



The effect of mandatory audit partner rotation on (perceived) earnings quality of Dutch publicly listed companies

Master Thesis Accounting, Auditing & Control

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Executive Summary

This study examines the effect of audit partner rotation on earnings quality in a Dutch, mandatory setting. I also investigate whether this association is moderated by audit firm tenure and shed some light on the individual effect of audit firm tenure on (perceived) earnings quality. Earnings quality is assessed in two ways: actual and perceived. Actual earnings quality refers to the accounting correctness of the reported earnings in the financial statements (=financial reporting quality) and perceived quality refers to the way investors on the stock market assess the quality of earnings. The quality of reported earnings is proxied by Abnormal Working Capital Accruals, determined by using the model of DeFond and Park (2001). The perceived quality of earnings is measured by determining the Earnings Response Coefficient, or value relevance of earnings as perceived by investors on the stock market. Using a sample of Dutch publicly listed companies in the period 2006-2011, for which audit partner rotation was a legal requirement, I find that audit partner rotation does not have a significant effect on both the quality of reported earnings and the perceived quality of earnings. Furthermore, I find that audit firm tenure does not moderate this association. Lastly, my empirical results suggest that the individual effect of audit firm tenure does not influence earnings quality, both the quality of reported earnings and perceived earnings quality. This study extends prior literature on the effect of audit partner rotation and tenure, by investigating partner rotation in a mandatory, Continental European setting. Prior studies only investigated audit partner rotation in Taiwan and Australia, which have different institutional settings than the Netherlands. Second, I extend the literature regarding the effect of audit firm tenure on (perceived) earnings quality. Furthermore, I contribute to the literature by examining the interaction between partner rotation and audit firm tenure.

Keywords: (mandatory) audit partner rotation, audit firm tenure, auditor independence, (perceived) earnings quality, financial reporting quality.

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Foreword and acknowledgements

This thesis is written in order to complete the *Master Accounting, Auditing & Control*, at Erasmus University Rotterdam. Although the master is the final stage of my scientific education, it is the first step in order to become a Certified Public Accountant (RA), which I want to become in the future. For this master thesis I have therefore chosen a research subject embedded within auditing theory: audit partner rotation. The main reason for choosing this topic is that there is much debate about whether the current legal requirement of audit partner rotation should be replaced by mandatory audit firm rotation. The opinions in this debate are conflicting, but empirical evidence on the actual effects is lacking. Therefore, with this thesis I want to contribute to this debate, by providing empirical evidence on the effect of audit partner rotation.

Writing my master thesis was an intensive, but instructive job. I found out that several (theoretical) concepts that seem to be heedlessly used in practice and scientific literature, in fact are often very abstract and could be interpreted in many different ways. In order to explain all used theoretical concepts clearly, it sometimes required lots of researching and reading. However, I have experienced that being focused on the master thesis, keeping a disciplined working attitude and having a good planning of tasks, help a lot.

I have not written this thesis completely on my own. Thanks are owed to several people that have helped and supported me during the time of writing my thesis. First of all, I want to thank my supervisor, Dr C.D. Knoops. He has given lots of valuable comments and helped me in having (and keeping) a critical view and questioning mind. Furthermore, the several discussions with Dr Knoops about the content of my thesis were very useful. Especially the differences in viewpoint between Dr Knoops (with an accounting theory background) and me (with more an auditing theory background), sometimes caused discussion about fundamental topics within the accounting and auditing theory, like for example the concept of earnings quality. These discussion learned me a lot and also helped me to take different points of view, when discussing the theoretical concepts and relevant literature in my thesis.

I want to thank KPMG, for providing me the opportunity to write my thesis intern. In this way I could create a good view on what auditing in practice actually means. The internship was also a good way to get to know each other and I am gratified that I will be starting as an audit trainee at

KPMG, as of September 2013. In addition, I would like to thank my supervisor at KPMG, Zakier Bechan, for providing me useful practical background about the audit profession in relation to my thesis subject. This was helpful, because in this way I could create an understanding about how several topics that are described in regulations and scientific literature, are actually affecting the audit profession.

Lastly, I want to thank my parents and friends for their support during the process of writing my master thesis.

Hardinxveld-Giessendam, July 2013

1. Introduction

1.1 Introduction

In November 2011 the European Union Internal Market commissioner Michel Barnier issued a proposal concerning a reform of the audit market in the European Union (European Commission (EC), 2011). According to Barnier, a reform of the audit market is needed in order to restore the impaired (public) confidence in the audit profession during the recent financial crisis (EC, 2011). One major proposed new regulation is the implementation of mandatory audit firm rotation for public interest entities (hereafter PIE), which should replace the current mandatory audit partner rotation (EC, 2011). However, while mandatory audit firm rotation is considered and proposed to be implemented in the member states of the European Union, the actual effect of the currently required audit partner rotation on (perceived) earnings quality in a European setting, is still unclear. The probable reason for this is the lack of empirical evidence on the effect of audit partner rotation in a European mandatory audit partner rotation setting. In this study I try to fill this gap by performing an empirical analysis on the effect of audit partner rotation on earnings quality and perceived earnings quality, respectively measured by Abnormal Working Capital Accruals (hereafter AWCA) and the Earnings Response Coefficient (hereafter ERC). I investigate those associations for a sample of Dutch publicly listed companies for which audit partner rotation was a legal requirement, in the period 2006-2011. My study answers to the skepticism regulators have towards relying on scientific literature in their legislation development regarding auditor rotation¹. Regulators have argued that findings in (prior) research, that is conducted in voluntary rotation environments, may not be applicable in a mandatory rotation regime (PCAOB, 2011). In this study data stemming from a mandatory audit partner rotation regime are used, which provides a more veracious view.

1.2 The criticized (social) role of auditors

During the recent financial crisis the role auditors did play, or did not play, was heavily debated. The collapse of Lehman Brothers, for example, took place shortly after the financial institution had received a clean independent audit report (Sikka, 2009). On a less distant scale the role of the auditor was criticized and questioned when in February 2012 the Dutch public housing

¹ Auditor rotation refers in this case to both audit partner and audit firm rotation.

organization Vestia experienced liquidity problems due to bad developments in its derivatives portfolio (Piersma, 2012). The treasurer of Vestia had wrongly assessed the expected interest rate development and this had a significant negative impact on the value of the derivatives portfolio of the firm (Verbraeken & Piersma, 2012). The housing organization had to provide extra collateral to the bank and had to be supported by other funds to avert a bankruptcy (König & Kreling, 2012). Shortly after the liquidity problems associated with the derivatives portfolio became publicly known, the discussion focused on the role of the auditor of Vestia, KPMG. The audit firm had issued a clean audit report over the financial statements of 2010, the last audit before Vestia experienced the problems related to the derivatives (Verbraeken & Piersma, 2012). It was suggested that during this audit KPMG had not addressed the significant (financial) risks associated with the firm's derivatives (Verbraeken & Piersma, 2012). In the months thereafter it also became known that some of the derivatives in the audited financial statements were wrongly valued and it was suggested that some of them were even not included in the financial statements (Van Weezel, 2012). In addition, the treasurer of Vestia was suspected of having committed fraud with the derivatives (Van Weezel, 2012). Those facts in April 2012 ultimately led to the withdrawal of the audit opinion over Vestia's financial statements of 2010, because KPMG could no longer give reasonable assurance about whether the financial statements would give a true and fair view about the derivatives portfolio (ten Bosch & Mos, 2012). In December 2012, the chairman of KPMG, Jurgen van Breukelen, admitted that the risks associated with the derivatives portfolio of Vestia had been identified too late and that the audit had been conducted too superficial (Nederlandse Omroep Stichting (NOS), 2012).

The Vestia-case impaired the confidence the public, governments and regulatory institutions had in the work provided by auditors (Autoriteit Financiële Markten (AFM), 2012b). It was expected that auditors perform their audits in the interest of third parties and should represent the stakes of those third parties, which turned out to be not achieved in the case of Vestia. However, the Vestia-case is not the only example in which the (social) role of the auditor, especially during the recent financial crisis, was criticized (AFM, 2011). In a research report with initiatives to improve the quality of the audit in the Netherlands, published by the Dutch authority for financial markets (AFM), it was stated that many of the 'audit incidents' during the recent financial crisis were caused by the fact that auditors lacked a critical view and professional skepticism when performing attestation tasks (AFM, 2011). In addition to this, the authority reported that there were

several factors present that could corrode the degree of independence of auditors. This could lead the quality of the audits to be impaired, which consequently could reduce the degree of confidence third parties can have in the audited financial statements (AFM, 2011).

The independence of the auditor is one of the most important characteristics of the audit profession and without this independence, the value of the audit is significantly reduced (Antle, 1984; Arens, Elder & Beasley, 2011). The importance of independence is based on the role auditors have in reducing the negative effects of information asymmetry between the firm's management and third parties, and the corresponding information risk those parties face because of this asymmetry (Arens et al., 2011). The information provided by management could be biased, because management could have different interests and incentives than third parties. This means that third parties cannot rely on the information provided by management at face value. The most efficient way to reduce the information risk of third parties is to have the information audited by a competent and independent party (Arens et al., 2011). This audit is aimed at providing reasonable assurance about the quality of the information provided by management. In the case of financial statement information, this refers to both the actual quality of the reported earnings in the financial statements and the way investors on the stock market perceive the quality of the reported earnings². The auditor could thus be seen as the representative of the interests of third parties. While independent auditors create value for third parties, Limperg (1932) argues that auditors exist by the grace of the confidence that the public has in them and that auditors always should strive to meet the public expectations. However, when an auditor is not independent, or not perceived as independent, outsiders can no longer build on the opinion of the auditor (Caswell & Allen, 2011). In this case, third parties could raise the question whether the auditor operates in the interest of third parties or that the auditor cahoots with management. Therefore, doubts about the auditor's independence touch the heart of the audit profession. In practice there are several factors that might threaten auditor independence or could create (public) doubts about this. Examples of these are advocacy, self-interests, self-reviewing, intimidation and familiarity threats (Institute of Chartered Accountants in England and Wales (ICAEW), 2003). Those factors that could impair auditor independence and potentially might endanger the existence of the audit profession, will be further discussed in chapter 3.

² The concept of perceived earnings quality will be discussed in detail in chapter 3.6. The relation between auditor independence and perceived earnings quality will be explained in chapter 3.7.

1.3 Reforming the audit market

The critique of the Dutch financial markets regulator AFM on the social role of the auditor and in particular the doubts about auditor independence, was not only present in the Netherlands. Many national audit market supervisors of other European Union member states and the EC itself, criticized the role of the auditor (Committee of European Securities Regulators (CESR), 2011; EC, 2010; 2011). In order to restore the lost confidence in auditors across Europe, the EC's Internal Markets commissioner Michel Barnier in November 2011 came up with a proposal to reform the audit market in the European Union (EC, 2011). The proposal elaborates on the implementation of several new regulations regarding the audit of PIEs, that ultimately have to be implemented by all European Union member states (EC, 2011). Because the EC is authorized to set legally binding requirements for all member states of the European Union, this proposed regulation is also intended to be implemented in the Netherlands (EC, 2011). The proposal issued by the EC includes announcements of changes in existing rules on several topics, like the provision of non-audit services to audit clients that are PIEs and requirements regarding the composition of the audit committee (EC, 2011). The content of this proposal is heavily debated across European Union member states, but also within the European Commission (European Parliament Committee on Economic and Monetary Affairs (ECON), 2013). This is mainly caused by the fact that the proposal contains several profound changes in the audit market, which estimated effects are interpreted differently by the relevant stakeholders in the audit market (EC, 2011; KPMG, 2012; AFM, 2012). Though, there is one topic in the EC's proposal that has got considerably attention: mandatory audit firm rotation for PIEs. This proposal means that a limit is set on the amount of consecutive years the audit firm is allowed to provide attestation services for a PIE audit client (EC, 2011). Currently, it is required for member states of the European Union to have implemented a system of mandatory audit partner rotation for PIEs, whereby the key audit partner of the audit engagement is required to change after at most seven years (EC, 2006). However, in the view of Michel Barnier, it appeared that mandatory audit partner rotation could not prevent the '*audit incidents*' during the recent financial crisis³. Especially, the potential negative effects caused by a too familiar relationship between the auditor and the client could continue to exist, because only the leading audit partner is required to rotate while the underlying audit engagement team could remain the same (EC, 2011). It is therefore still possible that excessive familiarity with the client

³ Accountancyage.com (September 26, 2011).

could negatively affect the information quality of the audited financial statements (Institute of Chartered Accountants of Scotland (ICAS), 2012). The EC therefore proposed a more rigorous type of rotation, in the form of mandatory audit firm rotation (EC, 2011). In this case not only the leading audit partner is required to rotate, but the whole audit firm has to do this, including the underlying audit team. Nevertheless, this mandatory audit firm rotation is currently heavily debated and it is not sure whether the proposed initiatives will ultimately become binding regulations (ECON, 2013). In chapter 2 some more background information on this topic is provided.

1.4 Audit partner rotation or audit firm rotation?

While there are serious intentions to implement regulations regarding mandatory audit firm rotation, the effects of the current mandatory audit partner rotation regulation in the European Union, is not empirically investigated yet. More specific, the effects mandatory rotation of key audit partners has on the independence of auditors and consequently on the (perceived) quality of the reported earnings in the financial statements, is unclear. However, when it turns out to be that mandatory audit partner rotation has a positive effect on (perceived) earnings quality, why should a rigorous switch towards mandatory audit firm rotation, for which the consequences are also still unclear, be needed in the first place? Therefore, empirical evidence on this topic is needed.

Initially the EC held the view that audit partner rotation would increase the independence of the auditor (EC, 2006). Mandatory audit partner rotation would, as a consequence, be important for the functioning of financial markets, because it enhances its integrity and efficiency (EC, 2006). This integrity and efficiency could, amongst others, be a result of more reliable and relevant financial statements. However, during the recent financial crisis this same EC concluded that mandatory audit partner rotation could not prevent the found ‘*audit-incidents*’ and doubted the effectiveness of audit partner rotation (EC, 2011). There seems to be conflicting arguments, but there is no empirical evidence to solve this conflict. Therefore, in this study I try to fill this gap by providing empirical evidence on the effect of audit partner rotation on (perceived) earnings quality in a mandatory partner rotation setting. Earnings quality refers in this case to the degree to which the financial statements provide a true and fair view of the firm’s financial performance⁴. Higher

⁴ The quality of reported earnings could also be interpreted as the quality of financial reporting. However, this is not automatically the case for the quality of perceived earnings. Because, it is *a priori* not known which weights investors attach to various aspects of earnings, it is not a given fact that financial statements that provide a true and fair view are perceived as having a higher quality.

earnings quality means therefore that the earnings information in the financial statements better reflects the true underlying firm performance and firm condition. This features makes this information, as a consequence, more relevant and reliable in the decision making process. The relationship is investigated in a Dutch setting, where mandatory audit partner rotation for public interest entities, including all listed companies, is required since 2005. In this paper the following formal research question will be answered:

“Does mandatory audit partner rotation for audits of publicly listed firms influence (perceived) earnings quality?”

1.5 Earnings quality; actual and perceived

Like it stems from the formulation of the research question, the effect of mandatory audit partner rotation on earnings quality can be seen from two different perspectives. In the first place there is the ‘actual’ quality of the reported numbers and in the second place there is the perceived quality of those numbers by relevant third parties. The ‘actual’ earnings quality, i.e. the quality of reported earnings, refers to the fact whether the reported earnings provide a true and fair view about the financial condition of the firm and can be interpreted as the degree to which the accounting (system) of the firm captures the underlying business reality (Palepu, Healy & Peek, 2010). Stated differently, it is about the accounting correctness of reported earnings. The perceived quality of earnings refers to the information quality of the published accounting earnings, as perceived by relevant third parties like investors and banks. It could be possible that mandatory audit partner rotation has a different effect on those two perspectives. For example, investors could perceive the rotation of the leading audit partner as positive in relation to the quality of reported earnings, while at the same time the actual quality of reported earnings might be lower than the situation without audit partner rotation. This difference however, could have important implications for regulators, because it then depends on which perspective is found to be more important and where the focus is on in their legislation development. Therefore, the following sub question is formed:

“Are there differences in the association between mandatory audit partner rotation and the quality of reported earnings on the one hand and perceived earnings quality on the other hand?”

1.6 Audit firm tenure as a moderator

Lastly, I also want to shed some light on the forthcoming regulation that, in all probability, will set a limit on the amount of consecutive years the audit firm is allowed to serve a PIE audit client. Although, in my study a sample of firms operating in a regime without regulation regarding audit firm rotation is used, it still could give some preliminary insights in the effect of audit firm tenure on earnings quality and how this influences the (possible) effect of audit partner rotation. Therefore, I also look at the effect of audit firm tenure on (perceived) earnings quality and investigate how a given audit firm tenure moderates the effect of audit partner rotation on (perceived) earnings quality. The following formal sub question is established:

“Is the association between audit partner rotation and (perceived) earnings quality moderated by audit firm tenure?”

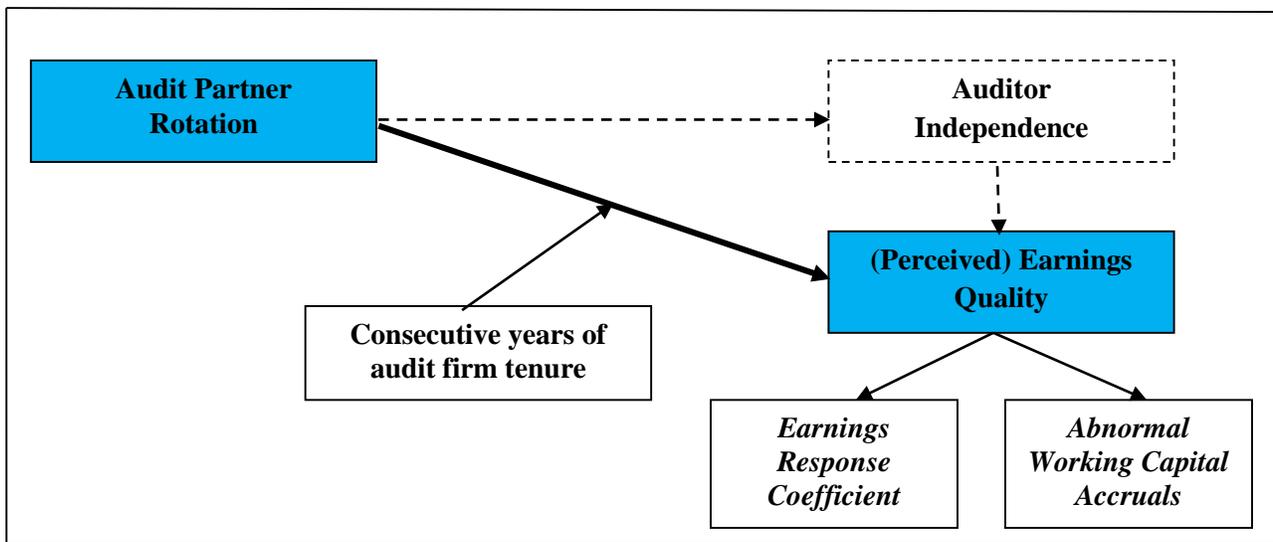


Figure 1 *Schematic overview of tested relationships*

In figure 1 a schematic overview of the initial rationale behind mandatory audit partner rotation, as held by the EC, is provided. This is represented by the link between mandatory audit partner rotation and auditor independence. I implement this rationale in my study, by using the (perceived) earnings quality as a proxy for (perceived) auditor independence. The primary tested relationship in this study is represented in the blue boxes, which are connected by the bold arrow. Like mentioned before, earnings quality can be further subdivided in the perceived quality of the reported earnings and the quality of reported earnings in terms of accounting correctness. The

perceived quality of earnings is operationalized by the ERC and the quality of the reported earnings with regard to the accounting correctness is proxied by AWCA. Those AWCA capture manipulative management discretion, which distorts the true and fair view of the firm's performance (DeFond & Park, 2001). The ERC measures the informativeness or value relevance of earnings, which is influenced by the reliability of this information (Ghosh & Moon, 2005). This is operationalized by linking the yearly abnormal stock returns of a company with the yearly earnings and changes in earnings of this company. The stronger the relation between earnings (and changes in earnings), and abnormal stock returns, the more confidence investors have in the relevance and reliability of the reported earnings. That is, the informational quality of earnings is perceived to be relatively higher in this case. Therefore, the ERC can be used as a proxy to assess the perceived earnings quality⁵. Both the ERC and the accrual model will be explained in detail in the methodology chapter of this study. Lastly, I included the moderating variable of audit firm tenure, because I also investigate how audit firm tenure moderates the association between mandatory audit partner rotation and respectively earnings quality and perceived earnings quality.

1.7 Relevance of this study

This paper contributes to both the literature and practice in multiple ways. In the first place my study is done in a unique setting. In the Netherlands it is since 2005 required to note the name of the key audit partner on the audit report of public interest entities (AFM, 2006). However, data about audit partners is not included in the traditional databases that are used in scientific research. Nevertheless, by hand collecting data about audit partners from hundreds of annual reports of Dutch publicly listed companies in the period 2005-2011⁶, I am able to perform a detailed and recent analysis of rotation on audit partner level. As far as I know, my investigation is the first empirical study that examines the effect of audit partner rotation in a European setting. Prior research investigating audit partner rotation, has used Taiwanese or Australian data samples (Chen, Lin & Lin, 2008; Chi, Huang, Liao & Xie, 2009; Carey & Simnett, 2006). Though, the institutional settings and cultures of those countries differ considerably from the Dutch, Continental-European setting and culture, which could have significant implications for the generalizability of the found results in those studies (ICAEW, 2010; Gray, 1988; Leuz, Nanda & Wysocki, 2003). For example,

⁵ This will be explained in detail in chapter 3.7.

⁶ The sample used in the statistical analysis contains firm year observations in the period 2006-2011. However, in order to determine whether audit partner rotation has occurred in 2006 I need to investigate the annual reports of the year 2005.

in Taiwan it is required that two partners sign the final audit report, while in the Netherlands this is not required and only one audit partner signs the report (Chen et al., 2008; AFM, 2006). In addition, International Financial Reporting Standards (IFRS) was not adopted yet in Taiwan during the sample periods of the Taiwanese-based studies, while IFRS for Dutch publicly listed companies is required since 2005. Accounting standards in Taiwan are (to a great extent) similar to U.S. GAAP, that is used in the United States (Chen et al., 2008). However, the conceptual approach of U.S. GAAP is different from IFRS. U.S. GAAP is relatively more based on the execution of accounting rules, while IFRS is relatively more based on the execution of accounting principles (American Institute of Certified Public Accountants (AICPA), 2010). Lastly, the liability regime for Taiwanese auditors is different from Dutch auditors. Taiwanese audit partners only since 2009 have the option to form entities with limited liability, while audit partners could form limited liability entities in the Netherlands during the whole sample period of my study (Chen et al., 2008; Lennox & Li, 2012; Reimers, 2006). The Australian institutional setting and culture in the study of Carey and Simnett (2006) differs also from the Dutch setting. This is mainly caused by the traditional distinction between Anglo-Saxon and Continental European countries. Investor protection in Australia is significantly higher than in the Netherlands (Leuz et al., 2003). This means that it, among others, in the Australian setting could be easier to hold the firm's management or auditor liable in case the financial statements do not provide a true and fair view of the firm's performance and condition. This feature could have an effect on the relation between the auditor and (perceived) earnings quality, that is not attributable to audit partner rotation. In addition, Leuz et al. (2003) show that in Anglo Saxon countries (i.e. Australia) there is considerably less earnings management than in Continental European countries (i.e. the Netherlands). This is, according to Leuz et al. (2003), caused by the differences in economy type, ownership concentration, investor protection and the size of the stock market. Furthermore, contrary to the studies of Chen et al. (2008) and Carey and Simnett (2006), I look at the effect of audit partner rotation, instead of examining the effect of audit partner tenure. Chi et al. (2009) examine the effect of mandatory audit partner rotation in Taiwan, but besides the institutional and cultural differences, they use observations of only one sample year, while I use a more recent sample containing several years, wherein I am able to control for potential year effects. In addition, Chi et al. (2009) do not find conclusive evidence, which makes it interesting to investigate whether this also holds for the Dutch environment.

My study contributes to the existing literature about the general association between audit firm tenure or rotation and earnings quality. This single association has already been investigated multiple times in the past (Johnson, Khurana & Reynolds, 2002; Myers, Myers & Omer, 2003). However, in my study I also examine the interaction of audit firm tenure with audit partner rotation. This gives important insights in the value of prior studies that looked at the single effect of audit firm tenure or rotation on earnings quality. Chen et al. (2008) argue that it is important to consider both the effects of audit partner tenure/rotation and firm tenure/rotation simultaneously, because otherwise the findings could be accidentally attributed to the wrong type of tenure or rotation.

This study provides important (empirical) insights for regulators and standard setters, governments and the audit profession. Because the current discussion about whether there should be a switch from mandatory audit partner to mandatory audit firm rotation lacks empirical evidence, it seems that all relevant stakeholders are stuck in their own views and defend their own interests. By performing an empirical analysis I try to create valuable input for the discussion between those stakeholders. Second, I provide some insights in the effects of audit firm tenure on earnings quality and how this influences the effect of audit partner rotation. The results of this investigation could be taken into consideration when new rules and regulations about audit firm tenure are established and debated. Lastly, by using data stemming from a mandatory audit partner rotation regime, my study also (partly) answers to the critique regulators have on existing scientific literature regarding auditor rotation³. Worldwide it seems that regulators are skeptical to rely on empirical research concerning auditor rotation because the samples used in this research stem from a voluntary rotation regime and might not be applicable to a mandatory regime (PCAOB, 2011).

1.8 Structure

The remainder of this study is organized as follows. Chapter 2 provides background information about the history of ‘auditor rotation’⁷ in the European Union since the early 2000s up until the present. Second, a description of the Dutch audit environment and relevant Dutch audit market regulations during my sample period is given. Chapter 3 provides background information on important theoretical concepts in this study, like audit partner rotation, auditor independence and earnings quality. The latter two topics are discussed in detail and in addition the links between those two concepts are explained and discussed. Chapter 4 describes the relevant literature

⁷ Auditor rotation refers to both audit partner and audit firm rotation.

regarding the effects of audit partner rotation/tenure and audit firm rotation/tenure on (perceived) earnings quality. This literature is needed to establish hypotheses, which are set up in chapter 5. In chapter 6 the research methodology of my study is described. The proxies used for measuring audit partner rotation and earnings quality are explained there. Furthermore, the statistical methods used to test my hypotheses are described and explained. The descriptive statistics and multivariate results of my statistical analysis are presented in chapter 7. These results in chapter 8 will be used to answer my three research questions. Lastly, in chapter 9 the relevant findings are summarized, the implications of my results for both literature and practice are mentioned, the limitations of my research are discussed and suggestions for further research are provided.

2. Background and institutional setting

2.1 Introduction

This chapter provides background information about the regulations regarding audit partner rotation in the European Union. It also elaborates on the proposed regulation concerning mandatory audit firm rotation, that is discussed currently. Furthermore, a description of the Dutch audit market regulations during the sample period (2006-2011), that could be relevant for the tested relationship between audit partner rotation and earnings quality, is given. Describing this Dutch setting is intended to make it easier to compare the Dutch setting with other settings in Europe and settings used in prior literature, like Taiwan or Australia (Chen et al., 2008; Chi et al., 2009; Carey & Simnett, 2006). However, most of the Dutch regulations with regard to the audit market is initiated by the EC and has binding legal force throughout every Member State of the European Union (EC, 2006). I will therefore describe the implemented regulation and the discussion about auditor rotation from a European perspective.

2.2 Auditor rotation in the European Union

Since the 1990s there is an increasing tendency for harmonization of the European audit market (Combarros, 2000). The EC tries to achieve this harmonization by implementing regulations that have legal force for every member state (Strohm, 2006). However, an important footnote is that the EC sets “*minimum standards in form of detailed rules and broad principles which all Member States are obliged to follow, yet it also allows governments to expand on those standards*” (Strohm, 2006, p. 63). This means that subtle differences between countries are still possible and that the regulations could be adjusted to national requirements, to a certain degree. For example, in France there is a total ban on the provision of non-audit fees to audit clients, while in many other countries rules are less strict (Strohm, 2006). Nevertheless, with regard to auditor rotation there is an increasing degree of uniformity across European Union member states (ICAS, 2012). The fundamental differences between European Union member states that existed in the past, at least before the 2000s, are eliminated to a great extent by the implementation of binding minimum regulations on a European level.

In the early 2000s the world was startled by some big accounting scandals, like Enron and WorldCom. In the United States this caused the establishment of extended regulation for all listed company boards, managements of listed firms and audit organizations of those companies.

This regulation is known as the Sarbanes-Oxley Act of 2002 (hereafter SOX). For public audit firms, among others, this meant that the provision of most non-audit services to publicly listed audit clients was no longer allowed (Securities and Exchange Commission (SEC), 2002). More importantly, in the context of my study, in the United States it was mandated that the leading audit partner for publicly listed companies was required to rotate after five consecutive years (SEC, 2002). In response to the implementation of SOX and the fact that there were also some big accounting scandals in Europe, the EC came up with new regulations about corporate governance and the role of the auditor (EC, 2006). To enhance the harmonization regarding audit market regulations across European Union member states, on the 17th of May, 2006 the EC published *Directive 2006/43/EC*, on statutory audits of annual accounts and consolidated accounts (EC, 2006). This directive is also known as the 8th *Company Law Directive* and includes, among others, regulations about the approval or withdrawal of statutory auditors and audit firms, education of auditors, ethics, quality control, auditing standards and special provisions for the statutory audits of PIEs (EC, 2006). In the section about special provisions for the statutory audits of PIEs, in Article 42-2 of the directive, the following is stated about mandatory audit partner rotation:

“Member States shall ensure that the key audit partner(s) responsible for carrying out a statutory audit rotate(s) from the audit engagement within a maximum period of seven years from the date of appointment and is/are allowed to participate in the audit of the audited entity again after a period of at least two years.” (EC 2006, L 157/104)

The regulation became effective as of June 29, 2006 and applies to key audit partners of PIEs within the European Union (EC, 2006). In the directive is stated that European Union member states had to have implemented a system of mandatory audit partner rotation before June 29, 2008, if a member state had not already established mandatory audit partner rotation regime itself. With regard to audit partner rotation, most governments and local regulatory institutions of European Union member states already had implemented mandatory audit partner rotation in the years before 2008 (Nederlands Instituut van Registeraccountants (NIVRA)/Nederlandse Orde van

Accountants-Administratieconsulenten (NOvAA), 2002; Soltani & Rekik, 2011). For example, the German government already requires mandatory audit partner rotation after seven consecutive years of serving a client, since 1998 (Deutscher Bundestag, 1998).

Like mentioned before, during the recent financial crisis there were doubts about the independence of the auditor and the effectiveness of the currently required audit partner rotation was doubted (EC, 2011). In the first place, the EC argued that client retention and the corresponding potential familiarity threat to independence still could exist under the audit partner rotation regime, because only the audit partner is required to rotate (EC, 2011). The second argument of the EC referred to the fact that the new audit partner might be reluctant to be critical about the work of his or her predecessor, potentially diminishing the intended effect of audit partner rotation (EC, 2011; ICAS, 2012). In a way to mitigate the perceived ‘problems’ associated with audit partner rotation and in order to restore the confidence in the audit profession, the EC on the 30th of November 2011 issued a proposal about reforming the European audit market. The report, called ‘*Reform of the Audit Market*’, is a sequel stage in the consultation process that started with the publication of the European Union’s Green Paper ‘*Audit Policy – Lessons from the Crisis*’ (EC, 2010; 2011). The issued proposal consists of several audit market related topics, but the two most important and profound ones are the reduction of the concentration in the markets for audits and measures to address perceived threats to auditor independence (KPMG, 2011). One of the proposed regulations to address those potential independence threats is mandatory audit firm rotation (EC, 2011). Mandatory audit firm rotation would not suffer from the perceived problems associated with partner rotation because the change is more rigorous than the current mandatory audit partner rotation (EC, 2011). Not only the audit partner, but also the other members of the engagement team and the audit firm-specific way in which the audit is conducted, would change. The initial proposal states that the audit firm of a PIE (including all listed companies), would have to be appointed for at least two years, but no more than six years (EC, 2011). When there is a joint audit⁸, this period could be extended to nine consecutive years (EC, 2011). This proposal is currently with the Council and Parliament of the European Commission for an assessment. The ECON initially voted down the mandatory audit firm rotation proposal and suggested to implement a requirement for companies to tender their audits every seven years (ECON, 2013). In April 2013, the European Parliament Committee on Legal Affairs (hereafter JURI), which is the leading

⁸ Joint audit means that two audit organizations are conducting the audit of a specific firm.

committee on the European audit reform, argued that the proposed mandatory audit firm rotation after six years would be too costly and an unwelcome intervention in the audit market. Instead, this committee voted in favor of a required rotation after 14 consecutive years, which could be extended to 25 consecutive years if certain audit safeguards would be in place (Gyorkos, 2013). This critical view on mandatory audit firm rotation is also held by the Dutch AFM. The AFM is not in favor of firm rotation after about nine years and even argues that a long term relationship with the best quality audit firm possible is meaningful, but that a tender of the audit after a certain amount of years, accompanied by the audit committee, could also be valuable (AFM, 2012a). Although it seems that on a European level there is still much disagreement about the exact content of the new audit firm rotation rules and the fact that also the Dutch AFM is not in favor of firm rotation, the Dutch government already anticipated on the implementation of mandatory audit firm rotation. It will implement mandatory audit firm rotation after eight consecutive years of serving a PIE as of 1 January, 2016. However, the current Dutch Minister of Finance, Jeroen Dijsselbloem, stated that if there arises a conflict between the Dutch and the European regulations, the Dutch regulations will be adapted to the European rules (Ministerie van Financiën, 2012).

In the debate about mandatory audit firm rotation, the regulator is not the only relevant stakeholder. The audit firms also have an important stake in the discussion, because the proposed regulations have significant effects on audit firms, especially the Big 4 audit firms (Deloitte, PwC, KPMG and Ernst & Young) (ICAS, 2012). These Big 4 audit firms dominate the market of publicly listed companies and other PIEs, for which the proposed regulations will be legally binding, if implemented (EC, 2011; ICAS, 2012). Big 4 audit firms are in general not in favor of mandatory audit firm rotation (KPMG, 2012; PwC, 2012). In the first place, those audit organizations argue that this form of rotation makes it more difficult to have an effective working relationship with management, audit committees and boards of directors (PwC, 2007). Another argument mentioned by (representatives of) audit firms is the heightened risk of audit failures in the early years of the engagement, due to a lack of client-specific knowledge (PwC, 2012). They also argue that firm rotation makes it more difficult to locate talented employees with particular skills in the best possible way and an increase in uncertainty regarding audit capacity needs (KPMG, 2010). Lastly, especially Big 4 audit organizations argue that a mandatory change of the audit firm forces a client to select a new audit firm which could have less industry-specific knowledge as the current audit firm (PwC, 2011). This lack of industry knowledge could have negative implications on the

audit and consequently on the quality of earnings. In addition, audit firm rotation may lessen the incentive for audit firms to invest in (industry) specialization because audit firms could no longer target specific industries or client segments (ICAS, 2012).

2.3 The Dutch audit environment

This study focuses on the Dutch audit environment and uses financial statement data from Dutch publicly listed firms in the period 2006-2011. To provide insights in which environment my study takes place, this section provides an overview of the audit partner regulations in the Netherlands around the years included in the sample. Some other important regulations with regard to the Dutch audit environment that could be important in relation to the investigated relation between audit partner rotation or audit firm tenure and earnings quality are also discussed.

2.3.1 Audit partner rotation in the Netherlands

Although many Dutch audit market regulations are initiated by the EC and are legally binding, the Dutch government and local regulators still have (some) freedom in the interpretation of the minimum requirements the EC sets and could also still implement rules by themselves (Strohm, 2006). In the Netherlands the NIVRA and NOvAA, the Dutch professional organizations for auditors, which since January 1st, 2013 is known as NBA (Nederlandse Beroepsorganisatie van Accountants), in 2002 already came up with a directive about the rotation of the key audit partner for PIEs (NIVRA/NOvAA, 2002). The directive is known as the '*Nadere voorschriften inzake de onafhankelijkheid van de accountant*' (NIVRA/NOvAA, 2002). This directive consists of, among others, standards regarding the independency of the auditor, several audit quality safeguards and rules concerning relations between the auditor and the audit client. The content of the directive became effective as of January 1st, 2005 (NIVRA/NOvAA, 2002). This is three and a half year earlier than the date from which the European Commission required audit partner rotation for PIEs (EC, 2006). In Section 3.4 of the directive is stated that for key audit partners of Dutch PIEs it is required to rotate after seven consecutive years of serving an audit client. These PIEs include all Dutch established companies that are: a) listed on the Dutch stock exchange; b) a Dutch established financial institution; c) a Dutch established central financial institution; d) a Dutch established insurance institution; e) investments institutions, or; f) collective investments institutions (AFM, 2006; 2013a).

In addition to mandatory audit partner rotation, it became a requirement that key audit partners of these PIEs would have to respect a two year cooling-off period, in which it is prohibited for the audit partner to work on an audit engagement for the client he served in the prior seven years (NIVRA/NOvAA, 2002; 2005). In this two year period, the audit partner is also not allowed to provide advisory services for the client.

2.3.2 Other relevant Dutch audit market regulations

Besides the rules regarding mandatory audit partner rotation, there are also some other important regulations that are applicable during the sample years (2006-2011) used in my study. Up to December 31st, 2012 it was allowed for Dutch audit firms to provide advisory services to PIEs, that were also audit clients (AFM, 2013b). This practice was contrary to the regulation for those type of companies in the United States, where in Section 201 of the Sarbanes-Oxley Act is stated that the auditor of a publicly listed firm is not allowed to provide non-audit services, like bookkeeping and the design of financial information systems (SEC, 2002). Since January 1st, 2013 it is no longer allowed to establish new non-audit services contracts for audit clients that are covered by the PIE definition (AFM, 2013b). The possibility to provide non-audit services in relation with the association between audit partner rotation and earnings quality is important because the Dutch regulator AFM has stated that the provision of non-audit services could impair the independence of auditors and thus might also have a negative influence on the quality of the audited financial statements (AFM, 2011). In addition, although the results are mixed, some researchers have shown that there is a negative relationship between the provision of non-audit services and auditor independence, as measured by the quality of (perceived) earnings quality (Frankel, Johnson & Nelson, 2002).

Another feature of the Dutch audit environment is that PIEs were not required to have an audit committee (EC, 2006; Deloitte, 2008). However, as a result of the implementation of Article 41 of the EC's *Directive 2006/43/EC*, it is since the 1st of January, 2008 required that every PIE has implemented an audit committee. When the requirement of implementing an audit committee was legally enforced it was also enforced that all PIEs had to follow the best-practices as described in the Dutch Corporate Governance Code, also known as the Code Tabaksblat (Tweede Kamer der Staten Generaal, 2008). In the investigated relation between audit partner rotation and earnings quality the presence of an audit committee could be important because one of the tasks of an audit

committee is to safeguard the independent relationship between the audit firm and the audited company, which also includes to closely monitor the relationship between the audit partner and the client (NBA, 2011).

2.4 Conclusion

The Dutch audit market regulations are to a great extent determined by the EC. One of the requirements set by the EC is that since 2008 audit partners of PIEs have to rotate after they have served an audit client for seven consecutive years. After this period they should take a two year cooling-off period into account, before they could serve the client again. In the Netherlands, the Dutch professional organization for auditors, NIVRA/NOvAA⁹, anticipated on the implementation of this regulation and already since January 1, 2005 requires that audit partners of PIEs (listed companies, banks, insurance companies) rotate after seven consecutive years, in order to increase the independence of auditors and to increase the public confidence in the work performed by the audit profession. Nevertheless, during the recent financial crisis the EC concluded that audit partner rotation could not prevent the ‘audit incidents’ and that more profound measures are needed in order to really increase the quality of work provided by auditors and the public confidence in them. One of those measures is mandatory audit firm rotation. This measure is heavily debated currently, but in the Netherlands it is planned to implement mandatory audit firm rotation after eight consecutive years of audit firm tenure, as of January 1, 2016.

⁹ Since January 1, 2013 NIVRA and NOvAA are merged and continue under the name NBA.

3. Theoretical concepts

3.1 Introduction

Before I provide a thorough review of the relevant literature regarding the association between audit partner or firm rotation/tenure and (perceived) earnings quality, this chapter gives an overview of three important theoretical constructs examined in this study: audit partner rotation, auditor independence and (perceived) earnings quality. In addition, the link between the latter two topics is explained. Lastly, I discuss to which degree the concepts of earnings quality and audit quality are comparable. This is done because there seems to be disagreement in the literature about this (Bamber & Bamber, 2009). However, if the distinction between earnings and audit quality remains unclear, it could possibly lead to misinterpretations of the results found in this study.

3.2 Audit partner rotation

Audit partner rotation means that the leading or key audit partner on a certain audit engagement has to rotate after he or she has served the client after a number of consecutive years. In the Netherlands this term is currently set on seven years (NIVRA/NOvAA, 2002). This is in accordance with the regulations defined in *Directive 2006/43/EC* of the EC, which were described in the previous chapter. The main reason for regulators to implement audit partner rotation is to distort the tendency that excessive familiarity could impair the auditor's independence and his or her critical appraisal and skepticism (EC, 2006). Audit partner rotation is intended to bring a fresh look to the audit of the financial statements.

At first glance, the implementation of audit partner rotation might be perceived as a rigorous measure because the person who bears the total responsibility of all actions undertaken during the audit engagement, is replaced by someone else. However, a closer examination shows that audit partner rotation is not as rigorous as it seems. In most cases audit partner rotation does not mean that the new partner starts from zero when he becomes the leading audit partner of an audit engagement¹⁰. When the audit partner rotates (within the audit firm), there are several quality control measures and safeguards that are taken into account¹¹. These quality control measures are

¹⁰ After a rotation of audit firms it is more likely that the new auditor starts relatively blank. However, this is not considered as audit partner rotation in this study (see chapter 6.2).

¹¹ Based on personal communication with audit partner of KPMG.

implemented in order to familiarize¹² the new audit partner with the client and subsequently to mitigate the risk of audit failures in the early years of audit partner tenure. Among others, those measures include communication between the new audit partner and his or her predecessor about the nature of the client's business, the potential risks associated with the industry the firm operates in, the risks associated with the internal processes of the client, like for example the quality of the accounting system and system of internal control, and the audit findings in prior audits. Besides the quality controls for audit partner rotation that are embedded within the audit firm's policies, there are also other factors, related to the audit firm, that influence the actual effect of audit partner rotation. In the regulations with regard to audit partner rotation is only defined that the audit partner is required to rotate after seven consecutive years (EC, 2006; NIVRA/NOvAA, 2002). This means that the underlying audit team, that in most cases performs the audit tests and procedures, could remain serving the client even when the audit partner changes. In this way, it is (theoretically) still possible that excessive familiarity could exist and that audit partner rotation does not solve this. A more detailed examination of the actual effect of audit partner rotation and how it is affected by other factors will be provided in chapter 4.5, where I discuss the moderating effect of audit firm tenure on the association between audit partner rotation and earnings quality. The way audit partner rotation is measured in this study is explained in chapter 6.2. Lastly, there is also a subtle difference between the concepts of audit partner rotation and audit partner tenure. In chapter 4.6 I will explain this difference and the way it potentially affects my study.

3.3 Auditor independence

The independence of the auditor could be seen as the most vital characteristic of the audit profession (Mautz & Sharaf, 1961). Bartlett (1997, p.4) states that “*auditor independence refers to an unbiased mental attitude in making decisions throughout the audit and financial reporting*”. This unbiased mental attitude is needed because auditors' independence is the foundation for the public's trust in the audit of financial statements (Caswell & Allen, 2001). When the auditor is not independent, or not perceived as being independent, the auditor respectively *actually does* not operate in the interests of third parties or is *perceived* not to operate in the interests of the third-parties. In those cases, the present information risk that is caused by the information asymmetry

¹² Familiarization in the sense of obtaining knowledge about the client, not to be confused with excessive familiarity that might impair auditor independence.

between the firm's management and third parties relying on the information provided by management, is not reduced. The value of the audit is in that case significantly impaired (Power, 1997).

Independence refers to the state of mind of the auditor and is reflected in the way he or she deals with a specific situation. This state of mind or individual mindset is the core of auditor independence (Dopuch, King & Schwartz, 2004). However, this mindset is abstract, unobservable and difficult to examine, which makes it tough to regulate independency on a timely basis (Schuetze, 1994). When the auditor actually appears not to be independent, in most cases it is already too late and it has already negatively affected the interest of third parties. Because of the elusiveness of independence, in the audit profession and literature auditor independence has been subdivided in two types: independence *in fact* and independence *in appearance* (Mautz & Sharaf, 1961). Independence *in fact*, which is also interpreted as independence *in mind*, refers to state of mind that enables the auditor to act objectively and integer during the audit (AICPA, 2011). An auditor that is independent *in fact* practices professional skepticism, which means that the auditor has an objective and questioning mind throughout the audit. This view on independence *in fact* is comparable to the definition of independence provided by Bartlett (1997) and refers to the 'actual', but not directly observable independence of the auditor, when the auditor is placed in a potentially independence compromising situation (Lindberg & Beck, 2002). On the other hand, independence *in appearance* refers to how (relevant) third parties perceive the auditor's independence (AICPA, 2011). Those parties could be investors, banks and the general public, for example. So, independence *in fact* refers to the state of mind of the individual auditor, while independence *in appearance* refers to how outsiders perceive the state of mind of the auditor and the way this influence the execution of the audit.

It is possible that while an auditor is actually independent *in fact*, the public may believe or perceive that there are some factors present that cause the auditor not to be independent. In this case, there is discrepancy between independence *in fact* and independence *in appearance* and this could have negative implications. For example, a long term relation between the audit firm or audit partner and the audit client may relevant third parties believe to think that the audit firm or partner has established a too familiar relationship with the client, which potentially could threaten the independence of the auditor. Nevertheless, this in fact does not have to be the case and it could also be reasonable to assume that both parties maintain a qualitative and professional relationship.

However, because third parties, that rely on management assertions in their decision making process, in this case do not perceive that the auditor reduces their information risk, the added value of the audit is significantly reduced (Mautz & Sharaf, 1961). This example shows that it is not only important that the auditor has a professional and independent mindset, but also that the auditor is perceived as being independent and should avoid circumstances that might impair independence *in appearance* (AICPA, 2011).

3.4 Potential threats to auditor independence

While independence is vital for the audit profession, in practice there are several potential threats that could impair auditor independence (ICAEW, 2003). In the first place auditor independence could be threatened by self-interests. This means that the auditor prevails his or her own interests over the interest of relevant third parties. For example, when the key audit partner or other audit engagement team member owns stocks of the audit client, it could be possible that the auditor is less strict in limiting income-increasing management of earnings, in order to benefit from the higher share price caused by the increased earnings or earnings surprise. On audit firm level, this also could occur. Audit firms are competitive, profit-making firms and it could be possible that because of this feature audit firms act in their own interests, in order to make profits (Sikka, 2009). A second possible threat to independence is advocacy (IFAC, 2012). Advocacy means that the auditor represents or promotes the client. This attitude of ‘supporting’ the client might cause the auditor to be less objective and it could impair independence, both *in fact and in appearance*. An example of the advocacy threat is an auditor who promotes buying shares of a certain audit client. Self-reviewing is also a threat that could harm independence (ICAEW, 2003). When an auditor is reviewing something for which he or she was previously responsible it is reasonable to assume that this auditor is less critical on this, compared to someone who had no role in the execution of the initial task. The fourth threat to auditor independence is intimidation (ICAEW, 2003). Intimidation could impair the independence of the auditor because it could create fear for the client. This might cause that the auditor is not objective during the audit and also does not exercise professional skepticism. For example, this could mean that the auditor does not report on breaches in the accounting system. Not reporting those breaches could lead to the fact that the financial statements do not provide a true and fair view of the firm’s performance. Lastly, excessive familiarity is a threat that could harm auditor independence (ICAEW, 2003). Excessive

familiarity occurs when the relation between the auditor and the client becomes so close that it might cause the auditor to act in the interests of the client, rather than acting in the interests of third parties. Situations of an excessive familiar relationship could be present when a director, officer or employee of an audit client is a close family member or friend of the auditor. This especially is a potential threat to independence when those persons could (significantly) influence the financial reporting process of the organization (Arens et al., 2011). Excessive familiarity could also occur when there is a long term relationship between a (senior) audit team member or audit firm and the client (EC, 2011). The threats to auditor independence are tried to be mitigated by the implementation of audit regulations and standards, which in most cases prohibit actions and behaviors that could lead to impaired independence (NIVRA/NOvAA, 2002). For example, the familiarity threat is intended to be eliminated by the implementation of rotation requirements, like audit partner and firm rotation (NIVRA/NOvAA, 2002; EC, 2006; 2011). Under such a requirement of audit partner rotation a long relationship between the audit partner or firm and the client, is no longer possible. It is this assumed 'safeguard' of auditor independence that is tested in this study.

3.5 Measuring auditor independence

Auditor independence *in fact* is a concept that is not directly measurable, because it is impossible to capture the state of mind of an auditor or audit firm (Hanson, 2002). Prior research has therefore attempted to capture this independence *in fact* by looking at factors that could determine or explain auditor independence. DeAngelo (1981a) links the size of the audit firm to auditor independence, referring to the difference in reputation costs between small and big audit firms that could be the result of impaired independence. Chung and Kallapur (2003) have associated client importance with the independence of the audit firm. They compare the audit fees of a client to the total received audit fees of the audit firm and investigate whether earnings are lower for clients with higher audit fees. Because it is relatively more costly to lose clients that generate more revenues, it is tested whether this feature lowers the independence of the audit firm. Other researchers investigate the ratio of non-audit fees to total audit fees for one specific client with auditor independence (Frankel, Johnson & Nelson, 2002). Auditor independence might be impaired due to the conflicting natures of both services (Beattie & Fearnley, 2002). Non-audit services have a commercial nature, while the purpose of an audit is to provide reasonable assurance

to third parties. Lennox (2005) has focused on the client's affiliation with the CPA firm. He investigates the effects of relationships between auditors and executives of clients, like CEO's and CFO's, on auditor independence and suggest that affiliations between the auditor and executives of the client impairs independence. The length of the relation between the audit partner/firm and the audit client is also often linked to auditor independence *in fact* (Myers et al., 2003; Chen et al., 2008; Davis, Soo & Trompeter, 2009). In many of the studies examining auditor independence (and also in this study), independence *in fact* is thereby proxied by properties of earnings, like the accrual component of earnings or target beating (Myers et al., 2003; Chen et al., 2008; Ghosh & Moon, 2005). Distortions in the true and fair view of the firm's performance are in this case linked to the auditor's independence *in fact*, because it is assumed that a more independent auditor reports relatively more distortions¹³, so that the financial statements provide a better true and fair view of the firm's performance. Other researchers look at an indicator of independence *in fact* that is solely attributable to the auditor, like the propensity to issue a going concern opinion for financially distressed companies (Carey & Simnett, 2006; Knechel & Vanstraelen, 2007)¹⁴. Using this proxy for independence assumes that if the auditor is more independent, he or she can better resist the client's pressure to issue a clean opinion. So, when an auditor is not independent it is more likely that he will issue a clean opinion, while in fact there could be doubts about whether the firm is still a going concern one year later.

While independence *in fact* is unobservable and not directly measurable, independence *in appearance* is relatively less difficult to assess. The question whether the auditor is perceived as independent is easier to answer than the question whether the auditor is actually independent. Perceived independence could be investigated by asking relevant third parties whether they perceive the auditor as being independent, given a certain situation (Bartlett, 1997; Beattie, Fearnley & Brandt, 1999). It could also be measured using market-based data, by looking at the (aggregate) behavior of investors on the stock market. Several researchers have investigated auditor independence *in appearance* by examining the relation between earnings and changes in earnings, and abnormal stock returns (Teoh & Wong, 1993; Krishnan, Sami & Zhang, 2005; Ghosh & Moon, 2005). The magnitude of the association between earnings and unexpected stock returns

¹³ Given a fixed amount of distortions, a more independent auditor will report more distortions than an auditor who is not independent.

¹⁴ The study of Carey and Simnett (2006) and the way this propensity is measured, will be discussed in the literature review (chapter 4.2.1).

tells something about the value relevance of earnings, which could be dependent on the perceived independence of the auditor. This proxy for independence *in appearance* will also be used in this study and is explained in detail throughout chapter 3.6 and 3.7.

3.6 Earnings quality

In my study I use the (perceived) quality of reported earnings as a proxy for the elusive concept of auditor independence. However, earnings quality itself is also a rather abstract concept. Everyone could interpret earnings quality in a different way, because the concept is multidimensional (Schipper & Vincent, 2003). To mitigate potential unclarity that may arise by those different interpretations, it is therefore important to provide a formal definition of what in this study is meant by earnings quality. The definition of earnings quality applied in my study is derived from Dechow, Ge and Schrand (2010, p. 344), who define earnings quality as follows:

”Higher quality earnings provide more information about the features of a firm’s financial performance that are relevant to a specific decision made by a specific decision-maker.”

This definition is derived from the Statement of Financial Accounting Concepts No. 1 of the Financial Accounting Standards Board (FASB), which states that financial reporting should provide information about the financial performance of a firm during a period (FASB, 1978).

Because earnings quality itself is unobservable and therefore not directly measurable, it has to be proxied in order to be able to examine the (perceived) quality of earnings. Prior research suggests that there are several proxies that could be applied to capture the construct of earnings quality (Dechow et al., 2010). Though, this widespread of potential proxies capturing earnings quality might have caused even bigger differences in interpretations of quality of earnings. In the meta-analysis concerning earnings quality of Dechow et al. (2010), three types of proxies for earnings quality are defined: 1) properties of earnings; 2) investor responsiveness to earnings, and; 3) external indicators of earnings misstatements. The first type can be interpreted as proxies of earnings quality that measure the degree to which the firm’s accounting system captures the underlying business reality. This type consists of several proxies, like the persistence and smoothness of earnings. Furthermore, target beating and the asymmetric timeliness and timely loss recognition are found to be properties of earnings that are used to assess earnings quality. Lastly,

abnormal accruals and the modeling of the accrual process can be used. The accrual model proxies for earnings quality are used in multiple studies and this method seems to have “*become the accepted methodology in accounting to capture discretion.*” (Dechow et al., 2010, p. 351). The use of discretion to manage earnings, by the manipulative use of accruals, could cause distortions in the true and fair view of the firm’s condition and performance. When looking at the definition of earnings quality provided by Dechow et al. (2010) this discretion to manage earnings lowers the informational content and reliability of reported earnings and reduces therefore the quality of earnings (Bernstein & Siegel, 1979). Nevertheless, although Dechow et al. (2010) argue that distortions in reported earnings by the manipulative use of accruals, indicate lower earnings quality, they also suggest that conservatism, asymmetric timeliness and timely loss recognition indicate higher earnings quality. These practices may however also be seen as distortions in the true and fair view of the firm’s performance. In the view of Dechow et al. (2010), conservatism increases earnings quality because of the benefits associated with conservatism, in the light of contracting considerations. Though, conservatism could (in some way) be seen as the use of income-decreasing earnings management, which in my study is perceived as impairing earnings quality. So, the definition of the quality of reported earnings used in this study is not exactly equal to what Dechow et al. (2010) define as earnings quality. I focus on all (both income-increasing and income-decreasing) distortions in reported earnings. My definition of the quality of reported earnings thus seems to be relatively more related to financial reporting quality.

The second type of proxies for earnings quality defined by Dechow et al. (2010), is the investor responsiveness to earnings. This type of proxy attempts to capture the perceived earnings quality by outsiders, like investors or banks. Most studies that focus on perceived earnings quality use the relation between unexpected earnings and stock returns, known as the ERC, as an indicator for earnings informativeness or value relevance of unexpected earnings (Teoh & Wong, 1993; Liu & Thomas, 2000; Ghosh & Moon, 2005). The rationale behind this is that when the unexpected earnings are perceived as having a higher informational content or value relevance, this leads to a stronger relation between unexpected earnings and stock returns. Higher value relevance could be achieved if the announced information better reflects the underlying firm performance and condition. However, Barth, Cram and Nelson (2001) suggest that when testing the value relevance of earnings, in fact the joint effect of relevance and reliability is tested. In this way, examining the value relevance of unexpected earnings both reflects whether the earnings are perceived to be

capturing the underlying firm performance and whether they are reliable. This is however conditional on the perceived independence of the auditor.

The last type of proxies of earnings quality defined by Dechow et al. (2010) are the external indicators of earnings quality. These external indicators could be restatements, internal control weaknesses and litigations against the audit firm, for example. Internal control weaknesses could for instance be negatively associated with earnings quality, because there is a bigger *ex ante* chance of (material) misstatements due to those weaknesses. Compared with the other two types of proxies, external indicators have an advantage that they are determined by outside parties, instead of having to rely on (estimation) models that are subject to possible model misspecifications (Dechow et al., 2010). The disadvantage is that the selection criteria used by external parties might be biased, resulting in wrong assessments of earnings quality.

While it appears that prior literature has identified several proxies that can be used to capture the concept of (perceived) earnings quality, Dechow et al. (2010) conclude that no measure of earnings quality is superior and that every proxy has advantages and disadvantages.

3.7 The association between auditor independence and (perceived) earnings quality

Like explained in the introduction of this study, an independent auditor plays an important role in the reduction of information risk that third parties face when they obtain information provided by a firm's management. The task of the auditor is to verify whether management's assertions, as presented in the financial statements, provide a true and fair view of the financial condition and performance of the firm (Arens et al., 2011). Carmichael (1999) and Arens et al. (2011) state that auditors add value in the decision making process of third parties because auditors possess knowledge and expertise about accounting standards and principles in order to determine whether the financial statements actually provide this true and fair view. Third parties often do not have all the required knowledge and expertise to assess whether management's assertions are in accordance with accounting standards and principles. This value adding feature of having management assertions being audited by a competent party is however conditional on the independence of the auditor (DeAngelo, 1981a).

Given a fixed amount of detected distortions, it is more likely that an auditor that is independent *in fact* will report on items in the accounting system, internal controls and financial statements that may distort the true and fair view, compared to the situation wherein the auditor is

not independent *in fact* (Lowe & Pany, 1995). In the latter case, the auditor may act in the interests of management instead of in the interests of third parties and probably would be less inclined to report the detected distortions or puts less effort in the audit in order to detect (material) distortions. However, not reporting those distortions leads to the fact that the financial statements still contain those distortions, thereby reducing earnings quality. The ‘joint product’ of knowledge and independence *in fact* causes that the financial statements provide a relatively better true and fair view of the firm’s underlying performance, indicating higher quality of reported earnings. This is similar to the definition of audit quality provided by DeAngelo (1981a) who argues that audit quality both refers to the technical ability to detect distortions and the probability that the auditor will report on the discovered distortion.

When the auditor is independent *in appearance*, third parties perceive the information provided by management to be relatively more relevant and reliable, because another competent party has verified the information and has added credibility to the management assertions as presented in the financial statements (Dopuch et al., 2004). Looking at the definition of earnings quality provided by Dechow et al. (2010), independently audited management assertions provide therefore higher quality information about the underlying business performance and condition. This indicates higher earnings quality, compared with the situation of unaudited management assertions or an audit conducted by a non-independent auditor.

With the findings presented above, the link between auditor independence and earnings quality becomes visible. Independence *in fact* can in this way be linked to the quality of reported earnings, while independence *in appearance* can be linked to the perceived quality of earnings.

3.8 Earnings quality versus audit quality

In this study the association between audit partner rotation and earnings quality is investigated. However, it could be perceived that my study investigates the effect of audit partner rotation on audit quality, whereby the latter concept is proxied by earnings quality. To a certain extent this reasoning is true and reasonable. Many prior studies investigating audit quality have used earnings quality as a proxy for audit quality (Myers et al., 2008; Carey & Simnett, 2006; Chi et al., 2009). Chen et al. (2008) also use earnings quality as proxy for audit quality and even state that both terms can be used interchangeably. The authors state that the main task of the auditor is to determine whether the financial statements provide a true and fair view of the firm’s

performance. When the financial statements contain “*items that obscure the company’s “true” operating results and financial condition*”, the authors conclude that audit quality is poor (Chen et al., 2008, p.421). Chen et al. (2008) conclude that the quality of reported earnings therefore reflects the quality of the auditor’s work. Second, Antle and Nalebuff (1991) refer to the fact that negotiations between the auditor and the client regarding the content of the financial statements are quite common and that this affects accounting disclosure in the financial statements. They argue that the audit of the financial statements is a joint process whereby the client’s management and the auditor are interacting with each other. The authors state that the audited financial statements are the results of this interaction. The auditor audits the financial statements, but the firm’s management bears the ultimate responsibility of the content of the audited financial statements, which is recorded in the management representation letter. Therefore, due to the joint process and close interaction, Antle and Nalebuff (1991) argue that the quality of reported earnings is directly related to audit quality.

However, while several researchers suggest that earnings quality could be used as a proxy for audit quality, some care is needed when using the terms earnings and audit quality interchangeably (Bamber & Bamber, 2009). In the paper of Bamber and Bamber (2009), wherein the paper of Chi et al. (2009) is critically reviewed, the authors argue that earnings quality and audit quality are not by definition the same. An audit client could be highly-integrated with well established and effective internal controls and accounting system, which produce a high quality of earnings. For example, proper segregation of duties lowers the *ex ante* possibility that someone in the firm commits fraud. To be successful at least one other person is needed, which could create a psychological barrier and may prevent the fraud and corresponding (material) misstatement from happening (Hall, 2010). When the internal controls and accounting system are highly effective, it does not really make a difference whether the actual audit is of high quality or not (Bamber & Bamber, 2009). In this case it could even be possible that the quality of reported earnings is very high, while the actual audit quality is very low. The opposite could also be true. A client with weak internal controls and accounting system has a high *ex ante* possibility of misstatements due to those weaknesses. Bamber and Bamber (2009, p. 397) argue that it cannot be expected that a high-quality audit does “*identify or adjust all of a client’s low-quality reporting choices*”. In this case, although audit quality is high, the quality of reported earnings could be low.

The arguments provided by Bamber and Bamber (2009) are probably more representative and reasonable than the arguments of Chen et al. (2008) and Antle and Nalebuff (1991). Given the fact that the auditor uses samples to audit the financial statements, it is likely that the auditor is never able to detect all distortions in the financial statements and that there still might be misstatements in items that were not included in the audited sample (Arens et al., 2010). So, the reasoning of Chen et al. (2008) that all non-discovered distortions in the financial statements are attributable to the auditor might be too easy. The reason provided by Antle and Nalebuff (1991) that the audited financial statements are the result of the interaction between the auditor and management could also be questioned. If the audited financial statements are indeed the result of the interaction, the distortions that are not discovered could both be credited to the auditor and the firm's management. In this way it is again too easy to assume that all non-discovered distortions ending up in the financial statements are attributable to the auditor and that earnings quality could be set equal to audit quality. The reasoning of Bamber and Bamber (2009) instead, does take this into account, by suggesting that audit quality is dependent on the underlying accounting system and internal controls. This finding means that the results of this study should be interpreted with caution, when relating the findings to audit quality.

3.9 Conclusion

Audit partner rotation means that the key audit partner is required to rotate after he or she has served the client a certain amount of years. This is required in order to eliminate, or at least to greatly reduce, the excessive-familiarity threat that could harm the auditor's independence. This concept of auditor independence could be subdivided in independence *in fact* and independence *in appearance*. The former refers to unobservable state of mind of the auditor, while the latter refers to how the auditor's independence is perceived by relevant third parties. Both types of independence are vital for the audit profession and both types could have an influence on earnings quality. Earnings quality refers to the degree the financial statements provide a true and fair view of the firm's performance. When the auditor is independent *in fact* it is assumed that it is more likely that he or she will report on items that distort the true and fair view, thereby increasing earnings quality. When the auditor is independent *in appearance* the numbers in the financial statements are perceived as more reliable and more useful in the decision making process. Lastly, I also discussed to which degree earnings and audit quality could be seen as equal concepts. While

to a certain extent earnings quality could be used to proxy for earnings quality, I argue that earnings and audit quality are not the same. This is mainly based on the fact that it is reasonable to assume that the amount of distortions in the financial statements is dependent on the quality of the accounting system and internal controls of the client, so that not all distortions could automatically be attributed to the auditor.

4. Literature review

4.1 Introduction

This chapter provides an overview of the relevant literature regarding the relationship between audit partner rotation/tenure and (perceived) earnings quality. In addition, I review the literature concerning the association between audit firm tenure and (perceived) earnings quality. This is done because I also investigate the moderating effect of audit firm tenure on audit partner rotation. Furthermore, I want to shed some light on the individual effect of audit firm tenure on earnings quality. Audit partner rotation/tenure and audit firm rotation/tenure are intertwined to a great extent (Chi et al., 2009). To provide a full overview of the effects of rotation and tenure on (perceived) earnings quality, both the literature on audit partner and audit firm level are discussed. Although there is a correlation between the two subjects, I discuss the literature on audit partner tenure/rotation and audit firm tenure/rotation separately. This is done to keep things clear and because there could be subtle differences between those two perspectives. One example is that audit partner rotation refers to an identifiable audit partner, while audit firm tenure refers to a more abstract concept. The focus in the literature review is however on the studies concerning audit partner rotation/tenure.

After the review on both audit firm and partner level, I discuss whether the results found in prior literature could be different for Big N audit firms, compared to non-Big N audit firms (DeAngelo, 1981a). Taking all findings into account, I thereafter investigate whether audit firm tenure moderates the possible effect of audit partner rotation on earnings quality.

Besides the literature concerning my research questions, I also provide some additional discussion on the difference between the concepts of audit partner rotation and audit partner tenure. I will discuss this difference, because this might have an impact on my hypotheses development and the results of my statistical analysis (Hamilton, Ruddock, Stokes & Taylor, 2005).

4.2 Audit partner rotation/tenure and (perceived) earnings quality

In the past there have been relatively few researchers that have investigated the association between audit partner rotation/tenure and the (perceived) quality of reported earnings. Chen et al. (2008) argue that this is probably caused by the fact that data on audit partner tenure are not widely publicly available, because audit reports in most countries do not disclose the names of the key

audit partners. Therefore, prior research examining the effect of audit partner rotation/tenure on (perceived) earnings quality focuses on only a few countries for which audit partner data is available, like Taiwan or Australia (Chen et al., 2008; Carey & Simnett, 2006).

4.2.1 Audit partner rotation/tenure and quality of reported earnings

Chen et al. (2008) examine the effect of audit partner tenure in a Taiwanese setting, whereby they control for the effect of audit firm tenure. The authors use a sample of Taiwanese listed firms in the period 1990-2001, when audit partner rotation was not a legal requirement in Taiwan. Using the absolute values of discretionary accruals (hereafter DA) as proxy for earnings quality, the authors find a significant increase in earnings quality when audit partner tenure becomes longer. In the additional analysis the authors split up their initially continuous tenure variable into short (≤ 5 years), medium (6-10 years) and long (≥ 11 years) and this provides the same results. When the positive (income-increasing) DA are used as proxy, only when there is no control variable for audit firm tenure, a positive relationship between audit partner tenure and earnings quality is found. Using the raw¹⁵ and negative values of DA, Chen et al. (2008) find no significant results. The non-significance of the raw DA measure is consistent with Myers et al. (2003) and is caused by the mean-reverting nature of DA (Dechow, Sloan & Sweeney, 1995). The non-significance of the negative DA proxy is possibly caused by the fact that negative DA also might suggest a conservative application of GAAP, which is in most cases not seen as earnings management (Ashbaugh et al., 2003). Nevertheless, although conservatism is not seen as earnings management, it could distort the true and fair view of the underlying firm performance. Therefore also negative values of DA, could give important insights with regard to earnings quality. Overall, Chen et al. (2008) argue that longer audit partner tenure limits the management's ability to use manipulative discretion in its financial reporting choices, indicating higher earnings quality. The authors therefore conclude that audit partner rotation does not increase the quality of reported earnings. However, important footnote is that Chen et al. (2008) exclude the first year of audit partner tenure in their statistical analysis, while it is reasonable to assume that the biggest effect resulting from audit partner rotation might be expected to occur in this first year of audit partner tenure. This could have a significant influence on the results of the study of Chen et al. (2008).

¹⁵ Raw means that both positive and negative values of DA are simultaneously included in the statistical analysis.

Chi et al. (2009) conduct a study in the same country and culture as the study of Chen et al. (2008) by also using a Taiwanese sample of firms. However, Chi et al. (2009) are focusing on the effect of audit partner rotation, instead of audit partner tenure. In addition, the authors investigate the effect of audit partner rotation in a mandatory regime, while Chen et al. (2008) conducted their research in a voluntary audit partner rotation environment. Chi et al. (2009) exploit the fact that audit partner rotation in Taiwan became retroactively¹⁶ mandatory in 2004. Absolute, positive and negative performance-matched¹⁷ DA are used to measure earnings quality. Chi et al. (2009) use the year 2004 as the observation year and create a sample of firms for which audit partner rotation was required in that year. This sample is thereafter compared with three benchmark samples. These three samples are: 1) firms for which there was no required audit partner rotation in 2004; 2) the prior year (2003) observations of firms that were required to rotate the audit partner rotation in 2004, and; 3) firms that voluntarily changed their audit partner in 2004. When comparing the mandatory partner rotation sample with the non-rotation sample (1), the authors find no significant differences on all three DA measures. This finding would mean that it makes no difference for the quality of earnings whether there is mandatory audit partner rotation or no rotation. However, when the mandatory rotation sample is compared with the prior-year (2003) observations of the mandatory rotation sample (2), the authors do find several significant differences. The absolute DA are significantly lower in the year before the mandatory audit partner rotation, which indicates that management in this prior year has less freedom to use income-increasing and income-decreasing accruals to manage earnings, indicating higher earnings quality. The authors find that positive (income-increasing) DA in the year before the mandatory audit partner change are lower than in the year wherein the firm was required to rotate the audit partner. It are those income-increasing accruals that are the biggest concern with regard to reduced earnings quality, looking at the big accounting scandals in the past (Hamilton et al., 2005). When taking the negative (income-decreasing) DA as proxy, Chi et al. (2009) find that in the year a mandatory audit partner rotation occurred there are less constraints on using those income-decreasing accruals, which might give some indication of lower earnings quality. Lastly, the authors look at the difference between the mandatory partner rotation sample and a sample of observations with voluntary audit partner rotations (3). No one of the three DA measures for earnings quality turns

¹⁶ All audit partners that in 2004 had served their clients in the five consecutive years before were required to rotate in 2004.

¹⁷ The performance-matched discretionary accrual model established by Kothari, Leone and Wasley (2005) is used.

out to be significant, which means that there is no difference in effect on earnings quality between voluntary and mandatory audit partner rotation. Those findings on the three benchmark samples can be linked with the findings of Chen et al. (2008). Chi et al. (2009) state that the average audit partner tenure of the mandatory audit partner rotation sample is the shortest of all four samples, while the average tenure of the prior-year sample (2) is the longest, which is the only sample that provides significant results on the differences in earnings quality, in favor of the prior-year (2) sample. The authors therefore conclude that mandatory audit partner rotation does not enhance earnings quality and argue that longer audit partner tenure is associated with higher earnings quality, consistent with Chen et al. (2008).

Contrary to the above mentioned positive effects of audit partner tenure and (corresponding) negative effects of audit partner rotation on earnings quality, Carey and Simnett's (2006) findings support the implementation of audit partner rotation, by finding a negative association between audit partner tenure and earnings quality. The difference in findings is possibly caused by differences between the Australian and Taiwanese setting, the use of different proxies to measure earnings and audit quality, and differences in the definition of short and long audit partner tenure. Carey and Simnett (2006) use a sample of companies listed on the Australian stock market, in the year 1995. They examine two properties of earnings to measure the independence of the auditor. In the first place they use the relative¹⁸ amount of Abnormal Working Capital Accruals (hereafter AWCA) and secondly just meeting or missing earnings benchmarks is used as measurement. The authors also look at a proxy for the auditor's independence that is not directly related to earnings quality: the propensity to issue a going concern opinion for financially distressed companies.

When looking at the relation between audit partner tenure and AWCA, the authors find no significant relation between long audit partner tenure (> 7 years) and the signed or absolute amounts of AWCA. This indicates that longer audit partner tenure does neither have a positive nor a negative influence on earnings quality. Examining the association between short audit partner tenure (≤ 2 years) and signed AWCA shows that this association is only positive and significant at the 0,10 significance level. When using the absolute values of AWCA, no significant result is found. Overall, the authors conclude that both shorter and longer audit partner tenure does not

¹⁸ The AWCA in year t are scaled by the corresponding sales in year t .

significantly influence earnings quality, when the AWCA are used as proxy. The second proxy to measure earnings quality is just beating or missing earnings benchmarks. Carey and Simnett (2006) compute the proportion of firms just beating breakeven of the total number of firms in their sample that are just missing or just beating breakeven and find that this proportion is lowest for medium (3-7 years) audit partner tenure. The difference in proportion between long and medium audit partner tenure is significantly positive, indicating that when audit partner tenure becomes longer it is relatively easier to turn a small loss into a small profit, which suggests lower earnings quality. This difference is however not significant when looking at the proportion of the combined just missing and beating that do just beat last year's profit, indicating no negative effect of longer audit partner tenure. Instead, the authors find that short (≤ 2 years) audit partner tenure is associated with relatively more just beating last year's profit, indicating lower earnings quality.

Carey and Simnett (2006) also perform a regression analysis with relevant control variables and find that audit partner tenure does not influence the probability of just beating breakeven. In addition, the authors do find only some weak evidence (at the 0,10 significance level) that both short (≤ 2 years) and long (> 7 years) audit partner tenure is associated with a decreased probability of just missing breakeven. When beating or missing of last year's profit is used as benchmark for earnings quality, Carey and Simnett (2006) find a medium significant (0,05 confidence level) negative association between short audit partner tenure and the probability of just beating last year's profit, providing some indication that earnings quality is higher when audit partner tenure is short.

Lastly, Carey and Simnett (2006) consider the auditor's propensity to issue a going concern opinion for financially distressed companies as proxy for the quality of the auditor's work and independence. They look for companies that report losses or negative cash flow from operations in year t . Thereafter, for those companies is determined whether they have received a going-concern modified audit report or not. This is translated into an indicator variable and thereafter regressed on audit partner tenure and several control variables. The researchers find that the propensity to issue a going concern opinion is significantly lower (at the 0,05 significance level) when audit partner tenure is longer than seven years. In addition, Carey and Simnett (2006) show that (at the 0,10 significance level) short audit partner tenure (≤ 2 years) is associated with a higher propensity to issue a going concern opinion for financially distressed companies. Important footnote here is that the negative relationship between audit partner tenure and the propensity to

issue a going-concern opinion mainly pertains to non-Big 6 auditors. The results are not significant for Big 6 auditors, which is consistent with the finding that auditors of those firms provide higher audit quality (Becker, DeFond, Jiambalvo & Subramanyam, 1998). Taking the results on all three measures of earnings/audit quality into account, the authors conclude that there is “*support for the introduction of a rotation policy after seven years of partner tenure.*” (Carey & Simnett, 2006, p. 674).

While the studies discussed above provide results either in favor or not in favor of longer audit partner tenure or audit partner rotation, Chi and Huang (2005) find that both short and long audit partner tenure impair earnings quality. They investigate the effect of audit partner tenure in a voluntary rotation environment, using a sample of Taiwanese listed firms in the period 1998-2001. The researchers use the absolute value of DA as proxy for earnings quality. Chi and Huang (2005) find that during the first five years of audit partner tenure, earnings quality gradually increases. However, this only holds when they investigate the single effect of audit partner tenure on earnings quality. When the authors control for audit firm tenure, the audit partner tenure effect is no longer significant. Nevertheless, there is probably a multicollinearity problem, given the correlation between the audit partner and audit firm tenure variables of 87%. This makes the interpretation of coefficients when both variables are included in the same model, very difficult. Chi and Huang (2005) find that when audit partner tenure has reached five years, the quality of reported earnings gradually decreases again in the years thereafter. The tested positive quadratic relationship between audit partner tenure and absolute DA, the proxy for earnings quality, is significant. Setting the first derivative of the quadratic audit partner tenure variable equal to zero shows that the optimal level of audit partner tenure is around 5 years. This finding means that there are not only factors present that cause earnings quality to decline when audit partner tenure is short, but also when audit partner tenure becomes longer. Those (possible) factors will be discussed in chapter 4.2.2.

The fact that Chi and Huang (2005) is the only study that finds a negative association between both shorter audit partner tenure and earnings quality, and longer audit partner tenure and earnings quality could be caused by several factors. There could be differences in sample periods and differences in the used proxies to measure earnings quality. In addition, the institutional settings could differ and the classification of audit partner tenure could also cause that the found effects are attributed dissimilarly. However, the most probable reason for the difference between

Chi and Huang (2005) and the previously discussed studies is a fundamental difference in research methodology. Chi and Huang (2005) use a quadratic, continuous variable for audit partner tenure that is used in their statistical analysis, while in the previously discussed studies a linear audit partner tenure variable (Chen et al. 2008) or a dichotomous tenure variable is used (Carey & Simnett, 2006). Although the dichotomous tenure variable could to a certain degree be interpreted as a sort of quadratic variable, it is a less sensitive way of measuring tenure, because it is possible that effects that occur after a certain amount of years could be wrongly attributed to other years. For example, defining short audit partner tenure might mean that audit partner tenure is set at three years or less. In this way, it is assumed that the effects of audit partner tenure are the same in all three years. Nevertheless, this not necessarily have to be the case. The quadratic audit partner tenure variable is a much more sensitive way of measuring audit partner tenure and, more importantly, probably better captures the actual relationship between audit partner tenure and earnings quality (see chapter 4.2.2). It also supports the observation that prior research was able to find both negative and positive associations between audit partner tenure and earnings quality. The theory behind the observation that earnings quality could be impaired for both short and longer audit partner tenure, will be discussed in the following section.

4.2.2 Theory behind relationship between audit partner rotation and quality of reported earnings

In the previous section was shown that the studies of Chen et al. (2008) and Chi et al. (2008) provide empirical evidence that longer audit partner tenure does have a positive effect on earnings quality and that audit partner rotation therefore is not beneficial. On the other hand, the study of Carey and Simnett (2006) suggests that longer audit partner tenure impairs the quality of reported earnings and therefore supports the implementation of audit partner rotation. However, based on the findings of Chi and Huang (2005), I concluded that both short and long audit partner tenure could have a negative influence on the quality of reported earnings and that the relationship between audit partner tenure and earnings quality is quadratic. Translating these findings to the case of audit partner rotation means that the actual effect of audit partner rotation on the quality of earnings is unclear. On the one hand, audit partner rotation limits the negative effect associated with longer audit partner tenure. However, the logical result of audit partner rotation is a decrease in earnings quality that is associated with short audit partner tenure. Below, I will discuss the

factors causing earnings quality to decline when audit partner tenure is both short and long.

The studies that find evidence of a positive association between audit partner tenure and earnings quality in general come up with a similar reason for this and refer to the auditor's knowledge about and experience with the client. When audit partner tenure becomes longer, the audit partner has been able to build up (valuable) client-specific knowledge and experience (Chen et al., 2008; Chi & Huang, 2005). This knowledge and experience is, for example, about the client's internal controls, financial reporting practices and accounting system. St. Pierre and Anderson (1984) and Knapp (1991) suggest that the auditor's process of obtaining knowledge and experience can be expressed in a (convex) learning curve. In the early years of the audit engagement, the incremental learning effect is relatively big, while the amount of 'new' information to be digested by auditors decreases as the tenure lengthens. Therefore, after a few years, the learning curve ends in a more or less flattened line. An important footnote is that this learning process is influenced by whether the audit partner is working for a Big N audit firm or not. Chi and Huang (2005) find that there is a '*learning differentiation*' effect, which means that Big N auditors are significantly quicker in obtaining client-specific knowledge and experience than non-Big N auditors. Prior research from Abdolmohammadi (1989) shows that audit partners and managers on average need between 1,3 and 2,9 years for gaining experience with the client's internal controls, for example. This knowledge is however important during several stages of the audit process (Arens et al., 2010). Due to this lack of client-specific knowledge and experience in the early years, and especially in the year of rotation, a new audit partner faces a higher risk of overlooking errors and anomalies in the client's internal controls and financial accounting system (Arruñada & Paz-Ares, 1997). This could have a relatively negative effect on the quality of reported earnings, because it is possible that not all distortions are detected and reported. The published financial statements could in this way still contain (some) distortions and therefore do not provide a true and fair view of the underlying firm performance and condition. While these lacks in knowledge and experience, that may exist in the early years of audit partner tenure, could reduce the quality of reported earnings, one might argue that those lacks might be compensated by increasing the effort in the audit process. However, Arruñada and Paz-Ares (1997) show that increased effort and knowledge or experience are not perfect substitutes and that increasing the effort in the audit process therefore cannot eliminate all negative effects associated with the lack of knowledge and experience in the early years. Thus, it is suggested that because of a lack of client-specific knowledge and

experience, the quality of reported earnings in the year of rotation and the first couple of years thereafter might be impaired. This impairment becomes gradually less severe for each additional year of audit partner tenure in the early years.

Like it was shown in the literature review, earnings quality could also be reduced when audit partner tenure becomes long. Chi and Huang (2005) and Carey and Simnett (2006) provide the same reason for this finding which refers to the (social) relationship between the audit partner and the client. When audit partner tenure lengthens it is reasonable to assume that there might arise a familiar relationship between the audit partner and the client. This familiar relationship does not necessarily have to be a threat to auditor independence, because a familiar relationship is needed in establishing an effective and efficient working relationship with the client (Bamber & Iyer, 2007). This familiarity could create a better understanding of the client's internal controls and a better ability to identify and evaluate potential risks the client could face (International Federation of Accountants (IFAC), 2003). As a consequence, the auditor could be better able to detect items that could distort the true and fair view of the firm's performance. However, when familiarity turns into excessive familiarity, earnings quality might be impaired. The IFAC provides two (intertwined) reasons why a long relation between the audit partner and the client might impair earnings quality. In the first place a too familiar relationship might erode the auditor's independence (IFAC, 2003). Second, when audit partner tenure lengthens the auditor might lose his or her critical view and professional skepticism (IFAC, 2003). Like mentioned before, independence refers to the unobservable state of mind of the auditor. Mautz and Sharaf (1961, p. 208) state that the development of excessive familiarity and the corresponding loss of independence is in most cases "*a slow, gradual, almost casual erosion of their honest disinterestedness.*" Excessive familiarity might increase the likelihood that the audit partner will accede to the client's pressure in their choice and application of accounting practices (Arruñada & Paz-Ares, 1997). Pander to those pressures could be quite obvious, like the auditor's approval of an allowance that is not realistic, in order to please the client for example. In addition, the client's pressure could also mean that the audit partner allows, instead of challenges, aggressive accounting methods of management, which ultimately could lead to a distorted view of the firm's financial performance and condition (Myers et al., 2003). However, besides the quite obvious pressures there also could be subtle pressures which could (unconsciously) have an effect on the critical view and professional skepticism of the auditor during the audit (Mautz & Sharaf, 1961). This earlier

described gradual impairment of independence, which seems to be occurring unconsciously, might in most cases even be the biggest cause of reduced independence and decreased earnings quality when audit partner tenure becomes longer. The situation wherein the audit partner is unconsciously losing the absolute sharpness during the audit does not have to be significant on each individual item during the audit. However, the ‘sum’ of all those slightly less critical appraisals might cause that the overall quality of the audit and the quality of earnings could be significantly impaired.

Prior literature, including Carey and Simnett (2006), has also suggested another reason why audit partner rotation might be beneficial. This reason refers to the way the audit is conducted when audit partner tenure lengthens. When partner tenure becomes longer it is possible that relatively less rigorous and creative audit programs and audit procedures are applied during the audit (Arruñada & Paz-Ares, 1997; Deis & Giroux, 1992; Shockley, 1981). Those less rigorous and inventive audit programs could cause the auditor is less able to detect misstatements that could distort the true and fair view of the financial statements. In addition, when audit partner lengthens it could be reasonably more likely that the auditor is relying too heavily on audit findings of prior years and anticipates results of procedures in this year’s audit based on the experience from earlier years (Arruñada & Paz-Ares, 1997; Carey & Simnett, 2006). For example, when the auditor has tested the internal controls of a certain client for the prior eight¹⁹ years and did not find any material weaknesses, there might arise a tendency that the auditor assumes that the firm is still in control, or at least that the auditor is less focused on changes in the internal controls of the client. This shift to a mode of anticipation and looking for confirmations, rather than being focused on potential differences and other factors that differ from the past situation, which could cause anomalies or distortions in the financial statements, could negatively influence earnings quality when audit partner tenure becomes longer.

In figure 2, on the next page, the quadratic association between audit partner tenure and earnings quality is shown. Like it is presented in the graph, earnings quality reaches its maximum when audit partner tenure is around five years. The negative effects associated with shorter audit partner tenure are summarized under the term ‘learning effect’, while the negative effects associated with longer audit partner tenure are captured by the term ‘familiarity effect’. This figure also shows that when an audit partner that has served a client for a long time²⁰ is replaced by

¹⁹ This tenure does not have a special meaning but is used as a tenure that is viewed as long audit partner tenure.

²⁰ A long time could for example be an audit partner tenure of 8 consecutive years.

another audit partner from the same audit firm, it could be expected that earnings quality will not be considerably different in this year of rotation.

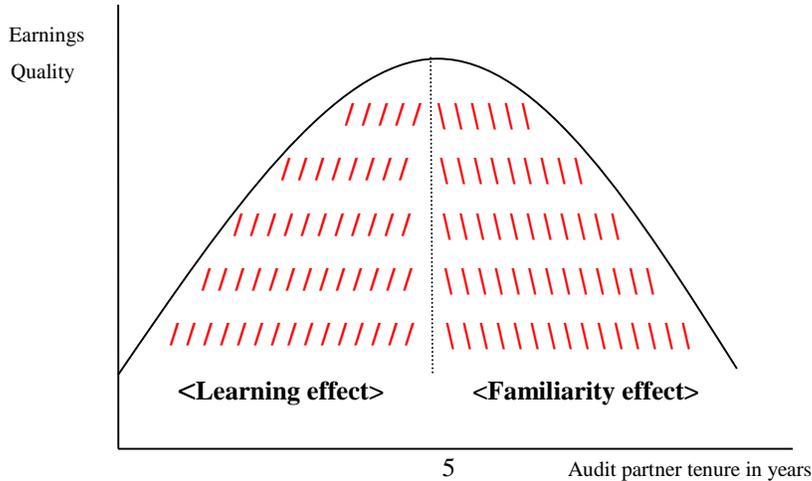


Figure 2 *Quadratic relationship between audit partner tenure and quality of reported earnings*

4.2.3 Audit partner rotation and perceived quality of earnings

While the previously discussed literature concerned the association between audit partner rotation/tenure and the quality of reported earnings, Chi et al. (2009) look at the effect of mandatory audit partner rotation on the *perceived* quality of earnings. To date, this is the only study that has investigated this association. To measure the earnings quality as perceived by investors the authors use the ERC, which measures the relation between earnings and abnormal stock returns. The mandatory audit partner rotation is compared with the three benchmark samples that were defined in chapter 4.2.1: 1) non-partner rotation observations; 2) same firms, but prior year observations, and; 3) observations of firms with voluntary audit partner rotation. The authors find no significant differences in ERC between the rotation and non-rotation sample. Also the difference in ERC between the rotation sample and the prior year observations of this rotation sample is not significant. This indicates that mandatory audit partner rotation for one single firm does not significantly influence the perceived informativeness or value relevance of unexpected earnings of this firm. The authors do find a significant association between the mandatory and voluntary rotation sample, whereby a lower ERC is found for the latter sample. This result means that mandatory audit partner rotation is associated with higher perceived earnings quality,

compared to voluntary rotation. Nevertheless, overall the authors conclude that there is no consistent evidence regarding the effect of mandatory audit partner rotation on perceived earnings quality (Chi et al., 2009). Chi et al (2009) do not provide an explanation for the, in general, non-significant effect of audit partner rotation on perceived earnings quality. However, a possible reason for the non-significance is that investors or other third parties do not particularly pay attention to the fact whether audit partner rotation has occurred or not. Another reason could be that third parties perceive the actual effect of audit partner rotation on earnings quality not to be significant. This could be caused by the fact that in most cases the other member of the engagement team are not rotated. Those factors will be discussed in detail in chapter 4.5.

4.3 Audit firm tenure and earnings quality

In the past, several researchers have investigated the relationship between audit firm tenure and earnings quality. In this subsection I will discuss some of the prior studies regarding audit firm tenure. For the positive association between audit firm tenure and earnings quality I will also provide a detailed theoretical explanation.

4.3.1 Audit firm tenure and the quality of reported earnings

Johnson, Khurana and Reynolds (2002) investigate the effect of audit firm tenure on earnings quality for U.S.-listed firms in the period 1986-1995. The proxies used to measure earnings quality are the absolute value of unexpected accruals and the persistence of the accrual components of earnings. The authors split up their sample into short (2 or 3 years), medium (4-8 years) and long (≥ 9 years) audit firm tenure. The authors find that short audit firm tenure is associated with higher unexpected accruals, indicating lower earnings quality. The authors argue that a firm's management has more discretion in the financial reporting process in the early years of the audit engagement relationship and that earnings quality is therefore lower. When looking at the persistence of the accrual component of earnings, the authors find that when audit firm tenure is short, this accrual component of earnings is less persistent. This is an indication of reduced earnings quality. Contrary to the negative association between short term audit firm tenure and earnings quality, Johnson et al. (2002) do find no significant relation between long audit firm tenure and unexpected accruals, indicating that earnings quality is not impaired when audit firm tenure is long (≥ 9 years).

The study of Myers et al. (2003) is comparable to the study of Johnson et al. (2002). They use a sample of listed US firms in the period 1988-2000 and regress audit firm tenure as a continuous variable, instead of the dichotomous audit firm tenure variable used in Johnson et al. (2002). Absolute and signed discretionary and current accruals are used as proxies for earnings quality. The authors find that the dispersion (or extremity) in accruals become smaller when audit firm tenure lengthens, meaning less freedom in manager's (manipulative) financial reporting practices and as a consequence, higher earnings quality. The finding that earnings quality is relatively lower when audit firm tenure is short, is consistent with Johnson et al. (2002).

There is also empirical evidence that suggests that both short and long audit firm tenure impairs earnings quality. Davis et al. (2009) examine the association between audit firm tenure and earnings quality, measured by the use of discretionary accruals to meet or beat earnings forecasts. Part of their findings is consistent with the results found by the studies discussed above, by finding that earnings quality is impaired when audit firm tenure is short (three years or less). Davis et al. (2009) also find that earnings quality is impaired when audit firm tenure is long (fifteen years or more). A possible explanation for the fact that Davis et al. (2009) is one of the few studies that find that audit quality is also impaired when tenure is (very) long is that they use a regression model including quadratic terms for audit firm tenure, while the papers previously discussed only used linear regression coefficients for audit firm tenure in their statistical analysis. A quadratic term potentially better captures the actual relationship between audit firm tenure and earnings quality on the (very) long run. This shows resemblance with the quadratic relationship between audit partner tenure and earnings quality, discussed earlier.

4.3.2 Theory behind relationship between audit firm tenure and quality of reported earnings

From the literature discussed above it appears that both short and long audit firm tenure impairs earnings quality. The main reason for the lower earnings quality in the early years of the engagement suggested by Johnson et al. (2002), Myers et al. (2003) and Davis et al. (2009) is similar to the reason Chen et al. (2008), Chi et al. (2009) and Chi and Huang (2005) gave for the negative association between shorter audit partner tenure and earnings quality. This is probably caused by the observation that audit partner and audit firm are intertwined to a great extent and that it is difficult to attribute findings to one particular concept (Chen et al., 2008). The reasoning

is that in the early years of the audit engagement, the audit firm lacks client-specific knowledge and expertise which reduces the ability to detect distortions in the financial statements. Like mentioned before, this increases the possibility that distortions are not detected, so that the financial statement still contain some of the distortions and do not provide a true and fair view of the firm's performance (Arruñada & Paz-Ares, 1997).

Prior literature also provides some other explanations for the negative association between shorter auditor tenure and earnings quality that, to a great extent, are probably better attributable to audit firm tenure/rotation than audit partner tenure/rotation. Johnson et al. (2002) refers to the fact that the audit firm's incentives in the early years of the engagement might be different from the later years (Chow & Rice, 1982; DeAngelo, 1981b). Geiger and Raghunandan (2002) argue that this different behavior in the early years of audit firm tenure could be caused by lowballing. Lowballing refers to the practice of "*setting initial audit fees less than current total costs*" (DeAngelo, 1981b, p.118). Audit firms operate in a competitive market and compete for market share, just as other profit firms (Sikka, 2009). Obtaining a new client is valuable, because of the possibility of earning *quasi rents*²¹ from this client in the future (DeAngelo, 1981b). Those *quasi rents* can be earned by the incumbent audit firm because of the possession of client-specific knowledge and experience, and the presence of transaction and start-up costs for both other audit firms and the client. However, in order to obtain a client in a competitive market, the audit firm should not overprice its offer, because otherwise a competitor audit firm could acquire the client. This competitive game might cause the price of the initial audit engagement to be under the cost price of the engagement, so that the audit firm who actually obtains the client reports a loss on this first year's audit. Reporting a loss on the audit in the first year should, from the audit firm's point of view, be recouped in the future years wherein the expected *quasi rents* are earned. The fact that this initial loss should be recovered could influence the audit firm's behavior in the early years of the audit engagement (Geiger & Raghunandan, 2002). Losing a client in the early years could cause that the initial loss could not be earned back. Being fired by the client in the first or second year of the engagement is in this case disadvantageous for the audit firm. Therefore, the firm could have incentives to maintain the relationship with the client in the early years. To ensure that the relationship will be maintained, the auditor in the initial years could be tempted to please the client, by being less strict in limiting management discretion or by not challenging aggressive accounting

²¹ Quasi rents could, to a great extent, be seen as the equivalent of profits.

choices, for example. If not limited, those management practices might lead to distortions in the financial statements that lowers earnings quality in the initial years of audit firm tenure. Moreover, Geiger and Raghunandan (2002), as mentioned in Johnson et al. (2002), suggest that audit firms in order to keep costs (and the loss) in the initial year(s) as low as possible, could put less effort in the audit. O’Keefe, Simunic and Stein (1994) suggest that the level of reasonable assurance, which could be interpreted as earnings quality, the auditor provides is partly dependent on the input of audit services. This input could for example refer to the amount of labor hours and the classes of labor used in the audit (O’Keefe et al., 1994). Prior research from Caramanis and Lennox (2008) suggests that using less labour hours in order to reduce costs, is associated with lower earnings quality. However, although the practice of lowballing and the corresponding behavior might be a possible reason for the finding that earnings quality could be impaired in the early years of audit firm tenure, from the Dutch audit market regulations could be derived that setting prices below the actual costs of the audit is no longer allowed (NIVRA/NOvAA, 2002; Van Schaik, 2003). Nevertheless, it is not explicitly stated that the practice of lowballing is prohibited. In the directive ‘*Nadere voorschriften inzake de onafhankelijkheid van de accountant*’ is stated that the audit fee should be sufficient to reserve enough time to conduct the audit and to hire well enough qualified personnel (NIVRA/NOvAA, 2002; Van Schaik, 2003). The purpose of this rule is to safeguard the quality of the audit. However, in most cases an audit offer, in order to attract a client, is based on assumptions about how much resources will be needed during the audit and those estimations might still be too optimistic and also very difficult to test. This causes that the lowballing practice still could exist.

Besides the fact that audit firms have monetary incentives, Geiger & Raghunandan (2002) argue that there also might be reputational concerns that causes the quality of earnings to be impaired during the initial years of the audit engagement. The audit firm might be more lenient towards the client in order to avoid being fired by the client in the early tenure years. When there is no other information about the termination of the contract, the outside world may perceive this as a problem associated with the audit firm, given the incentives of audit firms to keep clients to earn future *quasi rents*. This may impair the (valuable) reputation of audit firms (Geiger & Raghunandan, 2002).

While short audit firm tenure might have a negative influence on earnings quality, long audit firm tenure also has a negative impact. The rationale behind this is that when audit firm

tenure becomes longer, there might arise excessive familiarity which negatively influence earnings quality (Davis et al., 2009). It could also be possible that the way the audit is conducted is less rigorous. Nevertheless, because those two reasons show much resemblance with the described effects of longer audit partner tenure, I will not discuss them again and refer to chapter 4.2.2.

4.3.3 Audit firm tenure and the perceived quality of earnings

The previously discussed studies examined the relation between audit firm tenure and the quality of reported earnings. Ghosh and Moon (2005) instead look at the effect of audit firm tenure on the quality of earnings as perceived by investors. The researchers use a sample of listed US firms in the period 1990-2001. The proxy used to assess the perceived earnings quality is the ERC. Ghosh and Moon (2005) find that investors perceive earnings quality to be higher when audit firm tenure is longer, indicated by the relatively higher ERC. The authors also find that the influence of reported earnings becomes higher as audit firm tenure increases. In addition, independent rating agencies also perceive earnings quality to be higher when audit firm tenure is longer. These findings suggest that the possible lack of client-specific knowledge and expertise in the early years of audit firm tenure is perceived as a relatively bigger concern than the possible excessive-familiarity threat when audit firm tenure becomes longer.

On the other hand, Boone, Khurana and Raman (2008) report that the relationship between audit firm tenure and the equity risk premium, which is a proxy of perceived earnings quality²², is non-linear. During the early years of audit firm tenure the risk premium gradually decreases, indicating an increase in perceived earnings quality when audit firm tenure lengthens. However, because of the so called “*auditor-client closeness*”, which is the same as excessive familiarity, the risk premium increases again when audit firm tenure becomes longer, indicating lower perceived earnings quality when audit firm tenure becomes longer.

4.4 Earnings quality safeguards for Big N audit firms

Geiger and Raghunandan (2002) suggest that the audit firm’s reputation concern could impair the quality of earnings in the early years of audit firm tenure. Prior research suggest that reputational (and litigation) concerns also could have a positive effect on earnings quality, especially for Big N audit firms (DeAngelo, 1981a). This factor could be important in this study,

²² The equity risk premium tells something about the reliability.

because the Dutch audit market for publicly listed companies is dominated by the Big 4 audit firms (AFM, 2012a). DeAngelo (1981a) argues that bigger audit firms have more to lose when the auditor fails to report a distortion in the financial statements that could have a material impact, because those audit firms have a larger client portfolio. When it becomes publicly known that the audit firm has failed to report a breach, it may cause the loss of relatively more (future) clients and the loss of the corresponding, valuable economic rents. In addition, Big N auditors are, because of the large client portfolio, also less economic dependent on a single client, compared to non- Big N audit firms (DeAngelo, 1981a). This also might mitigate the possibility of reduced earnings quality. Besides the reputational concern, the threat that the audit firm faces litigation due to material misstatements in the financial statements is also a factor that could cause the potential negative effects of short or long audit firm tenure on earnings quality to be reduced (Dye, 1993). This litigation threat is directly related to the reputation concern, because litigation against the audit firm or auditor could harm the audit firm's reputation. In addition, Dye (1993) suggests that when third parties sue the audit firm because of the failure to report a material misstatement, it is more likely that Big N firms will be sued. Dye (1993) states that this is caused by the fact that Big N audit firms have "*deeper pockets*". So, because of reputational and litigation concerns it could be assumed that the negative effects of shorter and longer audit firm tenure found in prior literature are relatively less severe for Big N audit firms.

4.5 Audit partner rotation and the moderating effect of audit firm tenure

Prior literature suggests that the effect of audit firm tenure on earnings quality can be probably best expressed as a quadratic relationship (Davis et al., 2009). Earnings quality gradually increases during the early years of audit firm tenure, but decreases again when audit firm tenure becomes (very) long. Nevertheless, the actual (individual) effect of audit partner rotation on (perceived) earnings quality may *ceteris paribus* be influenced by the underlying audit firm tenure. Carey and Simnett (2006) argue that the risk in the first years after audit partner rotation, in terms of not detecting material misstatements in the financial statements, is lower than during the early years of audit firm tenure. The authors suggest that when audit partner rotation occurs, the new audit partner can reduce the risk (of material misstatements ending up in the financial statements) by the introduction process and quality controls within the audit firm itself (Carey & Simnett, 2006). This means that at the time the audit partner rotates, there are conversations between the

new and old audit partner. In this way the new audit partner knows what is going on in the client's business and can create a view on the potential risk factors that have to be taken into consideration during the audit. This can also influence the way the audit is conducted, for example. The auditor partners could also discuss the results of prior year audits, in order to create an understanding. In addition, there are internal procedures within the audit firm that helps the new audit partner obtaining knowledge about the client. Furthermore, the (possible) continuity of the other audit engagement team members, the carrying forward of audit working papers of the client and the partner's familiarity with the existing audit methodology mitigates the 'risk' in the early years and especially in the year of rotation (Carey & Simnett, 2006). However, the 'success' of this introduction process of the new audit partner is conditional on the amount of knowledge and experience already existing in the audit firm. When audit firm tenure is relatively short, it is expected that there is a relatively lower amount of client-specific knowledge and experience about a specific client available within the audit firm, compared with the situation that the audit firm has served a client for a very long time. So, when audit partner rotation occurs in the early years of audit firm tenure, the mitigation of risk associated with the lack of client-specific knowledge of the new audit partner is possibly lower compared with the situation of long audit firm tenure. This would mean that audit partner rotation that occurs in the (relatively) early years of audit firm tenure has a more negative, or less beneficial, effect compared to when partner rotation occurs when audit firm tenure is long. When audit firm tenure is (very) long, prior literature suggests that this could create excessive familiarity, which could have a negative effect on the quality of earnings. In this case, the fresh look of the new audit, in combination with the familiarization procedures that are taken into account when the audit partner rotates, could be have a more beneficial or less worse effect on earnings quality compared with the situation of audit partner rotation when audit firm tenure is short.

There is also evidence that suggest that audit partner rotation is relatively worse, or less beneficial, when audit firm tenure is longer. In the study of Chen et al. (2008) the individual coefficients of both audit partner and audit firm tenure are summed up to show the effect of a simultaneous increase of one year audit partner and audit firm tenure. A one year simultaneous increase of both audit partner and audit firm tenure causes a significant decrease in absolute DA and positive DA, indicating higher earnings quality. Because the sum of the regression coefficients of both audit partner and audit firm tenure is bigger than the individual regression coefficients of

both audit partner and audit firm tenure in the separate regression analysis, it also means that for each additional year that the audit partner and audit firm increase simultaneously there are larger declines in absolute DA, compared to the situation that the audit partner rotation is replaced by another partner from the same audit firm. Carefully translating these findings to the case of audit partner rotation might give an indication that audit partner rotation has a relatively worse, or less beneficial, effect on earnings quality when audit firm tenure is longer, compared to shorter audit firm tenure. This is contrary to the observation based on the theory, described earlier. Although Chen et al. (2008) do not provide a reason for this finding, a possible explanation could be that the reputational and litigation concerns for both the audit firm and audit partner mitigates the negative effects associated with excessive familiarity to a greater extent than the negative effects associated with the lack of client-specific knowledge could be mitigated by the familiarization²³ process. In this way, the continuation of an audit partner tenure could have a relatively better effect than rotating the audit partner.

4.6 Differences between auditor rotation and auditor tenure

In the literature review both studies investigating the effects of audit partner rotation and audit partner tenure on earnings quality were discussed. However, the question that remains is whether rotation and tenure could be seen as similar concepts. At first glance it might seem obvious that the average audit partner tenure is a logical result of the number of rotations. In a given time period, a more frequent rotation will lead to a shorter average tenure. Though, there is an argument why one should be careful with this reasoning. In the study of Carey and Simnett (2006), for example, the effect of auditor tenure on earnings quality is measured using a continuous tenure variable. By using such a tenure variable, the authors assume that the relationship between auditor tenure and earnings quality is monotonically increasing or decreasing, given the non-exponential regression coefficient (Hamilton et al., 2005). This means that no distinction is made between the first year of the audit partner tenure and the other years. However, using such a variable, that to a great extent focuses on longer partner tenure, does not effectively measure the effect of audit partner rotation in the first year. In theory it is possible that the relation between audit partner tenure and earnings quality does not monotonically change, but that there is a shock effect in the year of rotation. Therefore, the linear and continuous audit partner tenure variable might not be

²³ Familiarization in the sense of obtaining knowledge about the client.

capturing the actual (shock) effect of audit partner rotation. A quadratic audit partner tenure variable probably mitigates the problems associated with a linear variable to a certain extent, because this type of variable ‘allows’ more variation in the early years of audit firm tenure.

4.7 Conclusion

Prior literature provides inconclusive evidence on the specific effects of audit partner rotation and audit partner tenure on the quality of reported earnings. I therefore concluded that the association between audit partner tenure and the quality of reported earnings probably could be best expressed by a (negative) quadratic function. When audit partner tenure is short, the audit partner probably lacks client-specific knowledge and experience. This could reduce the ability to detect all (material) distortions in the financial statements and as a consequence, might cause a reduction in the quality of reported earnings. When audit partner tenure is long, excessive familiarity might arise, which could reduce the audit partner's willingness to report on (material) distortions. It also could mean that the audit partner relies too much on findings in audits of prior years or puts less effort in the audit, reducing the likelihood that material distortions will be detected. The actual effect of audit partner rotation is therefore expected to be minimal, because it replaces the effect associated with familiarity, but introduces the effects associated with a lack of knowledge.

The (scarce) literature that examined the effect of audit partner rotation on the perceived quality of earnings found that this effect is not significant. This is probably caused by the observation that investors attach more value to other factors, when assessing the earnings quality of a company.

The literature regarding the effect of audit firm tenure on earnings quality shows mixed results, but this association can probably also be best expressed as a quadratic function. The reasons for this quadratic association are comparable to those of audit partner tenure. However, the practice of lowballing, which could reduce the quality of earnings in the early years of audit firm tenure, is a feature that probably is specifically attributable to (short) audit firm tenure. The effects of audit firm tenure on the perceived quality of earnings are contradicting.

Although a quadratic association for both types of tenures is assumed, there are some other factors that have to be taken into account. In the first place, there are litigation and reputation concerns that could mitigate the negative effects (that could be) associated with both short and

long audit partner and audit firm tenure. In the second place, when audit partner tenure is short there are several familiarization procedures and quality control measures within the audit firm that are established in order to mitigate the chance of an audit failure in the early years of audit partner tenure. However, I suggest that the propensity of success of these procedures could be influenced by underlying audit firm tenure. When audit firm tenure is longer, the audit firm can probably better 'prepare' the new audit partner, in terms of client-specific knowledge, the continuation of other members of the audit engagement team and working papers. Though, prior literature contradicts this suggestion, by finding that audit partner rotation has a more negative, or less beneficial effect when audit firm tenure is longer.

I also examined whether earnings and audit quality could be seen as equal concepts. Based on the findings of Bamber and Bamber (2009), I observe that audit quality in most cases is highly dependent on the internal controls of a client and that high audit quality does not per se mean high earnings quality or vice versa. Therefore, caution is needed when linking the results of this study to audit quality.

Lastly, I concluded that there could be some important differences between the concepts of auditor tenure and auditor rotation. The most important difference is that auditor tenure in most cases assumes a monotonic effect, whereby the first year of tenure is perceived as not being (significantly) different from the other audit partner tenure years, while when focusing on the specific effect of audit partner rotation a shock effect in the rotation year is often expected.

In the Appendix, a schematic overview of the literature that is discussed in this chapter is included.

5. Hypotheses

5.1 Introduction

The insights from the literature framework in the previous chapter provide valuable and important elements that enable me to set up the hypotheses. These hypotheses will be tested in order to answer my research question. In this chapter three hypotheses, respectively referring to the three research questions established in the chapter 1, are set up.

5.2 Hypothesis 1: Audit partner rotation and quality of reported earnings

When looking at the findings of prior literature regarding the association between audit partner tenure and the quality of reported earnings, it can be concluded that this association is quadratic. Earnings quality could be relatively lower when audit partner tenure is short, due to a lack of client-specific knowledge and experience, which reduces the ability to detect all the distortions that could cause the financial statements do not provide a true and fair view, indicating lower earnings quality. On the other hand, when audit partner tenure becomes longer there might arise excessive familiarity between the audit partner and the client, which could reduce the degree of restrictions the audit partner puts on the discretion used by management to manage earnings, indicating lower earnings quality. When these two observations are combined, it becomes clear that audit partner rotation might be a solution for the negative effects of excessive familiarity that could occur when audit partner tenure is long. However, at the same time, audit partner rotation inevitably means that the negative effects associated with short audit partner tenure occur. Theoretically, this could mean that the actual effect of audit partner rotation is not significant. In addition there are some other factors that might cause the actual effect of audit partner rotation not to be significant. Reputation and litigation concerns, especially for audit partners of Big N audit firms, might reduce the negative effects of excessive familiarity when audit partner tenure becomes longer, while at the same time the familiarization process of the new audit partner with the client and the continuity of the other members of the audit engagement team, could mitigate the negative effects associated with short audit partner tenure.

Combining all those findings leads to the reasonable expectation that audit partner rotation does not have a significant influence on the quality of reported earnings. Therefore, I formulate the following hypothesis (in null form):

HYPOTHESIS 1: *There is no association between audit partner rotation and the quality of reported earnings*

5.3 Audit partner rotation and the perceived quality of earnings

The prior literature examining the relationship between audit partner rotation and the perceived quality of earnings is very scarce, while only the study of Chi et al. (2009) has investigated this association to date. They find no consistent evidence on the effect of audit partner rotation on the perceived quality of earnings. This is maybe caused by the fact that audit partner rotation is not something where investors particularly pay attention to when they assess the quality of earnings. It could also be the case that even when investors notice a change of the audit partner, they do not perceive that this rotation has a significant influence on the quality of the numbers in the financial statements. Based on those observations, I formulate the following hypothesis (in null form):

HYPOTHESIS 2: *There is no association between audit partner rotation and the perceived quality of earnings.*

5.4 The moderating effect of audit firm tenure

Lastly, I examine how the potential effect of audit partner rotation is moderated by audit firm tenure. Prior literature provides inconclusive evidence on this. Based on theory and practice we might assume that audit partner rotation has a relatively more positive, or less negative, effect on earnings quality when audit firm tenure is longer. This is based on the observation that, *ceteris paribus*, the potential lack of client-specific knowledge and experience of the new audit partner might to a great extent be overcome by the familiarization process, the existing knowledge of the client within the audit firm due to the longer audit firm-client relationship and the continuity of the other members of the audit engagement team. However, Chen et al. (2008) provides empirical

evidence contrary to this and suggest that audit partner rotation has a relatively worse effect on earnings quality when audit firm tenure becomes longer.

Because it is unclear whether the effect of audit partner effect is moderated by audit firm tenure, I formulate the following hypothesis (in null form):

HYPOTHESIS 3: *The association between audit partner rotation and (perceived) earnings quality is not moderated by audit firm tenure*

6. Research methodology

6.1 Introduction

This chapter describes and explains the proxies and (statistical) methods that will be used to test the hypotheses, which were established in chapter 5. First of all, the measurements of audit partner rotation and audit firm tenure are explained. Second, the proxies for the quality of reported earnings and the perceived quality of earnings are provided. Thereafter, the regression models used to test the hypotheses are established and explained. Lastly, I give a description of the sample that is used in my study.

6.2 Audit partner rotation and audit firm tenure measurement

In this study audit partner rotation is proxied using a dummy variable that takes a value 1 if the auditor rotates in year t , and a value 0 otherwise. My measurement of audit partner rotation does not make a distinction between forced audit partner rotation and voluntary partner rotation, which could be caused by the partner's retirement for example. I do not make this distinction because I investigate the effect of audit partner rotation in a mandatory partner rotation regime. In this mandatory rotation regime it is still possible to voluntarily rotate the audit partner and it is impossible to prohibit voluntary audit partner rotations. Therefore, to provide a more veracious view of audit partner rotation, I include all partner rotations in the statistical analysis. In addition, it is also not possible to determine whether the audit partner rotation is forced or not, because partner level data are only available from 2005. However, audit partner rotation that is the consequence of audit firm rotation is not considered to be audit partner rotation. This is done because if these rotations would be included, it could create bias in the statistical analysis. Effects that should be attributed to audit firm rotation could then be wrongly attributed to audit partner rotation, if I would not control for audit firm tenure. When controlling for the effect of audit firm rotation, it would make no sense to include the audit partner rotations caused by audit firm rotation because the audit firm rotation control variable would 'absorb' this effect. In addition, the regulations about audit partner rotation are about the internal rotation of audit partners, not the rotations that are due to audit firm rotations.

The formal measurement of audit partner rotation is as follows:

$PROT = 1$ if audit partner rotates (within audit firm) in year t , 0 otherwise.

I also investigate the moderating effect of audit firm tenure on the association between audit partner rotation and (perceived) earnings quality. Prior research has identified two levels on which audit firm tenure can be measured. In the first place a distinction could be made between the different office locations of a particular audit organization (Francis & Yu, 2009; Choi, Kim, Kim & Zang, 2010). In this case a switch from one office location to another, within the same audit organization, causes the measurement of audit firm tenure to start from zero again. The decision to distinguish between office locations is often based on available resources within the office location. The offices could in this view be seen as independently operating entities, although they belong to the same audit organization. The other perspective is that audit organizations are seen as one entity, without taking switches within the audit organization into account. Such an ‘internal’ switch does not influence the measurement of audit firm tenure. In my study this latter perspective is used. The primary reason is that this switch of the audit organization is also the intention of the proposed mandatory audit firm rotation (EC, 2011). In addition, this approach is also used in the majority of studies that have investigated audit firm tenure (Myers et al., 2003; Davis et al., 2009).

Prior literature has identified two ways to measure audit firm tenure. Some researchers use a continuous variable to measure audit firm tenure (Chen et al., 2008; Myers et al., 2003). Other studies use an dichotomous variable, whereby audit firm tenure is split up into different time spans (Johnson et al., 2002; Ghosh & Moon, 2005; Davis et al., 2009). In my study I will use the latter approach, whereby a distinction is made between short and long audit firm tenure. This is done because the Dutch government will implement audit firm rotation in 2016 (under reserve), which means that audit firms are required to rotate after the audit firm has served the client for eight consecutive years. I want to investigate whether audit partner rotation has a different effect on earnings quality when audit firm tenure is long, compared to when it is short.

Therefore, I establish the following dummy-variable to measure audit firm tenure:

$LFT = 1$ if consecutive audit firm tenure in year t is nine years or more, 0 otherwise.

6.3 Measurements of earnings quality

In this study (perceived) earnings quality is used as a proxy for auditor independence. Independence *in fact* is operationalized by examining the quality of reported earnings in terms of accounting correctness and independence *in appearance* measured by examining the relation between earnings and abnormal stock returns, the ERC. In the following two subsections I will describe and explain respectively the measurement of the quality of reported earnings and perceived earnings quality.

6.3.1 Measurement of quality of reported earnings

To measure the quality of reported earnings, I use a proxy that focuses on the (working capital) accrual component of earnings. While the actual cash in and outflows during a period in most cases do not provide a true and fair view of the firm's underlying performance of that period, accruals could be seen as adjustments to the total cash in- and outflows during a period that 'helps' in providing this true and fair view (Palepu, Healy & Peek, 2010). Dechow (1994) states that using accruals overcomes the timing and matching problems, associated with cash accounting. Dechow, Khimich & Sloan (2011) capture the nature of accruals witty by suggesting that accruals are the "*piece of earnings that is 'made up' by accountants*". On the one hand accruals are useful to better reflect the underlying firm performance, because management can communicate inside information about the firm's performance, that otherwise would remain unknown to third parties, which consequently increases the quality of reported earnings (Krishnan, 2003). On the other hand, accruals are subject to managerial judgment and have a subjective nature, which could be exploited by management (Krishnan, 2003). Using accruals to manage earnings is favored by management because of the relatively low cost of use and their "*opaque*"²⁴ nature (Young, 1999, p. 833). An example of this is the estimation of the chance a customer will pay a receivable in the future or an estimation of the bad debt allowance. Because of the subjective nature of accruals and the

²⁴ Opaque could be interpreted as non-transparent.

fact that there exists information asymmetry between the firm's management and outsiders, management can behave opportunistically and exploit the subjective nature of accruals. For example, aggressive recognition of revenues by management lowers the degree to which the firm's earnings provide a true and fair view about the firm's performance. The possibility of opportunistic behavior of management lowers the initial value of using accruals in the financial reporting process and therefore lowers the quality of reported earnings.

The question that remains, after the above described features of accruals, is whether the 'reported' accruals in the financial statements actually are used to better reflect the underlying firm performance. Stated differently: which accruals are normal and increase the quality of earnings, and which accruals are the result of opportunistic management discretion and are therefore seen lowering earnings quality. This question has received considerable attention in prior literature and many researchers have attempted to establish models that distinguish normal from abnormal or discretionary accruals²⁵. Well-known models are the Healy (1985), DeAngelo (1986), Jones (1991), Modified Jones (Dechow, Sloan & Sweeney, 1995) and the Performance-Matched Modified Jones model (Kothari, Leone & Wasley, 2005)²⁶. However, while those models are used in multiple studies, Dechow, Hutton, Kim and Sloan (2012) argue that the mentioned models, that focus on total accruals, lack power to distinguish normal from discretionary accruals and are misspecified, because of correlated omitted variable bias when testing firms with extreme financial performance²⁷. Instead, Dechow et al. (2012) come up with another measurement to detect earnings management and the corresponding decrease in earnings quality: the reversal of abnormal non-cash working capital accruals, which are called AWCA in this study. They suggest that the statistical power significantly increases when reversals of abnormal accruals are used to detect earnings management, compared to the traditional models established by Jones (1991), Dechow et al. (1995) and Kothari et al. (2005). The reversal of AWCA means that earnings management in one period, must reverse in another period. In order to make this more comprehensible and clear, I provide an example, which is based on the study of DeFond and Park (2001). An important assumption here is that normal working capital is a fixed percentage of sales and does not change

²⁵ Note that abnormal and discretionary accruals are interpreted as similar concepts in this study

²⁶ Those models compute DA in three steps: 1) determining Total Accruals in year t of each firm in the population; 2) assuming that Non-DA are equal to Total Accruals in year $t-1$, or equal to average Non-DA in prior years of this firm (time-series), or equal to the average Non-DA in year t of the industry the firm belongs to (cross-sectional); 3) DA are determined as Total Accruals $-$ Non-DA (Knoops, 2010, p. 180).

²⁷ Improvements of the traditional Jones' models are, for example, the 'forward-looking-model' of Dechow, Richardson and Tuna (2003) and Dechow and Dichev's (2002) 'cash flow model' (Knoops, 2010).

during the measurement period (Dechow, Kothari & Watts, 1998). Dechow et al. (1998) show that, if sales follow a random walk, the normal working capital accruals are on average zero (DeFond & Park, 2001). When there is a permanent growth in sales, the normal working capital permanently increases (because of the assumed fixed proportion of non-cash working capital to sales). For example, due to a (one time) permanent growth in sales, accounts receivable in period t_0 increases with 60²⁸. In period t_1 this receivable is collected. However, due to the permanent growth in sales, in period t_1 there is, keeping all other things unchanged, again the account receivable of 60. While the receivable from period t_0 reverses in period t_1 , the permanent growth also causes a new receivable of 60, which therefore could be seen as a replacement of the accrual that arose in period t_0 . Nevertheless, in case of AWCA there is no such replacement. For example, understating an allowance in period t_0 could cause the earnings in period t_0 to be higher. Nevertheless, when in period t_1 the actual loss has to be incurred, the understatement of the allowance in the prior period causes that the actual reported loss in period t_1 , due to the understatement in period t_0 , is relatively higher. In other words, income-increasing or income-decreasing earnings management in period t_0 will always be offset by respectively income-decreasing and income-increasing effects in other (future) periods (DeFond and Park, 2001).

In the study of DeFond and Park (2001), a model to measure the AWCA is provided. Again it is assumed that normal working capital accruals are a fixed proportion of sales. DeFond and Park (2001) state that the AWCA are the difference between the reported working capital, that can be derived from the financial statements, and the expected working capital needed to support the sales levels in the current period. The expected working capital actually should be based on the market's expectations of working capital. However, this specific information is in most cases not available, which is a limitation of the model of DeFond and Park (2001). To mitigate this problem, I follow the approach of DeFond and Park (2001) and Dechow et al. (1998) who use the historical (fixed) proportion of working capital to sales in order to estimate the working capital needed to support the current sales levels.

In this study the model to detect AWCA, established by DeFond and Park (2001) is used. This model has the following form:

$$AWCA_t = WC_t - [(WC_{t-1}/S_{t-1}) * S_t]$$

²⁸ For example, sales are 100 in year $t-1$, 160 in year t , 160 in year $t+1$ and 160 in year $t+n$.

where,

- $AWCA_t =$ *abnormal working capital accruals in year t*
- $WC_t =$ *non-cash working capital in year t, computed as: (current assets – cash and short term investments) – (current liabilities – short term debt)*
- $WC_{t-1} =$ *non-cash working capital in year t-1*
- $S_t =$ *sales in year t*
- $S_{t-1} =$ *sales in year t-1*
- $t =$ *year; t refers to current year and t-1 refers to prior year*

In this model, $AWCA_t$ is scaled by the corresponding sales in year t (S_t). By doing this, the $AWCA$ becomes a relative number and comparable between firms.

Besides the fact that examining the reversing feature of $AWCA$ might provide more powerful statistical results, there are two other reasons why I use an accrual model that focus on reversals of $AWCA$, instead of using the Modified Jones Model (Dechow et al., 1995) or the Performance-Matched Modified Jones model (Kothari et al., 2005), that are used in almost all studies investigating the relationship between auditor rotation/tenure and earnings quality (Chen et al., 2008; Chi et al., 2009). In the first place DeFond and Jiambalvo (1994) argue that working capital accruals are more susceptible to manipulation than non-working capital accruals. This is caused by the fact that accruals resulting from depreciation, a non-working capital accrual, is less likely to be used for manipulative purposes because of the visibility and predictability of the depreciation accrual (Peasnell, Pope & Young, 2000; Young, 1999). The second reason why I choose $AWCA$ to measure the quality of reported earnings, instead of the traditional Jones' models, is that the Jones' models are regression-based accrual estimations, which require a large number of industry observations (cross-sectional) or a large number of observations over a longer time span (time-series) (DeFond & Jiambalvo, 1994; Maijoor & Vanstraelen, 2006). Because in my study I am tied to the fact that the sample is small and I only consider the period 2006-2011, using regression models could be problematic and might create measurement errors. For the cross-sectional analysis, there are too few observations per industry-year, and for the time-series analysis the time span is too short to obtain reliable and robust regression coefficients. The model

established by DeFond and Park (2001) does not require determine industry or firm determinants and does therefore not suffer from those problems.

While the model of DeFond and Park (2001) model might be suitable to determine the amount of manipulative use of management discretion in the financial statements, it is also important to know why this model is useful when testing the relationship between audit partner rotation and the quality of reported earnings. Like mentioned earlier in this study, the auditor's fundamental task is to provide reasonable assurance about whether the financial statements provide a true and fair view of the firm's financial performance (Arens et al., 2011). When the observations with regard to accruals are taken into account, the ultimate, but extremely simplified, task of the auditor is to detect and report on accruals that distort the true and fair view, the so called discretionary accruals. In the literature review was shown that the degree to which the auditor will report on those discretionary accruals could be lowered when the auditor is less independent, which could be occurring when audit partner tenure is longer (Carey & Simnett, 2006). On the other hand, a lack of client specific knowledge and experience could lower the degree to which the audit partner is able to detect (and report) on discretionary accruals (Chen et al., 2008). Therefore, examining the AWCA, can be useful to assess the effect of audit partner rotation on the quality of reported earnings.

6.3.2 Measurement of perceived earnings quality

Prior studies investigating the perceived quality of earnings have in most cases used a proxy that focuses on the perceptions of investors, because they are seen as the principal users of financial statements (Ghosh & Moon, 2005). Teoh and Wong (1993) and Ghosh and Moon (2005) use the relation between earnings and abnormal stock returns to measure the perceived informational content of these earnings, which is known as the ERC. In my study I will follow the approach used in the study of Ghosh and Moon (2005).

The determination of the ERC consists of several steps, which I will discuss next. Calculating the ERC starts with determining the abnormal return of a company's stock. In my study the abnormal return is defined as the difference between the actual daily return of a company stock and the daily expected return. The daily expected return is the value weighted daily market return of the Euronext Amsterdam stock market, whereby a distinction is made between the AEX, AMX and ASX index returns, dependent on which index a company is listed. Thereafter, the

difference between the daily actual and the daily expected return is cumulated for a period of 12 months, which ends three months after the fiscal year end of the firm. This sum is called the Cumulative Abnormal Return (hereafter CAR). The CAR is formally defined as follows:

$$CAR = \sum (R_{i,t} - R_{m,t})$$

where,

CAR = Cumulative Abnormal Return

$R_{i,t}$ = the return of a company stock i on day x

$R_{m,t}$ = the value-weighted market-adjusted return of the index of stock i on day x

The CAR is thereafter used as dependent variable in the following regression:

$$CAR = \beta_0 + \beta_1 E + \beta_2 \Delta E$$

where,

E = net earnings in year t , scaled by market value of equity at the beginning of year t

ΔE = change in reported earnings in year t compared to year $t-1$, scaled by market value of equity at the beginning of year t

The regression coefficients β_1 and β_2 respectively measure the effect of the reported and the change in reported earnings on the unexpected return of the company stock. The sum of the regression coefficients of both E and ΔE , is the ERC. A higher ERC means that there is a stronger relation between earnings and changes in reported earnings and the abnormal changes in stock prices. A higher ERC indicates that the perceived informativeness or value relevance of earnings is higher. Like described in the literature review, higher value relevance could be achieved if the information in the financial statements is more reliable (Liu & Thomas, 2000). The reliability of the reported earnings is however dependent on the independence of the auditor. Therefore, the ERC can be suitable to investigate the effect of audit partner rotation on perceived earnings quality. In the regression model that will be discussed in chapter 6.5, E and ΔE are interacted with audit partner rotation in order to investigate whether there is an incremental effect of audit partner rotation with regard to the value relevance of earnings. In addition several control variables that could influence the relationship between earnings and (abnormal) stock returns will be included.

6.4 Regression model I; quality of reported earnings

To empirically test the hypotheses established in chapter 5, two regression models are set up. In the first place the model to test the association between audit partner rotation and the quality of reported earnings is specified. This association is tested using the following regression model, wherein I already included the variables to measure the interaction of audit partner rotation and audit firm tenure (β_2), and the individual effect of audit firm tenure (β_3):

$$AWCA_t = \beta_0 + \beta_1 PROT + \beta_2 PROT * LAFT + \beta_3 LAFT + \beta_4 CFO + \beta_5 GRWT + \beta_6 SIZE + \beta_7 LEV + \beta_8 ROA + \beta_9 LOSS + \beta_{10} LLOSS + \beta_{11} AGE + \beta_{12} BIG4 + \varphi * Year + \varepsilon$$

where,

Dependent variable:

$AWCA_t$ = (I) absolute, (II) positive, (III) negative and (IV) raw abnormal working capital accruals in year t (scaled by sales in year t), as determined by the model defined in chapter 6.3.1

Experimental variables:

$PROT$ = 1 if audit partner rotates (within audit firm) in year t , 0 otherwise

$LAFT$ = 1 if consecutive audit firm tenure in year t is nine years or more, 0 otherwise

Control variables:

CFO = cash flow from operations in year t , scaled by total assets in year $t-1$

$GRWT$ = growth in sales in year t , computed as $((sales_t - sales_{t-1}) / sales_{t-1})$

$SIZE$ = natural logarithm of value of total assets in year t (at book-year end)

LEV = ratio of total assets to total shareholders' equity in year t

ROA = return on assets in year t , computed as profit in year t divided by lagged total assets

$LOSS$ = 1 if a loss is reported in year t , 0 otherwise

$LLOSS$ = 1 if a loss is reported in year $t-1$, 0 otherwise

AGE = number of years the firm is a listed company, since 1970

BIG4 = 1 if auditor is one of the Big 4 audit firms (Deloitte, PwC, KPMG or Ernst & Young), 0 otherwise
Year = indicator for year in period 2006-2011

The dependent variable to test the association between audit partner rotation and the quality of reported earnings is AWCA. In the statistical analysis I will consider four specifications of AWCA: absolute, positive, negative and raw values. The absolute values of AWCA do not take into consideration the direction of manipulative management discretion, but captures the overall magnitude of manipulative intervention in the accounting process by management (Hamilton et al., 2005). This means that higher absolute AWCA are associated with more freedom to shift earnings from one period to another, both income-increasing and income-decreasing shifts, indicating lower earnings quality. However, it seems that there exists an asymmetric assessment of accounting manipulation. Income-increasing (positive AWCA) are perceived as more onerous as income-decreasing earnings management, looking at the fraudulent reporting cases and audit failures in the past decade. Those failures in most cases had to do with earnings overstatements, rather than earnings understatements (Hamilton et al., 2005). In addition, prior research shows that the audit firm's risk of reputation loss in case of income-increasing earnings management is higher than income-decreasing earnings management (Maijoor & Vanstraelen, 2006). Therefore, in my analysis I will also perform separate regressions using either the positive or negative values of AWCA in the regression analysis. Lastly, for completeness I will use the raw values of AWCA as dependent variable. I will use the raw values to show that it is important to use either absolute or positive/negative values of AWCA as dependent variable.

The variables of interest, with regards to the quality of reported earnings, are *PROT*, *LAFT*, and the interaction term *PROT*LAFT*. In my hypotheses development I observed that audit partner rotation might be the solution for the assumed negative effect of excessive familiarity on earnings quality, caused by long audit partner tenure. However, I also concluded that audit partner rotation might 'introduce' the negative effects associated with a lack of client-specific knowledge. I therefore expect that audit partner rotation will not have a significant effect on the amount of AWCA. Therefore, I expect that regression coefficient β_1 will not be significantly different from zero. Regression coefficient β_2 , which measures the interaction of audit partner rotation and audit firm tenure is also expected not to be significantly different from zero. This is based on the

conflicting results that were found in prior literature. Coefficient β_3 , which measures the individual effect of long audit firm tenure is also expected not to be significantly different from zero. This is based on the conflicting existing literature results and the fact that Davis et al. (2009) only found a evidence of a quadratic relationship between audit firm tenure and earnings quality when long audit firm tenure is defined as 15 years or longer.

Besides the above mentioned experimental variables, some other variables that might have an influence on the value of AWCA are added. Including those variables mitigates the potential correlated omitted variable bias and increases the ability to estimate causal inferences (King, Keohane & Verba, 1994). The first included control variable is cash flow from operations (*CFO*). The nature of accruals and prior research suggests that there is a negative correlation between cash flow from operations and accruals (Dechow, 1994; Sloan, 1996). Subramanyam (1996) shows that this association is driven by the discretionary accruals, given the significant difference in correlation between discretionary accruals and cash flows on the one hand and non-discretionary accruals and cash flows on the other hand. Second, Frankel et al. (2002) showed that companies with higher cash flow from operations have a bigger probability of being a better performer. Second, the control variable *GRWT* is added to control for the effect exogenous volatility in income could have on the firm's accruals (Ball & Shivakumar, 2005). I also control for growth because prior literature shows that firms with growth in sales are more likely to have negative working capital accruals (Anthony & Ramesh, 1992). Furthermore, I control for the effect of the size of the firm (*SIZE*) on AWCA because there is a tendency for relatively bigger firms to report less extreme and more stable accruals (Watts & Zimmerman, 1986; Dechow & Dichev, 2002). The control variable leverage (*LEV*) is included because prior literature suggests that a relative high amount of debt may lead to income-decreasing management of earnings, for firms in financial distress with regard to contractual renegotiations (Becker et al., 1998; Van Tendeloo & Vanstraelen, 2005). In this way, managers store up positive earnings for future periods. Alternatively, the debt-equity hypotheses predicts that firms that are relatively more leveraged are more likely to report higher positive values of DA, in order to increase reported income and to avoid the negative effects of debt-covenants violations (Watts & Zimmerman, 1990; DeFond & Jiambalvo, 1994). The variable *ROA* is added because Kothari et al. (2005) argue that models to determine discretionary accruals do not have the ability to capture all accruals that are abnormal. Adding the *ROA* partly overcome this inability and thus could help in explaining the variation in AWCA. In my statistical analysis I

also control for the effect of reporting losses in current year t (*LOSS*). In addition the variable *LLOS* is added to control for the effect of a reported loss in the prior period ($t-1$) on the amount of AWCA in the current period t . Literature shows that companies reporting a loss in this period may be tempted to cover this losses and make this loss less extreme, or even turn a (small) loss it into a (small) profit, by using income-increasing earnings management (Burgstahler & Dichev, 1997). On the other hand, when it appears that reporting a loss in the current period is inevitable this may lead to the practice of ‘big bath accounting’. This means that when it appears that there is a loss in this period, managers could be tempted to increase the current loss of this period even further, by taking one time charges now, instead of doing this in future years. *LLOS* is included because firms reporting a loss in the previous year ($t-1$) might have intentions to report a profit in this period, and use manipulative reporting practices to achieve this. In addition, Francis and Wang (2008) suggest that financial distress-driven incentives might increase the use of income- increasing earnings management in year t , when the firm reported a loss in the year before.

The control variable *AGE* is added to control for AWCA that are attributable to differences in the firm’s life cycle (Anthony & Ramesh, 1992). Younger firms are more likely to have bigger volatility in sales and expenditures, causing more volatility in working capital. They probably also have more difficulties in forecasting sales, which might cause ‘abnormal’ accruals that are not caused by manipulative management discretion but by differences between (sincere) forecasts and actual sales. In addition, when a firm is older it is more likely that they are bigger and produce more stable accruals.

The variable *BIG4* is included because prior literature results shows that Big 4 auditors are more conservative and place greater constraints on the reporting flexibility of management, resulting in less extreme values of AWCA (Becker et al, 1998). Lastly, I include year variables in order to control for potential year-effects. Especially because my sample period also contains years wherein the recent financial crisis emerged (2008-2009).

6.5 Regression model II; perceived quality of earnings

To test the association between audit partner rotation and perceived earnings quality, I use the ERC as a proxy for the informativeness or value relevance of earnings. However, because this proxy measures something significantly different than AWCA, another regression model has to be established. The regression model I use to investigate the effect of audit partner rotation on the

perceived quality of earnings, is derived from the model used in Ghosh and Moon (2005) and has the following form:

$$CAR = \beta_0 + \beta_1 E + \beta_2 \Delta E + \beta_3 E * PROT + \beta_4 \Delta E * PROT + \beta_5 E * PROT * LAFT + \beta_6 \Delta E * PROT * LAFT + \beta_7 E * LAFT + \beta_8 \Delta E * LAFT + \beta_9 E * Control\ variable_j + \beta_{10} \Delta E * Control\ variable_j + \varepsilon$$

where,

Dependent variable:

CAR = Cumulative Abnormal Return, as measured by the model described in Section 6.3.2

Experimental variables:

E = reported earnings in year *t*, scaled by market value of equity at the beginning of year *t*

ΔE = change in reported earnings in year *t*, computed as: ((earnings year *t* – earnings year *t-1*) / market value of equity at the beginning of year *t*)

PROT = 1 if audit partner rotates (within audit firm) in year *t*, 0 otherwise

LAFT = 1 if consecutive audit firm tenure in year *t* is nine years or more, 0 otherwise

Control variables:

SIZE = natural logarithm of total market value of equity at the end of (book) year *t*

AGE = number of years the firm is a listed company, since 1970

GRWT = sum of market value of equity and book value of debt divided by book value of total assets in year *t*

BETA = systematic risk of a stock, computed over the past 36 months stock returns

VOLT = daily volatility of a stock, computed as yearly standard deviation of an individual stock return translated to daily standard deviation ($\sigma_t * \sqrt{252}$)

P/E = price/earnings per share at the end of year *t*

LEV = ratio of total assets to shareholders' equity in year *t*

BIG4 = 1 if auditor is one of the Big 4 audit firms (Deloitte, PwC, KPMG or Ernst & Young), 0 otherwise

Year = indicator for year in period 2006-2011

The dependent variable in the regression model to test the association between audit partner rotation and the perceived quality of earnings is the Cumulative Abnormal Return (CAR), as defined in chapter 6.3.2. The CAR is regressed on reported earnings and changes in reported earnings. These earnings and changes are however first deflated by the market value of equity at the beginning of the year in order to make the numbers relative and comparable between firms. After the regression of the (relative) earnings and changes in earnings in year t on the abnormal stock returns in year t^{29} , the value relevance of those earnings and changes in earnings could be determined. However, I am not primarily interested in the value relevance of reported earnings and changes in earnings, but in the incremental effect audit partner rotation has on this value relevance. To investigate this incremental effect of audit partner rotation, the interaction terms $E*PROT$ and $\Delta E*PROT$ (respectively regression coefficients β_3 and β_4) are included in the regression model. In this way I am able to investigate whether the value relevance of earnings differs between a situation with audit partner rotation and without audit partner rotation.

In the literature review was shown that there is no (consistent) evidence that audit partner rotation has a significant effect on the value relevance of earnings (ERC). Therefore, I expect that the sum of the regression coefficients β_3 and β_4 , which is the ERC, not to be significantly different from zero. In addition to the individual effect of audit partner rotation, I also test whether the possible effect of audit partner rotation on the perceived quality of earnings varies with the underlying audit firm tenure. To examine this, the variable *LFT* is included and interacted with the variables $E*PROT$ and $\Delta E*PROT$ in order to examine whether there is a differential effect of long audit firm tenure on the association between audit partner rotation and perceived earnings quality. Because literature showed that audit partner rotation in general does not have an effect on the perceived quality of earnings, I expect that the sum of the regression coefficients β_5 and β_6 not to be significantly different from zero. Lastly, prior literature finds contradicting evidence on the effect of audit firm tenure on the perceived quality of earnings. Therefore, I expect the sum of the

²⁹ The abnormal return in year t is the 12 month abnormal return of a company stock, ending at the end of the third month in year $t+1$, similar as in Ghosh and Moon (2005).

regression coefficients β_7 and β_8 not to be significantly different from zero.

Besides the variables of interest, I also include several control variables in the regression model in order to control for factors that also might influence the association between earnings and (abnormal) stock returns. These control variables are in general related to the predictability and persistence of earnings or relate to various firm-level characteristics. Including these variables is common in studies that examine the earnings-return relation (Kothari, 2001). The control variables used in my regression analysis are mainly derived from prior studies that show resemblance with my study, like the studies of Ghosh and Moon (2005) and Chi et al. (2009).

The control variable *SIZE* is included, because prior research suggest that it is more likely that larger firms face less information asymmetry (Diamond & Verrecchia, 1991; Ghosh & Moon, 2005). These firms are more likely to have established well working and time-tested financial reporting and disclosure practices, so that it could be expected that the reported earnings of those firms are, *ceteris paribus*, perceived to be more reliable and relevant. In addition, large firms in general also receive more attention from the financial markets, investors and regulators (Diamond & Verrecchia, 1991). Stock markets incorporate information of bigger firms earlier in the share price than smaller firms (Collins & Kothari, 1989).

The variable *AGE* is added because older firms are more likely to be bigger and stable firms, which face less information asymmetry problems (Diamond & Verrecchia, 1991). In the second place it is probable that one of the experimental variables in my study, long audit firm tenure (*LAFT*), is positively correlated with *AGE*, and not including the variable *AGE* could lead to omitted correlated variable bias, because the potential effect of *AGE* could then be wrongly attributed to *LAFT* (Ghosh & Moon, 2005). I also control for the effect of growth (*GRWT*) because Collins and Kothari (1989) suggest that growth influences the earnings-returns relationship. To control for the effect that differences in systematic risk between stocks have on the earnings-return relationship, I also include the beta (*BETA*) of the stock to control for this (Warfield, Wild & Wild, 1995). Besides the volatility of a stock compared to the index the stock is listed on, I control for the individual volatility (*VOLT*) of stock returns. In this way, I not only take into account the systematic risk of a stock, but also the idiosyncratic risk. Furthermore, prior literature suggest that earnings persistence is a characteristic that increases the value relevance of earnings (Ohlson, 1995). To control for the effect of earnings persistence on the value relevance of earnings, I include

the control variable *P/E*. Beaver and Morse (1978) suggest that the P/E ratio is a measure of earnings persistence.

The variable *LEV* is included to control for the effect of leverage on the earnings-return relationship, mainly based on contracting considerations. DeFond and Jiambalvo (1994) argue that firms with higher leverage are more likely to use accounting flexibility to avoid potential debt-covenants violations.

I include the variable *BIG4*, because prior research shows that Big 4 audit firms are associated with higher quality audits, which could influence the earnings-return relation (DeAngelo, 1981a; Becker et al., 1998). As a general control I included a variable (*Year*) to control for the macro-economic condition (Hayn, 1995). This is done because in some of the years in the sample, especially in the year 2009, there was an economic crisis.

6.6 Data collection and sample

In the Netherlands all publicly listed companies are required to rotate the key audit partner after seven consecutive years since 2005 (NIVRA/NOvAA, 2002). Since 2005 it is also required to provide the name of the key audit partner in the audit report. Because 2005 is the first year that the names of the key audit partner are included in the audit report, the year 2006 is the first year I can use to determine whether audit partner rotation occurred or not. Therefore, the audit partner rotation data concerns partner rotation in the period 2006-2011. However, because the computation of AWCA and ERC requires data from prior years, like for example the sales in year $t-1$ in case of the AWCA measurement and the last 36 months that are needed to compute the beta of a stock, the total samples consists of observations in the period 2005-2011 for the AWCA sample and the period 2003-2012 for the ERC sample³⁰.

My initial sample consists of 116 companies that were listed on the Dutch stock exchange (Euronext Amsterdam), in the period 2006-2011. The *Orbis* database is used to determine those companies, to obtain the necessary financial statement information to compute AWCA and to obtain the data for the relevant control variables. Not all 116 identified companies are applicable to use in the statistical analysis. Firms that delisted in either 2006, 2007 and 2008 or became listed after the year 2009 are not included in the final sample, so that I always have at least three

³⁰ Because the computation of beta requires the stock return of the last 36 months, in order to compute the beta of a stock in 2006, the first year of my final sample, I need stock data from the year 2003.

consecutive individual firm year observations. Financial institutions and insurance companies insurance companies are also deleted from the sample, because the computation of AWCA for those types of companies is problematic (Becker et al., 1998). The nature of the items in the financial statements of banks and financial institutions are not comparable to those of other type of firms. Second, when looking at the balance sheet of ABN AMRO, for example, there is no such account as sales or inventory, which makes it hard to relate working capital levels with sales levels. In addition, firm year observations with (lots of) missing data are deleted. When only one piece or some pieces of information are missing, I collect the missing data by hand and control whether the hand collected data are consistent with the data of the same company in other years, which are obtained from the database. Those restrictions cause the initial sample to have 564 individual firm year observations, that are complete and could be used for statistical analysis. However, after the computation of AWCA, outliers³¹ of the AWCA measurement, the experimental variables and the control variables are deleted. This causes that the final sample consists of 507 individual firm year observations, stemming from 85 individual firms. The 507 observations are used to compute the descriptive statistics, correlations between variables and the regression analysis with regards to AWCA. For those 85 individual firms I hand collect the names of the key audit partners, which are stated in the audit reports (included in the annual reports) of those firms.

The sample selection in order to determine the appropriate data for the second regression model, needed to determine the value relevance of earnings, starts with the 85 companies that are in the final sample used in the AWCA regression model. Thereafter, the *Datastream (Thomson Reuters)* database is used to obtain data about stock prices, market indices and other stock related data. However, because this database only contains stock data about firms that are currently listed on the Dutch stock exchange (Euronext Amsterdam; AEX, AMX & AScX³²), not all 85 companies can be used in the second regression model. I therefore only include the currently listed companies on those three indices, that are also included in the final sample used in the AWCA regression model. This causes the initial sample for the regression coefficient to contain 76 firms. For some control variables, for example the beta, I need firm year observations from 2003 to 2006. This means that only companies that were listed on January 1, 2003, are included in the sample. This

³¹ Observations under the 2,5% and above the 97,5% percentile are deleted. In most cases the same firms reported outliers on each individual variable, probably caused by correlation between the variables.

³² AEX, AMX and AScX are indices for the 75 largest listed firms in the Netherlands. The 25 largest are listed on the AEX and the 25 smallest firms of the 75, are listed on the AScX.

reduces the initial sample size with 12 firms. For the remaining 64 firms (and a total of 381 individual firm year observations) the abnormal returns are computed. In total I deleted 24 observations with extreme abnormal returns and 39 observations with extreme ERC's, that could impair the power of statistical test if those observations would remain in the sample. In this way, the final sample consists of 318 individual firm year observations, stemming from 57 individual firms, used in the second regression model regarding the perceived quality of earnings.

In table 1 in the Appendix (on page 132), a step-wise overview of the sample selection process for both regression models, is provided.

6.7 Conclusion

In this chapter I established the research methodology that will be used to test my hypotheses. I have two main experimental variables in my study: *PROT* and *LFT*, respectively to measure audit partner rotation and long audit firm tenure (≥ 9 years). In the regression analysis, I use four specifications of AWCA as proxy for the quality of reported earnings and the association between the CAR and earnings as a proxy for the perceived quality of earnings (or value relevance of earnings). The AWCA and CAR are separately regressed on the individual experimental variables, interactions between the two experimental variables and several relevant control variables. I use a sample of Dutch publicly listed companies, in the period 2006-2011, for which audit partner rotation was a legal requirement. The sample that will be used in the AWCA regression model contains 507 individual firm year observations and the sample used in the ERC regression model contains 318 individual observations.

7 Results

7.1 Introduction

In this chapter I will present the results of the statistical procedures that are used to test my hypotheses. However, before I report on the results of the hypotheses tests, I provide descriptive statistics, comparisons of means and Pearson correlations of the sample used in the AWCA regression model. These statistics are presented and discussed in chapter 7.2. In chapter 7.3, the regression results with regards to the AWCA regression model are described and explained. The results of the regression model regarding the quality of perceived earnings, as measured by the ERC, are presented in chapter 7.4. Because I use OLS-regression in order to test my hypotheses, it is important to investigate whether the basic assumptions for using OLS-regressions are met in my study. Therefore, in chapter 7.5 I report on some of those basic assumptions, like multicollinearity, first-order autocorrelation and heteroskedasticity.

Several references to tables are included in this chapter. These tables can be found in the Appendix of this study.

7.2 Descriptive statistics

In table 2, panel A (on page 133) descriptive statistics of the complete sample ($n = 507$) are provided. All specifications of the AWCA measurement and the relevant (control) variables that will be included in the regression analysis are considered. A first look at the statistics shows that the average absolute AWCA ($|AWCA|$) are 0,066. This average is slightly higher than the average absolute AWCA of samples containing firm year observations from France (0,052), Germany (0,062) and the United Kingdom (0,057), found by Maijor and Vanstraelen (2006). However, it is slightly lower than the absolute AWCA reported by Cameran, Prencipe and Trombetta (2008), who find an average absolute AWCA of 0,075, in an Italian setting. The differences in means between the several European countries could be explained by differences in sample periods and sample composition or differences in institutional settings and culture. The average value of the raw AWCA is around zero. The means of the subsamples of either positive or negative AWCA observations are of equal size (respectively 0,064 and -0,067) and there are a comparable amount of observations in the two classes (247 and 260), which causes the average to be around zero.

[INSERT TABLE 2, PANEL A HERE]

From table 2, panel A can be concluded that in around 18% of the observations audit partner rotation occurred. This proportion seems reasonable, given the fact that audit partners are required to rotate after seven consecutive years and the possibility that audit partners could also voluntarily rotate due to retirements of audit partners, which are also included in my statistical analysis. In addition, table 2, panel A shows that more than 60% of the firm year observations have an audit firm tenure of nine years or longer. This indicates that a long term relationship between a company and the audit firm is quite common in the Dutch setting. It also shows that the implementation of mandatory audit firm rotation after eight consecutive years, which (under reserve) will be implemented in the Netherlands in 2016, will probably have a serious impact on the Dutch audit market. Furthermore, in the used sample the average sales growth is about 8%, while the average ROA is slightly less than 2%. In about 20% of the cases the firms in the sample reported a loss in year t . The slightly higher proportion of *LOSS*, compared to *LLOSS*, is caused by the fact that in 2011 there were more firms reporting a loss than in 2005, probably caused by the worsened economic conditions in the years between 2005 and 2011. Lastly, about 85% of the firm year observations is audited by a Big 4 audit firm, which shows the dominance of those firms on the audit market of Dutch publicly listed companies.

[INSERT TABLE 2, PANEL B AND C & TABLE 3 HERE]

In table 2, panel B and C (on pages 133-134) the total sample ($n = 507$) is split up into two subsamples. The first subsample consists of firm year observations wherein audit partner rotation occurred ($n = 92$) and the other subsample contains observations without audit partner rotation ($n = 415$).

To examine whether there are differences in means between the two subsamples, I have conducted Student's t-tests. The averages of the variables of each subsample and the value of the t-tests are presented in table 3 (on page 135). From the statistics presented in table 3, can be concluded that there are relatively few (significant) differences in means between the two subsamples. My statistical analysis probably will not be (significantly) affected by the fact that the two subsamples

are not comparable. Although, the subsample containing observations with audit partner rotation report slightly higher values on three of the four specifications of AWCA³³, these differences are not statistically significant. The difference in means between negative values of AWCA is also not significant. There is some evidence of a difference in means with regards to long audit firm tenure. Audit firm tenure for the audit partner rotation sample is more often nine years or longer. This is however only significant at the 0,10 confidence level. Possible reason for this difference is that the distribution of audit partner rotations is different for the observations with long audit firm tenure, compared to those with short audit firm tenure. Because my sample consists of 6 consecutive years, it could (theoretically) be possible that I have no observations with audit partner rotation that also have short audit firm tenure. In the most extreme case, this could occur when all partner rotations occur in year 8 of audit firm tenure³⁴.

There are significant (0,01 confidence level) differences in means for the variables *SIZE* and *BIG4*. The size of the firms in the sample wherein audit partner rotation occurred is bigger than the size of the firms without audit partner rotation. Another significant difference between the two subsamples is the proportion that is audited by a Big 4 audit firm. The sample with audit partner rotation has a higher proportion of being audited by a Big 4 audit firm than the non-partner rotation sample. This observation possibly explains the slightly significant difference in size, described earlier. Ireland and Lennox (2002) suggest that it is more likely that larger firms hire Big 4 audit firms. Given the observation that Big 4 audit firms more frequently rotate and have relatively bigger clients, this possibly explains the significant difference in size between the two subsamples.

[INSERT TABLE 4 HERE]

In table 4 (on page 136), the Pearson correlations between the variables that are included in the statistical analysis with regard to AWCA, are presented. From this table can be concluded that a lot of variables in the sample are slightly or moderately correlated with each other. All AWCA specifications are significantly correlated with cash flow from operations (*CFO*). The raw AWCA are negatively correlated with cash flow (*CFO*), which is consistent with prior literature and the natural relationship between accruals and cash flows (Young, 1999; Dechow, 1994).

³³ The four specifications of AWCA are: absolute, raw, positive and negative values.

³⁴ This is just a theoretical example, in my sample the observations with audit partner rotation are rather equally distributed over the 6 sample years.

Absolute AWCA are negatively correlated with *CFO*, which also is a consistent with results in other studies (Dechow et al., 1995; Warfield et al., 1995). The absolute and positive values of AWCA are significantly negatively correlated with return on assets (*ROA*), while negative AWCA are significantly positively correlated with *ROA*. This means that when a firm is efficiently using its assets, there are in general relatively lower amounts of income-increasing AWCA and higher amounts of income-decreasing AWCA.

The variables *LOSS* is positively correlated with $|AWCA|$. This means that managers use more (manipulative) discretion in their financial reporting when the firm reports a loss in the current year. Given the significant correlations between *LOSS* and both $AWCA^+$ and $AWCA^-$, this on the one hand is caused by the use of income-increasing AWCA. When the firm's management wants to make the loss less negative or turn a small loss into a small profit, it can use income-increasing AWCA in order to achieve this³⁵. On the other hand, when the loss is already severe, management might be intended to take more losses in the current year, by using income-decreasing AWCA. In this way, future income will *ceteris paribus* be higher because the charges that actually should have been taken in the future, are taken already. However, caution is needed here. Income-decreasing AWCA might also imply the application of conservatism. Although in my study conservatism is seen as a distortion and an impairment of the quality of reported earnings, conservatism does not automatically mean the manipulative use of accruals. It could be possible that bad economic conditions caused a loss in year *t*. The combination of a loss in the current year and pessimistic future prospects about, for example, the obsolescence of inventory or difficulties regarding the collection of accounts receivable, could make the use of income-increasing AWCA a reasonable decision³⁶.

The variable *LLOSS* is also significantly positively correlated with $|AWCA|$, however there is only a weak correlation between reporting a loss in the previous year and the use of income-decreasing AWCA in the current year. The positive values of AWCA are significantly positively related to

³⁵ I am not able to say whether this practice especially occurs when the firms reported a small loss in the current year, because I do not make a distinction between small and big losses in my statistical analysis. As suggested by Burgstahler and Dichev (1997), there is a significant difference in the distribution of firms just missing and just beating the zero earnings benchmark, which denotes the use of income-increasing earnings management in order to turn a small loss into a small profit. The same reasoning applies for the *LLOSS* variable.

³⁶ The application of conservatism is one of the reasons why I have split up my sample into observations with positive and negative AWCA. For example, when looking only at the effect of audit partner rotation on the positive values of AWCA, it is assumed that the income-decreasing AWCA, which are (partly) the result of conservatism, do not impair earnings quality. This is more in line with the view on earnings quality of Dechow et al. (2010).

LLOSS, which might give some indication that management does not want to report a loss for two consecutive years or wants to report at least a less extreme loss than the previous year. Furthermore, the variable *AGE* is significantly negatively correlated with the dispersion in *AWCA*, which is consistent with prior literature, that suggest that older firms report lower and more stable (discretionary) accruals (Anthony & Ramesh, 1992).

From table 4 could be derived that there exists a significant negative correlation between Big 4 audit firms and both income-increasing and income-decreasing *AWCA*. However, the focus of those Big 4 audit firms seems to be on limiting the use of income-increasing *AWCA*, given the significant correlation between *BIG4* and *AWCA*⁺ at the 0,01 confidence level, while the correlation between *BIG4* and *AWCA*⁻ is only significant at the 0,10 confidence level. This could be reasonable, given the observation that Big 4 have relatively higher reputation and litigation concerns. Income-increasing earnings management might cause the audit firm to be sued by investors or other relevant parties, which could cause reputational damage. Income-decreasing earnings management is probably perceived as being less harmful. Being prudent (or conservative) is seen as more valuable than being too optimistic³⁷.

One of the variables of interest, *PROT*, is significantly positively correlated with *SIZE* and *BIG4*. This is consistent with the found difference in means between the two subsamples (audit and non-audit partner rotation). The variable *BIG4* is, amongst others, significantly correlated with *SIZE* and *LAFT*. Larger firms, which in general are also significantly older, are relatively more often audited by a Big 4 and also maintain longer relationships with their clients. Furthermore, the variable *SIZE* is significantly positively correlated with *LEV*, *ROA* and *AGE*. This means that bigger firms are relatively more financed with debt, use their assets more efficiently and are relatively older.

7.3 Regression analysis I: audit partner rotation and the quality of reported earnings

In this subsection I will describe the results of the first regression model, which is used to test the association between audit partner rotation and the quality of reported earnings, as measured by several specifications of *AWCA*. I only describe the outcomes of running the regressions and answer the research questions to a limited extent in this section. In chapter 8 I will provide a

³⁷ In the Netherlands the practice of being careful is also known as the ‘*voorzichtigheidsprincipe*’, which could be seen as an equivalent of conservatism.

detailed analysis of the statistical results in relation to my research questions. This is done to keep things clear and to provide a comprehensive view.

[INSERT TABLE 5 HERE]

In table 5 (on page 137) the results of respectively regressing the absolute and raw AWCA on the experimental variable *PROT* and the relevant control variables are shown. My main interest is in the regression of $|AWCA/$ on audit partner rotation (*PROT*), because this tells something about the effect of audit partner rotation on the magnitude of earnings management (or distortions in earnings quality). The model used to associate audit partner rotation with $|AWCA/$ is statistically significant (F-value = 5,830). Slightly less than 13% of the variation in absolute AWCA is explained by the variables used in the regression analysis. This means that about 87% of the variation remains unexplained³⁸. However, my explanatory power is anyway higher than other, comparable studies that used $|AWCA/$ as dependent variable. Maijoor and Vanstraelen (2006) and Cameran et al. (2008) in their studies explain respectively about 7 and 8% of the variation in absolute AWCA. This difference between my explanatory power and those studies could probably be explained by the use of other and more control variables and differences in sample compositions.

From the regression coefficients estimates in the left model in table 5 could be made some important inferences. The main variable of interest in this study, *PROT*, is not significantly different from 0. The t-value of the regression coefficient does not even come close to values that indicate statistical significance. This finding indicates that audit partner rotation does not significantly explain variation in absolute values of AWCA. Because in this study AWCA are used as a proxy for the quality of reported earnings, this signifies that audit partner rotation does not have a significant (incremental) effect on the quality of reported earnings. However, at this point I am not yet able to say whether this insignificant effect of audit partner rotation holds for both short and long audit firm tenure. Although the general effect of audit partner rotation in my sample is not statistically significant, it could (at this moment) still be possible that audit partner rotation does have a significant effect on the quality of reported earnings for either short or long audit firm tenure. This will be examined later in this section.

³⁸ In chapter 9.3, where I discuss the limitations of this study, a discussion on this will be provided.

Besides the variable of interest, *PROT*, there are other variables in the regression model that provide valuable insights. The regression coefficient of the variable *CFO* is significantly negative. This is consistent with the negative association between cash flows and (discretionary) accruals described in prior literature (Dechow, 1994; Subramanyam, 1996) and the in this study already found negative correlation between the two variables. The regression results also show that the size of a company (*SIZE*) is positively associated with abnormal AWCA. This finding is contrary to what could be expected based on the literature. Dechow and Dichev (2002) suggest that larger firms have relatively lower and more stable accruals. Though, prior studies that use some form of DA as dependent variable in most cases scale DA by (lagged) total assets, in order to make them comparable. However, I have scaled the AWCA by sales, consistent with DeFond and Park (2001) and Maijoor and Vanstraelen (2006). In order to investigate whether the positive regression coefficient is caused by the way AWCA is measured in my study, I rerun the regression, whereby the determined AWCA are scaled by lagged total assets. In this case, the variable *SIZE* is significantly negative at the 0,01 confidence level, consistent with prior literature.

The variable *LEV* is significantly negatively associated with absolute AWCA (at the 0,05 confidence level), which may be caused by the observation that firms with relatively more debt use relatively less income-decreasing AWCA, in order to avoid debt-covenant violations. This could lower the dispersion in AWCA, causing the observed negative association.

The variable *AGE* is negatively associated with absolute AWCA, consistent with the observation that older firms have relatively more stable and less extreme (discretionary) accruals.

Lastly, in my regression analysis there exists a negative relation between the variable *BIG4* and $|AWCA|$. This is in accordance with prior research that suggests that Big 4 audit firms in general place greater constraints on earnings management (Myers et al., 2003). It could also be consistent with the observation that these type of audit firms provide higher audit quality (Becker et al., 1998).

In the right column in table 5, the regression results of using the raw AWCA as dependent variable are presented. In this regression model the audit partner rotation variable is again not significant, just like almost all other variables that are included in the model. The only variable that is statistically significant is the variable *CFO*, which is the result of the (natural) association between (abnormal) accruals and cash flows (Dechow, 1994). Nevertheless, the variables included in the regression model only explain 1,5% of the variation in raw AWCA. It is therefore not surprising that the regression model itself is only significant at the 0,10 confidence level. It shows

that using the raw AWCA as a proxy for earnings quality is not very useful to investigate the effect of audit partner rotation/tenure and also demonstrates that separate analysis of both income-increasing and income-decreasing AWCA is recommended³⁹. This finding is consistent with the conclusions of Myers et al. (2003), who also suggest that separate analysis is needed.

When evaluating the use of (manipulative) management discretion, it seems that income-increasing earnings management is perceived as being more objectionable than income-decreasing earnings management. News items about fraudulent financial reporting in almost all cases concerns the use of manipulative accounting practices in order to increase earnings. Premature revenue recognition or capitalizing costs, rather than directly expense it in the profit and loss account, are examples of this. In other words, there is an asymmetric treatment of the use of income-increasing and income-decreasing earnings management. In addition, in my study all distortions (both income-increasing and income-decreasing) are seen as distortions of earnings quality. However, as mentioned before, Dechow et al. (2010) argue that conservatism, the asymmetric timeliness and timeliness of loss recognition, might be associated with higher earnings quality, while I see these properties as distortions of the true and fair view of the firm's performance, which reduce the quality of reported earnings. Though, these earnings properties seem to be especially associated with income-decreasing AWCA. Therefore, by separately examining the effects of audit partner rotation on positive and negative AWCA, I maybe also come closer to the definition of earnings quality defined by Dechow et al. (2010). When I examine the positive values of AWCA, I assume that only income-increasing AWCA impair the quality of reported earnings and that, for instance, conservatism is not seen as a distortion. Because of these observations, I perform separate regressions, whereby I either use only the positive or negative AWCA as dependent variable.

[INSERT TABLE 6 HERE]

In the first regression model in table 6 (on page 138), the positive values of AWCA are regressed on *PROT* and several control variables. A total of 247 individual firm year observations that have positive AWCA values are used in this model. The included variables explain about 16%

³⁹ For example, it could be possible that one half of the audit partner rotation observations have a raw AWCA value of 0,08 and the other half of the audit partner rotation observations have a raw AWCA value of -0,08. When plotting a regression line this means that in general there will be no effect of audit partner rotation on the raw values of AWCA.

of the variation in positive AWCA. Because of this, the regression model itself is also fitted to use for statistical analysis (F-value = 4,066). In this model the variable of interest, *PROT*, is not significant. This indicates that audit partner rotation does not influence the amount of positive (income-increasing) AWCA. However, compared to the absolute and raw AWCA regression models in table 4, the variable *PROT* is much closer to reaching significance in the $AWCA^+$ regression model (p-value = 0,172). Furthermore, the variable *CFO* is negatively associated with $AWCA^+$. This association is however only significant at the 0,05 confidence level. Similar as the regression model with the absolute AWCA as dependent variable, the size of the firm is positively related with $AWCA^+$ (at the 0,10 confidence level). This is caused by the way AWCA are determined in this study, described earlier.

The variables *GRWT*, *LEV* and *ROA* are not significantly explaining variance in positive AWCA. Reporting a loss in the current year is associated with the use of income-increasing AWCA (at the 0,10 significance level). This observation provides some evidence that reporting a loss could create a tendency to use income-increasing AWCA in order to make this loss less severe or to turn a small loss into a small profit. This tendency seems to be even greater when the firm reported a loss in the previous year, given the positive regression coefficient of the variable *LLOSS*, which is even significant at the 0,05 confidence level.

The variables *AGE* and *BIG4* are both significantly negatively associated with $AWCA^+$. This is consistent with results in prior literature (Anthony & Ramesh, 1992; Becker et al., 1998). Lastly, the variables included to control for potential year effects are not significant. This finding could be caused by the fact that there is no year effects or that those effects are already filtered out by other variables.

In the right column in table 6, the negative values of AWCA (260 of the 507 sample observations) are regressed on the audit partner rotation variable (*PROT*) and the earlier defined control variables. The model is statistically significant, but explains only about 10% of the variation in negative AWCA. The regression coefficient of the variable *PROT* is not significantly different from zero, indicating that audit partner rotation does not significantly affect the amount of income-decreasing AWCA.

From the coefficient estimates of the other variables can be concluded that the variables *LEV* and *ROA* are positively associated with $AWCA^-$ (at the 0,01 confidence level). This means that firms with relatively more leverage have less extreme values of negative AWCA. When discussing the

negative association between *LEV* and $|AWCA|$ I already suggested that this might be caused by using less *AWCA*, in order to comply to requirements of debt-covenants. This regression coefficient confirms this reasoning. Lastly, firms that use their assets more efficiently (and therefore have a higher *ROA*), on average have less extreme negative *AWCA*.

Although it appears that audit partner rotation does not have a significant influence on the four specifications of *AWCA*, it is (at this stage) too easy to conclude that audit partner rotation does not have any effect on the quality of reported earnings. In the literature review I suggested that the association between audit partner tenure and earnings quality might be best represented by a quadratic function. This means that, *a priori*, could be expected that earnings quality is relatively highest around, or just after, the middle of the 7 year audit partner term (4 or 5 years). Over a longer period, wherein several audit partner rotations occur, it could be expected that the average earnings quality is relatively higher than without audit partner rotation, because there are relatively more of those years with ‘maximum earnings quality’. In Figure 3 (on the next page) this is graphically shown.

In the most extreme case, with only one audit partner rotation in 50 years, it becomes visible that audit partner only reaches one time such a maximum earnings quality. After this maximum it is assumed that excessive familiarity causes the quality of earnings to decline. However, it could be expected that this decline is not persistent. In the long run, the association between audit partner tenure and earnings quality probably results in a horizontal asymptote. There could be several factors that could explain the existence of this horizontal asymptote and the observation that earnings quality does not continuously decline when audit partner tenure lengthens. The internal controls of the client and reputation or litigation concerns of the audit partner, for example, could be safeguards that cause the quality of earnings to reach a rather stable level when audit partner tenure lengthens.

When audit partner rotation occurs after every 7 years, there are much more of those periods with (assumed) maximum earnings quality. The years with maximum earnings quality around the middle of the 7 years of audit partner tenure cause the average earnings quality to be higher in the long run. In figure 3 this difference is shown by the dashed horizontal line that represent the average earnings quality in the long run. When only one audit partner rotation occurs, and earnings quality reaches only one time reaches a maximum, the average is lower than in the situation

wherein audit partner rotation occurs after every 7 years. This could indicate that although audit partner rotation itself is not significant, it still could have a positive effect on earnings quality.

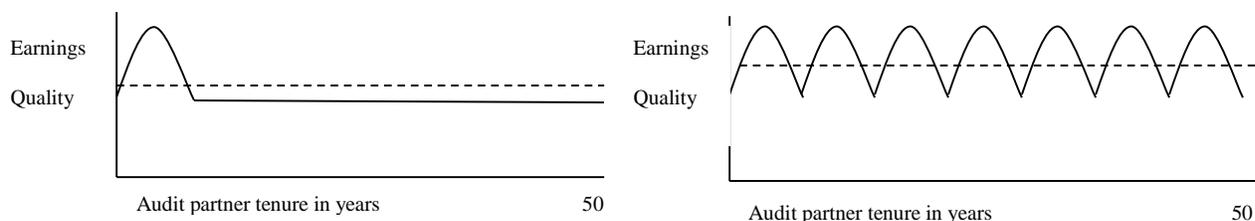


Figure 3 *The effect of multiple audit partner rotations on earnings quality*

To test whether this is actually the case in my sample, I perform a robustness check. My main interest is to investigate whether there exists such a quadratic relationship between audit partner tenure and the quality of reported earnings. Chi and Huang (2005) suggest that earnings quality reaches its maximum around 4 or 5 years of audit partner tenure. Therefore, I include an additional dummy variable in the regression analysis, that takes a value 1 if audit partner tenure is 4 or 5 years and 0 otherwise. I determine the observations with audit partner tenure of 4 and 5 years by taking the observations of the third and fourth year after the year wherein audit partner rotation occurred. If earnings quality is significantly higher in those years, the regression coefficient of the dummy should be significantly negative in the case of absolute and positive AWCA, and significantly positive in the case of negative AWCA. The regression results (not tabulated) however, show that the added dummy is insignificant in all cases. This means that the assumed quadratic relationship between audit partner tenure and earnings quality is not present in my study. In chapter 8 I will provide some possible explanations for this finding.

[INSERT TABLE 7 HERE]

In table 7 (on page 139), the regression model is extended by including the interaction term *PROT*LAF*, in order to investigate whether there is an incremental effect of audit firm tenure on the association between audit partner rotation and the several specifications of AWCA. In addition, the individual variable *LAF* is included to examine the effect of long audit firm tenure on the quality of reported earnings. The left columns in table 7 show the results of regressing the absolute

AWCA on the experimental and control variables. Adding the two variables does not increase the explanatory power of the regression model and even slightly decreases this power, compared to the |AWCA| model without the two extra variables (Adjusted $R^2 = 0,122$ versus $0,125$). This already could give some first clue that the added experimental variables will not be significant. When looking at the individual regression coefficients, it turns out to be that the interaction term *PROT*LAFT* is not significantly different from zero. This means that audit firm tenure does not moderate the association between audit partner rotation and dispersion in AWCA. In addition, it also means that the relation between audit firm tenure and absolute AWCA is not significantly affected by audit partner rotation. In addition, the variable *LAFT* itself is also not significant, which means that the magnitude of earnings management is not influenced by the distinction between short or long audit firm tenure.

In the middle columns of table 7 the positive AWCA are used as dependent variable. Again, the interaction term *PROT*LAFT* and individual term *LAFT* are not significant. This means that the effect of audit partner rotation on the amount of positive (income-increasing) AWCA is not moderated by audit firm tenure. Long audit firm tenure itself also does not significantly affect the amount of AWCA⁺.

In the right columns the negative AWCA are regressed on the interaction term *PROT*LAFT*, the audit firm tenure variable and control variables. *PROT*LAFT* and *LAFT* are both insignificant and do not come close to t-values that indicate statistical significance. Overall, it can be concluded that audit firm tenure does not moderate the effect of audit partner rotation on the quality of reported earnings, as measured by several specifications of AWCA. In addition, the individual effect of audit firm tenure itself also not seems to affect the quality of reported earnings.

Nevertheless, prior literature provides inconclusive evidence on the effect of audit firm tenure on the quality of reported earnings and in the literature review I concluded that a quadratic association probably would show the most resemblance with reality. Though, the study of Davis et al. (2009), who tested such a quadratic relationship, provides only significant evidence of such an association when long audit firm tenure is defined as 15 years or longer. Davis et al. (2009) do not find significant evidence when long audit firm tenure is defined as 8 years or longer, which is consistent with my regression results. As a robustness check, I therefore rerun the regression, whereby long audit firm tenure is defined as 15 years or longer. In this case the variable *LAFT* is still insignificantly different from zero, suggesting no quadratic association. In chapter 8 I will provide

a more detailed (theoretical) analysis of this difference between my finding and the finding of Davis et al. (2009).

Although all experimental variables are insignificantly different from zero, several control variables are instead significant. Because the sign and level of significance of the included control variables show (in almost all cases) resemblance with the regression models in table 5 and 6, described earlier, I will not provide a detailed discussion of the control variables again.

7.4 Regression analysis II: audit partner rotation and the perceived quality of earnings

In this section I will describe and explain the regression results with regard to the effect of audit partner rotation on the perceived quality of earnings. In addition, I look at the moderating effect of audit firm tenure on audit partner rotation and the individual effect of audit firm tenure on perceived earnings quality.

[INSERT TABLE 8 HERE]

In table 8 (on page 140) the results of regressing the CAR on earnings, changes in earnings and several relevant control variables are presented⁴⁰. The earnings and changes in earnings are interacted with the audit partner rotation variable, *PROT*. The ERC is the sum of the individual regression coefficients of $E*PROT$ and $\Delta E*PROT$ and measures the incremental effect of audit partner rotation on the value relevance of earnings, as perceived by investors on the stock market. For the control variables only the ERC's are presented in order to keep the results comprehensive. The regression model explains about 19% of the variation in CAR and is statistically significant (F-value = 5,036).

From table 8 can be derived that there exists a significant positive association between earnings and changes in earnings, and abnormal stock returns. This means that reporting relatively higher earnings or positive changes in earnings is associated with stock returns that positively outperform the market. Finding such a significant association between earnings and abnormal stock returns is consistent with the studies of Ghosh and Moon (2005) and Teoh and Wong (1993). However, the individual ERC in my study has a much lower regression coefficient and corresponding t-value than those two studies. Possible reason for this is that my study took place in a different market environment. Ghosh and Moon (2005) and Teoh and Wong (1993) use stock data from the United

⁴⁰ Note that earnings and changes in earnings are scaled by market capitalization at the end of the previous year.

States, which probably has different stock market characteristics⁴¹ and is more developed than the Dutch stock exchange. This may cause information about earnings to be better reflected in U.S. stock prices which may cause a relatively stronger relation between earnings and unexpected stock returns, causing higher ERC's. In addition, the data specification in the study of Teoh and Wong (1993) is probably more specific⁴². Lastly, my sample size is considerably smaller than the samples sizes in the two mentioned studies.

The main variables of interest, $E*PROT$ and $\Delta E*PROT$, are both insignificantly different from zero. The sum of those coefficients, the ERC, is also insignificant. This suggests that audit partner rotation does not significantly influence the quality of earnings, as perceived by investors on the stock market. Chi et al. (2009) report a similar result and do find no significant difference in ERC between observations with and without audit partner rotation. However, the individual coefficients of $E*PROT$ and $\Delta E*PROT$ in the study of Chi et al. (2009) respectively reaches statistical significance (at the 0,10 confidence level) or is close to reaching significance. Because the signs of the coefficients on both variables are opposite, the ERC in their study is not significantly different from zero. In my study, both coefficients do have the same sign but do not even come close to levels of statistical significance.

With regard to the control variables, the ERC of the variable $SIZE$ is significantly positive (at the 0,10 confidence level). This is consistent with prior literature, that suggest that bigger firms have less information asymmetry and better established internal controls, causing the perceived quality of earnings to be higher. These firms probably are also more closely followed by financial analysts, causing stronger relations between earnings and stock returns. Nevertheless, the regression coefficient could be somewhat biased to zero because bigger firms have more impact on the market return⁴³. This causes that *ceteris paribus* returns of larger firms have a lower 'chance' of being labeled as abnormal. Furthermore, older firms provide relatively higher value relevant earnings, given the significantly positive (at the 0,10 confidence level) ERC of the variable AGE . However, this also could be (partly) explained by correlation with the variable $SIZE$ ⁴⁴.

⁴¹ Those characteristics could for example be higher liquidity, trading volumes and higher disclosure requirements.

⁴² I have determined the abnormal stock return by calculating the difference between a stock's return and the market return, while Teoh and Wong (1993) look at earnings forecasts.

⁴³ The return of a Dutch stock market index is the value weighted return of the stock listed on the index. The weight of a stock is based on the market capitalization of the firm.

⁴⁴ There is no problematic multicollinearity between those variables (see chapter 7.5.2).

The ERC of the control variable *VOLT* is significantly negative (at the 0,05 confidence level). This observation means that earnings and changes in earnings of volatile firms are perceived to have relatively lower value relevance, which is consistent with the theory of Warfield et al. (1995). It is also consistent with the significant negative effect of volatility on value relevance, reported by Ghosh and Moon (2005). The other control variables are not significantly different from zero, contrary to the results reported by the two reference studies⁴⁵. This could be caused by differences in characteristics related to the firms in the sample and the sample itself (size, period, criteria used), but also by differences between the financial markets of the Netherlands and the United States.

[INSERT TABLE 9 HERE]

In table 9 (on pages 141-142) the regression model is extended by adding the ERC of *PROT*LAFT*, in order to measure whether the incremental effect of audit partner rotation on the perceived quality of earnings is moderated by (longer) audit firm tenure. I also add the individual ERC of *LAFT*, because I want to investigate the effect of audit firm tenure on the perceived quality of earnings, in the light of the forthcoming regulation regarding audit firm rotation.

The ERC of the variable *PROT*LAFT* is not significantly different from zero, indicating that the (potential) effect of audit partner rotation on the value relevance of earnings is not moderated by audit firm tenure. In addition, the ERC of the variable *LAFT* is not statistically significant. However, the regression coefficient estimate turns out to be relatively close to reach some level of statistical significance. This may be caused by some correlation between *LAFT* on the one hand and the variables *AGE* and *SIZE* on the other hand. It is *ceteris paribus* more likely that long audit firm tenures occur at relatively older firms. Because these older firms are in general also bigger, it might seem reasonable that the reported earnings of these firms are perceived as relatively having higher value relevance⁴⁶. This joint effect might inflate the *LAFT* regression coefficient in some way. Based on these observations it can be concluded that audit firm tenure does not influence the perceived quality of earnings.

Nevertheless, prior literature instead has found an association between audit firm tenure and the perceived quality of earnings (Ghosh & Moon, 2005). This difference could be caused by sample

⁴⁵ The reference studies are Teoh and Wong (1993) and Ghosh and Moon (2005).

⁴⁶ In the correlation matrix (table 3) the correlation between *SIZE* and *AGE* is significantly positive (at the 0,01 significance level).

characteristics, sample size or differences in institutional setting. Though, it also could be caused by correlation between various control variables, like the size or age of the firm and the audit firm tenure variable. In my study I found a *LFT* variable that could be a little bit inflated, which could have been even heavier in the study of Ghosh and Moon (2005) making the audit firm tenure variable significant.

When looking at the included control variables it can be concluded that the signs and significance levels are more or less comparable to those tabulated in table 8. Because of this resemblance, I will not discuss them again.

7.5 OLS regression assumptions checks

Although I have performed OLS regressions in order to test my hypotheses, there are several conditions that have to be met before reliable conclusions can be drawn from the regression coefficients estimates. Therefore, in this subsection I will respectively check whether my regression results are affected by multicollinearity, first-order autocorrelation and heteroskedasticity.

7.5.1 Multicollinearity

First of all, it is important to investigate whether there is no (severe) correlation between the independent variables included in the regression analysis. Correlation between variables is known as multicollinearity. Multicollinearity inflates the variances of the individual regression coefficients and lowers the corresponding t-values. This lowers the power of the statistical tests and causes the interpretation of the regression coefficients estimates to be problematic. Multicollinearity can be measured by determining the VIF- value. The opinions on the VIF-value that indicate problematic multicollinearity are varying. Some say that VIF-values above 10 indicate multicollinearity, while others argue that values above 4 or 5 suggest multicollinearity. However, because the VIF-values in my AWCA regression analysis are all below 4, I conclude that there is no multicollinearity problem in my study. Only the variables *PROT* and *PROT*LFT* in the regression model to test the moderating effect of audit firm tenure report a VIF-value of around 3,5. This might give some indication of collinearity between those variables, but it is not problematic. The VIF-values of the other variables used in the AWCA regression models are around 1,5 to 2, which indicates no (problematic) multicollinearity.

For the second regression model (ERC model) I did also not find any significant multicollinearity. The VIF-values of the variables *PROT* and *LAFI* are again higher than the other variables but stay under the value of 5, which indicates that there is no severe multicollinearity. In addition, the variables *VOLT* and *BETA* have VIF-values of about 2,9. This could be caused by the similar nature, namely assessment of risk, of those variables in relation to the CAR.

7.5.2 First-order autocorrelation

When using OLS regression model to estimate an association, the serial error terms should be uncorrelated. This means that a residual from this period's regression should not be correlated with the residual of the prior period's regression, for example. When there actually exists such (time-series) correlation between the residuals, this is called first-order autocorrelation. To test for first-order autocorrelation the Durbin-Watson test can be used. A Durbin-Watson test statistic can vary between 0 and 4, whereby the value 2 indicates no first-order autocorrelation and values of 0 and 4 indicate serious first-order autocorrelation. In both regression models all the Durbin-Watson test statistics are closely around this value of 2, which indicates that there is no correlation between the error terms, that otherwise could negatively affect reliability of my statistical results.

7.5.3 Heteroskedasticity

The last assumption check I perform is the test for heteroskedasticity. Heteroskedasticity refers to the situation wherein the standard deviations of the residual term are not constant. When this is the case, a plot of the standard deviations of the residual terms show either a divergent or convergent pattern. As an example, in figure 4 a scatter plot of the regression model to test the association between $|AWCA|$ and audit partner rotation is presented. From this figure can be concluded that there is no heteroskedasticity problem in my study, because the standardized residual do not have a convergent or divergent pattern.

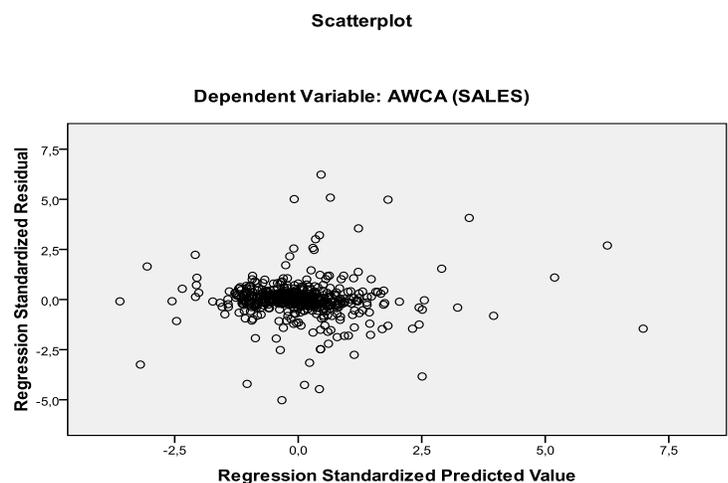


Figure 4 Scatter plot used to determine degree of heteroskedasticity

The scatter plots of the other specifications of AWCA show a slightly less random pattern, but there still is not divergent or convergent pattern visible. The heteroskedasticity scatter plots for the ERC regression model also indicate no heteroskedasticity problems.

7.6 Conclusion

In this chapter I have presented the descriptive statistics and the results from the two regression models. From the descriptive statistics could be concluded that the average $|AWCA|$ in my study are quite comparable to other European studies that use this proxy to assess the quality of earnings. I find that, within my sample used to examine the effect of audit partner rotation on the quality of reported earnings, there are only a few significant differences between the observations with and without audit partner rotation. These are the variables *LAFT*, *SIZE* and *BIG4*.

Many of the variables included in the regression analysis are significantly correlated with each other. The four specifications of AWCA are in most cases significantly correlated the variables *CFO*, *AGE*, *ROA* and *LOSS*. The experimental variable *PROT* is significantly correlated with *LAFT*, *SIZE* and *BIG4*, which is consistent with the found differences in means between the partner and non-partner rotation sample.

OLS regression analysis shows that audit partner rotation does not have a significant effect on the quality of reported earnings. On all for specifications of AWCA, the experimental variable *PROT* is not significantly different from zero. I also find that the assumed quadratic association between audit partner tenure and the quality of reported earnings, is not supported by my statistical results. Audit partner rotation does also not have any effect on the perceived quality, or value relevance, of earnings. In addition I find that the (potential) effect of audit partner rotation is not moderated by the distinction between short (≤ 8 years) and long (≥ 9 and ≥ 15 years) audit firm tenure. The insignificant interaction effect of the audit partner rotation variable and the variable to measure audit firm tenure holds for both the AWCA and the ERC regression model.

Both the quality of reported earnings and the perceived quality of earnings seems not to be influenced by the fact whether audit firm tenure is short or long. The variable *LAFT* is insignificant in all regression models.

Lastly, I have tested three assumptions that have to be met when using OLS regression. I find that my results are not (significantly) affected by correlations between the explanatory

variables (no multicollinearity), are not affected by (serial) correlation between the regression's residuals (no first-order autocorrelation) and are not affected by the fact that the standard deviations of the residuals are not constant (no heteroskedasticity).

8. Answers to research questions

8.1 Introduction

In this chapter I will interpret the results from the regression analyses presented in the previous chapter. The three research questions established in chapter 1 and the corresponding hypotheses established in chapter 5, will be answered. In case my statistical results are consistent with prior literature, I will not provide a (very) detailed analysis for this. I will more focus on cases where differences exist between my findings and findings that could be expected based on prior literature.

8.2 The effect of audit partner rotation on the quality of reported earnings

One of the main questions I try to answer in this study is whether audit partner rotation has an (incremental) effect on the quality of reported earnings. Prior literature suggested that audit partner rotation does not have a significant effect on the quality of reported earnings. In addition, studies that examined the effect of audit partner tenure on earnings quality show mixed results and I concluded that this relationship could probably be best expressed as a quadratic function. Based on those observations, I hypothesized that audit partner rotation would not have a significant effect on the quality of reported earnings. This is contrary to the initial view of the EC, who assumed that audit partner rotation would be beneficial for the quality of reported earnings.

The results from the regression analysis show that audit partner rotation does neither have a positive nor a negative effect on the quality of reported earnings. Using four specifications of AWCA, I find in the first place that audit partner rotation does not have a significant effect on the magnitude of AWCA. Second, I find that audit partner rotation does not have a significant (incremental) influence on limiting the firm's management use of either positive (income-increasing) or negative (income-decreasing) AWCA. Hypothesis 1, wherein I established my expectation about the effect of audit partner rotation on the quality of reported earnings, was formulated as follows:

There is no association between audit partner rotation and the quality of reported earnings.

My empirical results support this expectation and Hypothesis 1 is therefore confirmed.

There could be several reasons for the non-significant effect of audit partner rotation on the quality of reported earnings. In the literature review I already mentioned that audit partner rotation probably would be a solution for the (potential) negative effects associated with long audit partner tenure. However, it would also ‘introduce’ the negative effects that are (assumed to be) associated with short audit partner tenure. Based on this observation, my results would support this rationale. Nevertheless, the fact that audit partner tenure does not significantly influence the quality of reported earnings might also be caused by the observation that the actual effect of partner rotation may be somewhat overestimated by both the audit market regulators and prior literature.

This not means that I suggest that audit partner rotation does not have any effect. Though, I suggest that there may be a lot of other factors that determine or influence the actual effect of audit partner rotation, which possibly makes the effect of audit partner rotation itself insignificant.

The most probable reason why audit partner rotation does not have a significant effect on the quality of reported earnings is that the audit partner is not the only person in the auditing process. Although the audit partner bears the ultimate responsibility of the audit, sets the tone and determines the general direction of the audit engagement, it is (in most cases) the underlying audit engagement team that actually conducts the audit work in the field. Probably the composition of the audit team, in terms of educational degree and experience, the degree of continuity of the underlying team and the amount of hours the audit team spends on the audit might have a bigger effect on the quality of reported earnings, than whether the audit partner has rotated or not.

In addition, the structure of an audit team and the way an audit file is built up, also makes the incremental effect of audit partner rotation on the perceived quality of earnings probably less significant. In practice all audit procedures and results are reviewed several times by someone with more experience. This could probably overcome (some of) the effects associated with a lack of client-specific knowledge or experience, if the more senior members of the audit team do not rotate at the same time as the audit partner. On the other hand, the fact that audit team members with various levels of experience with the client review the audit procedures and results possibly also reduces the effects associated with excessive familiarity. All those factors make it possibly less likely that the individual influence of the audit partner is bigger than the influence of factors related to the underlying audit team.

In chapter 3.8 I suggested that the quality of reported earnings is not only dependent on factors that are related to the auditor (i.e. education, experience, time). The internal controls and

quality of the accounting system of the client is also a very important determinant of earnings quality. Maybe those client-specific factors related to internal control have a more significant influence on the actual quality of reported earnings, than the effect audit partner has on this. The fact that almost all prior studies that investigated the relation between some audit characteristic and earnings/audit quality do not take this factor into consideration, may be a reason for the mixed findings in prior literature on the effects of audit partner/firm rotation or tenure. In chapter 9.3, where the limitations of this study are discussed, I will explain this in some more detail.

The results could also be interpreted in another way. Above, I suggested that there may be a lot of other (external) factors that could influence the actual effect of audit partner rotation. Though, there also may be internal factors, or factors related to the audit partner him or herself, that determine the actual effect on partner rotation on the quality of reported earnings. Characteristics of the audit partner or personal circumstances of the audit partner him or herself may potentially have a bigger influence on earnings quality than the actual audit partner rotation. To visualize this reasoning, I will use an example that might seem a little farfetched, but exactly explains what I mean by those internal factors.

Prior literature suggests that the personal experience and industry specific knowledge of the audit partner are *ceteris paribus* expected to have a positive influence on the audit outcome (Chi & Chin, 2011). So, let us assume that a particular audit partner performs the audit of a firm in an industry he possesses specific, valuable knowledge about. Based on the study of Chi and Chin (2011) it is reasonable to assume that when this audit partner is replaced by someone without this industry knowledge, it *ceteris paribus* may lead to a decrease in earnings quality. However, if the audit partner with industry knowledge has lots of other clients and faces time pressure when he is reviewing the audit file of this client, for example, prior literature suggests that this in the most extreme case could lead to premature signoff of the audit report (Margheim & Pany, 1986). This premature signoff might lead to decreased earnings quality. When this audit partner is replaced by someone with lots of audit experience and considerably more time to review the audit file, but who does not possess this industry knowledge, the effects may cancel each other out or might either not have a significant positive nor a negative effect on the quality of reported earnings. So, on the one hand the rotation of the same audit partner could *a priori* be seen as beneficial and on the other hand not beneficial. This shows that, if it is assumed that audit partner rotation does indeed have an effect on the quality of reported earnings, the actual effect probably depends on

personal circumstances of the involved audit partners.

In addition to the above mentioned external and internal reasons, there might be other factors that reduce the actual effect of audit partner rotation. In the first place, reputational and litigation concerns might contribute to the prevention of negative effects caused by excessive familiarity. On the other hand, the quality control procedures within the audit firm, in order to familiarize the new audit partner with the client, could mitigate the negative effects that may occur in the year of rotation and the years shortly thereafter. The combined effect of these factors, might cause the actual effect of audit partner rotation to be insignificant.

Although my study focusses on the effect of audit partner rotation and my statistical results suggest that audit partner rotation does not have a significant influence on the quality of reported earnings, I also concluded that, based on the literature, could be expected that the association between audit partner tenure and the quality of reported earnings could be expressed as a quadratic function. However, my regression results show that such a quadratic association is not present in my study. There could be several reasons for this finding. In the first place if audit partner rotation it could be possible that audit partner tenure itself does not have a significant (incremental) effect on the quality of reported earnings and that other factors determine this in fact. Examples are the internal controls of the client, the characteristics of the audit engagement team and the personal circumstances of the audit partner. In addition litigation and reputation concerns for both individual audit partners and firms might mitigate the assumed negative effects associated with short and long audit partner tenure. Those concerns potentially flatten the parabolic function to such degree that there exists no difference between short, medium and long audit partner tenure.

8.3 The effect of audit partner rotation on the perceived quality of earnings

My second research question is aimed at investigating whether audit partner rotation has an incremental effect on the perceived quality of earnings. Based on the (scarce) prior literature, I expected that audit partner rotation would not have a significant influence on perceived earnings quality or value relevance of earnings. My statistical results show that audit partner rotation indeed does not have a significant effect on the perceived quality of earnings. Hypothesis 2, wherein I established my expectation about the effect of audit partner rotation on the perceived quality of earnings, was formulated as follows:

There is no association between audit partner rotation and the perceived quality of earnings.

My empirical results support this expectation and Hypothesis 2 is therefore confirmed.

A possible reason for the insignificant findings could be that investors on the stock market perceive audit partner rotation not to be material when assessing the quality of earnings. If an investor analyses the financial statements in order to examine whether a firm's share price is correctly valued, it could even be questioned whether this investor actually notices whether audit partner rotation has occurred or not. However, disregarded the fact whether the investor has noticed audit partner rotation or not, partner rotation will not be the only item that is taken into consideration, when the quality of earnings is assessed. The investor will in all probability investigate several properties of earnings, like persistence or future earnings prospects, volatility, conservatism, systematic risk and maybe also corporate governance factors. It is reasonable to assume that these factors play a much more important role in the decision making process of the individual investor, than the effect of audit partner rotation. This makes the effect of audit partner rotation probably insignificant.

In addition, it could be possible that although the investor is aware of audit partner rotation, he or she does perceive the influence of audit partner rotation on the actual audit and the published financial statements not to be of incremental significance. Bamber and Bamber (2009, p. 398) also observe this and "*find it a bit hard to believe that rotating one audit partner would materially affect the extent to which a client's reported earnings reflect the same information priced by the market.*" This observation seems to contradict with the assumption of the EC. The EC assumes that the audit profession plays an important role in the efficient working of capital markets. This assumption is reasonable, given the role auditors play in the separated relation between management and control (= shareholders). However, back in 2006, when the EC came up with regulation regarding audit partner rotation, it was suggested that audit partner rotation would enhance the integrity and efficiency of the financial markets (EC, 2006). Based on the empirical findings, it may be concluded that the by the EC assumed effect of audit partner rotation on perceived earnings quality is probably somewhat overestimated. Maybe, audit partner rotation in combination with other regulations to increase the efficiency and integrity of financial markets could be beneficial, but audit partner rotation alone does not seem to have a significant incremental effect on the functioning of financial markets.

8.4 The moderating effect of audit firm tenure on the effect of audit partner rotation

In the literature review I suggested that the effect of audit partner rotation could be more positive, or less negative, when audit partner is long (≥ 9 years). However, prior literature provides empirical evidence that the opposite effect occurs and suggests that audit partner rotation would relatively have a greater negative influence on earnings quality when audit firm tenure is long. Because of these conflicting results, I hypothesized that there would be no moderating effect of audit firm tenure on the association between audit partner rotation and earnings quality. Based on the results of the AWCA regression model, it can be concluded that the (potential) effect of audit partner rotation is indeed not significantly moderated by underlying audit firm tenure. The regression coefficients on all four AWCA specifications are not significantly different from zero. In the ERC regression model the interaction between audit partner rotation and audit firm tenure is also in all cases not significant. Hypothesis 3, wherein I established my expectation about the moderating effect of audit firm tenure on the effect of audit partner rotation, was formulated as follows:

The association between audit partner rotation and (perceived) earnings quality is not moderated by audit firm tenure.

My empirical results support this expectation and Hypothesis 3 is therefore confirmed.

There are probably two main reasons for this finding. In the first place, the individual effect of audit partner rotation on the quality of reported earnings in general could be insignificant, or not material, so that it will also not make a significant difference whether audit firm tenure is either short or long. In chapter 7.3 and 7.4, I showed that the individual effect of audit partner rotation (without taking audit firm tenure into account) did indeed not significantly influence the quality of reported earnings and the perceived quality of earnings. In this chapter I already provided reasons for the insignificance of audit partner rotation for both types of earnings quality.

The second possible reason for the insignificant moderating effect could be that the individual effect of audit firm tenure does not significantly influence the quality of reported earnings. That is, for the quality of earnings it would make no significant difference whether audit firm tenure is short or long. The regression results support this by showing that there is no significant difference in the quality of reported earnings and the perceived quality of earnings between short (< 9 years) and long (≥ 9 years) audit firm tenure. Sensitivity analysis, by setting

long audit firm tenure as 15 years or longer and comparing it with short audit firm tenure, does not change this results.

Reputation and litigation concerns could be an explanation for the general finding that audit firm tenure does not influence the quality of reported earnings. With regards to the sample I have used for the statistical analysis, this could be of big importance. Above 85% of the sample observations is audited by a Big 4 audit firm, which are in general more concerned with their reputation.

Another factor that might cause the insignificant effect of audit firm tenure on the quality of reported earnings, is that although audit firm tenure may lengthen, the underlying audit team, that most of the times, actually performs the audit procedures and tests, does not remain the same. In the audit profession the efflux of personnel is relatively high. This means that the composition of the audit engagement team changes frequently over the years. On the one extreme it is (theoretically) possible that the underlying audit team serves the client as long as the audit firm serves client⁴⁷. On the other extreme it is possible that the underlying audit team is fully replaced each year. Like mentioned before, I suggest that audit engagement team characteristics probably have a relatively bigger importance on earnings quality than audit partner rotation and audit firm tenure. Because prior studies and also my study cannot control for those factors related to the audit team, it may possibly also explain differences in findings between the several studies that have investigated the effect of audit firm tenure on earnings/audit quality.

Audit firm tenure also appears not to moderate the association between audit partner rotation and the perceived quality of earnings. This could be caused by the fact that investors perceive audit partner rotation to have an immaterial effect on the quality of earnings, which I have described earlier. It could also be caused by the insignificant incremental effect of long audit firm tenure on the perceived quality of earnings. Based on the regression results can be concluded that audit firm tenure appears not to have a significant effect on the perceived quality of earnings. This could (again) be caused by the possibility that investors perceive other factors to be of higher importance, when evaluating the quality of the earnings of a firm. In addition, investors probably also know that reputation and litigation risk might be important ‘safeguards’, that reduce the negative effects associated with excessive familiarity, but maybe also the ‘problems’ that could occur when the audit firm lacks client-specific knowledge.

⁴⁷ The audit partner in this case still rotates after seven years, but the other members of the audit team do not change.

Lastly, the fact that I find no significant effect of audit firm tenure on (perceived) earnings quality, while other studies do find a positive, negative or quadratic association may also be caused by the fact that the determinants that are used in the auditing literature to proxy for earnings/audit quality lack construct validity.

8.5 Conclusion

In this chapter I have answered my research questions. Based on the results of the statistical test all my three hypotheses are confirmed. Audit partner rotation does not have a significant (incremental) effect on the quality of reported earnings. This is possibly caused by external and internal factors. External factors could be the internal controls and accounting system quality of the client and characteristics of the underlying audit team, for example. Internal factors could be the personal circumstances of the audit partners, which may cause the effect of audit partner rotation to be not constant. Second, the perceived quality of earnings is also not significantly affected by audit partner rotation, possibly caused by the perception that audit partner rotation is immaterial. In addition, the effect of audit partner rotation is not influenced by audit firm tenure. The sole effect of audit firm tenure is also not significantly influencing (perceived) earnings quality. This may be caused by changes in the underlying audit engagement team during the term of the audit firm-client relationship, reputation and litigation concerns and the knowledge of investors of those factors.

9. Conclusion

9.1 Introduction

In the first chapter of this study I established my research questions. Based on findings in prior empirical literature these research questions were translated into three (null) hypotheses. Those hypotheses were tested in chapter 7 and the results of those tests were used to answer the research questions in chapter 8. In this chapter I conclude my study by providing the most important results of my study and mention the implications of the findings for both the (auditing) literature and the audit profession. Lastly, I will discuss the limitations of my study and come up with some recommendations for further research.

9.2 Summary and implications of results

In this study I examine the effect of audit partner rotation on respectively the quality of reported earnings and the perceived quality. I find that audit partner rotation does not have a significant effect on both the quality of reported earnings and the perceived quality (or value relevance) of earnings. In addition, my results indicate that these associations are not significantly moderated by audit firm tenure. Lastly, the individual effect of audit firm tenure appears not to be significantly influencing the actual and perceived quality of earnings.

My empirical findings have (some) implications for the existing literature. Prior literature that investigated the specific effect of audit partner rotation on (perceived) earnings quality did not find conclusive evidence on this association or did not find any significant results at all. I support this latter observation, by also finding no significant association. However, my findings are stemming from a Continental European setting, while prior literature focused on Taiwan and Australia. So, I have showed that the existing differences in institutional settings between Asian-Pacific and Continental European countries do (probably) not affect the impact of audit partner rotation on (perceived) earnings quality. The fact that several studies, including mine, have shown that audit partner rotation does not have a significant effect on the actual quality of earnings (or audit quality), might be robust evidence for the observation that audit partner rotation does only have a small, non-significant effect. That is, the effect of audit partner rotation on (perceived) earnings quality seems to be immaterial.

The second contribution to the literature is that my results suggest that there does not exist a quadratic association between audit partner tenure and earnings quality. Although Chi and Huang (2005) suggest such a quadratic relationship, because of the existence of both learning and excessive familiarity, I suggest that there are a lot of other factors, like the internal controls, audit team characteristics and personal circumstances of the audit partner, that probably have a more significant influence on this relationship, so that it is not a given fact that the association is quadratic.

My third contribution to the literature is that my empirical results show that the (potential) effect of audit partner rotation is not influenced by underlying firm tenure. This finding potentially adds value to prior studies that investigated the effect of audit partner rotation on earnings/audit quality that did not take this interaction into account. The found results in those studies are probably not biased by not controlling for underlying firm tenure. In addition, because I have tested the significance of the interaction of partner rotation and audit firm tenure I am also able to contribute to the stream of literature that has examined the general association between audit firm tenure and earnings/audit quality. Because the interaction term is insignificant, audit partner tenure probably does not affect the (potential) association between audit firm tenure and earnings/audit quality. This is an important finding, because Chen et al. (2008) suggest that the results of prior studies that examine the association between audit firm tenure and earnings/audit quality that were not able to control for the effect of audit partner tenure (or rotation), might be biased. They argue that it is important to control for audit partner tenure (or rotation). However, like mentioned before, their results are probably affected by multicollinearity between audit partner and audit firm tenure. My results show that the effects of audit partner rotation or tenure probably do not influence the results of studies that have examined the sole effect of audit firm tenure on earnings or audit quality. This may be caused by the general insignificant effect of audit partner rotation/tenure on earnings quality.

Lastly, I add to the literature on the general association between audit firm tenure and (perceived) earnings quality by showing that it makes no difference whether audit firm tenure is short or long. This makes the indistinctness of the effect of audit firm tenure on earnings/audit quality probably only bigger. There are studies that show a positively linear association (i.e. Myers et al., 2003). There are also studies that suggest that earnings/audit quality is lower for both short and long audit firm tenure and that the association between audit firm tenure and earnings/audit

quality is quadratic (Davis et al., 2009). My results suggest that there is no association between audit firm tenure and earnings/audit quality. The inconclusiveness might indicate that there are several other factors that influence this association, which I have already mentioned. It could also be the case that the proxies used to capture earnings/audit quality are not capturing the right thing and therefore lack construct validity. This will be discussed in the following section.

My findings have also some important implications for the audit profession and especially the audit market regulators. During the recent financial crisis, the EC concluded that the intended effect of audit partner rotation was not achieved, because it could not prevent the ‘audit incidents’ from happening and that therefore more rigorous measures are needed. The empirical results, to a great extent, support this vision of the regulators. Audit partner rotation does indeed not appear to have any material impact on the earnings quality in the published financial statements. Partner rotation also appears not to achieve the by the EC intended effect of having an incremental effect on the efficiency and integrity of the financial markets. One of the currently proposed measures, that is assumed to make a significantly positive contribution, is mandatory audit firm rotation. Although, I have considered the effect of audit firm tenure in a setting wherein audit firm tenure is not regulated, my results might give some indication that the implementation of the mandatory audit firm rotation will not make a significant contribution to the (perceived) quality of earnings either.

Lastly, I have mentioned that there probably are many other factors that directly influence the quality of (perceived) earnings or influence the effect of audit partner rotation/tenure on the (perceived) quality of earnings. I suggest that, for example, characteristics related to the underlying audit engagement team, but also factors related to the client (i.e. internal controls), may even have a bigger influence on earnings quality than the actual effect of audit partner rotation and possibly also audit firm rotation. Maybe the regulators should pay more attention to those other factors, because in the current discussion these factors seem to be underexposed. The audit market regulators could for example come up with rotation requirements regarding the other audit team members. Excessive familiarity between, for example an audit team member and the head of the financial administration of a firm, might possibly have a more negative effect on earnings quality, than excessive familiarity between the audit partner and executive officers of the firm.

9.3 Limitations and recommendations for further research

Although I have tried to reduce the number of limitations in my study to the greatest possible extent, there still remain several limitations. These will be discussed below.

First of all, there could be concerns about the construct validity of the model used to assess the quality of reported earnings. In this study a discretionary accrual model is used to measure this. This approach is similar to almost all other studies in auditing literature that investigate the relation between a certain audit characteristic and earnings quality or audit quality⁴⁸. However, like mentioned in chapter 3.8, Bamber and Bamber (2009) question to which degree the use of such an accrual model has sufficient construct validity and question whether such a model can be used to associate a certain audit characteristic with earnings or audit quality. For example, earnings quality could be (very) high, while audit quality is (very) low and vice versa. In this case it remains unclear whether a certain audit characteristic has a positive or negative effect on earnings quality, because there are several combinations possible⁴⁹. It could therefore be possible that effects related to earnings quality are wrongly attributed to a certain audit characteristic and vice versa. In addition, the discretionary accrual models, which are used in almost all studies in the auditing literature that investigate the effect of an audit characteristic on earnings/audit quality, are rather noisy.

The accrual models also have a relatively low explanatory power and are often indirect measures of earnings/audit quality. If at most 20% of the variation in discretionary accruals can be explained by audit characteristics and relevant control variables, what about the other 80% of variation⁵⁰. Does this mean that the auditor in general is not able to detect the other 80% of discretionary accruals or does not report on it? Although it is reasonable to assume that the auditor is not able to detect all distortions and/or does not report on all distortions, this percentage seems to be fairly unrealistic. In the (auditing) literature is tried to create models that resembles the truth. The problem however, is that it is impossible to observe or model this absolute truth, because there is no such thing as 'the ultimate truth'. These limitations are not only applicable to my study, but are applicable to the whole auditing literature. It seems that the auditing literature is quite improvident in using accrual models in order to say something about (the effect of) an audit characteristic. The decision to use accrual models is often not strongly motivated and it appears

⁴⁸ Studies that examine audit quality, wherein audit quality is proxied by earnings quality.

⁴⁹ Those possibilities are: low earnings quality & high audit quality; low earnings quality & low audit quality; high earnings quality & low audit quality, and; high earnings quality & high audit quality.

⁵⁰ For example, the highest Adjusted R² in the study of Maijoor and Vanstraelen (2006) is only 11,6%.

that many studies use those type of models because some seminal papers have started to use those models. It seems that there has risen a tendency that if almost all research, including research published in top-tier journals, use such accrual models and relate the results of those models to audit characteristics, it probably will be a good method. In many papers traditional Jones' models are used. However, prior literature argues that making use of the reversal of accruals, as suggested by the DeFond and Park (2001), has a higher statistical power than the traditional Jones' models, that rely on total accruals. The AWCA model of DeFond and Park (2001) is used in this study because of data availability issues and the observation that this model in my study probably is less subjected to measurement errors than the traditional Jones' models, that require time-series or cross-sectional regression estimates. By relating year-to-year changes in (non-cash) working capital and sales for individual firm year observations I am capable to mitigate measurement errors. However, the model of DeFond and Park (2001) itself is also a relatively simplistic model. It is assumed that working capital is a fixed percentage of sales and that all deviations from this proportion are assumed to be discretionary and could be interpreted as earnings management. In reality, not all deviations will naturally imply earnings management. For example, inventory levels (a working capital item) could be relatively high at the end of the year if the current year sales are lower than expected at the beginning of the year. However, if those sales forecast, on which the inventory purchases are made, are based on realistic assumptions and not motivated by management manipulation, should the higher proportion of inventory levels to sales be fully interpreted as earnings management? The several included control variables probably limit the negative consequences associated with the assumption that working capital is a fixed percentage of sales to a certain extent, but those variables could not filter out all variations in proportions of working capital to sales that are not attributable to earnings management. A recommendation for further research would be to search for proxies of earnings/audit quality that have a higher construct validity or to look for proxies that better relate to the audit characteristic that is investigated. Although, there is a considerable stream of research that looks for better proxies, the explanatory power of the supposed measures is still not really satisfactory⁵¹. Maybe, using an index that incorporates several measures of earnings and audit quality into one number, as suggested by Bamber and Bamber (2009), could be an improvement. In addition, regarding the use of accruals in order to detect earnings management, future research should probably make a more detailed

⁵¹ An example of research that searches for methods to better detect earnings management is the study of Dechow et al. (2012).

view on accruals. Currently, all accruals are lumped together and are used in the statistical analysis. Future research maybe could investigate accruals that are expected to be detected by auditors, are frequently used to manage earnings or accruals that have a high level of opaqueness.

The proxy used to assess the perceived quality of earnings, the ERC, is also subject to caveats. I regress the CAR on historic earnings and changes in earnings. Nevertheless, it is possible that while earnings in the current period are positive and at the same time a positive year-to-year change in earnings is observed, there still could be a negative CAR in that year, in the most extreme case (Schroeder, 1995). This might bias the statistical results. The main reason for this is that the share prices and corresponding stock returns are not only determined by the firm's historic earnings. During the year the firm's share price is probably also affected by future forecasts and incidental news, like proxy contests. This may cause distortions in the relation between earnings and CAR, that are not attributable to changes in value relevance. Although in my statistical analysis I try to control for those other factors that could influence the relation between earnings and abnormal returns, by implementing variables like the P/E ratio, volatility and growth, I am not fully able to control for all alternative sources that might cause variation in the ERC.

A third limitation of my study is that my sample size and period are relatively small. I have drawn conclusions about the effect of audit partner rotation based on 92 observations wherein audit partner rotation occurred (and 415 observations without audit partner rotation), over a six year period. Although, all extreme observations were deleted and the sample consists of about 80% of the Dutch publicly listed companies, some might have doubts about the generalizability, or external validity, of my results. Therefore, future research maybe could examine the effect of audit partner rotation using bigger samples, or samples that cover more years in order to come up with relatively more generalizable results. Related to this, future research could possibly also focus on the effect of audit partner rotation in different European Union member states. Although the European Union sets the rules with regard to auditor rotation, it is unclear whether this actually has the same effect on the audit markets of all member states. Maybe there are differences in effects of audit partner rotation between the northern and southern member states of the European Union and is more country-specific regulation expedient.

In this study I mention that the actual effect of audit partner rotation on earnings quality could be immaterial, (partly) because of the (possible) continuation of the underlying audit team that actually performs the audit procedures and tests. About 15 years ago the literature started to

report on the effect of audit firm tenure on earnings/audit quality and about 8 years ago researchers argued that a more detailed analysis was needed and started to investigate the effect of the audit partner. Maybe the next step is to investigate the effect of the underlying audit engagement team on earnings/audit quality. If it is possible to get access to data about audit teams compositions, it could create interesting research opportunities. Researchers could investigate how the audit team influences the effect of audit partner rotation and audit firm tenure on earnings/audit quality.

9.4 Conclusion

The empirical results found in this study have (some) implications for the literature and practice. My findings extend the empirical evidence on the effect of audit partner rotation on earnings quality and support the observation in prior literature that audit partner rotation does not have a material effect on earnings quality, both actual and perceived. I also contribute to the literature by finding no quadratic association between audit partner tenure and earnings quality. My empirical results extend the literature by finding no significant interaction between audit partner rotation and audit firm tenure. Lastly, I contribute to the literature on the individual association between audit firm tenure and (perceived) earnings quality, by finding no effect of audit firm tenure.

The results in this study have also implications in practice. I support the observation of the EC that audit partner rotation does not have an incremental positive effect on the quality of earnings. However, my results regarding the effect of audit firm tenure suggest that the proposed mandatory audit firm rotation also probably will not make a significantly positive contribution to the quality of earnings.

There are also some noteworthy limitations in my study. In the first place using an accrual model to investigate the association between some audit characteristic and earnings quality might be a somewhat indirect measurement, although the majority of prior studies have used those models. Second, accrual models have a relatively low explanatory power and probably lack (some) construct validity. Using the relation between earnings and abnormal returns in order to say something about the value relevance of earnings may also be subjected to caveats, because it is impossible to control for all alternative sources of variation in stock returns. Lastly, some might have doubts about the external validity of my study because the sample size is relatively small and only a relatively short time period is considered.

Future research possibly could search for better proxies of earnings/audit quality. Maybe the effects of audit partner rotation in different countries of the European Union could be investigated. Another possible research opportunity is to investigate the characteristics of the underlying audit team on earnings/audit quality.

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Appendix

Literature review

| Study (audit partner) | Sample | Method | Findings |
|---|---|--|--|
| Chen, Lin & Lin (2008); <i>'Audit Partner Tenure, Audit Firm Tenure, and Discretionary Accruals: Does Long Auditor Tenure Impair Earnings Quality?'</i> | 1990-2001 5213 observations Taiwan | Performance-matched discretionary accruals (absolute, positive, negative, raw) are regressed on audit partner tenure (dichotomous variable), with control for audit firm tenure | Longer audit partner tenure limits the management's ability to use manipulative discretion in their financial reporting choices, indicating higher earnings quality. No indication that audit partner rotation would have a beneficial effect on earnings quality. |
| Chi, Huang, Liao & Xie (2009)*; <i>Mandatory Audit Partner Rotation, Audit Quality and Market Perception: Evidence from Taiwan.</i> | 2004 1131 observations (493 mandatory rotation 125 non rotation 513 voluntary rotation) Taiwan | Performance-matched discretionary accruals (absolute) are regressed on partner rotation, whereby they compare the mandatory rotation sample with three benchmark samples using a dummy variable | There is no difference in earnings quality between the mandatory and non-rotation or voluntary rotation sample. Earnings quality is lower for mandatory sample compared with prior year of mandatory sample, indicating that mandatory audit partner rotation does not enhance earnings quality and that earnings quality increases with partner tenure. |
| Chi, Huang, Liao & Xie (2009)*; <i>Mandatory Audit Partner Rotation, Audit Quality and Market Perception: Evidence from Taiwan.</i> | 2004 1634 observations Taiwan | Cumulative abnormal return (CAR) is regressed on interactions of earnings/changes in earnings and partner rotation (ERC), whereby they compare the mandatory rotation sample with three benchmark samples using a dummy variable | There are no significant differences in perceived earnings quality between the mandatory partner rotation sample and non-rotation or the prior year of the mandatory sample. There is a significant difference between mandatory and voluntary rotation, meaning that mandatory compared to voluntary |

| | | | |
|---|--|--|---|
| | | | rotation increases perceived earnings quality. Overall, it is concluded that mandatory audit partner rotation does not have a significant effect on perceived earnings quality. |
| Carey & Simnett (2006); <i>Audit Partner Tenure and Audit Quality</i> | 1995 1021 observations Australia | Propensity to issue a going-concern for financially distressed companies, abnormal working capital accruals (AWCA) and just beating or missing earnings benchmarks are regressed on audit partner tenure (short, long) | Longer audit partner tenure is associated with lower propensity to issue going-concern opinion, indicating lower quality. However, this only holds for non-Big 6 audit partners. No evidence between AWCA and audit partner tenure is found. For just beating (missing) earnings benchmarks some evidence is found that longer tenure is associated with management of earnings, indicating lower earnings quality. |
| Chi & Huang (2005); <i>Discretionary Accruals, Audit Firm Tenure and Audit Partner Tenure: Empirical Evidence from Taiwan</i> | 1998-2001 1337 observations Taiwan | Absolute discretionary accruals are regressed on audit partner tenure, whereby quadratic terms are used for audit partner and firm tenure | Earnings quality gradually increases in the first 5 years of audit partner tenure, earnings quality gradually decreases when audit partner tenure exceeds 5 years. Consistent with the 'learning effect' in the first years and 'excessive-familiarity' in the later years of audit partner tenure. |

| Study (audit firm) | Sample | Method | Findings |
|---|---|---|--|
| Johnson, Khurana & Reynolds (2002); <i>Audit Firm Tenure and the Quality of Financial Reports</i> | 1986-1995 2463 observations (821 short firm tenure 821 medium firm tenure 821 long firm tenure) United States of America | Absolute discretionary accruals are regressed on short (2 or 3 years) and long (9 years or more), persistence of accrual component of earnings is measured by regressing the accrual component of earnings on audit firm tenure | Short audit firm tenure is associated with higher discretionary accruals, indicating lower earnings quality. No evidence is found for the relationship between long audit firm tenure and discretionary accruals. Short term audit firm tenure is also associated with lower persistence of accruals in subsequent earnings, indicating lower earnings quality. No evidence on this for long audit firm tenure is found. |
| Myers, Myers & Omer (2003); <i>Exploring the Term of the Auditor-Client Relationship and the Quality of Earnings: A Case for Mandatory Auditor Rotation?</i> | 1988-2000 42302 observations United States of America | Absolute, positive, negative and raw values of discretionary accruals, and current accruals are regressed on audit firm tenure (continuous) | Longer audit firm tenure is associated with less dispersion in discretionary and current accruals. In addition when audit firm tenure lengthens greater restraints are placed on both income-increasing and income-decreasing current accruals, indicating higher earnings quality. |
| Ghosh & Moon (2005); <i>Auditor Tenure and Perceptions of Audit Quality*</i> | 1990-2000 38794 observations (full) 35826 observations (restrict) United States of America | Cumulative abnormal returns are regressed on interactions of earnings/changes in earnings and audit firm tenure (ERC) | ERC is positively related with audit firm tenure, suggesting that perceived earnings quality increases with audit firm tenure. |
| * Perceived earnings quality | | | |

| | | | |
|---|---|---|--|
| Davis, Soo & Trompeter (2009); Auditor Tenure and the Ability to Meet or Beat Earnings Forecasts | 1988-2006 23748 observations United States of America | Probability (dummy) that positive discretionary accruals are used to meet or beat analyst forecasts | The relationship between audit firm tenure and positive discretionary accruals to meet or beat analysts' forecasts is quadratic. Earnings quality is lower when audit firm tenure is both short (≤ 3 years) and long (≥ 15 years). This is probably caused by the learning effect when audit firm tenure is short and a too familiar relationship between audit firm and client when tenure is long. |
|---|---|---|--|

Table 1 Sample selection

| Panel A: Sample selection AWCA regression model | | |
|--|-------|--------------|
| | Firms | Observations |
| Listed Dutch companies in period 2006-2011, from <i>Orbis</i> database | 116 | 696 |
| Less | | |
| Firms delisted before 2008, or listed after 2009 | 5 | 30 |
| Firms with (lots of) missing data, or missing 2005 | 10 | 60 |
| Financial institutions | 7 | 42 |
| Preliminary sample | 94 | 564 |
| Deleted extreme AWCA observations | 9 | 57 |
| Final sample AWCA regression | 85 | 507 |
| Panel B: Sample selection ERC regression model | | |
| | Firms | Observations |
| Final sample AWCA regression model | 85 | 507 |
| Less | | |
| Firms currently listed, but not in period 2006-2011 | 9 | 54 |
| Missing data in period 2003-2005 | 12 | 72 |
| Preliminary sample | 64 | 381 |
| Deleted extreme CAR and ERC observations | 7 | 63 |
| Final sample ERC regression | 57 | 318 |

Table 2 Descriptive statistics**Panel A: Total sample (n = 507)**

| Variable | Mean | SD | Median | Minimum | Maximum |
|----------------------------|--------|--------|--------|---------|---------|
| <i>/AWCA/</i> | 0,066 | 0,103 | 0,032 | 0,000 | 0,764 |
| <i>AWCA</i> | -0,003 | 0,122 | -0,003 | -0,620 | 0,764 |
| <i>AWCA</i> ⁺⁵² | 0,064 | 0,112 | 0,026 | 0,000 | 0,764 |
| <i>AWCA</i> ⁻⁵³ | -0,067 | 0,094 | -0,034 | -0,620 | 0,000 |
| <i>PROT</i> | 0,181 | 0,386 | 0 | 0 | 1 |
| <i>LAFT</i> | 0,635 | 0,482 | 1 | 0 | 1 |
| <i>CFO</i> | 0,081 | 0,102 | 0,078 | -0,567 | 0,629 |
| <i>GRWT</i> | 0,079 | 0,344 | 0,039 | -0,759 | 3,694 |
| <i>SIZE</i> | 13,066 | 2,080 | 13,020 | 8,212 | 17,419 |
| <i>LEV</i> | 2,800 | 1,544 | 2,299 | 1,116 | 9,376 |
| <i>ROA</i> | 0,018 | 0,189 | 0,044 | -1,965 | 0,994 |
| <i>LOSS</i> | 0,219 | 0,414 | 0 | 0 | 1 |
| <i>LLOSS</i> | 0,183 | 0,387 | 0 | 0 | 1 |
| <i>AGE</i> | 21,440 | 12,680 | 18 | 1 | 41 |
| <i>BIG4</i> | 0,852 | 0,355 | 1 | 0 | 1 |

Panel B: Partner rotation sample⁵⁴ (n = 92)

| Variable | Mean | SD | Median | Minimum | Maximum |
|----------------------------|--------|-------|--------|---------|---------|
| <i>/AWCA/</i> | 0,068 | 0,099 | 0,032 | 0,000 | 0,579 |
| <i>AWCA</i> | 0,005 | 0,121 | -0,005 | -0,308 | 0,579 |
| <i>AWCA</i> ⁺⁵⁵ | 0,078 | 0,126 | 0,031 | 0,000 | 0,579 |
| <i>AWCA</i> ⁻⁵⁶ | -0,059 | 0,069 | -0,033 | -0,308 | -0,001 |
| <i>LAFT</i> | 0,717 | 0,453 | 1 | 0 | 1 |
| <i>CFO</i> | 0,078 | 0,091 | 0,076 | -0,333 | 0,305 |

⁵² Numbers based on 247 of the 507 observations that have positive AWCA.⁵³ Numbers based on 260 of the 507 observations that have negative AWCA.⁵⁴ Note that I deleted the variable *PROT* in the this panel, because rotation is the criterion the split of the sample is based upon.⁵⁵ Numbers based on 43 of the 92 observations that have positive AWCA.⁵⁶ Numbers based on 49 of the 92 observations that have negative AWCA

| | | | | | |
|--------------|--------|--------|--------|--------|--------|
| <i>GRWT</i> | 0,072 | 0,319 | 0,039 | -0,589 | 2,258 |
| <i>SIZE</i> | 13,638 | 2,071 | 13,945 | 9,113 | 17,419 |
| <i>LEV</i> | 2,969 | 1,667 | 2,405 | 1,203 | 9,187 |
| <i>ROA</i> | 0,021 | 0,148 | 0,048 | -0,726 | 0,485 |
| <i>LOSS</i> | 0,217 | 0,415 | 0 | 0 | 1 |
| <i>LLOSS</i> | 0,163 | 0,371 | 0 | 0 | 1 |
| <i>AGE</i> | 21,924 | 12,786 | 18,500 | 1 | 41 |
| <i>BIG4</i> | 0,924 | 0,267 | 1 | 0 | 1 |

Panel C: Non-partner rotation sample⁵⁷ (n = 415)

| Variable | Mean | SD | Median | Minimum | Maximum |
|---------------------------|--------|--------|--------|---------|---------|
| <i>/AWCA/</i> | 0,065 | 0,104 | 0,032 | 0,000 | 0,764 |
| <i>AWCA</i> | -0,005 | 0,122 | -0,001 | -0,620 | 0,764 |
| <i>AWCA⁺⁵⁸</i> | 0,061 | 0,109 | 0,026 | 0,000 | 0,764 |
| <i>AWCA⁻⁵⁹</i> | -0,069 | 0,099 | -0,035 | -0,620 | 0,000 |
| <i>LAFT</i> | 0,617 | 0,487 | 1 | 0 | 1 |
| <i>CFO</i> | 0,082 | 0,104 | 0,079 | -0,567 | 0,629 |
| <i>GRWT</i> | 0,080 | 0,350 | 0,039 | -0,759 | 3,694 |
| <i>SIZE</i> | 12,939 | 2,064 | 13,152 | 8,212 | 17,346 |
| <i>LEV</i> | 2,762 | 1,514 | 2,287 | 1,116 | 9,376 |
| <i>ROA</i> | 0,017 | 0,197 | 0,043 | -1,965 | 0,944 |
| <i>LOSS</i> | 0,219 | 0,414 | 0 | 0 | 1 |
| <i>LLOSS</i> | 0,188 | 0,391 | 0 | 0 | 1 |
| <i>AGE</i> | 21,332 | 12,669 | 18 | 1 | 41 |
| <i>BIG4</i> | 0,836 | 0,371 | 1 | 0 | 1 |

⁵⁷ Note that I deleted the variable *PROT* in this panel, because rotation is the criterion the split of the sample is based upon

⁵⁸ Numbers based on 204 of the 415 observations that have positive *AWCA*

⁵⁹ Numbers based on 211 of the 415 observations that have negative *AWCA*

Table 3 Comparison of means

| Variable | Partner rotation sample mean (n = 92) | Non-partner rotation sample mean (n = 415) | t-statistic |
|-------------------------|--|---|-------------|
| <i>/AWCA/</i> | 0,068 | 0,065 | -0,256 |
| <i>AWCA</i> | 0,005 | -0,005 | -0,677 |
| <i>AWCA⁺</i> | 0,078 | 0,061 | -0,806 |
| <i>AWCA⁻</i> | -0,059 | -0,069 | -0,774 |
| <i>LAFT</i> | 0,717 | 0,617 | -1,814* |
| <i>CFO</i> | 0,078 | 0,082 | 0,313 |
| <i>GRWT</i> | 0,072 | 0,080 | 0,212 |
| <i>SIZE</i> | 13,638 | 12,939 | -2,939*** |
| <i>LEV</i> | 2,969 | 2,762 | -1,094 |
| <i>ROA</i> | 0,021 | 0,017 | -0,229 |
| <i>LOSS</i> | 0,217 | 0,219 | 0,039 |
| <i>LLOSS</i> | 0,163 | 0,188 | 0,576 |
| <i>AGE</i> | 21,924 | 21,332 | -0,404 |
| <i>BIG4</i> | 0,924 | 0,836 | -2,642*** |

***, * Significant at 1% and 10% respectively

Table 4 Pearson correlation matrix

| | <i>/AWCA/</i> | <i>AWCA</i> | <i>AWCA⁺</i> | <i>AWCA⁻</i> | <i>PROT</i> | <i>LAFT</i> | <i>CFO</i> | <i>GRWT</i> | <i>SIZE</i> | <i>LEV</i> | <i>ROA</i> | <i>LOSS</i> | <i>LLOSS</i> | <i>AGE</i> | <i>BIG4</i> |
|-------------------------|------------------|------------------|-------------------------|-------------------------|-----------------|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|---------------|-------------|
| <i>/AWCA/</i> | 1 | | | | | | | | | | | | | | |
| <i>AWCA</i> | | 1 | | | | | | | | | | | | | |
| <i>AWCA⁺</i> | | | 1 | | | | | | | | | | | | |
| <i>AWCA⁻</i> | | | | 1 | | | | | | | | | | | |
| <i>PROT</i> | 0,011 | 0,030 | 0,057 | 0,038 | 1 | | | | | | | | | | |
| <i>LAFT</i> | -0,036 | 0,047 | -0,011 | 0,063 | 0,080* | 1 | | | | | | | | | |
| <i>CFO</i> | -0,231*** | -0,152*** | -0,276*** | 0,189*** | -0,013 | 0,033 | 1 | | | | | | | | |
| <i>GRWT</i> | 0,034 | 0,071 | 0,070 | 0,016 | -0,009 | 0,000 | 0,077* | 1 | | | | | | | |
| <i>SIZE</i> | -0,079 | -0,041 | -0,103 | 0,054 | 0,130*** | 0,218*** | 0,151*** | -0,023 | 1 | | | | | | |
| <i>LEV</i> | -0,043 | 0,069 | 0,035 | 0,132** | 0,052 | 0,049 | -0,164*** | 0,053 | 0,258*** | 1 | | | | | |
| <i>ROA</i> | -0,226*** | -0,018 | -0,207*** | 0,253*** | 0,009 | 0,133*** | 0,417*** | 0,050 | 0,217*** | -0,175*** | 1 | | | | |
| <i>LOSS</i> | 0,238*** | 0,026 | 0,286*** | -0,190*** | -0,002 | -0,094** | -0,425*** | -0,117*** | -0,200*** | 0,124*** | -0,566*** | 1 | | | |
| <i>LLOSS</i> | 0,188*** | 0,080* | 0,254*** | -0,113* | -0,025 | -0,032 | -0,328*** | -0,018 | -0,213*** | 0,033 | -0,212*** | 0,341*** | 1 | | |
| <i>AGE</i> | -0,195*** | -0,049 | -0,225*** | 0,165*** | 0,018 | 0,087** | 0,032 | -0,048 | 0,280*** | 0,126*** | 0,135*** | -0,135*** | -0,110** | 1 | |
| <i>BIG4</i> | -0,159*** | 0,001 | -0,181*** | 0,138* | 0,095** | 0,273*** | 0,059 | -0,039 | 0,441*** | 0,153*** | 0,147*** | -0,156*** | -0,118*** | 0,087* | 1 |

***, **, * Significant at 0,01, 0,05 and 0,10 confidence level respectively

AWCA⁺ and AWCA⁻ correlations are based on 247 and 260 observations respectively, other correlations are based on all sample observations (n=507)

Table 5 OLS Regression results for absolute and raw AWCA

| Variable | <u> AWCA </u> | | <u>AWCA</u> | |
|-------------------------|----------------------|----------------|--------------------|----------------|
| | Coefficient | t-value | Coefficient | t-value |
| <i>INTERCEPT</i> | 0,063 | (2,068)** | 0,020 | (0,519) |
| <i>PROT</i> | 0,004 | (0,397) | 0,008 | (0,596) |
| <i>CFO</i> | -0,156 | (-3,113)*** | -0,204 | (-3,237)*** |
| <i>GRWT</i> | 0,017 | (1,332) | 0,025 | (1,537) |
| <i>SIZE</i> | 0,007 | (2,662)*** | -0,002 | (-0,697) |
| <i>LEV</i> | -0,007 | (-2,211)** | 0,005 | (1,288) |
| <i>ROA</i> | -0,058 | (-2,020)** | 0,036 | (0,991) |
| <i>LOSS</i> | 0,023 | (1,640) | -0,012 | (-0,706) |
| <i>LLOSS</i> | 0,025 | (1,952)* | 0,014 | (0,862) |
| <i>AGE</i> | -0,001 | (-3,541)*** | 0,000 | (-0,983) |
| <i>BIG 4</i> | -0,040 | (-2,966)*** | 0,005 | (0,268) |
| <i>2011</i> | -0,020 | (-1,324) | 0,003 | (0,177) |
| <i>2010</i> | -0,006 | (-0,408) | 0,010 | (0,516) |
| <i>2009</i> | 0,000 | (-0,019) | 0,010 | (0,536) |
| <i>2008</i> | 0,002 | (0,135) | 0,018 | (0,937) |
| <i>2007</i> | 0,006 | (0,375) | 0,020 | (1,059) |
| Observations | 507 | | 507 | |
| Adjusted R ² | 0,125 | | 0,015 | |
| F-value | 5,830*** | | 1,512* | |

Table 6 OLS Regression results for positive and negative AWCA

| <u>Variable</u> | <u>AWCA⁺</u> | | <u>AWCA⁻</u> | |
|-------------------------|-------------------------|----------------|-------------------------|----------------|
| | <u>Coefficient</u> | <u>t-value</u> | <u>Coefficient</u> | <u>t-value</u> |
| <i>INTERCEPT</i> | 0,064 | (1,351) | -0,054 | (-1,355) |
| <i>PROT</i> | 0,024 | (1,369) | 0,009 | (0,650) |
| <i>CFO</i> | -0,172 | (-2,153)** | 0,121 | (1,759)* |
| <i>GRWT</i> | 0,006 | (0,326) | -0,024 | (-1,178) |
| <i>SIZE</i> | 0,007 | (1,763)* | -0,009 | (-2,578)*** |
| <i>LEV</i> | -0,003 | (-0,664) | 0,012 | (3,027)*** |
| <i>ROA</i> | -0,015 | (-0,385) | 0,140 | (3,148)*** |
| <i>LOSS</i> | 0,042 | (1,874)* | -0,007 | (-0,386) |
| <i>LLOSS</i> | 0,039 | (1,982)** | 0,000 | (-0,060) |
| <i>AGE</i> | -0,002 | (-2,713)*** | 0,001 | (2,171)** |
| <i>BIG 4</i> | -0,069 | (-3,189)*** | 0,026 | (1,466) |
| <i>2011</i> | -0,019 | (-0,802) | 0,032 | (1,617) |
| <i>2010</i> | 0,000 | (-0,021) | 0,001 | (0,033) |
| <i>2009</i> | 0,018 | (0,710) | 0,018 | (0,933) |
| <i>2008</i> | 0,011 | (0,457) | 0,011 | (0,545) |
| <i>2007</i> | 0,024 | (1,063) | 0,008 | (0,374) |
| Observations | 247 | | 260 | |
| Adjusted R ² | 0,158 | | 0,103 | |
| F-value | 4,066*** | | 2,975*** | |

Table 7 OLS Regression results for moderating effect of audit firm tenure on the effect of audit partner rotation

| <u>Variable</u> | <u>AWCA/</u> | | <u>AWCA+</u> | | <u>AWCA-</u> | |
|-------------------------|--------------------|----------------|--------------------|----------------|--------------------|----------------|
| | <u>Coefficient</u> | <u>t-value</u> | <u>Coefficient</u> | <u>t-value</u> | <u>Coefficient</u> | <u>t-value</u> |
| <i>INTERCEPT</i> | 0,064 | (2,067)** | 0,062 | (1,312) | -0,053 | (-1,329) |
| <i>PROT</i> | -0,002 | (-0,098) | -0,003 | (-0,068) | 0,005 | (0,213) |
| <i>PROT*LAFT</i> | 0,009 | (0,357) | 0,033 | (0,438) | 0,007 | (0,214) |
| <i>LAFT</i> | 0,004 | (0,364) | 0,012 | (0,465) | 0,002 | (0,127) |
| <i>CFO</i> | -0,156 | (-3,108)*** | -0,165 | (-2,065)** | 0,118 | (1,696)* |
| <i>GRWT</i> | 0,017 | (1,324) | 0,005 | (0,290) | -0,024 | (-1,168) |
| <i>SIZE</i> | 0,007 | (2,609)*** | 0,006 | (1,669)* | -0,009 | (-2,574)** |
| <i>LEV</i> | -0,007 | (-2,204)** | -0,003 | (-0,582) | 0,012 | (3,010)*** |
| <i>ROA</i> | -0,059 | (-2,043)** | -0,018 | (-0,462) | 0,140 | (3,120)*** |
| <i>LOSS</i> | 0,023 | (1,637) | 0,045 | (1,958)* | -0,007 | (-0,403) |
| <i>LLOSS</i> | 0,024 | (1,906)* | 0,037 | (1,885)* | -0,001 | (-0,082) |
| <i>AGE</i> | -0,001 | (-3,550)*** | -0,002 | (-2,650)*** | 0,001 | (2,125)** |
| <i>BIG 4</i> | -0,042 | (-3,001)*** | -0,074 | (-3,376)*** | 0,026 | (1,399) |
| <i>2011</i> | -0,020 | (-1,327) | -0,019 | (-0,805) | 0,032 | (1,605) |
| <i>2010</i> | -0,006 | (-0,383) | 0,002 | (0,108) | 0,001 | (0,038) |
| <i>2009</i> | 0,000 | (0,014) | 0,019 | (0,769) | 0,018 | (0,945) |
| <i>2008</i> | 0,002 | (0,134) | 0,012 | (0,509) | 0,011 | (0,535) |
| <i>2007</i> | 0,006 | (0,387) | 0,026 | (1,133) | 0,008 | (0,370) |
| Observations | 507 | | 247 | | 260 | |
| Adjusted R ² | 0,122 | | 0,157 | | 0,096 | |
| F-value | 5,153*** | | 3,687**** | | 2,611*** | |

Table 8 OLS Regression results for investor perception of audit partner rotation

| <u>Variable</u> | <u>CAR</u> | |
|---------------------------|--------------------|----------------|
| | <u>Coefficient</u> | <u>t-value</u> |
| <i>INTERCEPT</i> | -0,073** | (2,093) |
| <i>E</i> | 0,204*** | (3,116) |
| <i>ΔE</i> | 0,091** | (1,349) |
| <i>ERC</i> *1 | 0,345*** | (3,601) |
| <i>E*PROT</i> | 0,009 | (0,324) |
| <i>ΔE*PROT</i> | 0,002 | (0,099) |
| <i>ERC</i> *1 | 0,011 | (0,478) |
| <i>E*SIZE /ΔE*SIZE</i> *2 | 0,083* | (1,928) |
| <i>E*AGE /ΔE*AGE</i> | 0,059* | (1,784) |
| <i>E*GRWT /ΔE*GRWT</i> | 0,032 | (0,754) |
| <i>E*BETA /ΔE*BETA</i> | -0,027 | (-1,417) |
| <i>E*VOLT /ΔE*VOLT</i> | -0,043** | (-2,192) |
| <i>E*P/E /ΔE*P/E</i> | 0,059 | (0,503) |
| <i>E*LEV /ΔE*LEV</i> | 0,032 | (0,523) |
| <i>E*BIG4 /ΔE*BIG4</i> | 0,019 | (0,896) |
| <i>2011</i> | -0,023 | (-0,738) |
| <i>2010</i> | -0,015 | (-0,469) |
| <i>2009</i> | -0,008 | (-0,263) |
| <i>2008</i> | 0,015 | (0,483) |
| <i>2007</i> | 0,018 | (0,519) |
| Observations | 318 | |
| Adjusted R ² | 0,187 | |
| F-value | 5,036*** | |

*1 The ERC is calculated by taking the sum of the individual regression coefficients of *E* and *ΔE*. This variable is added in the regression analysis and at the same time the individual regression coefficients *E* and *ΔE* are deleted. In this way, both the individual and the summed regression coefficients could be determined.

*2 The equation $E*CONTROL\ VARIABLE / \Delta E*CONTROL\ VARIABLE$, is equal to the ERC of the corresponding control variable. The individual effects of *E* and *ΔE* for the control variables are not tabulated.

Table 9 OLS Regression results for moderating effect of audit firm tenure on investor perception of audit partner rotation

| <u>Variable</u> | <u>CAR</u> | |
|---------------------------------------|--------------------|----------------|
| | <u>Coefficient</u> | <u>t-value</u> |
| <i>INTERCEPT</i> | -0,075*** | (2,108) |
| <i>E</i> | 0,191*** | (2,932) |
| <i>ΔE</i> | 0,098** | (1,402) |
| <i>ERC</i> * ¹ | 0,329*** | (3,298) |
| <i>E*PROT</i> | -0,008 | (-0,281) |
| <i>ΔE*PROT</i> | 0,003 | (0,122) |
| <i>ERC PROT</i> * ¹ | -0,005 | (-0,193) |
| <i>E*LAFT</i> | 0,049 | (1,013) |
| <i>ΔE*LAFT</i> | 0,024 | (0,483) |
| <i>ERC LAFT</i> * ¹ | 0,073 | (1,428) |
| <i>E*PROT*LAFT</i> | 0,004 | (0,166) |
| <i>ΔE*PROT*LAFT</i> | 0,003 | (0,116) |
| <i>ERC PROT*LAFT</i> * ¹ | 0,007 | (0,253) |
| <i>E*SIZE /ΔE*SIZE</i> * ² | 0,080* | (1,818) |
| <i>E*AGE /ΔE*AGE</i> | 0,055* | (1,784) |
| <i>E*GRWT /ΔE*GRWT</i> | 0,035 | (0,782) |
| <i>E*BETA /ΔE*BETA</i> | -0,029 | (-1,534) |
| <i>E*VOLT /ΔE*VOLT</i> | -0,046** | (2,323) |
| <i>E*P/E /ΔE*P/E</i> | 0,064 | (0,529) |
| <i>E*LEV /ΔE*LEV</i> | 0,029 | (0,486) |
| <i>E*BIG4 /ΔE*BIG4</i> | 0,022 | (0,932) |
| <i>2011</i> | -0,022 | (-0,715) |
| <i>2010</i> | -0,015 | (-0,472) |

(continues on next page)

| | | |
|-------------------------|----------|----------|
| 2009 | -0,007 | (-0,242) |
| 2008 | 0,015 | (0,474) |
| 2007 | 0,018 | (0,511) |
| Observations | 318 | |
| Adjusted R ² | 0,195 | |
| F-value | 5,173*** | |

*1 The ERC is calculated by taking the sum of the individual regression coefficients of E and ΔE . This variable is added in the regression analysis and at the same time the individual regression coefficients E and ΔE are deleted. In this way, both the individual and the summed regression coefficients could be determined.

*2 The equation $E*CONTROL VARIABLE / \Delta E*CONTROL VARIABLE$, is equal to the ERC of the corresponding control variable. The individual effects of E and ΔE for the control variables are not tabulated.