1,061885
Loglev	0,8922026	0,790698	-1,29	0,198	0,7499415	1,06145
REP	14,74475	7,999118	4,96	0,000	5,09161	42,69918
_cons	0,0000363	0,0000848	-4,38	0,000	3,73307	0,0035321
/lnsig2u	0,2448652	0,4264508			-0,590963	1,080693
sigma_u	1,130243	0,2409965			0,7441732	1,716602
rho	0,2796935	0,859149			0,1440797	0,4724893