The Impact of Audit Tenure, Rotation, Specialization, Workload and CPE to the Audit Quality with Audit Committee as a Moderating Variable: Indonesian Case Study

TOPIC: AUDITING

1. INTRODUCTION

1.1. Background

Public accounting profession has a very important role in the economy because an audit conducted by a public accountant give confidence to investors and creditors about the fairness of the financial statements. This is one important consideration for investors and creditors in making investment decisions. When economic conditions are uncertain, investors expect auditors provide early-warning of failure of corporate finance.

Enron bankruptcy, dissolution of Anderson and other financial reporting scandals caused the low public perception of audit quality. DeAngelo (1981a) defines audit quality as the ability of auditors to detect errors in financial statements and report it to the users of financial statements. Opportunity to detect errors depends on the competence of auditors while the willingness of auditors to report an error in financial statements depends on auditor independence. Auditor competence can be seen from the length of time the auditor has audited the company (tenure), whether there is rotation of audit, whether the auditor has specialized in the industry audited, the workload faced by auditors, training followed by the auditor, the auditor's reputation, fees, audit experience, adherence to audit procedures, skepticism, technology audits and others. While the level of independence can be seen from the length of time the relationship between auditor and client (tenure), whether a change of auditors (rotation), fees, size of audit firms, peer review, the involvement of audit committees and others.
Several previous studies showed that the rotation of audit has a positive effect on the competence of auditors and the negative impact on auditor independence. Rotation could decrease competency since rotation requirement causes audit risk, a below standard audit implementation, because new auditors have not comprehensively understood their clients. St. Pierre and Anderson (1984) find that many audit failures and legal issues occur in the early years of audit engagement. Gavious (2007) shows that the long-term relationship between auditors and clients triggers dependency problem, thus the rotation is required to create independence.

The regulation about rotation in Indonesia is an interesting case to investigate because in Indonesia, the rotation is not only applied to audit partners but also to audit firms, whereas, in many other countries the rotation is only applied to audit partners. The regulation of the audit firms rotation in Indonesia which was implemented since 2002/03 creates a possibility for a quasi rotation that allows for an audit firm to change its name by changing its audit partners’ composition; so that the audit firm employs more than 50 percent of the previous audit partners, to become a “new” audit firm. Therefore, all of the “new” audit firm’s clients can be considered “new” clients, meaning that the audit firm can continue providing its services to their old clients. Table 1 shows example of changes to the audit firm name in Indonesia. The name of audit firm change, but their international affiliation remained unchanged. Table 2 presents data on the rotation of auditors in Indonesia, in the period before and after regulation of rotation based on 1.846 firm-year observation, from 1999 to 2007. From 1.846 firm year observation, the data shows 426 audit partner rotation and 376 audit firm rotation. From 342 audit firm rotation, 166 did real rotation and 176 did quasi rotation. The table shows that there is a significant increases in auditor rotation and audit firm rotation after the regulation period. The number of quasi rotation is more in number than the number of real rotation.
There are many audit firms that changed the audit partner composition to avoid the real rotation. According to Siregar et al. (2009), most of rotations after 2003 are unreal or quasi rotation (see table 2).

Other studies have also shown that tenure has a positive effect on the competence of auditors and the negative impact on auditor independence (Deist and Giroux, 1992; Knechel and Vanstraelen, 2007; and Davis et al., 2002). The negative correlation is supported by Davis et al. (2002). They illustrate that the longer the tenure, the audit quality is lower due to the closer relationship between auditors and management. This closer relationship creates more flexibility for the management to produce financial statements in the auditors’ favor. The positive correlation is supported by Geiger and Raghunandan (2002). They show that most audit failures occur in the early years of the audit engagement. Thus, the longer the audit tenure will improve the audit quality. Carcello and Nagy (2004) also find that the fraudulent financial statements often occur in the first three years of the audit engagement. When the audit tenure is longer, auditors will understand the firm with more comprehension. Therefore, fraudulent management can be prevented and reduced, and the audit quality improves.

In general, various studies hypothesized relationship between tenure and audit quality is a positive or negative liner. This study argues that tenure is positively associated with competence and negatively related to independence. The combination of the two elements can cause the relationship tenure and audit quality in the form of linear or quadratic. The shape depends on which element (competence or independence) have more stronger influence on audit quality. Davis et al (2009) examines the quadratic relationship between audit tenure and discretionary accrual, which are conducted by firms for meeting and beating earning forecast in the period before and after the Sarbanes Oxley Act (SOX). Davis et al (2009) conclude that in the period before SOX, audit tenure and earning management possess
quadratic relationship. However, in the period after SOX, the quadratic relationship is not proven. Siregar et al. (2009) finds the quadratic relationship for audit quality to be measured by discretionary accrual. However, the studies that determine the audit firm tenure based on the audit firm's name, did not see whether the changes in audit firm's name is only quasi. This study measures the tenure by considering the problem of rotation real and quasi rotation. Most studies on the influence of rotation does not distinguish between the rotation and the rotation pseudo-real. In Indonesia, this issue is important because a lot of quasi-rotation occurs after issued rules regarding the rotation of audit firms. In the quasi rotation, changed only while the composition of any partner in the real rotation is really a change of KAP. Therefore, this study is expected to contribute in the literature regarding the type of rotation.

Many of the pros and cons with respect to the influence of rotation on audit quality that came into effect in Indonesia in 2002/2003. Proponents argue that the rotation of the rotation will increase the independence, while opponents argue that the rotation will lower competence. Relation between tenure and audit quality also still being debated, there is a positive relation opinion, there are also negative. In this study believed that the relationship tenure and audit quality is shaped quadratic, not linear.

Based on the Minister Finance report in 2009, the ratio between the number of clients and the number of auditor staff varies greatly in each of the audit firm. There is a firm that has a very high ratio and some are low. This ratio indicates the level of the workload of each staff auditor (workload). The high workload may lead to fatigue and the emergence of dysfunctional audit behavior so as to reduce the ability of auditors to find errors or irregularities reported. Lopez (2005) found that the audit process undertaken when there is pressure audit workload will result in a lower quality compared to when there is no pressure workload. Consequences that may arise from the audit workload is the decline in audit
quality and earnings quality (Hansen et al., 2007). With this background, it is interesting to examine the relationship level of workload in each audit firms and audit quality.

In addition to tenure and rotation, this study also examined the effect of specialty and CEP (because previous studies stating these factors affect the quality of audits. It also include an audit committee as a moderating variable. This study will also examine whether the quality of the audit committee has a direct influence on the quality of the audit and whether the quality of the audit committee also acts as a moderating variable in the relationship between tenure, rotation, specialization, CEP, and workload with the quality of audits. It is interesting to study because of criticism of the weak role of audit committees in the context of developing countries. This study also examined the influence of the quality of the audit committee as a moderating variable at a the quadratic model. Throughout the authors’ knowledge, no studies like this. This research is expected to contribute to the development of a research model so that further research is not limited to linear model only.

This research finds that audit firm tenure at pre-regulation is negatively related to audit quality, but at post regulation convexly related to the audit quality. Audit firm rotation at the pre-regulation will decrease the audit quality, but after regulation doesn’t affect the audit quality. Audit partner tenure at the pre-regulation concavely related to audit quality while in the post-regulation, the relationship is convex. At pre and post-regulation period, audit partner rotation positively affects the audit quality. There is no the differences in audit quality between company doing real and quasi rotation. These results indicate that audit firm rotation does not improve audit quality, so it should be considered to stopped while audit partner rotation is still needed.

The remainder of the paper is organized as follows. Section 2 describes theoretical framework and hypotheses development. Section 3 describes empirical models, data, and sample selection. We present our findings in section 4 and conclude in section 5.
2. THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

2.1 Agency Theory and Audit Quality

Jensen and Meckling (1976) explain the contractual relationship between owner and manager. According to the contract, the manager should work as delegated by the owner. However, the manager does not necessarily act in the best interest of the owner due to the manager’s own self-interest. One factor causing this is moral hazard. This occurs because there is asymmetric information between manager and owner. Therefore, an independent third party is required to address this issue. An external auditor will issue the audit opinion fairly about the financial statements produced by manager. The use of an independent external auditor should decrease the agency cost (Jensen and Meckling, 1976; Watts and Zimmerman, 1986).

Stewardship hypothesis (Watts and Zimmerman, 1986) states that financial statements and auditor reports are required to examine the faithfullness and reliability reports produced by manager, and choose an auditor that creates good steward image for the manager.

On the other hand, according to the moral hazard hypothesis, manager tends to maximize his/her own wealth by sacrificing owner’s wealth. The manager tends to choose an auditor that can provide more flexibility to select more favorable accounting methods as well as issue a more favorable audit opinion.

The agency conflict comes from institution mechanism. An auditor is engaged by management to perform audit service for shareholders’ interest; however, an audit service is paid by the management (Gavious, 2007). This creates conflict of interest that an auditor cannot avoid. This institution mechanism makes the dependency of auditor to his/her client.

Palmrose (1984), Healy, and Lys (1986) state, that the audit quality is a primary indicator in selecting an auditor. Therefore, audit service quality rendered to client is a major
consideration to select an auditor. Consistent with agency theory, firm management wants to satisfy investors’ interest by selecting an auditor who can reflect a good image for the management from the investors’ point of view.

On the other hand, there is agency problem from the auditor’s point of view. The auditor’s interest is maintained by accommodating clients’ expectations, especially long-term clients. This is intended to guarantee the continuity of the audit engagement so that the auditor’s revenue is guaranteed. An incentive to work with dishonest management is triggered by the relationship. Therefore, from an economic point of view, long-term audit engagement will trigger a closer relationship and loyalty between auditor and client. This will decrease the auditor’s objectivity and the auditor’s independency. The problem is when the auditor is retained for a long time; the auditor will become too comfortable so that the auditor’s objectivity will be distracted (Mautz and Sharaf, 1961).

However, an auditor should consider lawsuits and reputation risk in maximize auditor profitability (Reynold and Francis, 2001). Audit failures can lead to a regulatory sanction that damage the auditor’s reputation. The regulation plays a role to protect the public interest by issuing policies and rules to maintain the audit quality.

2.2. The Impact of Audit Tenure to The Audit Quality

Mautz and Sharaf (1961) argue that the relationship between the auditor and the client affect the auditor’s independence because the auditor’s objectivity decreases through time. The decrease of auditor’s objectivity increases the possibility of identifying misstatement in the financial statements. The decrease is caused by several reasons. First, the longer the relationship, the more the auditor tends to support management. Hence, the auditor tends to have less professional skepticism and become more aligned with the management’s perspective. Second, the longer the relationship, the auditor tends to be less
sensitive to chances and fail to find new data and evidence to support the auditor’s judgment. This behavior can cause the auditor to fail in revising the improper judgment in previous years and might also fail in providing more appropriate judgment, which is suitable with the client-business dynamic. Last, the ability to retain client will be an incentive for the auditor not to argue with his/her client. The auditor tends to accommodate client’s needs in order to get economic benefits by retaining the client.

According to previous research, there are two conflicting arguments about the relationship between audit tenure and audit quality. The first argument states that the period of audit engagement is negatively related to the audit quality. This is due to the closer relationship between auditor and client as the audit period is longer. This close relationship causes the auditor and the client to have a chance to compromise accounting and reporting method. This decreases the auditor's independence and thus, decreases the audit quality (Mautz and Sharaft, 1961; Kaplan, 2004; Gavious, 2007; Dopuch et al., 2001; Chi et al., 2005).

The second argument states that the period of audit engagement is positively related to the audit quality. In other words, the longer the tenure, the better the audit quality. This positive relationship is due to several reasons as follows: (i) there are more audit failure and lawsuits in the early years of audit engagement. Thus, the longer the tenure, the audit quality will be better (St Pierre and Anderson, 1984); (ii) The new engagement increase the start-up costs thus, the audit costs will increase (Davis et al., 2002); (iii) Audit rotation causes audit risk, below standard audit implementation, because an auditor has not comprehensively understood his/her client (Beatty, 1989; Craswell et al., 1995).

Generally, those researches hypothesize a linear relationship (positive or negative) between audit tenure and audit quality. This research predicts that the relationship between audit tenure and audit quality is quadratic. Specifically, this research predicts that the audit
quality increases as the audit engagement period is longer, until an optimum point, then the audit quality decreases as the audit engagement period is longer (due to decrease in the auditor independence).

Several researchers have developed such nonlinear relationship, such as, Davis et al. (2009). However, they use only one proxy for the audit quality (discretionary accrual). Wibowo and Rosietta (2009) use the earning surprise benchmark as a proxy of audit quality. However, they have not significantly proven the quadratic relationship. Fitriany and Wibowo (2009) and Siregar et al. (2009) find the nonlinearity with the only discretionary accrual acts as a proxy. This research tests quadratic model with more audit quality measurements (four proxies for earning quality).

This quadratic model is developed by starting from audit quality concept by De Angelo (1981a) who states that audit quality is the auditor’s ability to detect the misstatements in the financial statements and report to the users of financial statements. The probability of detecting misstatements depends on the auditor’s competency while how brave to report depends on the auditor’s independence.

The relationship between the auditor’s competency and the auditor’s tenure is predicted to be positively related. The longer the tenure, the auditor will possess higher competency as the auditor gets a better understanding of the firm’s internal control, accounting information system and specific risks. Fitriany and Rossieta (2009) find that tenure is significantly and negatively related to the discretionary accrual. In the first year of audit engagement, the audit quality is still low due to the fact that the auditor has not comprehensively understood client’s situation. The longer the tenure (second or third year), the audit quality increases. However, in the fourth year, the impact of audit tenure to the audit quality is not significant.

The auditor who has not comprehensively understood client tends to depend on the estimation and information supplied by auditee (Gul et al., 2009). This is consistent with
SPAP (2001) that states that business knowledge required by the auditor is acquired continuously and cumulatively. Because of the learning process, the additional knowledge in early years can be more or less than in the next years. Therefore, this research hypothesizes that the relationship between tenure and competency is either concave or convex, as depicted in figure 2.3.a and 2.3.b. Figure 2.3.a shows that the additional knowledge acquired in the early years of the audit engagement is less than in the next years. On the other hand, figure 2.3.b shows that the additional knowledge acquired in the early years of the audit engagement is more than in the next years.

![Figure 2.3 the relationship between tenure and competency](image)

The relationship between tenure and independence is negatively hypothesized because the longer the tenure, the relationship between the auditor and the client is closer and thus, the auditor tends to be less critical / less independent. This is explained by Low-Balling theory (De Angelo, 1981a). In order to get and retain clients, the auditor charges lower fees in the early years of audit engagements. The audit fees will increase as the audit engagements become longer. Therefore, the auditor with lower tenure will be more tolerable to maintain his/her relationship with client so that the cooperation will continue and the auditor loss in the early years can be recovered. This phenomenon causes low audit and earning quality (Gul et al., 2009). Other research also finds that the longer the tenure, the independence tends to decrease (Gavious, 2007; Dopuch et al., 2001; Chi et al., 2005). This decrease differs among cases. In the early years of audit engagements, the decrease of independence can be faster or
lower. This can be depicted in figure 2.4. Figure 2.4.a shows that the decrease of independence is slower in early years of audit engagement while figure 2.4.b shows that the decrease of independence is faster in early years of audit engagement.

![Figure 2.4. The relationship between tenure and independency](image)

The audit quality is the combination between the auditor’s competency and independence (De Angelo, 1981a). If figure 2.3 and 2.4 are combined, there will be various graphs like in figure 2.5. Figure 2.5.a shows that from the early years of tenure to the optimum point, the competency (K) increment is higher than the independency (I) decrement and thus, competency has higher tendency to affect the audit quality (KA) than independence. The audit quality will increase. After the optimum point, as the relationship between auditor and client is longer (this makes auditor and client understand each other so that independence issue more dominantly affected audit quality than competency), the audit quality will decrease. Therefore, the relationship between tenure and audit quality is concave as depicted in figure 2.5.a.

Other than depicted in figure 2.5.a, the relationship between tenure and audit quality can also be convex as depicted in figure 2.5.b. The shape depends on which one is more dominant between independence and competency. The shape also depends on the shape of independence and competency curve, whether it is convex or concave. Actually, the relationship between tenure and audit quality can be linear as shown in figure 2.5.c and 2.5.d.
Those shapes occur when the competency increment equals the independence decrement. This research predicts that the relationship between tenure and audit quality is quadratic (either concave or convex).

Figure 2.5. The relationship between tenure and audit quality

According to the explanations above, it can be hypothesized that the relationship between audit quality and tenure is quadratic (either concave or convex). The shape depends on the situation in that period, which one is more dominant, competency or independence. Therefore, the research hypotheses are as follows:

**H1 : Audit tenure affects quadratically audit quality**
This research will investigate the impact of audit partner tenure and audit firm tenure to audit quality in the period before (1999-2001) and after (2004-2008) regulation period.

2.3. The Impact of The Rotation to The Audit Quality

There are arguments opposing and supporting the rotation requirement. One research opposing the rotation requirement is St Pierre and Anderson (1984). They state that many of the audit failures and legal issues occur in the early years of audit engagement. Furthermore, Davis et al. (2002) state that high frequency of auditor rotation will increase audit costs as a whole. This is due to the rotation, an accounting firm that is still new; still have to study his/her client because he/she does not have an adequate understanding of the company.

However, there are some proponents of the rotation requirement. For instance, Gietzmann and Sen (2001) find that even though the auditor rotation costs more, this increases the auditor’s independence relatively more than the costs in several big clients.

According to the literatures above, the audit rotation can have positive (increase independency) or negative (decrease competency) impact. Thus, the hypothesis about the impact of audit rotation to audit quality will be a two-tails test. Thus the hypothesis is:

H2 : Audit rotation affect audit quality

This research will investigate the impact of audit partner rotation and audit firm rotation to audit quality in the period before (1999-2001) and after (2004-2008) regulation period.

2.4. The Impact of Audit Specialization to The Audit Quality

A specialized auditor is an auditor who has extensive experience in auditing clients at certain industry. The experiences can increase auditor’s knowledge about audit risks specified in that industry. This specialization can improve the efficiency and effectiveness in assessing
the reliability of client’s financial statements and estimations so that auditor will be able to
detect errors or unusual items in his/her specialized industry. Therefore, a specialized auditor
will be less likely to make mistakes compared to a non-specialized auditor (Solomon et al.,
1999).

Compared to a non-specialized auditor, a specialized auditor will always protect his/her
reputation by improving the compliance to auditing standards (Carcello and Nagy, 2004). A
specialized auditor will be more confident in determining inherent risks and be more capable
in detecting errors and financial fraud. Therefore, a company audited by a specialized auditor
will produce better earning quality because of lower discretionary accrual and higher earnings
coefficients (Balsam, 2003).

Therefore, this research predicts that there is a positive relationship between auditor
specialization and audit quality. The proposed hypothesis is:

H3 : Auditor specialization affects positively audit quality

2.5. The Impact of Auditor Workload to the Audit Quality

Workload shows the auditor’s load of a work. Workload can be measured from the
number of clients that should be handled by an auditor or the time limit available to do an
audit process. Lopez (2005) defines workload as busy season that occurs in the first quarter of
the year because there are many companies having end of financial year in December. The
fatigue and strict time budget can reduce the auditor’s ability to find any errors or frauds.
Lopez (2005) finds that audit process done during workload pressure produces lower audit
quality than during no workload pressure.

Experimental studies confirm that budget constraint triggers auditors to perform low
quality audit works (Alderman and Dietrick, 1982; Kelley and Margheim, 1990; Ragunathan,
1991; Sweeney and Summers, 2002; Coram et al., 2004).
Hansen et al. (2007) research concludes that audit capacity stress is related to the increase of new clients coming from the Andersen Public Accounting Firm after the firm has been closed after Enron’s case. Blouin et al. (2005) and NyBerg (2005) also provide similar argument about the Enron’s collapse. The consequence of audit capacity stress is the reduction of audit quality so that the earning quality will be also decreased (Hansen et al., 2007). In the United States, after the Enron’s collapse and the end of Andersen Public Accounting Firm, some Public Accounting Firms got new audit works from the ex-Andersen clients.

This research examines whether workload or audit capacity stress will affect the audit quality. We expect that when workload increases, the audit quality will decrease. The hypothesis is as follows:

H4: The level of auditor workload is negatively correlated to the audit quality

2.6. The Impact of CPE (Continuing Professional Education) to the Audit Quality

CPE (Continuing Professional Education) is a way to maintain the qualification of Public Accountant permit. In Indonesia, Ministry of Finance has promulgated that a public accountant must possess at least 30 credits CPE in a year. It is hoped that by taking CPE, the public accountants’ knowledge will increase so that their audit quality will be better. Adityasih (2010) studies the relationship between CPE to the audit quality. Her research shows that the CPE is positively correlated to the audit quality. Some of public accountants are found that they have completed the requirement of minimum 30 credits CPE in a year. This research also investigates whether CPE can improve the audit quality. Therefore, the hypothesis is as follows:

H4: CPE is positively correlated to the audit quality
2.7. The Audit Committee Quality to the Audit Quality

The existence of audit committee is essential to the corporate governance because audit committee is required to satisfy market expectation to monitor the implementation of corporate code of conduct, protecting the minority shareholders, improving the financial report and internal control, as well as fulfilling the rules (State Owned Enterprise, Bapepam LK, Indonesia Stock Exchange and Code of Corporate Governance). The existence of committee audit is necessary. Stock Exchange has promulgated this rule since 1992 for the any public listed companies in the New York Stock Exchange. This is triggered by the financial scandals and the problems of auditors’ independence. In Indonesia, Indonesia Stock Exchange (IDX) has required public listed companies in IDX to have audit committee. The existence of audit committee is essential to corporate governance because committee audit is one of the elements in the Good Corporate Governance that is expected to improve the internal control as well as optimizing the checks and balances that finally will protect the stakeholders.

The role of committee audit is to advice to the Board of Commissioners about the financial statements prepared by Directors, identify problems that should be concerned, review accounting policy adopted by the firm, and review the external reports and compliance to the rules and regulations. In doing its functions, audit committee facilitates formal communication among Boards, Management, External and Internal Auditor (Bradburry et al., 2004).

According to SK Bapepam LK Number Kep 29/PM/2004, an audit committee is responsible to the Board of Commissioners about the reports or issues sent by Directors to the Commissioners, identify issues concerned by Board and perform other duties related to the Board for instance: (1) review the company financial statements, including other financial information and projection, (2) review the company’s compliance to the rules and regulations
in capital market and other related to the company, (3) review to the audit work done by external auditor, (4) report the Boards any risks faced by the company and risk management by Directors, (5) review and report to the Board about any reports related to the company.

Bapepam LK rule notes that audit committee must have at least 3 (three) person in which one of them must be independent commissioner who is also the head of the audit committee and at least 2 (two) independent coming from external company, at least one of whom must possess accounting and financial education background. In performing its duties, the company needs the independence of the audit committee. Therefore, SK Bapepam LK regulates that the committee audit members must: 1) not the people of Public Accounting Firm, legal consulting firm or other companies providing auditing or non-audit or other consulting services in the last 6 months before the commencement; 2) not people who has the authority and responsibility to plan, lead or control company in the last 6 months before the commencement; 3) not having shares, directly nor indirectly to the company; 4) not having family relationship with the Commissioner, Directors or major shareholders, not having business relationship directly nor indirectly to the company. This requirement is intended to maintain the independence of the audit committee.

In order to improve the company transparencies, the information about the audit committee must be disclosed in the financial statements since 2006 containing following: a) name, position, and resume the audit committee; b) job description of the audit committee; c) the meeting frequency and attendance each audit committee; and d) short summary of the audit committee.

Xie et al. (2003), Choi et al. (2004), Park and Shin (2004), Abbot et al. (2004), Zhou and Chen (2004), and Bedard et al.(2004) find that the finance background from the audit committee can improve the quality of the financial statements. Dhaliwal et al. (2007) distinguish the ability in the accounting, finance and financial supervision and testing the
financial ability of the committee audit to the accruals quality. They find that the ability of audit committee has positive impact to the accruals quality. This indicates that audit committee should possess the specific knowledge in accounting and it is not enough only possessing finance knowledge.

Hermawan (2009) examines the effectiveness of Board of Commissioners and audit committee to the earnings response coefficient (ERC). The effectiveness of the audit committee is measured by score related to the activity, the number of member and the audit committee competence. His research shows that the effectiveness of the audit committee does not affect to the earning quality, but further research shows that the effectiveness of the audit committee can positively affect ERC when Board of Commissioners are less effective in doing their roles.

Abbott et al. (2004) examines the relationship between annual earnings restatement and four audit committee characteristics: independence, financial expertise, diligence and size of audit committee. The research suggests that companies with the audit committee that are independent, expert and diligent have lower probability of doing restatement. Carcello and Neal (2000) investigate the relationship between audit committee characteristics and the auditor fired. Their research shows that the auditor change after companies get going concern opinion can be triggered by the management confidence that they can find new auditors that are willing to compromise. From the five characteristics audit committee (independent, finance expert, diligent, governance expert and firm specific), only independence and governance expertise are positively significant to the change of auditors.

Robinson and Jackson (2009) examine five audit committee characteristics and auditor change because of the misunderstanding between clients and auditors, the resignation of auditor, the disputes of audit fee and qualified opinion. Their research shows that the characteristics of the audit committee are inversely related to the auditors change. This means
that change of auditors tend to be rare when the audit committee is more independent, more expert (in finance) and has more knowledge of the company.

2.8. The Impact of the Audit Committee Quality to the Audit Quality

Audit committee does not only influence to the audit quality, but also moderate the relationship among tenure, rotation, specialization and workload to the audit quality. Therefore, this research will test both relationships. The audit committee is viewed from the competence, independence and effectiveness perspectives.

2.8.1. The Direct Impact of the Audit Committee to the Audit Quality

Audit Committee has important roles in monitoring to guarantee the quality of financial statements and companies accountability (Carcello and Neal, 2000), assisting Board of Commissioners to improve the quality of audit process in which external auditor can trigger the deeper audit in order to identify and rectify the errors in financial reporting by management, intentionally or unintentionally (Cadbury, 1992 and Hampel, 1998). Furthermore, Zhang et al. (2007) also concludes that the probability of companies to identify the errors in the internal control is higher when audit committee has the financial accounting expertise.

Meanwhile, audit committee who is effective will be able to limit the manager chance to do earning management (Xie et al., 2003); the independence of the audit committee to the CEO will be more effective in monitoring the financial accounting reporting process (Klein, 2002).

Dhaliwal et al. (2007) argue that the audit committee quality can be measured from the size audit committee, independence and meeting frequency. Robinson and Jackson (2009) defined audit committee characteristics from five things: independence, financial experts, job commitment, and company knowledge and governance expertise. Peivy (2009) and Sari (2009) measure the audit committee role from how far the companies disclose four aspects
(evaluating internal control, management control, review financial report and assist the company compliance to the laws) in the audit committee report. Hermawan (2009) investigates the activity, size and audit committee, but excluding independence.

From those researches, we can conclude that the quality of audit committee can affect the audit quality by limiting the earning management by the management and monitoring the audit process done by auditors. This research predicts that audit committee quality will affect positively to the audit quality. Thus, the hypothesis is:

**H6**: The quality of the audit committee is positively related to the audit quality.

### 2.8.2. The Moderating Impact of Audit Committee Quality to the Tenure and Audit Quality

Related to the hypothesis 1, the relationship between tenure and audit quality is expected to be quadratic. Thus, there is a period of audit engagement when the audit quality will reach maximum point. When audit committee quality increases, the maximum point will shift to the right (higher). This means that the period of audit engagement will produce optimum audit quality will be higher. For instance, the audit quality is maximum when tenure is 5 years, with the high quality audit committee, audit quality will be maximized when tenure is longer, for instance, 6 years.

The audit committee has important roles in monitoring to ensure that financial statements quality and company responsibility (Carcello and Neal, 2000). Previous research mostly find that the accounting and finance background is positively related to the quality of financial statement (Xie et al, 2003; Choi et al, 2004; Park and Shin, 2004; Abbot et al, 2004; Zhou and Chen, 2004; Bedard et al, 2004; Dhaliwal et al, 2007). This indicates that audit committee that possesses knowledge in accounting and finance has ability to detect the lack
of internal control, specifically related to the financial reporting. Furthermore, by the competence in accounting and finance, audit committee will also have knowledge in accounting and auditing standard so that when management perform mistakes, intentionally and unintentionally in reporting in the financial accounting can be detected by the audit committee. Thus, the relationship with the external auditor. Audit committee that has accounting and finance background will be able to criticize and evaluate whether the audit process that is performed by auditor is in accordance with the audit standard. The audit procedure is not reduced even though auditor is familiar with the management. If external auditor perform audit that is not in accordance with the standard, audit committee will be able to communicate such situation so that the audit quality is still maintained.

Klein (2002) finds that the Board structure and independent audit committee to the CEO is more effective in monitoring the process of financial accounting company. Xie et al. (2003) show that audit committee can protect the investors’ interest by limiting the ability of management to do earning management. Other researches also find that there is a positive impact from the independent audit committee with the reliable financial statements (see Mc Mullen, 1996; Bedard et al., 2004; Xie et al., 2003). This shows that independent audit committee has the ability to report to the Board of Commissioners when management did fraud or manipulating financial statements. When management compromises with external auditor, the quality of financial statements also decreases. Even though auditor and management have been familiarized each other, the audit quality will be maintained. Independent audit committee will ensure that auditor independence will not be impaired by the time of audit engagement.

The effectiveness of audit committee also affects the tenure to the audit quality. Menon and Williams (1994), Beasly et al. (2000), Anderson et al. (2003), Xie et al. (2003), and Zhou and Chen (2004) show that the higher the frequency of the audit committee meetings, the
financial statements are better. The audit committee who actively evaluate company internal control by performing meetings, reviewing financial statements, analyzing company risks and over sighting audit process done by auditor. Thus, the audit committee will not perform audit procedure done by auditors. This, the audit committee will be able to detect when there is a compromise between management and auditor or whenever auditor does not follow audit procedure because of the reduction of auditor skepticism due to longer tenure.

Thus, we predict that high quality audit committee will strengthen the quadratic between tenure and audit quality. Based on the arguments, the hypothesis is as follows:

**H7:** High quality audit committee will strengthen (weaken) the positive (negative) relationship between tenure and audit quality.

2.8.3. The Moderating Impact of Audit Committee Quality to the relationship between Rotation And Audit Quality

Hypothesis 2 notes that rotation can positively or negatively influence to the audit quality. Rotation can have positive influence because by rotation, the auditor independence will increase. However, rotation can have negative influence because rotation can reduce the auditor competence. Dhaliwal et al. (2007) find that accounting expertise of the audit committee has positive impact to the accruals quality. Abbott et al. (2004) find that companies that have independent, expert and diligent will have lower probability of doing restatement. Hermawan (2009) finds that audit committee with the accounting and finance background will have the ability to detect and report any errors or frauds in the financial statements as well as the weaknesses in the company internal control to the Board of Commissioners. Companies with the competence, independent and effective audit committee tend to have better internal control so that in the case of rotation occurs; the positive impact from rotation is stronger than the negative impact. Thus, overall the audit quality will
increase. This means that audit committee with the accounting and finance background will be able to evaluate tend to have better internal control so that in the case of rotation occurs, the positive impact from rotation is stronger than the negative impact. Thus, overall the audit quality will increase.

The audit committee with the accounting and/or finance background will be able to evaluate the audit process by auditor and can provide input to auditor so that in the case of rotation occurs, the positive impact from rotation is stronger than the negative impact.

When rotation occurs, the independent committee audit will enhance the rotation impact to the audit quality. This means that audit committee independent will be stricter to do auditor change due to the management wants to get better audit opinion or more compromise auditor. Thus, even though companies have already performed rotation, the positive impact of rotation will be stronger than the negative impact from the rotation. The audit committee will act critically to the audit process that is done by auditor so that by rotation, the auditor independence will be higher than the reduction of auditor competence.

When rotation occurs in a company, effective audit committee in evaluating the internal control, reviewing the financial statements, analyzing company risks and monitoring the audit process done by auditors so that the positive impact of rotation will be stronger than the negative impact from the rotation. If the audit committee is effective and actively monitors audit process, even the case of new external audit, the probability of audit failure is lower because of the detection of audit committee. Thus, the hypothesis is:

\[ H_8 : \text{The high quality audit committee will strengthen (weaken) the positive (negative) relationship between audit rotation and quality.} \]
2.8.4. The Moderating Impact of Audit Committee Quality to the Specialization and Audit Quality

Based on hypothesis 3, we predict that specialization will have positive impact to the audit quality. Audit committee that is competent, independent and active will: 1) be able to understand various complex financial transactions, detect errors/frauds in financial statements and the weaknesses in the company internal control in order to communicate to the specialized auditor, 2) critically act to the works performed by specialized auditor so that it will prevent any collusion between auditor and major shareholders that will suffer minority shareholders and independent in evaluating auditor and then remind specialized auditor if auditor do not perform audit based on its audit plan; and 3) active perform their role in monitoring specialized auditor, so that audit committee can know whether specialized auditor perform audit in accordance with the auditing standards. Based on the explanation, we can conclude that high quality audit committee (competent, independent and active) will strengthen positive impact the specialization to the audit quality. Therefore, the hypothesis is formulated as follows:

H9: High quality audit committee will strengthen the positive impact between specialized auditors to the audit quality

2.8.5. The Moderating Impact of Audit Committee Quality to the Workload and Audit Quality

Related to the workload, we suggest that audit committee with the accounting and finance competence will be able to communicate well with the auditor so that they can provide information required. This will help audit process during auditor workload. If auditor does not possess accounting competence, the communication between auditor and audit committee will not be smooth so that the auditor will suffer beyond the workload. Thus, we
predict that competence audit committee will reduce the negative relationship between workload and audit quality.

Independent audit committee will always act independently. Audit committee will remind auditor who does not perform well because of the workload. Thus, the independent audit committee is expected to reduce the negative relationship between workload and the audit quality.

Abbott et al. (2004) investigate the relationship between annual earning restatements and four characteristics audit committee: independence, financial expertise, diligent (measured by meeting frequency) and size of audit committee. Their research suggests that companies with independence, expert and diligent audit committee will have lower probability to perform restatement. Competent and independent audit committee (expert) has better ability to find and report any unsatisfactory audit performed by external auditor. Diligent audit committee will monitor external auditor work so that this prevents dysfunctional audit behavior that is caused by auditor workload. By active audit committee monitoring, performed by competent and independent, we can expect that negative relationship between workload and audit quality can be reduced. Thus, the hypothesis is formulated as follows:

H10: High quality audit committee will weaken the negative impact between auditors workload to the audit quality

2.8.6. The Moderating Impact of Audit Committee Quality to the CPE and Audit Quality

Continuing Professional Education (CPE) that is taken by public accountants can improve the audit quality (Adityasih, 2010). Audit Committee plays important role in monitoring the works performed by public accounting firms. Anderson et al. (2003) and Xie
et al. (2003) find that the higher the frequency of audit committee meeting, the better the quality of financial statements. Abbot et al. (2004) and Dhaliwal et al. (2007) find that accounting and finance background from the audit committee have the positive impact to the quality of financial statements. Diligent audit committee will actively monitor external auditor works so that this prevents dysfunctional audit behavior that is caused by the lack of auditor’s knowledge. In the companies audited by public accountants with less CPE, the audit quality is likely to be low. However, with the audit committee that is qualified to monitor (and independent) can reduce the negative impact and vice versa. Companies audited by public accountants with much CPE, the audit quality are likely to be high. The high quality audit committee will strengthen the positive relationship. Thus, the hypothesis is formulated as follows:

**H11**: High quality audit committee will strengthen the positive impact between CPE to the audit quality

3. Research Method

3.1. Conceptual Framework
3.2. Methodology

Research model is divided into two, the first model, without including the variable quality of the audit committee, workload and CPE while the second models include those variables. The variable quality of the audit committee obtained since 2006 because the rule that requires companies to disclosure regarding the audit committee issued on 2006. Data about workload and CPE obtained since 2006. To avoid multicollinearity, in models 1 and 2, variable partner tenure and firm tenure tested on the separate model. Thus obtained 4 research models as follows:

Model 1A

\[
\text{ABS_DAC}_{it} = a_0 + a_1 \text{FTENURE}_{it} + a_2 \text{FTENURESQ}_{it} + a_3 \text{FROTATION}_{it} + a_4 \text{SPEC}_{it} + a_5 \text{BIG4} \text{it} + a_6 \text{LEV}_i + a_7 \text{GROWTH}_{it} + a_8 \text{SIZE}_{it} + a_9 D\text{-LOSS}_{it} + a_{10} \text{CFO}_{it} + \varepsilon_{it}
\]

Where,

- \(\text{ABS_DAC}_{it}\) absolut discretionary accruals as proxy of audit quality
- \(\text{FTENURE}_{it}\) real audit firm tenure, measured as number of continues years of accounting firm employment
- \(\text{FTENURESQ}\) real audit firm tenure squared
- \(\text{FROTATION}\) dummy variable, equal to 1 if there is audit firm rotation and 0 otherwise
- \(\text{SPEC}\) dummy variable, equal to 1 if the company is audited by specialized auditor (have > 10% market share in an industry, based on its client’s total asset) and 0 otherwise.
- \(\text{BIG4}\) dummy variable, equal to 1 if the company is audited by Big4 and 0 otherwise
- \(\text{LEV}\) debt-to-total asset
- \(\text{GROWTH}\) price-to-book value
- \(\text{SIZE}\) natural logarithm of ending book value of total assets

Model 1B

\[
\text{ABS_DAC}_{it} = a_0 + a_1 \text{PTENURE}_{it} + a_2 \text{PTENURESQ}_{it} + a_3 \text{PROTATION}_{it} + a_4 \text{SPEC}_{it} + a_5 \text{BIG4} \text{it} + a_6 \text{LEV}_i + a_7 \text{GROWTH}_{it} + a_8 \text{SIZE}_{it} + a_9 D\text{-LOSS}_{it} + a_{10} \text{CFO}_{it} + \varepsilon_{it}
\]

Where,

- \(\text{PTENURE}_{it}\) audit partner tenure, measured as number of continues years of audit partner engaged in the company
- \(\text{PTENURESQ}\) audit partner tenure squared
- \(\text{PROTATION}\) dummy variable, equal to 1 if there is audit partner rotation and 0 otherwise

Model 2A

\[
\text{ABS_DAC}_{it} = a_0 + a_1 \text{PTENURE}_{it} + a_2 \text{PTENURESQ}_{it} + a_3 \text{PROTATION}_{it} + a_4 \text{SPEC}_{it} + a_5 \text{CPE}_{it} + a_6 \text{WL}_{it} + a_6 \text{CMTE}_{it} + a_7 \text{PTENURE}_{it}^*\text{CMTE}_{it} + a_8 \text{PTENURESQ}_{it}^*\text{CMTE}_{it} + a_9 \text{PROTATION}_{it}^*\text{CMTE}_{it} + a_{10} \text{WL}_{it}^*\text{CMTE}_{it} + a_{11} \text{SPEC}_{it}^*\text{CMTE}_{it} + \varepsilon_{it}
\]
Whereas:

WL: Workload measured by the ratio of the number of audit clients are handled by an audit firms in each year to the number of auditors in the audit firms

CPE : The number of credits training within one year that has been followed by an audit partner who audited the company

CMTE : The quality of the audit committee is measured based on the level of competence and activities of the audit committee

Model 2B

\[
\text{ABS}_{DAC}t = a_0 + a_1FTENURE_{it} + a_2FTENURESQ_{it} + a_3FROTATION_{it} + a_4SPEC_{it} + a_5CPE_{it} + a_6WL_{it} + a_7CMTE_{it} + a_8FTENURE_{it}CMTE_{it} + a_9FTENURESQ_{it}CMTE_{it} + a_{10}FROTATION_{it}CMTE_{it} + a_{11}SPEC_{it}CMTE_{it} + a_{12}CPE_{it}CMTE_{it} + a_{13}BIG4_{it} + a_{14}LEV_{it} + a_{15}GROWTH_{it} + a_{16}SIZE_{it} + a_{17}D\_LOSS_{it} + a_{18}CFO_{it} + \epsilon_{it}
\]

3.1. Measurement of Variables

A. DISCRETIONARY ACCRUAL

Accrual is used as a proxy for audit quality because high quality audit should mitigate more extreme management reporting decisions. Accrual can be used to identify these extreme reporting decisions. This is consistent with prior studies on audit quality (Francis and khrishnan 1999; Bartov et al. 2000; Geiger and raghunandan 2002; Myers et al. 2003; Francis and wang 2008). Prior research has searched for evidence of earnings management by examining the magnitude of abnormal accruals. Larger (smaller) abnormal accruals suggest more (less) earnings management (Velury and Jenkins, 2006). We use the magnitude of abnormal accruals, as measured by the Kaznic model to proxy for neutrality. To calculate normal accruals, the following cross-sectional model is used to generate coefficient estimates for each group of firms with the same two-digit SIC code and calendar year:
\[
\text{TACC}_{it}/TA_{it-1} = \alpha_1(1/TA_{it-1}) + \alpha_2(ΔREV_{it} - ΔREC_{it})/TA_{it-1} + \alpha_3PPE_{it}/TA_{it-1} + \alpha_4ΔCFO_{it}/TA_{it-1} + \varepsilon_{it}
\]

\(\text{TACC}_{it} = \) total accrual year \(t\), \(\text{TA}_{it-1} = \) total asset at the beginning of year \(t\), \(ΔREV_{it} = \) change in revenue between year \(t\) and \(t-1\), \(ΔREC_{it} = \) change in receivables between year \(t\) and \(t-1\), \(PPE_{it} = \) gross property, plant, and equipment in year \(t\), \(ΔCFO_{it} = \) change in cash flows from operation between year \(t\) and \(t-1\).

The difference between actual accruals and expected accruals is attributed to abnormal accruals. The absolute value of abnormal accruals (ABNAC) is used as a measure of earnings management. Using total accruals as a proxy for firms' endogenous accruals generating ability, Becker et al. (1998) find a positive association between abnormal accruals and total accruals. They explain that when a firm generates substantial accruals, management might choose to manage earnings because investors are likely to have trouble in differentiating the discretionary portion of accruals from the non-discretionary portion.

### B. Audit Committee

Based on IICD (2005) and Hermawan (2009) scoring:

- If the responsibility is fulfilled, firms will receive a ‘good’ score and if the responsibility is not fulfilled or no information, the company will receive a ‘poor’ score’.
- If the audit committee meets more than six times, the firm will earn a ‘good’ score. If 4 – 6 meeting, the firm will earn a ‘fair’ score, while less than four time or no information will scored as ‘poor’ score”.
- “If the overall audit committee attendance for the year is greater than 80%, the firm earns a ‘good’ score. If attendance is 70 – 80% receives a ‘fair’ score, and less than 70% or no information receives a ‘poor’ score ”.
• “If there is 3 person in the audit committee the score will be ‘fair’. If there is more than 3 person in the audit committee the score will be ‘good’, and less than 3 person or no information receives a ‘poor’ score”.

• Dhaliwal et al. (2007) and Hermawan (2009): If the company has more than 1 person with accounting background, the firm will earn a ‘good’ score. If the company has only 1 person with accounting background, the firm earn a ‘fair’ score and if no has accounting background or no information, the firm earn a ‘poor’ score”. Untuk setiap nilai ‘good’ diberi nilai 3, ‘fair’ diberi nilai 2 dan ‘poor’ diberi nilai 1.

• Anderson et al. (2004) and Hermawan (2009): If the average age of the audit committee is more than 40 year old, the company will receive a ‘good’ score. If the average age of the audit committee is between 30 and 40 years old, the score is ‘fair’, and if the average age is below 30 years, the company will receive a ‘poor’ score”.

• Score: Good: 3, Fair: 2, poor: 1. The highest Audit committee scores is 27 and the lowest 12.

3.3. Model Test

The model 1 and 2 are tested using balanced panel because balanced panel accommodates both cross section and time series variables. Panel data substantially can reduce omitted variables problem (Gujarati, 2003). Hausman test is performed to identify whether the model use random or fixed effect. We also do multicollinearity, autocorrelation and heteroscedasticity test.

Multicollinearity often occurs in multiple regressions, which applies interaction variable. An interaction variable is an arithmetic multiplication from two or more variables. Therefore, an interaction variable will be highly correlated with another variable. In this
research, centering method will be used to address the problem arising from multicollinearity
due to interaction variable (Cronbach, 1987). In centering method, every variable is deducted
by mean sample. Centering is performed only for variables, which have high Variance
Inflation Factor (VIF). Multicollinearity can be identified from the correlation coefficient or
VIF value from the regression. According to statistics principle, good high VIF value should
be less than 10 (Gujarati, 2003). Eviews 6 is the econometric software used here. Since
Eviews assumes two tail tests, the probability value is divided by two to perform one tail test.

3.4. Sample Data

For model 1 we use two observation period: year 1999 – 2001 to represents years
before mandatory auditor rotation regulation and year 2004-2008 for years after the
mandatory auditor rotation regulation. We exclude years 2002 and 2003, because those are
the first years of the regulation implementation. For model 2 we use only year 2006 – 2006
because availability of data about audit comitte.

This research uses companies that are listed on Indonesian Stock Exchange (BEI). It
excludes financial companies (banks, leasing and investments corporations) because those
companies have special financial statements structure so that their earning quality
measurement does not equal with the one in other industries. Sample selection procedure is
shown in table 3. There are 103 firms each years for model 1 and 95 firms each years for
model 2.

4. Result and Discussion

4.1. Descriptive Statistics
Table 4 and 5 present descriptive statistic for model 1 before and after regulation period. Table 4 shows that in pre-regulation period, audit firm tenure (TENURE) has mean 6.2 years, maximum 21 years and minimum 1 year. The mean is closes to maximum tenure regulation permitted by Ministry of Finance (MoF) which is six years. In pre-regulation period, only 9 percent of sample companies change their audit firm, most of the companies change only audit partner (32 percent). Companies which are audited by specialized auditor and non-specialized auditor are relatively equal (59 percent vs 41 percent). Most of the companies (86 percent) are audited by Big Four (Big Five) audit firms.

In the after regulation period (see table 5), real audit firm tenure is 6.93 years, minimum 1 year and maximum 20 years. The percentage of the sample companies which rotate both audit partner and audit firm increases compared with pre-regulation period (50 percent and 15 percent in the after regulation period vs 32 percent and 9 percent in the pre-regulation period). Companies which are audited by specialized auditor and non-specialized auditor are equal (50 percent vs 50 percent). Companies which are audited by Big Four (Big Five) audit firms decreased significantly compared with the pre-regulation period (57 percent in the after regulation period and 86 percent in the pre-regulation period). Subsequent specification tests indicate that multicolinierity, autocorrelation and heteroscedasticity do not drive our result.

Table 6 presents descriptive statistics for model 2. The value of PTENURE shows that the average of Audit Partner change is every 1.79 years. Meanwhile FTENURE value shows that the real average public accounting firm change is once for every 7.25 years. This is higher than the maximum allowed by the regulator, which is maximum 6 years. This might be in this paper uses real rotation instead of fake rotation.

According to the PROTATION and FROTATION, we can conclude that about 15 percent sample companies perform the public accounting firm change; most of companies
only change the audit partner (47 percent). According to the SPEC average, we can conclude that sample companies audited by specialized auditor and not specialized are 53 percent and 47 percent respectively.

The average of work load (WL) is quite high, 44.50. This means that every partner, on average, handles 44.50 clients every year. The CPE average is 39.29 is consistent with the minimum requirement that audit partner must attend CPE at least 30 credits in a year, the minimum value 5 shows that there is an audit partner who does not comply with the minimum requirement. The average of audit committee score (KMTE) is 19.94 with -0.374 skewness shows that the data tend to be left-skewed. Therefore, there are more sample companies with below average audit committee. The average of BIG 4 variable is 0.56. This shows that companies audited by Big-4 (Big-5) public accounting firms are balanced.

The bivariate correlation between variables shows that accrual discretionary (ABSDAC) is negatively correlated with the WORKLOAD and CPE. This means that companies audited by public accounting firms with high workload and/or public accounting firms with high CPE audit partner will have lower accrual discretionary. ABSDAC is negatively correlated with the audit committee. This means that companies with high quality audit committee can reduce the possibility of earnings management. CMTE is positively correlated with the Big 4, SPEC, and negatively correlated with the WL. This means that companies with high quality audit committee tend to choose Big 4 public accounting firm and specialized public accounting firm as well as low workload.

4.2. The Impact of Audit Firm Tenure to The Audit Quality

Result for model 1 presented in Table 7. Results from sample data in the pre-regulation period is shown in column 1 while the results from sample data in the post regulation period is shown in column 2. For the pre-regulations periods, FTENURE is significantly positive but
FTENURESQ is not significant. This indicates that in the pre-regulation period, the relationship between FTENURE and ABS_DAC (discretionary accrual) is positive. Since discretionary accrual is inversely related to the audit quality, we can conclude that audit tenure is negatively related to audit quality. It means that the longer the tenure, the lower the audit quality. This maybe occurs because of the closer relationship between auditor and client (this implies the decrease of auditor’s independency) when the tenure is longer. This is consistent with Knechel and Vanstraelen (2007) who find the negative relationship between tenure and audit quality.

At post-regulations periods, FTENURE is significantly positive and FTENURESQ is significantly negative. This indicates that in the post-regulation period, the relationship between FTENURE and ABS_DAC (discretionary accrual) is concave. Since discretionary accrual is inversely related to the audit quality, we can conclude that tenure is convexly related to the audit quality. This is shown in the figure 1A. The minimum point of the curve occurs when audit firm tenure is 10 years (the calculation is shown on table 5). This implies that audit quality will decrease until first 10 years of the audit engagement. After 10 years of audit engagement, the audit quality will increase. As the time required to improve the audit quality is quite long (approximately 10 years), the relationship between audit firm tenure and audit quality is actually negative. We can conclude that there is no difference between pre-regulation and after regulation period. Both show a negative relationship between tenure and audit quality.

4.3. The Impact of Audit Partner Tenure to The Audit Quality

Result for model 1 presented in Table 7, pre and post regulation are shown in coloums 1 and 2. For the pre-regulations periods, PTENURE is significantly negative and PTENURESQ is significantly positive. This indicates that in the pre-regulation period, the
relationship between PTENURE and ABS_DAC is convex (see figure 2A). Since discretionary accrual is inversely related to the audit quality, we can conclude that tenure is concavely related to the audit quality. This is shown in the figure 2B. The minimum point of the curve occurs when audit partner tenure is 3 years (the calculation is shown on table 6). This implies that audit quality will increase until first 3 years of the audit engagement. After 3 years of audit engagement, the audit quality will decrease.

Concave shape indicates that prior tenure reaches an optimum point, increasing tenure led to an increase in audit quality. This increase is in accordance with the theory of Zimmerman (1985) which says that competence has a greater influence (the increase in competence is higher than the decline of independence). The longer the auditor audit a company, auditors increasingly find out the effectiveness of internal control, accounting systems and the client's specific risk. This is consistent with Davis (2009) who found that the auditors will increase its competence if it works long on one particular industry, so getting familiar with the practices and the risks that are unique to each industry. After reaching the maximum point, the audit quality declined. This study found that the maximum point is at three years. Decline in audit quality after three years due to the increase in competence is smaller than the decrease in independence. The decrease in independence is due to long relationship of auditor and the client so the auditor's objectivity decreases. The decrease of this objectivity will increase the likelihood of failure to detect errors in financial statements. This finding is in accordance with the results of Davis et al. (2009) and Siregar et al. (2009).

At post-regulations periods, PTENURE is significantly positive and PTENURESQ is significantly negative. This indicates that in the post-regulation period, the relationship between PTENURE and ABS_DAC is concave (see figure 3A). Since discretionary accrual is inversely related to the audit quality, we can conclude that tenure is convexly related to the audit quality. This is shown in the figure 3B. The minimum point of the curve occurs when
audit partner tenure is 2 years (the calculation is shown on table 6). This implies that audit quality will decrease until first 2 years of the audit engagement. After 2 years of audit engagement, the audit quality will increase.

The relationship between tenure and audit quality in post regulation period differ with pre-regulation period. It may be due to in the pre-regulation period, rotation is natural, whereas in post-regulation period, rotation is not natural (mandatory).

It is estimated that the decrease in independence in the early years of audit was higher in post-regulation period compared with the decrease in the pre-regulation period. This is because of the three-year rotation rule. In the first and second year auditors seek to obtain assignment of clients so that auditors comply with client requests. This causes the quality of audits fell. After that, as it surely will be replaced, auditor must demonstrate a good audit quality because of his work will likely be further examined by another auditor. As Barbara et stated that knowing that another firm will take over the audit at some known future time increases the concern that the new auditors will detect any oversight, thereby adding to the pressure for the auditor to take a tough stand on any contentious issues. Indeed, research has shown in experimental conditions that the presence of an audit firm rotation policy increases the likelihood of accurate reporting by audit firms.

Another explanation of the decline in the independence in first two years is because many companies change audit firms because of regulation. Based on the theory of low-balling, to obtain and retain new clients, auditors charge lower audit fee on the early years of the provision of audit services. The fee of this audit will continue to increase with increasing period of engagement (DeAngelo, 1981). Thus, auditor which tenure is still low, they will be more tolerable for maintaining relationships with clients so that their cooperation can last long and auditors losses in the early years can be covered. This will lead to poor audit quality and low quality of earnings. (Gul et al. 2007). After the loss of auditor on the early years
covered and auditors also have a more in-depth knowledge about the company, the auditors will feel more secure to be more independent and competent to limit the earnings management so that the quality of audits will increase again.

4.4. The Impact of Audit Firm Rotation to The Audit Quality

Table 7 presents that at the pre-regulation period, ROTATION is significantly positive, but in the post-regulation period ROTATION is not significant. It means at the pre-regulation period, audit firm rotation causes an increase in ABS_DAC. Since discretionary accrual is inversely related to the audit quality, we can conclude that audit firm rotation will decrease the audit quality. But after regulation period, the audit firm rotation doesn’t affect the audit quality. This result maybe due to in the pre-regulation period, the rotation requirement is not mandatory. Auditor changes is more due to a disagreement between the client and the auditor so that auditor chages causes a decrease in audit quality. The decrease may be due to new audit firm has not sufficient knowledge about client business and risks.

In the post regulation period, the rotation requirement is mandatory. Many audit firms exchanging their audit firms name. For a company that actually perform real audit firm rotation, the real rotation did not affect the audit quality. It’s because rotation increases the independence, but on the other hand rotation decreased competence. For all therefore, the rotation does not affect the audit quality. This result is consistent with Fitriany and Rosita (2011) which found that audit firm size changes do not affect the quality of audits. This shows that the purpose of rotation to improve audit quality is not achieved.

4.5. The Impact of Audit Partner Rotation to The Audit Quality

In Table 7 can be seen that in the pre and post-regulation period, audit firm rotation negatively affect discretionary accruals or positively affect the audit quality. These results
indicate that if there is audit partner rotation, audit quality is still high because auditor is not too close to the client. These results are in accordance with the findings of Hamilton et al. (2005) that the audit partner rotation led to a decrease in discretionary accruals.

4.6. The Impact of Audit Committee Quality to the Relationship between Tenure and Audit Quality

Table 8 shows the regression result before and after including audit committee as a moderating variable. Table 8 column 1 shows that PTENURE is not significant but PTENURESQ is negatively significant. This shows that there is a concave quadratic relation between PTENURE and ABSDAC or convexity quadratic between PTENURE and audit quality. This means that audit quality in first time will decreases and then will increases. This agrees with the finding in model 1 where the audit quality decreases in the first 2 years and then increases.

Table 8 column 2 shows that after including audit committee as a moderating variable, PTENURE and PTENURESQ are not statistically significant anymore, however CMTE_PTENURE is positively significant and CMTE_PTENURESQ is negatively significant. This shows that the longer the audit partner tenure, the better the audit quality, audit committee is positively related to the relationship between audit partner tenure and audit quality. If the audit committee quality is low, audit partner tenure does not have any impact to the audit quality. Meanwhile, if audit committee quality is high, tenure convexity affects the audit quality.

Table 8 column 3 and 4 also show that there is no significant relationship between FTENURE, FTENURESQ, CMTE_PTENURE and CMTE_PTENURESQ with ABS_DAC (AUDIT QUALITY). Therefore, we can conclude that audit committee quality has not affected the relationship between audit firms tenure and audit quality. This finding is
consistent with Sari (2009) stating that the activity of audit committee is not significantly correlated to the earning quality. This is also consistent with Siregar (2005), Siregar and Bachtiar (2005), and Peivy (2009).

4.7. The Impact of Audit Committee to the Rotation and Audit Quality Relationship

Table 8 shows that public accounting firm and public accountant rotation generally do not affect the audit quality. The quality of audit committee also does not moderately affect the relationship between rotation and audit rotation. Only in table 3, ROTASI AP is found to be positively affected to the discretionary accrual, or in other word, negatively correlated to the audit quality. This means that if there is a public accountant firm rotation, the audit quality will decrease. This might be the public accountants are relatively new so that they have not had enough competencies.

4.8. The Impact of Audit Committee to the Specialization and Audit Quality Relationship

From table 8, we can see that SPEC has direct negative impact to the discretionary accrual or positive impact to the audit quality. However, CMTE_SPEC variable is not significant so that we can conclude that this research has not proven that high quality audit committee will enhance the positive relationship between specialization and audit quality.

4.9. The Impact of Audit Committee to the Workload and Audit Quality Relationship

Table 8 column 2 until 4 shows that WL has positive impact to the discretionary accrual. This shows that the higher the workload, the accrual discretionary will be higher or in other word the higher the workload the audit quality will be lower. This finding is
consistent with Lopez (2003) who found that the workload pressure will produce lower audit quality than when there is no workload pressure.

Table 8 column 2 and 4 shows that CMTE_WL is negative and significant. This proves that audit committee weakens the positive correlation between workload and discretionary accrual. High quality audit committee can reduce the positive relationship between workload and accrual discretion. This finding is as expected. Expert and independent audit committee will be able to find and report low audit quality from external auditor. Diligent audit committee will actively monitor external auditor work and then prevent the low quality audit work (dysfunctional audit behavior) that is caused by the auditor workloads.

4.10. The Impact of Audit Committee to the CPE and Audit Quality Relationship

From table 8 column 1 to 4, we can see that CPE is positively related to the discretionary accrual or negatively related to the audit quality. This is not consistent with results reported by Adityasih (2010) who found that CPE is positively correlated to the audit quality. This difference might be caused by the different audit quality measurement. Adityasih (2010) measured the audit quality from the result of peer review. The negative relationship in this research is probably due to the more understanding from the external auditors who took the CPE. Our research uses data from 2006 to 2008, the period in which the new accounting standard is enacted in Indonesia so that companies should make more accruals. For instance, accounting standard about the post retirement benefits, etc. As more CPE credit taken by audit partner, the accrual discretionary in financial statements is also higher. Variable CMTE_CPE is not statistically significant, so that we can conclude that audit committee is not proven to moderate the relationship between CPE and audit quality.
Variable Control

Only few control variables are significant such as D_LOSS which the coefficient is negative. This means that loss companies have much discretionary accruals or have lower audit quality.

There was no difference in audit quality between companies audited by non BIG 4 or NON BIG 4. GROWTH and SIZE have no impact to audit quality.

There is no difference between

Conclusion

This paper contributes to ongoing debate about the impact of rotation and tenure to audit quality. This research finds the quadratic relationship between tenure and audit quality (not merely linear relationship as noted in previous research).

This research find that at pre-regulation, audit firm tenure is negatively related to audit quality, the longer the duration of audit assignment, the lower the quality of audit. At post regulation, tenure is convexly related to the audit quality at minimum point 10 years. This implies that audit quality will decrease until first 10 years of the audit engagement, and then will increase. As the time required to improve the audit quality is quite long (approximately 10 years), the relationship between audit firm tenure and audit quality is actually negative. We can conclude that there is a negative relationship between tenure and audit quality at pre-regulation and after regulation period.

At the pre-regulation period, audit firm rotation will decrease the audit quality, but after regulation period, the audit firm rotation doesn’t affect the audit quality. This result maybe due to in the pre-regulation period, the rotation requirement is not mandatory. Auditor changes is more due to a disagreement between the client and the auditor so that auditor
changes causes a decrease in audit quality. The decrease may be due to new audit firm has not sufficient knowledge about client business and risks. In the post regulation period, the rotation requirement is mandatory but the audit firm rotation do not improve audit quality. So we can concludes that the benefits of mandatory audit firm rotation were not certain and other requirements was needed.

In the pre-regulation, the relationship between audit partner tenure and audit quality is concave (going up until 3 years and then going down) while in the post-regulation, the relationship between audit partner tenure and audit quality is convex (going down in the first 2 years and then going up). Result from audit partner rotation also support this findings which in the pre and post-regulation period, audit partner rotation positively affect the audit quality. These results indicate that the audit partner rotation do improve audit quality. So we can concludes that mandatory audit partner rotation still needed.

This research finds that specialization and workload affect the audit quality. However, the audit committee does not necessarily act as a moderating variable among various examined factors. This research finds an anomaly in the continuing professional education variable. It is negatively related to the audit quality. We conclude that the audit committee in Indonesia has not played many roles in improving the audit quality. This lack of role could be triggered by the dominance of independent commissioners so that the audit committee is less effective. This is consistent with Hermawan (2009) who find that audit committee plays fewer roles when the commissioners are very dominant.

There are several limitations of this study. First, we only use accrual discretioner as one of measurement of earnings quality as a proxy of audit quality. Velury & Jenskin (2006) said that there are 4 dimensions of earnings quality such us predictive value (the cash flow-earnings relationship), neutrality (the magnitude of abnormal accruals), timelines (capacity of accounting earnings to reflect timely the economic income of the firm), and representational
faithfulness (the earnings response coefficient). As this proxy examine audit quality from output of audit, further studies may also examine audit quality from input and process of audit such as the quality of auditor, the quality of working paper. Second, we put industry specialization as a variable control whereas auditor specialization may impact the relation between auditor rotation and audit quality. Further studies may include auditor specialization as a moderating variable for relationship between tenure and audit quality. Third, we have not examined the relationship between tenure and rotation on audit quality for each industry. Further studies may differenciate audit quality in each industry.

**REFERENCE**


Dhaliwal, Dan, Vic Naiker, dan Farshid Navissi. 2007. Audit Committee financial expertise, corporate governance and accruals quality: an empirical analysis.


Ding, Yuan., Stowoly, dan Herve. 2006. Timeliness and Conservatism Changes Over Time in The Properties of Accounting Income in France. Department of Accounting and Management Control, HEC School of Management (Groupe HEC), Jouy-en-Jisas, Yvelines, France.


Petra., Steven T. 2007. Effect of Corporate Governance on The Informativeness of Earnings. Economics of Governance 8, 129-152


Sarbanes Oxley Act 2002. (Pub.L. 107-204, 116 Stat. 745, enacted July 30, 2002), also known as the 'Public Company Accounting Reform and Investor Protection Act' (in the Senate) and 'Corporate and Auditing Accountability and Responsibility Act' (in the House) and commonly called Sarbanes-Oxley, Sarbox or SOX, is a United States federal law enacted on July 30, 2002.


<table>
<thead>
<tr>
<th>Audit Firm Name</th>
<th>Year</th>
<th>International Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Kanto, Tony, Frans &amp; Darmawan</td>
<td>2004</td>
<td>AGN International</td>
</tr>
<tr>
<td>Kanto Santoso, Tony &amp; Rekan</td>
<td>1998</td>
<td>AGN International</td>
</tr>
<tr>
<td>2 Johan, Malonda, Astika &amp; Rekan</td>
<td>2007</td>
<td>Baker Tilly International</td>
</tr>
<tr>
<td>3 Tanubrata Sutanto &amp; Rekan</td>
<td>2007</td>
<td>BDO Global Coordination</td>
</tr>
<tr>
<td>Tanubrata Sutanto Sibarani</td>
<td>2006</td>
<td>BDO Global Coordination</td>
</tr>
<tr>
<td>Tanubrata Yogi Sibarani Hananta</td>
<td>2004</td>
<td>BDO Global Coordination</td>
</tr>
<tr>
<td>R.B. Tanubrata &amp; Rekan</td>
<td>1998</td>
<td>BDO Global Coordination</td>
</tr>
<tr>
<td>4 Doli, Bambang, Sudarmadji &amp; Dadang</td>
<td>2005</td>
<td>BKR International</td>
</tr>
<tr>
<td>Doli, Bambang &amp; Sudarmadji</td>
<td>2000</td>
<td>Morison International Asia Pacific sampai 2004</td>
</tr>
<tr>
<td>5 Osman Bing Satrio &amp; Rekan</td>
<td>2007</td>
<td>Deloitte Touche Tohmatsu</td>
</tr>
<tr>
<td>Osman Raml Satrio &amp; Rekan</td>
<td>2005</td>
<td>Deloitte Touche Tohmatsu</td>
</tr>
<tr>
<td>Hans Tuanakotta Mustofa &amp; Halim</td>
<td>2003</td>
<td>Deloitte Touche Tohmatsu</td>
</tr>
<tr>
<td>Hans Tuanakotta &amp; Mustofa</td>
<td>1998</td>
<td>Deloitte Touche Tohmatsu</td>
</tr>
<tr>
<td>6 Purwantono, Sarwoko &amp; Sandjaja</td>
<td>2006</td>
<td>Ernst &amp; Young Global</td>
</tr>
<tr>
<td>Prasetio, Sarwoko &amp; Sandjaja</td>
<td>2002</td>
<td>Ernst &amp; Young Global</td>
</tr>
<tr>
<td>Prasetio Utomo &amp; Rekan</td>
<td>1998</td>
<td>Arthur Andersen</td>
</tr>
<tr>
<td>Hanadi, Sarwoko &amp; Sandjaja</td>
<td>1998</td>
<td>Ernst &amp; Young Global</td>
</tr>
<tr>
<td>7 Hendrawinata Gani &amp; Hidayat</td>
<td>2007</td>
<td>Grant Thornton International</td>
</tr>
<tr>
<td>Hendrawinata Gani &amp; Rekan</td>
<td>2004</td>
<td>Grant Thornton International</td>
</tr>
<tr>
<td>Hendrawinata &amp; Rekan</td>
<td>1998</td>
<td>Grant Thornton International</td>
</tr>
<tr>
<td>8 Siddharta Siddaharta &amp; Widjaja</td>
<td>2002</td>
<td>KPMG International</td>
</tr>
<tr>
<td>Siddharta Siddharta &amp; Harsono</td>
<td>1998</td>
<td>KPMG International</td>
</tr>
<tr>
<td>9 Eddy Prakarsa Permama &amp; Siddharta</td>
<td>2004</td>
<td>Kreston International</td>
</tr>
<tr>
<td>Eddy Pianto</td>
<td>1998</td>
<td>Kreston International</td>
</tr>
<tr>
<td>10 Mulyamin Sensi Suryanto</td>
<td>2006</td>
<td>Moore Stephens International Limited</td>
</tr>
<tr>
<td>Dedy Muliadi &amp; Rekan</td>
<td>2003</td>
<td>Moore Stephens International Limited</td>
</tr>
<tr>
<td>Dedy Muliadi</td>
<td>1998</td>
<td>Moore Stephens International Limited</td>
</tr>
<tr>
<td>11 Kanaka Puradiredja, Robert Yogi,</td>
<td>2006</td>
<td>Nexia International</td>
</tr>
<tr>
<td>Suhartono</td>
<td>2002</td>
<td>DFK International sampai 2007</td>
</tr>
<tr>
<td>Kanaka Puradiredja &amp; Rekan</td>
<td>2000</td>
<td>DFK International</td>
</tr>
<tr>
<td>Year</td>
<td>Audit Partner Rotation</td>
<td>Total Audit Firm Rotation</td>
</tr>
<tr>
<td>------------------</td>
<td>------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>1999</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>2000</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>2001</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>2002 (Regulation Starting)</td>
<td>125</td>
<td>106</td>
</tr>
<tr>
<td>2003 (Regulation Starting)</td>
<td>111</td>
<td>84</td>
</tr>
<tr>
<td>2004</td>
<td>120</td>
<td>123</td>
</tr>
<tr>
<td>2005</td>
<td>68</td>
<td>29</td>
</tr>
<tr>
<td><strong>Total Before and After Regulation Period (1999-2007)</strong></td>
<td><strong>426</strong></td>
<td><strong>376</strong></td>
</tr>
</tbody>
</table>

Sources: Siregar, Fitriany, Wibowo, Anggrastra (2009)

*Based on 1,846 firm-years observation

---

**Table 3. Sample Selection Procedures Model**
### Table 4. Statistic Descriptive Model 1 – Pre-Regulation Period (1999-2001)

<table>
<thead>
<tr>
<th></th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Skewness</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFO t+1</td>
<td>-0.51</td>
<td>5.55</td>
<td>0.20</td>
<td>0.63</td>
<td>5.65</td>
</tr>
<tr>
<td>INC</td>
<td>-1.02</td>
<td>1.49</td>
<td>0.03</td>
<td>0.19</td>
<td>0.35</td>
</tr>
<tr>
<td>EPS</td>
<td>-5.67</td>
<td>6.19</td>
<td>0.19</td>
<td>1.43</td>
<td>0.42</td>
</tr>
<tr>
<td>R</td>
<td>-1.86</td>
<td>4.84</td>
<td>0.48</td>
<td>1.16</td>
<td>1.21</td>
</tr>
<tr>
<td>ABS_DAC</td>
<td>0.00</td>
<td>1.04</td>
<td>0.11</td>
<td>0.12</td>
<td>3.16</td>
</tr>
<tr>
<td>CAR</td>
<td>-2.27</td>
<td>3.88</td>
<td>0.30</td>
<td>1.04</td>
<td>1.12</td>
</tr>
<tr>
<td>UE</td>
<td>-8.64</td>
<td>8.27</td>
<td>-0.15</td>
<td>2.34</td>
<td>0.38</td>
</tr>
<tr>
<td>PTENURE</td>
<td>1.00</td>
<td>12.00</td>
<td>3.50</td>
<td>2.81</td>
<td>1.26</td>
</tr>
<tr>
<td>FTENURE</td>
<td>1.00</td>
<td>21.00</td>
<td>6.20</td>
<td>3.71</td>
<td>0.73</td>
</tr>
<tr>
<td>PROTATION</td>
<td>0.00</td>
<td>1.00</td>
<td>0.32</td>
<td>0.47</td>
<td>0.79</td>
</tr>
<tr>
<td>FROTATION</td>
<td>0.00</td>
<td>1.00</td>
<td>0.09</td>
<td>0.29</td>
<td>2.80</td>
</tr>
<tr>
<td>SPEC</td>
<td>0.00</td>
<td>1.00</td>
<td>0.59</td>
<td>0.49</td>
<td>-0.38</td>
</tr>
<tr>
<td>BIG4</td>
<td>0.00</td>
<td>1.00</td>
<td>0.86</td>
<td>0.35</td>
<td>-2.10</td>
</tr>
<tr>
<td>LEV</td>
<td>0.03</td>
<td>4.60</td>
<td>0.74</td>
<td>0.57</td>
<td>3.17</td>
</tr>
<tr>
<td>GROWTH</td>
<td>-6.51</td>
<td>9.64</td>
<td>1.19</td>
<td>1.80</td>
<td>1.45</td>
</tr>
<tr>
<td>SIZE</td>
<td>17.35</td>
<td>24.79</td>
<td>20.35</td>
<td>1.37</td>
<td>0.35</td>
</tr>
<tr>
<td>D_LOSS</td>
<td>0.00</td>
<td>1.00</td>
<td>0.28</td>
<td>0.45</td>
<td>1.01</td>
</tr>
<tr>
<td>STDEV</td>
<td>0.00</td>
<td>0.37</td>
<td>0.10</td>
<td>0.05</td>
<td>1.68</td>
</tr>
<tr>
<td>CFOt</td>
<td>-0.48</td>
<td>3.77</td>
<td>0.15</td>
<td>0.40</td>
<td>6.13</td>
</tr>
<tr>
<td>TA (Rp 000 000)</td>
<td>34.31</td>
<td>58275.21</td>
<td>2067.10</td>
<td>5113.19</td>
<td>6.68</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>309.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Where,
ABS_DAC: absolut discretionary accruals

FTENURE: real audit firm tenure, measured as number of continues years of accounting firm employment

FTENURESQ: real audit firm tenure squared

FROTATION: dummy variable, equal to 1 if there is audit firm rotation and 0 otherwise

PTENURE: real audit partner tenure squared

PTENURESQ: real audit partner tenure squared

PROTATION: dummy variable, equal to 1 if there is audit partner rotation and 0 otherwise

SPEC: dummy variable, equal to 1 if the company is audited by specialized auditor (have > 10% market share in an industry, based on its client’s total asset) and 0 otherwise.

BIG4: dummy variable, equal to 1 if the company is audited by Big4 and 0 otherwise

LEV: debt-to-total asset

GROWTH: price-to-book value

SIZE: natural logarithm of ending book value of total assets

### Table 5. Statistic Descriptive Model 1 Post-Regulation Period (2004-2008)
<table>
<thead>
<tr>
<th></th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Skewness</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFO t+1</td>
<td>0.00</td>
<td>0.49</td>
<td>0.09</td>
<td>0.36</td>
<td>13.28</td>
</tr>
<tr>
<td>INC</td>
<td>-0.63</td>
<td>0.94</td>
<td>0.03</td>
<td>0.11</td>
<td>0.73</td>
</tr>
<tr>
<td>EPS</td>
<td>-4.40</td>
<td>4.35</td>
<td>0.05</td>
<td>0.62</td>
<td>-0.34</td>
</tr>
<tr>
<td>R</td>
<td>-2.01</td>
<td>4.85</td>
<td>0.25</td>
<td>0.62</td>
<td>1.40</td>
</tr>
<tr>
<td>ABSDAC</td>
<td>0.00</td>
<td>0.84</td>
<td>0.06</td>
<td>0.07</td>
<td>4.72</td>
</tr>
<tr>
<td>CAR</td>
<td>-2.01</td>
<td>2.63</td>
<td>0.29</td>
<td>0.36</td>
<td>0.75</td>
</tr>
<tr>
<td>UE</td>
<td>-6.51</td>
<td>6.50</td>
<td>-0.01</td>
<td>1.72</td>
<td>-0.07</td>
</tr>
<tr>
<td>PTENURE</td>
<td>1.00</td>
<td>5.00</td>
<td>1.71</td>
<td>0.80</td>
<td>0.68</td>
</tr>
<tr>
<td>FTENURE</td>
<td>1.00</td>
<td>20.00</td>
<td>6.93</td>
<td>5.26</td>
<td>0.57</td>
</tr>
<tr>
<td>PROTATION</td>
<td>0.00</td>
<td>1.00</td>
<td>0.50</td>
<td>0.50</td>
<td>0.02</td>
</tr>
<tr>
<td>FROTATION</td>
<td>0.00</td>
<td>1.00</td>
<td>0.15</td>
<td>0.36</td>
<td>1.95</td>
</tr>
<tr>
<td>SPEC</td>
<td>0.00</td>
<td>1.00</td>
<td>0.50</td>
<td>0.50</td>
<td>-0.01</td>
</tr>
<tr>
<td>BIG4</td>
<td>0.00</td>
<td>1.00</td>
<td>0.57</td>
<td>0.49</td>
<td>-0.30</td>
</tr>
<tr>
<td>LEV</td>
<td>0.03</td>
<td>4.37</td>
<td>0.60</td>
<td>0.38</td>
<td>3.92</td>
</tr>
<tr>
<td>GROWTH</td>
<td>-10.98</td>
<td>21.26</td>
<td>1.47</td>
<td>2.45</td>
<td>3.87</td>
</tr>
<tr>
<td>SIZE</td>
<td>11.52</td>
<td>25.24</td>
<td>20.52</td>
<td>1.92</td>
<td>-1.19</td>
</tr>
<tr>
<td>D_LOSS</td>
<td>0.00</td>
<td>1.00</td>
<td>0.23</td>
<td>0.42</td>
<td>1.28</td>
</tr>
<tr>
<td>STDEV</td>
<td>0.00</td>
<td>0.55</td>
<td>0.08</td>
<td>0.05</td>
<td>3.10</td>
</tr>
<tr>
<td>CFO</td>
<td>-0.41</td>
<td>25.22</td>
<td>0.11</td>
<td>1.11</td>
<td>22.34</td>
</tr>
<tr>
<td>TA (Rp 000 000)</td>
<td>0,101</td>
<td>610000</td>
<td>6783.90</td>
<td>39713.60</td>
<td>13.11</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>515.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Where,

ABS_DACit absolut discretionary accruals

FTENURE real audit firm tenure, measured as number of continues years of accounting firm employment

FTENURESQ real audit firm tenure squared

FROTATION dummy variable, equal to 1 if there is audit firm rotation and 0 otherwise

PTENURE audit partner tenure, measured as number of continues years

PTENURESQ real audit partner tenure squared

PROTATION dummy variable, equal to 1 if there is audit partner rotation and 0 otherwise

SPEC dummy variable, equal to 1 if the company is audited by specialized auditor (have > 10% market share in an industry, based on its client's total asset) and 0 otherwise.

BIG4 dummy variable, equal to 1 if the company is audited by Big4 and 0 otherwise

LEV debt-to-total asset

GROWTH price-to-book value

SIZE natural logarithm of ending book value of total assets

Tabel 6. Statistik Deskriptif Model 2
<table>
<thead>
<tr>
<th>Variable</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Skewness</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSDAC</td>
<td>0.00</td>
<td>0.56</td>
<td>0.07</td>
<td>0.07</td>
<td>3.12</td>
</tr>
<tr>
<td>CAR</td>
<td>-1.70</td>
<td>2.92</td>
<td>0.37</td>
<td>0.77</td>
<td>0.72</td>
</tr>
<tr>
<td>UE</td>
<td>-5.70</td>
<td>4.92</td>
<td>0.37</td>
<td>0.77</td>
<td>0.72</td>
</tr>
<tr>
<td>CFO_{t+1}</td>
<td>-1.63</td>
<td>2.36</td>
<td>0.09</td>
<td>0.24</td>
<td>1.95</td>
</tr>
<tr>
<td>INC</td>
<td>-0.46</td>
<td>0.43</td>
<td>0.04</td>
<td>0.10</td>
<td>0.51</td>
</tr>
<tr>
<td>EPS</td>
<td>-1.95</td>
<td>1.70</td>
<td>0.03</td>
<td>0.35</td>
<td>-2.28</td>
</tr>
<tr>
<td>R</td>
<td>-2.01</td>
<td>2.83</td>
<td>0.24</td>
<td>0.62</td>
<td>0.69</td>
</tr>
<tr>
<td>PTENURE</td>
<td>1.00</td>
<td>5.00</td>
<td>1.79</td>
<td>0.83</td>
<td>0.60</td>
</tr>
<tr>
<td>FTENURE</td>
<td>1.00</td>
<td>20.00</td>
<td>7.25</td>
<td>5.59</td>
<td>0.60</td>
</tr>
<tr>
<td>PROTATION</td>
<td>0.00</td>
<td>1.00</td>
<td>0.47</td>
<td>0.50</td>
<td>0.11</td>
</tr>
<tr>
<td>FROTATION</td>
<td>0.00</td>
<td>1.00</td>
<td>0.15</td>
<td>0.36</td>
<td>1.96</td>
</tr>
<tr>
<td>SPEC</td>
<td>0.00</td>
<td>1.00</td>
<td>0.53</td>
<td>0.50</td>
<td>-0.11</td>
</tr>
<tr>
<td>WL</td>
<td>0.63</td>
<td>199.00</td>
<td>44.50</td>
<td>24.07</td>
<td>1.47</td>
</tr>
<tr>
<td>CMTE</td>
<td>12.00</td>
<td>28.00</td>
<td>19.94</td>
<td>3.97</td>
<td>-0.37</td>
</tr>
<tr>
<td>CPE</td>
<td>5.00</td>
<td>99.00</td>
<td>39.29</td>
<td>17.41</td>
<td>0.41</td>
</tr>
<tr>
<td>BIG4</td>
<td>0.00</td>
<td>1.00</td>
<td>0.56</td>
<td>0.50</td>
<td>-0.25</td>
</tr>
<tr>
<td>LEV</td>
<td>0.05</td>
<td>2.88</td>
<td>0.59</td>
<td>0.33</td>
<td>3.21</td>
</tr>
<tr>
<td>GROWTH</td>
<td>-7.72</td>
<td>21.26</td>
<td>1.63</td>
<td>2.68</td>
<td>4.19</td>
</tr>
<tr>
<td>SIZE</td>
<td>11.52</td>
<td>25.24</td>
<td>20.54</td>
<td>2.15</td>
<td>-1.49</td>
</tr>
<tr>
<td>D_LOSS</td>
<td>0.00</td>
<td>1.00</td>
<td>0.18</td>
<td>0.38</td>
<td>1.68</td>
</tr>
<tr>
<td>STDEV</td>
<td>0.00</td>
<td>0.44</td>
<td>0.08</td>
<td>0.05</td>
<td>1.85</td>
</tr>
<tr>
<td>CFO_{t+1}</td>
<td>-0.41</td>
<td>25.22</td>
<td>0.15</td>
<td>1.50</td>
<td>16.70</td>
</tr>
<tr>
<td>TA (Rp 000 000)</td>
<td>0.101</td>
<td>610000</td>
<td>9481.20</td>
<td>52582.40</td>
<td>10.09</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>285</td>
</tr>
</tbody>
</table>

Figure 1A. The relationship between audit firm tenure and discretionary accrual – post-regulation
X: tenure; Y: accrual discretioner

Figure 1B. The relationship between audit firm tenure and audit quality – post-regulation

Figure 2A. Relationship between audit partner tenure and discretionary accrual in the pre-regulation
Figure 2B. Relationship between audit partner tenure and discretionary accrual in the pre-regulation

Figure 3A. The relationship between audit partner tenure and discretionary accrual post-regulation

Figure 3B. Relationship between audit partner tenure and audit quality - post-regulation
Table 7. Regression Result Model 1

<table>
<thead>
<tr>
<th>Variable</th>
<th>AUDIT PARTNER</th>
<th>AUDIT PARTNER</th>
<th>AUDIT FIRM</th>
<th>AUDIT FIRM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BEFORE REGULATION</td>
<td>AFTER REGULATION</td>
<td>BEFORE REGULATION</td>
<td>AFTER REGULATION</td>
</tr>
<tr>
<td></td>
<td>Coloumn 1</td>
<td>Coloumn 2</td>
<td>Coloumn 3</td>
<td>Coloumn 4</td>
</tr>
<tr>
<td>C</td>
<td>-0.343</td>
<td>0.074</td>
<td>-0.142</td>
<td>0.085</td>
</tr>
<tr>
<td>TENURE?</td>
<td>+/-</td>
<td>0.021</td>
<td>1.269</td>
<td>0.016</td>
</tr>
<tr>
<td>TENURESQ?</td>
<td>+/-</td>
<td>0.003</td>
<td>-0.316</td>
<td>0.000</td>
</tr>
<tr>
<td>ROTATION?</td>
<td>+/-</td>
<td>-0.037</td>
<td>-0.001</td>
<td>0.082</td>
</tr>
<tr>
<td>SPEC?</td>
<td>-</td>
<td>0.040</td>
<td>0.000</td>
<td>0.029</td>
</tr>
<tr>
<td>BIG4?</td>
<td>-</td>
<td>-0.004</td>
<td>8.40E</td>
<td>-0.048</td>
</tr>
<tr>
<td>LEV?</td>
<td>+/-</td>
<td>0.000</td>
<td>0.989</td>
<td>0.006</td>
</tr>
<tr>
<td>GROWTH?</td>
<td>-</td>
<td>0.003</td>
<td>0.094</td>
<td>0.004</td>
</tr>
<tr>
<td>SIZE?</td>
<td>+/-</td>
<td>0.020</td>
<td>0.034</td>
<td>0.012</td>
</tr>
<tr>
<td>D_LOSS?</td>
<td>-</td>
<td>-0.005</td>
<td>6.42E</td>
<td>-0.015</td>
</tr>
<tr>
<td>CFO?</td>
<td>-</td>
<td>0.011</td>
<td>0.148</td>
<td>0.021</td>
</tr>
</tbody>
</table>

Adjusted R-squared | 0.686 | 0.99 | 0.756 | 0.863 |
Durbin-Watson stat | 2.916 | 2.67 | 3.053 | 1.542 |
Prob(F-statistic) | 0.000 | 0.000 | 0.000 | 0.000 |

Dep Var : ABS_DAC

Audit Partner: Pre Regulation (coloumn 1) : Maximum point : -b/2a = - PTENURE/(2*PTENURESQ) = - (-0.021) / (2x 0.003) = 3.1 years (CONVEX)
Audit Partner: Post Regulation (coloumn 2) : Minimum point : -b/2a = - PTENURE/(2*PTENURESQ) = - (1.269) / (2x - 0.316) = 2 years (CONCAVE)
Audit Firm: Post Regulation (coloumn 4) : Minimum point : -b/2a = - FTENURE/(2*FTENURESQ) = - (0.270) / (2x - 0.013) = 10.1 years (CONCAVE)
## Table 8. Regression Result Model 2

<table>
<thead>
<tr>
<th>Variable</th>
<th>COLUMN 1</th>
<th>COLUMN 2</th>
<th>COLUMN 3</th>
<th>COLUMN 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AUDIT PARTNER (WITHOUT MODERATING)</td>
<td>AUDIT PARTNER (WITH MODERATING)</td>
<td>AUDIT FIRM (WITHOUT MODERATING)</td>
<td>AUDIT FIRM (WITH MODERATING)</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>TENURE?</td>
<td>SPEC?</td>
<td>BIG4?</td>
</tr>
<tr>
<td></td>
<td>-0.008</td>
<td>0.025</td>
<td>-0.017</td>
<td>-0.007</td>
</tr>
<tr>
<td></td>
<td>-0.077</td>
<td>-0.009</td>
<td>-0.023</td>
<td>0.004</td>
</tr>
<tr>
<td></td>
<td>0.426</td>
<td>0.104</td>
<td>0.001</td>
<td>0.248</td>
</tr>
<tr>
<td></td>
<td>11.2</td>
<td>11.2</td>
<td>11.1</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>0.051</td>
<td>0.307</td>
<td>0.000</td>
<td>0.277</td>
</tr>
<tr>
<td></td>
<td>17.1</td>
<td>17.1</td>
<td>1.3</td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>4</td>
<td>2.2</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td>Prob</td>
<td>Prob</td>
<td>Prob</td>
<td>Prob</td>
</tr>
<tr>
<td></td>
<td>0.426</td>
<td>0.051</td>
<td>0.051</td>
<td>0.123</td>
</tr>
<tr>
<td></td>
<td>0.104</td>
<td>0.307</td>
<td>0.000</td>
<td>0.178</td>
</tr>
<tr>
<td></td>
<td>0.426</td>
<td>0.307</td>
<td>0.000</td>
<td>0.178</td>
</tr>
<tr>
<td></td>
<td>Prob</td>
<td>Prob</td>
<td>Prob</td>
<td>Prob</td>
</tr>
<tr>
<td></td>
<td>0.294</td>
<td>0.813</td>
<td>2.2</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td>0.000</td>
<td>0.958</td>
<td>0.294</td>
<td>0.294</td>
</tr>
<tr>
<td></td>
<td>VIF</td>
<td>VIF</td>
<td>VIF</td>
<td>VIF</td>
</tr>
<tr>
<td></td>
<td>0.030</td>
<td>0.872</td>
<td>0.338</td>
<td>0.338</td>
</tr>
<tr>
<td></td>
<td>0.813</td>
<td>0.958</td>
<td>0.338</td>
<td>0.338</td>
</tr>
<tr>
<td></td>
<td>0.338</td>
<td>0.338</td>
<td>0.338</td>
<td>0.338</td>
</tr>
<tr>
<td></td>
<td>0.426</td>
<td>0.426</td>
<td>0.426</td>
<td>0.426</td>
</tr>
<tr>
<td></td>
<td>0.307</td>
<td>0.307</td>
<td>0.307</td>
<td>0.307</td>
</tr>
<tr>
<td></td>
<td>0.277</td>
<td>0.277</td>
<td>0.277</td>
<td>0.277</td>
</tr>
<tr>
<td></td>
<td>0.248</td>
<td>0.248</td>
<td>0.248</td>
<td>0.248</td>
</tr>
<tr>
<td></td>
<td>1.6</td>
<td>1.6</td>
<td>1.6</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>0.426</td>
<td>0.426</td>
<td>0.426</td>
<td>0.426</td>
</tr>
<tr>
<td></td>
<td>0.307</td>
<td>0.307</td>
<td>0.307</td>
<td>0.307</td>
</tr>
<tr>
<td></td>
<td>0.277</td>
<td>0.277</td>
<td>0.277</td>
<td>0.277</td>
</tr>
<tr>
<td></td>
<td>0.248</td>
<td>0.248</td>
<td>0.248</td>
<td>0.248</td>
</tr>
<tr>
<td></td>
<td>1.6</td>
<td>1.6</td>
<td>1.6</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>0.426</td>
<td>0.426</td>
<td>0.426</td>
<td>0.426</td>
</tr>
<tr>
<td></td>
<td>0.307</td>
<td>0.307</td>
<td>0.307</td>
<td>0.307</td>
</tr>
<tr>
<td></td>
<td>0.277</td>
<td>0.277</td>
<td>0.277</td>
<td>0.277</td>
</tr>
<tr>
<td></td>
<td>0.248</td>
<td>0.248</td>
<td>0.248</td>
<td>0.248</td>
</tr>
<tr>
<td></td>
<td>1.6</td>
<td>1.6</td>
<td>1.6</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>VIF</td>
<td>VIF</td>
<td>VIF</td>
<td>VIF</td>
</tr>
<tr>
<td></td>
<td>0.338</td>
<td>0.338</td>
<td>0.338</td>
<td>0.338</td>
</tr>
<tr>
<td></td>
<td>0.307</td>
<td>0.307</td>
<td>0.307</td>
<td>0.307</td>
</tr>
<tr>
<td></td>
<td>0.277</td>
<td>0.277</td>
<td>0.277</td>
<td>0.277</td>
</tr>
<tr>
<td></td>
<td>0.248</td>
<td>0.248</td>
<td>0.248</td>
<td>0.248</td>
</tr>
<tr>
<td></td>
<td>1.6</td>
<td>1.6</td>
<td>1.6</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>0.426</td>
<td>0.426</td>
<td>0.426</td>
<td>0.426</td>
</tr>
<tr>
<td></td>
<td>0.307</td>
<td>0.307</td>
<td>0.307</td>
<td>0.307</td>
</tr>
<tr>
<td></td>
<td>0.277</td>
<td>0.277</td>
<td>0.277</td>
<td>0.277</td>
</tr>
<tr>
<td></td>
<td>0.248</td>
<td>0.248</td>
<td>0.248</td>
<td>0.248</td>
</tr>
<tr>
<td></td>
<td>1.6</td>
<td>1.6</td>
<td>1.6</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
</tr>
</tbody>
</table>

- **Columns 1 and 2:** AUDIT PARTNER (WITHOUT MODERATING) and AUDIT PARTNER (WITH MODERATING)
- **Columns 3 and 4:** AUDIT FIRM (WITHOUT MODERATING) and AUDIT FIRM (WITH MODERATING)

### Adjusted R-squared
- COLUMN 1: 0.623
- COLUMN 2: 0.640
- COLUMN 3: 0.030
- COLUMN 4: 0.040

### Durbin-Watson Stat
- COLUMN 1: 2.80
- COLUMN 2: 2.7
- COLUMN 3: 1.85
- COLUMN 4: 1.8

### Prob(F-statistic)
- COLUMN 1: 0.000
- COLUMN 2: 0.000
- COLUMN 3: 0.065
- COLUMN 4: 0.040

### Dep Var: ABS_DAC
Summary for model 1 and 2 for Variabel Tenure (see coloum 1-4)

<table>
<thead>
<tr>
<th>Variabel</th>
<th>Reliability</th>
<th>Relevansi</th>
<th>Relevansi</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NETRALITAS</td>
<td>PREDIKTABILITAS</td>
<td>TIMELINESS</td>
</tr>
<tr>
<td></td>
<td>ABSDAC</td>
<td>CF, LN, INC,</td>
<td>EPS-Ret</td>
</tr>
<tr>
<td>Kolom</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>BEFORE</td>
<td>AFTER</td>
<td>BEFORE</td>
</tr>
</tbody>
</table>

**VAR UTAMA**

| H1a | PTENURE? | +/- | - | + | +/- | - |
| H1a | PTENURESQ? | +/- | + | - | +/- | + | - |
| H1b | FTENURE? | +/- | - | + | + | +/- |
| H1b | FTENURESQ? | +/- | - | + | +/- | + |

Bentuk hubungan dengan variabel prediksi:
- Convex
- Concave
- Linear +
- Linear -
- Convex
- Concave

Bentuk hubungan dengan Kualitas audit:
- Convex
- Concave
- Linear +
- Linear -
- Convex
- Concave

Talr max/min: 3 2 10 5,8 8,3