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THE EFFECT OF AUDIT QUALITY ON ACCRUALS AND REAL EARNINGS MANAGEMENT: A REVIEW

57180535-4 PAN YUJIA

SEMINAR ON POWER OF FINANCIAL NUMBERS

C.E. PROF. DAVID LAU

D.E. PROF. NISHYAM SHIGERU D.E. PROF. HIBARA NOBUHIKO

Summary

In this paper, I review the academic evidence on the effect of audit quality on earnings management. The primary purpose of this review is to summarize previous literature on the relation between audit quality and earnings management to help academic researchers and to identify fertile ground for future academic research. The purpose of this paper is not to provide an exhaustive survey of individuals studies in the existing literature.

In recent years, audit quality and earnings management have been attracting researchers' attention in accounting studies. The relation between audit quality and earnings management has been widely discussed in the literature. Earnings are a vital indicator in the financial statements of a company when measuring the financial performance of a company. Earnings management is an action which impairs integrity of the accounting information within the context of financial reporting. It is commonly recognized that external audit plays a key role in ensuring the fair statement of financial reports and protecting stakeholders: external audit assures outside financial report users that the information of financial reporting is faithfully representation, effectively reducing information asymmetries. It is expected that high-quality audit can effectively constraint earnings management to provide reliable financial information to stakeholders.

Early research mainly focuses on the effect of audit quality on accruals earnings management. Among them, the audit size as a proxy of audit quality is most frequently used. The Majority of those previous studies find the negative association between audit quality (proxied by audit size) and

accruals earnings management. However, there are also a few studies indicate there is no significant relationship between audit quality and accruals earnings management. Furthermore, the effect of audit quality and real earnings management is waiting for discovery, and the mixed evidence from the extant research reveals that the effect and the mechanism are still to far to conclude.

In recent years, the relationship between audit quality and real earnings management has received growing attention of academic researchers. However, the studies on this relationship are relatively few, compared to the studies on the relationship of audit quality and accruals earnings management. Moreover, the mixed empirical evidence is reported and several hypotheses to justify this relationship are not consistent. This paper highlights the need for future research on audit quality and real earnings management shifting from accruals earnings management.

Since the audit quality is an ambiguous concept and various measurements are used to capture audit quality by researchers and regulators, it is important to know whether the proxies can be used in the research on audit quality and earnings management, and how the proxies affect the magnitude of earnings management. Otherwise, it is hard to reach a consistent conclusion of the effect of audit quality on earnings management. Tailoring the framework of audit quality by Hu (2015), I classify the existing articles into two major categories: the impacts of the input and context of audit quality on earnings management, including both accruals and real earnings management. Using this classification, I argue that in comparison with the context of audit quality, the input has more direct and consistent impact on earnings management. The context of audit quality depends more on legal environment, accounting settings, and other external factors than the control of audit firms. Therefore, I argue that more in-depth research on the context of audit quality and earnings management is required, especially when the empirical evidence of cross-country analysis is not significant. Furthermore, since the components of audit quality are interdependent – e.g. in different legal setting countries, the effect of audit size (representing audit quality) on earnings management can be different – when analyzing how audit quality impacts on earnings management, the components of audit quality should be considered comprehensively. Managers can use accruals and real earnings management simultaneously and there two strategies of earnings management are substitute for each other. The mechanism of these two strategies of earnings management are

different and hence the costs and effectiveness of them are also different. Therefore, it is meaningful and needed to examine how audit quality affects both two earnings management strategies at the same time and the trade-off for the future research. Otherwise, it cannot lead to definitive conclusions on how or why managers decide to manage earnings if only one earnings management strategy is analyzed at a time (Badertscher, 2011)

This paper makes several contributions to the literature. First, an up-to-date review of the literature is provided. As far as I know, there is no review article of the literature particularly about the effect of audit quality on earnings management. Second, by reviewing the existing literature, I find the research gap for the further research.

Future research could investigate the following issues:

- 1) Empirical research on audit quality and real earnings management.
- 2) Meta-analysis on previous studies on audit quality and earnings management.
- 3) Qualitative research, i.e. survey and interview investigation, on audit quality and earnings management, with auditors, managers, or both.
- 4) Research on private companies, which consist of the majority of world's economy. In addition, regulations on private companies are less than public companies.

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CHAPTER 1. INTRODUCTION AND SUBMITTED MATERIALS

Section 1. INTRODUCTION

In this paper, I review the academic evidence on the effect of audit quality on earnings management. The primary purpose of this review is to summarize previous literature on the relation between audit quality and earnings management to help academic researchers and to identify fertile ground for future academic research. The purpose of this paper is not to provide an exhaustive survey of individuals studies in the existing literature.

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Early research mainly focuses on the effect of audit quality on accruals earnings management. Among them, the audit size as a proxy of audit quality is most frequently used. The Majority of those previous studies find the negative association between audit quality (proxied by audit size) and accruals earnings management. However, there are also a few studies indicate there is no significant relationship between audit quality and accruals earnings management. Furthermore, the effect of audit quality and real earnings management is waiting for discovery, and the mixed evidence from the extant research reveals that the effect and the mechanism are still to far to conclude.

In recent years, the relationship between audit quality and real earnings management has received growing attention of academic researchers. However, the studies on this relationship are

relatively few, compared to the studies on the relationship of audit quality and accruals earnings management. Moreover, the mixed empirical evidence is reported and several hypotheses to justify this relationship are not consistent. This paper highlights the need for future research on audit quality and real earnings management shifting from accruals earnings management.

Since the audit quality is an ambiguous concept and various measurements are used to capture audit quality by researchers and regulators, it is important to know whether the proxies can be used in the research on audit quality and earnings management, and how the proxies affect the magnitude of earnings management. Otherwise, it is hard to reach a consistent conclusion of the effect of audit quality on earnings management. Tailoring the framework of audit quality by Hu (2015), I classify the existing articles into two major categories: the impacts of the input and context of audit quality on earnings management, including both accruals and real earnings management. Using this classification, I argue that in comparison with the context of audit quality, the input has more direct and consistent impact on earnings management. The context of audit quality depends more on legal environment, accounting settings, and other external factors than the control of audit firms. Therefore, I argue that more in-depth research on the context of audit quality and earnings management is required, especially when the empirical evidence of cross-country analysis is not significant. Furthermore, since the components of audit quality are interdependent – e.g. in different legal setting countries, the effect of audit size (representing audit quality) on earnings management can be different – when analyzing how audit quality impacts on earnings management, the components of audit quality should be considered comprehensively. Managers can use accruals and real earnings management simultaneously and there two strategies of earnings management are substitute for each other. The mechanism of these two strategies of earnings management are different and hence the costs and effectiveness of them are also different. Therefore, it is meaningful and needed to examine how audit quality affects both two earnings management strategies at the same time and the trade-off for the future research. Otherwise, it cannot lead to definitive conclusions on how or why managers decide to manage earnings if only one earnings management strategy is analyzed at a time (Badertscher, 2011)

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The rest of the paper is organized as follows. In section two, I review the concepts, frameworks and measurements of audit quality in the existing literature. In section three, I review concepts and measurements of earnings management. In section four, I provide an overview of the association between audit quality and earnings management on the basis of previous research. In section five, I propose the research gap for the future academic study. The final section provides the conclusions.

Section 2. MASTER THESIS OF ELECTRICAL VERSION

Electrical version of Master thesis and summary are absolutely prepared and are complied with the following rules.

- DOC (Microsoft Word) or PDF (Adobe Acrobat) are available file type.
- File name is your student ID. <Ex. K00X001.DOC or K00X001.PDF>
- File name of summary is added "-S" to your ID. <EX. : K00X001-S.DOC>
- You need to store your own backup files of thesis and its summary.
- If you created by using the other computer environment (Macintosh, Linux or LaTeX, Lotus Word etc.), you should save a plain text file (name as student_id.txt) into submitted media with detail of your computer environment (Operating System, Word processing software, Software Vender name, Software versions, etc...).

CHAPTER 2. AUDIT QUALITY

Section 1. DEFINITION OF AUDIT QUALITY

Even though audit quality is a popular topic in academic area, there is not a universally accepted recognition of audit quality up to now. The most frequently cited definition of audit quality in literature is given by Linda E. DeAngelo (1981). She defines that audit quality is “the market-assessed joint probability that a given auditor will both (a) discover a breach in the client’s accounting system, and (b) report the breach”. In other words, audit quality indicates that an auditor detects the misstatement of clients and also reveals the misstatement. According to this definition, the higher audit quality, the higher profitability that an auditor effectively discovers and reports its clients’ misstatement of financial reporting. However, the profitability is subjective to estimate and not observable. Therefore, audit quality is perceivable.

Section 2. FRAMEWORK OF AUDIT QUALITY

Due to ambiguous definition and audit quality as a simple concept and lack of consensus of measurements of audit quality, researchers and regulators pursue general frameworks for establishing audit quality and studying factors and drivers of audit quality. Hu (2015) proposes a three-element framework of audit quality which is developed by the combination of the frameworks proposed by FRC (2008), IAASB (2013), Francis (2011), and Knechel et al. (2013). Table 1 provides the framework proposed by Hu (2015). She categorizes the twelve measures which are used as proxy variables for audit quality by previous studies into (a) input, (b) output, and (c) context measure. Some measures can be classified in more than one category at the same time.

Each category is one factor which affects audit quality. Input, including audit size, audit time, and auditors’ industry specialization, shows audit engagement, audit professionalism, and the resources auditors possess. In simple words, audit quality is considered improved as auditors engage more efforts in the process of audit. Knechel et al. (2013) argue that “the quality of an audit is

greatly influenced by the level of inputs into the audit process .“ Output shows the outcome of audit, consisting of restatement, litigation or regulatory reviews of audit firms, accruals, earning benchmark, accounting conservatism, going-concern report, analyst forecast accuracy, ex ante cost of equity. Output is to use the outcomes of audit to represents audit quality: if audit quality is high, then the result of audit should be satisfying and excellent. Context is the driver which is not outside the control of auditors but also contributes to or influences audit quality. Knechel et al. (2013) argue that context has important interactive effects with the audit inputs, eventually make an impact on audit quality, since “audit quality is ultimately dependent on the judgement of a team of auditors”. For example, the average audit quality in a country with well-developed audit industry is clearly better than that in a country without professional audit industry.

Framework of Audit Quality	Measurements	Advantages	Shortcomings
Input, output, context	(1) Audit (firm) size	The cost of evaluating audit firm size is low.	The assumption that audit quality is uniform among audit firms and offices is not always true.
Input	(2) Audit time	Audit time reflects the efforts auditors make.	The outcome of audit may not be affected by auditor’s efforts.
Input	(3) Industry specialization	If auditors have sufficient knowledge of a specific industry, the audit quality is better than that of	Auditors may not make efforts to audit well even though they have a specific industrial

		others.	specialty.
Output	(4) Restatement	If a restatement is needed, the quality of financial reporting is seen as low. Consequently, audit quality is thought to be low, since it is believed that audit quality and the financial reporting quality are positively associated.	Restatement is not a direct measure of audit quality. Besides, audit quality is still possibly low even if there is not restatement.
Output	(5) Litigation or regulatory reviews of audit firms	If there is a litigation, it is called audit failure. It is clear that audit quality is low when audit failure takes place.	audit quality could still be low even if there is not litigation.
Output	(6) Accruals	High audit quality is a deterrent to earnings management by an organization.	This is a traditional measure of earnings quality, and several voices have expressed doubt about its efficacy as a measure of audit quality.
Output	(7) Earnings benchmark	If audit quality is high, there are fewer instances earnings management, such as attempts to avoid losses on record or	This is a traditional measure of earnings quality, and several voices have expressed doubt about its efficacy

		attempts to record even small profits.	as a measure of audit quality.
Output	(8) Accounting conservatism	Literature suggests that accounting conservatism has a negative relationship with litigation and a positive relationship with auditor specialization. Therefore, accounting conservatism is thought to have a positive relationship with audit quality, and might be a measure of audit quality.	This is a traditional measure of earnings quality, and several voices have expressed doubt about its efficacy as a measure of audit quality.
Output	(9) Going-concern report	Going-concern reports make is possible to measure audit quality directly from the audit's outcome. The independence of auditors is thought to be connected directly with audit quality. While a going-concern report is one measure of auditor independence, it is also considered a measure of audit quality.	The use of a going-concern report to measure audit quality can result in type I and type II errors.

Output	(10) Analyst forecast accuracy	Analyst forecast accuracy is thought to be a measure of the credibility of the financial report. Since the credibility of the financial report has a positive relationship with audit quality, analyst forecast accuracy can be considered a measure of audit quality.	This is a traditional measure of earnings quality, and several voices have expressed doubt about its efficacy as a measure of audit quality.
Output, context	(11) Ex ante cost of equity capital	The ex-ante cost of equity capital is thought to be a measure of the reliability of a financial report. Since the reliability of a financial report has a positive relationship with audit quality, ex ante cost of equity capital can be considered a measure of audit quality.	This is a measure of the reliability of a financial report, and several voices have expressed doubt about its efficacy as a measure of audit quality.
Context	(12) Abnormal audit fees	Audit fees that are higher than average may suggest a problem with the financial reports. On the other hand, audit fees that	Average audit fee is, in some sense, artificially decided. One should be prudent when using this figure as a benchmark

		are below average suggest that the auditors may not be carrying out a thorough audit.	and treating higher or lower audit fees as bad news.
Output, context	(13) Auditor tenure		

*(13) Auditor tenure is not included in the original framework by Hu (2015). I follow the classification in the frameworks by FRC (2008), IAASB (2013), Francis (2011), and Knechel et al. (2013) to categorize auditor tenure into both the output and context of audit quality.

Section 3. MEASUREMENTS OF AUDIT QUALITY

Since “the outcome of an audit is uncertain and unobservable. As such, researchers turn to indirect, but measurable, proxies for audit outcomes” (Knechel et al., 2013). Francis (2004) also argue that the only observable outcome of audit is the audit report. Furthermore, a vast amount of prior research uses the earnings quality or the level of earnings management, especially accruals earnings management, to define audit quality. We expect high-quality audit effectively mitigates earnings management; in this procedure, there should be one or more direct (audit input) or indirect input (audit context) make positive contributions to auditor’s judgement. To use an outcome as proxy to measure another outcome does not make sense. Therefore, in this review, I will not discuss the measurements of audit quality which are classified into the output category.

Audit Quality

Among the prior studies about audit quality and earnings management, the most frequently used proxy of audit quality is audit firm size. A significant stream of prior research suggests that compared to small audit firms, large audit firms provide higher audit quality. Relative to small audit

firms, large audit firms have larger incentives to protect their reputation and avoid costly litigation (DeAngelo, 1981), and they invest more resources in employee training and development of industry specialty (Craswell, Francis, and Taylor, 1995). DeAngelo (1981) argues “when incumbent auditors earn client-specific quasi-rents, audit quality is not independent of audit firm size”. Furthermore, large audit firms have more bargain power to question their clients’ aggressive accounting treatments, thus greater independence (Krishnan, 2003). Blokdijk et al. (2006) argue that large audit firms are more advanced than small audit firms in audit technologies and the way audits are conducted; hence they actually provide higher audit quality.

Among various ways, most studies use dummy variable (Big N or non-Big N) as a proxy to measure audit size. In this measure, it is a presumption that Big-N audit firm provides higher audit quality than non-Big N. Mid-tier audit firms are usually classified into non-Big N, since the majority of prior research provides evidence showing no significant statistical difference between the audit quality of mid-tier audit firms and that of small audit firms (Van Tendeloo and Vanstraelen, 2008). However, depending on the audit market in a specific country, some researchers classify mid-tier audit firms into high quality audit firm group (Chen et al., 2011). Boone, Khurana, and Raman (2010) argue that second-tier (mid-tier) audit firms provide identical audit quality, relative to Big 4 audit firms. Specifically, the magnitude of accruals earnings management (as proxied by performance-based abnormal accruals) of clients of Big 4 audit firms and that of second-tier (mid-tier) audit firms are similar.

The sales, number of offices, and number of auditees are also used as proxies to capture audit size, but less commonly used in academic papers.

Audit Time

Audit effort is a reasonable proxy of audit quality (Raman and Wilson, 1992; Deis and Giroux, 1996). Prior research suggests that diligent auditors are more likely to discover overstated earnings (Dye, 1993; Dye, 1995; Hillegeist, 1999), therefore more audit efforts reflect higher audit quality. Audit time directly reflects the part of audit efforts. Previous studies suggest that audit

remains a primarily labor-intensive activity (Higson, 1997; Lemon, Tatum, and Turley, 2000; Eilifsen, Knechel, and Wallage, 2001). Caramanis and Lennox (2007) argue that audit time are strongly associated with client size and initial audit engagement. They also find that compared to non-Big 5 audit firms, Big 5 audit firms conduct more audit hours, thus indicating the positive relationship between audit time and audit quality, on the basis Big 5 audit firms providing higher audit quality. Leventis and Caramanis (2005) use the ratio of actual audit hours to the minimum required audit hours by SOEL, the Institute of Certified Public Accountants of Greece, to measure audit quality. Caramanis (1999) conducts interview investigations with Greek auditors and provide qualitative evidence that audit time is a good proxy for audit quality. Due to hard access to or even no database of audit time, there is very few empirical studies on audit time and audit quality, as far as I know.

Industry Specialization

Industry specialization is another widely used proxy to measure audit size. Solomon, Shields, and Whittington (1999) argue that the auditors with industry specialization make more accurate audit judgements (implying providing higher audit quality) than those without industry specialization since the former have deeper industry knowledge and greater experience. Positive network synergies, deep industry knowledge and knowledge sharing practices, all make positive contributions to audit quality. Craswell, Francis, and Taylor (1995) argue that it is presumed that auditors with industry specialization master more knowledge and accounting practices of industry; thus, they are more capable of detecting accounting errors and earnings manipulation. Besides, to protect their reputation with the purpose of more audit fee premium and in case of audit failure, industry expertise auditors are motivated to provide higher audit quality than non-expertise auditors. Zhou and Elder (2001) assume that auditors acquire industry specialization through their experience in an industry and propose a model to measure auditor's industry specialization on the basis of the sales ratio of an auditor in an industry. In this measure, an audit firm with the greater industry specialization provides higher audit quality to the clients in this specific industry.

Since industry knowledge and experience are transferred and shared by auditees within audit firms, academic researchers argue that auditor industry have both “localized” (office-specific) characteristics as well as a “national” (firm-wide) dimension (Reichelt and Wang, 2009).

Like audit quality, auditor industry specialization is not directly observed neither. Prior research primarily uses two approaches to capture industry specialization of audit firms in particular industries: the market share method and the portfolio share method (Neal and Riley 2004). The market share method is to use the relative market share of audit firms on the basis of the sales of clients, or the number of clients, to measure the industry specialization of audit firms. In addition to the number of pure market share, the continuous market share, dummy variable representing industry dominance are also used (DeFond, Francis, and Wong, 2000; Reichelt and Wang, 2010). The portfolio share method is to use the relative distribution of audit services fees to measure the industry specialization. Therefore, under the portfolio approach, if an audit firm spends the most resources into a specific industry, it is considered as the industry expertise even though it may not have the dominant market share in that industry (Neal and Riley 2004). For example, Reichelt and Wang (2010) measure auditor industry specialization with the audit fee market share of each audit firm in each industry.

Audit Fees

Previous research suggests that audit fees can be used to capture audit quality (DeFond, Francis, and Wong, 2000; Francis, 2004). Early literature research primarily focuses on audit service fees at the beginning. Normally higher audit fees are linked with higher audit quality. Researchers argue that audit fees can affect audit quality in two ways: larger audit fees make auditors make more efforts to audit, thus improving audit quality; on the other hand, economical connection between auditors and clients becomes stronger with more total fees, especially non-audit service fees, paid to auditors, hence impairing the independence of auditors from their clients (Hoitash, Markelevichand, and Barragato, 2007). Specifically, too close relationship become the barrier between auditors and clients, which prevents auditors from challenging aggressive and questionable accounting practices

by clients. Hribar, Kravet, and Wilson (2014) argue that audit fees reflect auditors' presumption and assessment of clients' earnings quality and audit risks. If auditors expect lower earnings quality of clients, they will perform more audit procedures in order to decrease the risks of reputation damage and litigation costs; consequently, audit fees will be higher and audit quality will also be higher, since auditors spent more efforts.

Since audit firms provide non-audit services as well as audit services, researchers also investigate whether non-audit service fees impact on audit quality. Some accounting profession have argued that non-audit services provided by independent auditors to their audit clients have contributed to poor quality of reported earnings that subsequently have to be restated. Mixed empirical evidence is reported on the relationship. Frankel, Johnson and Nelson (2002) argue that a greater economic bonding between the audit firm and client will impair auditor independence and thus decrease audit quality. Antle et al. (2006) argue that the strong relationship results in an unintentional bias in the audit procedures in favor of the client. In contrast, Hoitash, Markelevichand and Barragato (2007) find positive relation between non-audit service fees and audit quality. On the other hand, Chung and Kallapur (2002) find no significant relationship between audit quality (proxied by discretionary accruals) and audit fees and non-audit service fees.

Recent studies move their eyes to abnormal audit fees. Choi et al (2010) divides audit fees into two groups: normal level and abnormal level. Normal audit fees are mainly determined the commonly observable characteristics of clients, such as the company size of client; abnormal audit fees are excess of fees paid to audit firms, reflecting the economic link or particular relationship between audit firms and their clients. Abnormal audit fees are considered as a better approach to measure audit quality, since it reflects the abnormal or excess level of extreme close connection between audit firms and clients. The mixed empirical evidence on the abnormal audit fees and audit quality is reported. For example, Hoitash, Markelevichand and Barragato (2007) provide substantial evidence of positive relationship between size-adjusted and abnormal total fees and audit quality. Besides, they also find the identical positive association between audit fees and audit quality. Similarly, Blankley et al. (2012) and Eshleman and Guo (2014) document positive association

between positive abnormal fees and audit quality. On the other side, Asthana and Boone (2012) find evidence on the inverse association between both positive and negative abnormal levels of audit fees and audit quality.

Auditor Tenure/ Auditor Rotation

Auditor tenure is the length of time when a company continuously use the same audit firm to audit itself. Many accounting settings require mandatory auditor rotation, since regulators concern that longer and closer audit tenure will impair auditor independence and consequently decrease audit quality to restrict the activity of managers to manipulate earnings. However, the opinions on auditor rotation and audit quality are not uniform. Brody and Moscovice (1998) argue that auditor rotation increases the independence of auditors and thus enhances audit quality. In contrast, Johnson et al. (2002), Myers et al. (2003), and Ghosh and Moon (2005) provide quantitative evidence that shorter auditor tenure induces the audit quality.

CHAPTER 3. EARNINGS MANAGEMENT

Section 1. DEFINITIONS OF EARNINGS MANAGEMENT

Prior studies provide substantial evidence consistent with managers manipulating earnings (Healy, 1985). Schipper (1989) defines earnings management as “a purposeful intervention in the external financial reporting process, with the intention of obtaining some private gain... Under this definition, earnings management could occur in any part of the external disclosure process, and could take a number of forms. A minor extension of this definition would encompass “real” earnings management, accomplished by timing investment or financing decision to alter reported earnings or some subset of it.” Healy and Wahlen (1999) define earnings management as the activities that managers exercise their judgement and structure transactions in financial reporting to manipulate accounting numbers to mislead stakeholders. The term earnings manipulation is synonym of earnings management. The term earnings quality is highly related to the topic of earnings management in academic literature. Earnings management has a negative effect on earnings quality. In other words, if the magnitude of earnings management is great, earnings quality is considered to be low. The common motivations for earnings management include to concealing undesirable earnings to avoid reporting loss, to meet benchmarks, to maximize managers’ compensation, to achieve successful IPO, and etc (Healy and Wahlen, 1999).

Since earnings are the sum of accruals and operating cash flows (Gunny, 2005; Xu, Taylor, and Dugan, 2007), the academic literature on audit quality and earnings management classifies earnings management techniques into two categories: accruals earnings management and real earnings management. Most recent studies on audit quality and earnings management do not include fraudulent accounting, which violates accounting standards, in earnings management, therefore fraudulent earnings management is not discussed in this review.

Accruals earnings management, or accrual-based earnings management, is to manipulate earnings by representing financial performance through the choice of accounting choice and accounting flexibility. Therefore, accruals earnings management does not have direct cash flow

consequences. For instance, with the intention of reporting higher value of inventory, managers may choose the inventory valuation method which maximizes the value of inventory among LIFO, FILO, or weighted-average methods, allowed by accounting standards. The term abnormal accruals is often used synonymously with accruals earnings management, especially as in the title and key word of academic articles.

Real earnings management, also called real activity earnings management, is defined as “management actions that deviate from normal business practices, undertaken with the primary objective of meeting certain earnings thresholds” (Roychowdhury, 2006). As the name suggests, real earnings management is accomplished by altering real business activities, other than accounting accruals only. Managers abnormally “change the timing or structuring of an operation, investment, and/or financing transaction in an effort to influence the output of the accounting system” (Gunny, 2010). Hence, real earnings management affects the cash flows of company. Prior studies provide evidence on the existence of real earnings management (Gunny, 2005; Roychowdhury, 2006; Cohen and Zarowin, 2010; Gunny, 2010). Specifically, Graham, Harvey, and Rajgopal (2005) conduct a survey and provide qualitative evidence that managers do manage earnings through real business activities. Paper on audit quality and real earnings management primarily focuses on earnings manipulation through the form of operating and investing activities, while financing activities are also used by managers (Xu, Taylor, and Dugan, 2007). Common examples of real earnings management include overproductions, provision of price discount or/and credit sales to boost sales revenue, and reductions in expenditures, especially valuable investments in research and development. For instance, to intentionally upwards manipulate the earnings of current period, managers reduce sales, general and administrative expenses to meet the target. Obviously, real earnings management produces great negative long-term effect (Roychowdhury, 2006; Cohen et al., 2008; Cohen and Zarowin, 2010). The term real activities management/manipulation is synonymous with real earnings management.

Previous studies show both income-increasing and income-decreasing earnings management exist. As for income-decreasing earnings management, it is interpreted that managers use it as a

cookie jar – a reserve for future earnings management (Nelson, Elliott and Tarpley, 2000). Examples of income-decreasing accruals earnings management are to “improve the chance of favorable rulings” (Hirst, 1994) during import relief negotiation (Jones, 1991) and antitrust investigation (Cahan, 1992). The accumulated evidence indicates that income-decreasing earnings management is less prevalent than income-increasing earnings management. That is to say, companies are more likely to report income-increasing abnormal accruals than income-decreasing abnormal accruals (Caramanis and Lennox, 2008).

Section 2. TRADE-OFF OF EARNINGS MANAGERMENTS

Manager can engage in either accruals earnings management or real earnings management, or both at the same time. Most of early studies exclusively focus on accrual earnings management. Recent research realized that, as well as accruals earnings management, companies engage in real earnings management. Previous studies have shown that manager choose the approaches to manipulate earnings between accruals earnings management and real earnings management (Cohen, Dey, and Lys, 2008; Cohen and Zarowin, 2010; Badertscher, 2011). Furthermore, as strict regulation and high-quality auditor limit managers to utilize accounting flexibility to smooth earnings, companies are driven to switch to real earnings management, which does not directly violate any accounting standard, principle, policy, or regulation (Chi, Lisic, and Pevzner, 2011). Ewert and Wagenhofer (2005) provide evidence that the advantages of real earnings management increase as stronger accounting principles limits accruals earnings management. Cohen, Dey, and Lys (2008) document that before Sarbanes-Oxley Act (SOX) in 2002, accrual earnings management increased firmly; after that, accruals earnings management decreases while real earnings management increases. Zang (2012) provides significant evidence on direct substitution between accruals earnings management and real earnings management. Also, she finds this trade-off is determined by their relative costs. Another reason for the switch is that compared to accruals earnings management, real earnings management is more difficult to be detected by outsiders. Kim, Lisic, and Pevzner

(2010) argue that as long as correctly disclosure, real earnings management will not affect auditors' opinions. Graham, Harvey, and Rajgopal (2005) carry out an investigation in the form of a survey and field interviews. Their results also reveal that managers much prefer real earnings management to accruals earnings management.

The timing of two earnings management strategies are different. Accruals earnings management must take place after the current period (Gunny, 2005), while real earnings management must take place before the end of the current period. Zang (2005) argues that the decisions about accruals and real earnings managements are made sequentially: real earnings management antedates accruals earnings management.

From the perspective of company, the long-term costs of real earnings management are higher than accruals earnings management, since real earnings management sacrifices the future cash flows of company for current performance, whereas accruals earnings management, which does not involve real business activities and reverses, makes no impact on cash flows. Furthermore, real earnings management has a negative influence on the future operating performance of company (Gunny, 2005) and potentially hurts corporate value in the long term (Roychowhury, 2006; Cohen et al., 2008; Cohen and Zarowin, 2010).

Section 3. MEASUREMENTS OF EARNINGS MANAGEMENT

Earnings management is inherently unobservable. Hence, researcher have typically examined broad measures of earnings management. I divide the measurements into two major categories: for accruals and real earnings management. Then, I discuss the subcategories of methods to capture each earnings management strategy.

Accrual earnings management

The accruals are divided into two categories: the discretionary accruals and non-discretionary accruals. The main focus on accruals earnings management is discretionary accruals, which also

called abnormal accruals. Discretionary accruals are the most commonly used approach to capture the level of accruals earnings management. Discretionary accruals represent “unexpected accruals” and require assumptions and estimates of non-discretionary portion of the total accruals (Jones, 1991; Dechow, Sloan, and Sweeney, 1995). This proxy shows how much degree of accruals has been potentially manipulated. To measure discretionary accruals, there are three approaches: aggregate accruals models, specific accruals models, and the frequency distribution approach (Beneish, 2001).

Aggregate accruals approach

Aggregate accruals are most frequently used by researchers to calculate expected and unexpected accruals through regression models. Jones model (1991) and modified Jones models by Dechow, Sloan, and Sweeney (1995) are the most frequently used models and recognized as the most powerful model to discover accruals earnings management. Dechow, Sloan, and Sweeney (1995) evaluate the ability of alternative accrual-based models for detecting earnings management and provide evidence that the modified Jones model generates the fewest type II errors among all choices. Therefore, they argue the modified Jones model is the most effective model to estimate discretionary accruals. Alternatives models include Healy model (1985), DeAngelo model (1986), and the performance-modified discretionary accruals model by Kothari, Leone, and Wasley (2005) following Jones model (1991).

There are also two alternative methods to capture total accruals in the previous research: the balance sheet approach and the cash flow approach measures. However, they are criticized that introduce substantial error to estimate aggregate accruals, therefore few studies, especially recent ones, use these two methods.

Specific accruals approach

Another method to measure accruals earnings management is specific accruals or accruals in specific sectors. Specific accruals method estimates the level of accruals earnings management on the basis of specific single accruals. For example, the residual provision for bad debt (McNichols

and Wilson, 1988), the loss reserves of property and casualty insurers (Petroni, 1992), loan loss provisions (Wahlen, 1994; Collins et al., 1995; Beaver and Angel, 1996) and tax expenses (Philips et al., 2003). However, it is criticized that specific accruals cannot effectively reflect the comprehensive level of accruals earnings management, as the specific accruals not detected, which could be manipulated also, are ignored (McNichols and Wilson, 1988).

Frequency distribution approach

Frequency distribution approach is an alternative method, using the discontinuities in the distribution of earnings as a proxy of accruals earnings management.

Burgstahler and Dichev (1997) and Degeorge et al. (1999) develop this approach, focusing on the activities and behavior of specifically intended earnings or certain thresholds. McNichols (2002) claims that the distribution approach provides specific predictions related to which firms will manage earnings rather than merely measuring the magnitude of managers' opportunistic earnings. In other words, the frequency distribution approach cannot infer earnings management activities, On the other hand, the frequency distribution approach cannot be used to identify the magnitude or the level of opportunistic earnings.

Real Earnings Management

Prior research uses several different approaches to capture real earnings management, most of which measures the extent of real earnings management by "estimating abnormal levels of business activities with expectation models. Specifically, prior studies have developed models to measure the normal levels of discretionary expenditures, production costs, cash flows from operations, and gains/losses from disposal of long-term assets. Abnormal levels of business activities are obtained as residuals of the expectation models" (Xu, Taylor, and Dugan, 2007). The model developed by Roychowdhury (2006) is the most popular model to capture the extent of real earnings management. He uses abnormal levels of cash flows from operations (sales manipulation), discretionary expense reduction and overproduction as indicative of real earnings management.

CHAPTER 4. AUDIT QUALITY AND EARNINGS MANAGEMENT

Section 1. THE OVERVIEW OF THE EFFECT OF AUDIT QUALITY ON EARNINGS MANAGEMENT

I tailor the framework of audit quality proposed by Hu (2015) to classify the existing articles about the effect of audit quality on earnings management into two major categories: the impacts of the input and context of audit quality on both accruals and real earnings management. The reason why I use this classification is that I want to provide an overview of the existing research on what components of audit quality, which type of earnings management choices, and how the relationship of them have been studied.

From the summary (see table 2 below), we can find that in comparison with the context of audit quality, the input has more direct and consistent impact on earnings management. Currently we know still little about how the context of audit quality affects earnings management. I argue that is because the context of audit quality depends more on legal environment, accounting settings, and other external factors than the control of audit firms. Therefore, I argue that more in-depth research on the context of audit quality and earnings management is required, especially when the empirical evidence of cross-country analysis is not significant. Furthermore, since the components of audit quality are interdependent – e.g. in different legal setting countries, the effect of audit size (representing audit quality) on earnings management can be different – when analyzing how audit quality impacts on earnings management, the components of audit quality should be considered comprehensively. Also, since managers can use accruals and real earnings management simultaneously and these two strategies of earnings management are substitute for each other, it is meaningful and needed to examine how audit quality affects both two earnings management strategies and the trade-off for the future research.

Table 2 provides a summary of studies on the effect of audit quality on earnings management. “Decrease” means the proxy of audit quality is regarded as an effective constraint on earnings management. Vice versa. However, the statistical association here does not reveal the causation or

direct reflection. Detailed literature review and analysis follow the table 2.

Table 2				
A summary of studies on the effect of audit quality on earnings management				
Audit quality frameworks	Measurements of audit quality	Sub categories	Earnings Management	
			Accruals earnings management	Real activities management
Input	Audit size		Decrease	Mixed
	Audit time		Decrease	No data
	Industry specialization		Decrease	Increase
Context	Audit fees	Audit service fees	Mixed	Mixed
		Non-audit service fees	Mixed	No data
		Abnormal audit fees	Mixed	Decrease
	Auditor tenure		Mixed	Increase

Section 2. THE REVIEW OF LITERATURE: AUDIT QUALITY AND EARNINGS MANAGEMENT

Audit Size

Accruals Earnings Management

A vast body of research typically examines the relation between audit size (Big N or non-Big

N) and accruals earnings management. The evidence consistently supports the negative association, suggesting that Big N audit firms can effectively constrain managers from accruals earnings manipulation. Becker et al. (1998) find Big 5 audit firms effectively reduce their clients' discretionary accruals, compared to non-Big 5 audit firms. They suggest higher audit quality is associated with less accounting flexibility, and thus more effectively constraining the ability to manage earnings. Francis et al. (1999) argue that high-accrual firms have greater opportunity for opportunistic management and have an incentive to hire a Big 5 auditor to provide assurance that earnings are credible. They find that high accrual firms are more likely to hire a Big 5 auditor, but report lower discretionary accruals, consistent with Big 5 auditors constraining opportunistic reporting of accruals. Qiu (2004) uses two earnings management measures, discretionary accruals and abnormal non-core earnings, and also finds that audit size (measured by top 10 domestic auditors) is negative associated with the level of both two measures at earnings management. Chen et al. (2011) divide sample companies in China, an emerging market, to two groups – SOEs (state-owned enterprises) and NSOEs – and examine the effect of audit size (proxied by Big 8 audit firms) on accruals earnings management. They find that Big 8 audit firms effectively constrain the income-increasing accruals earnings management of their NSOEs clients, whereas no significant difference for SOEs. Furthermore, the level of accruals earnings management reduces as NSOEs change their auditors from non-Big 8 to Big-8 audit firms. Their findings, consistent with previous studies, indicate that high-quality audit plays a significant part in solving agency conflicts, fills the gaps in weak or lack of corporate governance environments, thus effectively reduces accruals earnings management. They also argue that audit is just one of governance approaches to constrain earnings manipulation. Khalil and Ozkan (2016) use the performance-modified discretionary accrual model developed by Kothari, Leone, and Wasley (2005) following Jones (1991) model, to capture the level of accruals earnings management, and they also provide statistical evidence that audit quality is negatively associated with accruals earnings management. Particularly, Alves (2013) examines the effect of audit quality (proxied by Big 4 audit firms) on the earnings management through asset impairment. He finds that higher audit quality is effectively to reduce the both

income-increasing and income-decreasing earnings managements through the manipulation of asset impairments. Likewise, consistent with previous research in developed countries, a number of studies using emerging market data also provide evidence on the negative relationship between audit size and accruals management (Alzoubi, 2016; Houqe, Ahmed, and Van Zijl, 2017).

However, a number of studies give opposite results due to different legal systems and institutional settings. Van Tendeloo and Vanstraelen (2008) use the data of private companies in six European countries – Belgium, Finland, France, Netherlands, Spain, and U.K. – to examine the relation between audit quality and accruals earnings management. To avoid international variation in this cross-country study, they use an aggregate measure developed by Leuz, Nanda, and Wysocki (2003), other than Jones or modified Jones model, to capture accruals earnings management. They find that the expected negative association between audit quality and accruals earnings management only exists in high tax alignment countries, which are Belgium, Netherlands, France, and Spain under their judgement. That is to say, there is no significant evidence in low tax alignment countries. Whereas, Piot and Janin (2007) provide no significant evidence that audit quality is associated with accruals earnings management. They argue that is because the audit firms in France have less incentives to restrict their clients to aggressively apply accounting flexibility, for French legal system provides stronger protection of auditor independence and hence less the litigation risk for audit firms compared to the U.S. Likewise, Maijor and Vanstraelen (2006) and Memis and Cetenak (2012) use the data of EU countries and 8 emerging markets, respectively, to examine the relationship between audit quality (proxied by Big 4 or non-Big 4 audit firms). The findings also show that the audit quality does not effectively reduce accruals earnings management in every market, whereas legal system does. Bauwhede and Willekens (2004) follow previous research, which reports a mixed evidence on the association between audit quality (proxied by Big 6 or non-Big 6 audit firms) and accruals earnings management in Belgian private companies. They use continuous audit size variables (including audit firm market share, number of clients, number of partner, total assets of audit firms, and operating profits of audit firms) to estimate audit quality and the discretionary accruals model developed by Sercu et al. (2002) to estimate earnings management, but do not find

significant evidence. They argue that the inconsistency of previous studies results from the lack of demand for quality-differentiated audit service of private companies in Belgium, or the low possibility of discovery of audit failure. Yarsa (2013) using the data of Turkey, also document that large audit size (measured by Big 4 audit firms) does not have effect on accruals earnings management. He also interprets the uncorrelation into limited motivations of large audit firms to provide high quality audit due to institutional settings.

Real Earnings Management

Prior research on the relationship of audit size and real earnings management is inconsistent.

Some studies show that high audit quality is not able to reduce the level of real earnings management. Explanation for the positive association is the switch of earnings management strategies from accruals to real earnings manipulation due to stricter audit firms. Chi, Lisic, and Pevzner (2011) find that Big N auditors are correlated with higher degree of real earnings management. Khanh, and Nguyen (2018) using the data of listed companies in Vietnam, find high audit quality (proxied by Big 4 audit firms) cannot effectively constrain real earnings management.

On the other side, several empirical studies also suggest that Big N audit firms are able to effectively restrict real earnings management. Shawn et al. (2016) provide empirical evidence that in Korea, Big 4 auditors, representing high audit quality, can effectively detect and report real earnings management. Challen and Siregar (2017) use Indonesian data to examine the effect of audit size on both accruals and real earnings management. Interestingly, they find large audit firms are associated with higher accruals earnings management but lower real earnings management. Choi, Choi, and Sohn (2018) conduct a cross-country examination on 22 countries and provide evidence that high audit quality (proxied by Big 4 audit firms) reduces the magnitude of real earnings management, as well as accruals earnings management. Specifically, the constraint of audit quality on real earnings management is greater in strong legal system countries. Alhadab and Clacher (2018) provide empirical evidence that higher audit (proxied by Big 4 audit firms) constrains real earnings management through the management of discretionary expenses. However, they also argue that

higher audit quality cannot restrict all types of real earnings management, as statistical evidence shows that higher audit quality is positively associated with higher sales-based manipulation.

One Particular Measurement

Jordan, Clark, and Hames (2010) choose user reference points in EPS to capture earnings management and examine if audit quality restricts the activity of earnings manipulation. They argue that high audit quality (as proxied by Big 4 audit firms) effectively constrains earnings management.

Industry Specialization

Accruals Earnings Management

Several previous studies have examined the relationship between auditor industry specialization and accruals earnings management. Consistent empirical evidence shows the negative association, suggesting the auditors with industry specialization can effectively constrain the manipulation of earnings through accounting accruals (Balsam, Krishnan, and Yang, 2003; Krishnan, 2003; Rusmin, 2010; Jaggi, 2012). Zhou and Elder (2001) document evidence of a negative association between industry specialization (as a proxy of audit quality) and discretionary accruals (as a proxy of earnings management) in the process of IPO. Balsam, Krishnan, and Yang (2003) also examine the effect of auditor industry specialization on discretionary accruals, and they restrict their samples in the companies audited by Big 6 auditors to control the impact of audit reputation. They also find negative association between industry specialization and discretionary accruals. An interesting finding of them is that the inverse relation is not linear: absolute discretionary accruals decline significantly at higher level of market share, but increase slightly at lower level.

Reichelt and Wang (2009) provide statistical evidence that the clients of the auditors with both national and city-specific industry specialization have the less abnormal accruals, including income-increasing and income-decreasing abnormal accruals. Besides, they also find that the extent of abnormal accruals of the companies audited by city-specific industry specialty auditors are significantly less than those audited without industry specialty auditors. These findings indicate that

audit industry specialization, at both nation and city levels, can constrain accruals earnings management.

However, Lawrence et al. (2011) argue that there is no association between industry specialization and accruals earnings management. Chen, Lin, and Zhou (2005) also examine the relationship between auditor industry specialization and accruals earnings management in the process of IPO, using data of Taiwan, but do not obtain a significant result. They argue it is possibly because the importance of audit is not acknowledged as well as in the U.S. in the process of IPO in Taiwan.

Real Earnings Management

Chi, Lisic, and Pevzner (2011) provide evidence that the auditors with city-level industry specialization are correlated with higher degree of real earnings management. They argue that if the companies with strong incentive to manipulate earnings are audited by industry expertise auditors, they face higher risk of being found by auditors that they use accruals to exercise earnings management; therefore, they alternatively choose a safer way – real earnings management. Challen and Siregar (2017) use Indonesian data to examine the effect of auditor industry specialization on both accruals and real earnings management. Similarly, they find that auditor industry specialization is negatively associated with accruals earnings management but positively with real earnings management.

Audit Fees

Traditional research divides the service fees, which audit firms received from their clients, impact on earnings management, into audit service fees and non-audit service fees, or just researches total fees. Recent research uses a new approach: audit fees are split into normal audit fees and abnormal audit fees, and mainly focuses on abnormal audit fees.

Audit Service Fees

Accruals Earnings Management

Frankel, Johnson, and Nelson (2002) argue that the extra audit fees enhance audit quality, with the statistical evidence that larger audit fees and less accruals earnings management are inversely related. Basiruddin (2011) using U.K.'s data, argue that higher audit fees can effectively reduce accrual earnings management.

Other studies also provide evidence that audit fees and total fees are positively associated with accruals earnings management, indicating audit fees increasing accruals earnings management (Li, and Lin, 2005; Antle, et al., 2006). As for the positive relation between audit fees and accruals earnings management, the interpretation is: that with the economic connection between auditor and its clients becoming stronger, the auditor independence will be impaired; It is obvious that auditor independence impairment reduces audit quality; Thus, the extent of accruals earnings management increases with lower audit quality.

Real Earnings Management

The mixed evidence is reported on real earnings management.

Chi, Lisic, and Pevzner (2011) provide evidence on the positive relationship between audit fees and real earnings management.

By contrast, Shawn et al. (2016) find that audit fees and the extent of real earnings management are negatively associated.

Non-Audit Service Fees

Accruals Earnings Management

The evidence on the association between non-audit service fees and accruals earnings management is mixed.

Prior studies suggest that higher non-audit service fees are positively associated with greater accruals earnings management, indicating that stronger economic connection between auditors and their clients impairs the auditor independence, decreases audit quality, and induces greater accruals

earnings management (Frankel, Johnson, and Nelson, 2002; Ferguson, Seow, and Young, 2004).

In contrast, Li and Lin (2005), using earnings statement as a proxy of accruals earnings management, argue that there is no statistically significant relationship between non-audit service fees and earnings management. Basiruddin (2011) also argue there is no significant statistical evidence on a relationship between non-audit service fees and accruals earnings management. In the meantime, Antle et al. (2006) argue that non-audit service fees decrease accruals earnings management with U.S. data.

Real Earnings Management

As far as I know, this field of research is still to be carried out.

Abnormal Audit Fees

Accruals Earnings Management

The mixed empirical evidence is reported.

Mitra et al. (2009) find negative relationship between both normal and abnormal audit fees and accruals earnings management, indicating higher abnormal audit fees are effective constraints on the level of accruals earnings management. Likewise, Kasai (2014) argues that there is a negative (or not) significant association between abnormal audit fees and abnormal accruals in the Japanese companies with a high level of financial institutions' holdings.

However, Jung, Kim, and Chung (2006) provide evidence on positive association between abnormal audit fees and accruals earnings management after IFRS's adoption but no statistical relationship before the adoption of IFRS. Their findings suggest that high abnormal audit fees induce the greater level of accruals earnings management.

Real Earnings Management

Alhadab (2018) uses the data of U.K. to provide evidence on the negative association between abnormal audit fees and accruals and real earnings management, indicating that extra audit

fees contribute to additional audit procedures, hence constraining managers from deviating from normal operational activities and conducting accounting flexibility to smooth reported earnings.

Audit Time

Accruals Earnings Management

Due to the mandatory disclosure of audit work hours in Greece, Caramanis and Lennox (2007) use Greek data to investigate the effect of audit work hours on accruals earnings management. They conclude that (a) less audit work hours result in greater magnitude of upwards accruals earnings management, and that (b) no significant relation between audit work hours and downwards earnings management.

Real Earnings Management

As far as I know, there is no public research on the relationship between audit time and real earnings management. It is probably because the audit time (work hours or days, etc.) is very hard to collect. In addition, there is barely not a database of audit time due to few markets compulsorily requiring the disclosure of audit work time. However, audit time is an important factor directly reflecting audit quality through the efforts auditors make. Thus, it is a fruitful field to examine whether the direct efforts of auditors can effectively reduce real earnings management, which damage the long-term cash flows and corporate value for the future research.

Auditor Tenure / Auditor Rotation

Accruals Earnings Management

The empirical evidence on the effect of auditor tenure on accruals earnings management is also mixed.

Some previous studies show the evidence on negative association between auditor tenure and accruals earnings management, indicating that longer auditor tenure enhances the knowledge of audit firms about industries and clients, and thus reduce accruals earnings management. Myers,

Myers, and Omer (2003) argue that longer auditor tenure is positively associated with less extreme both income-increasing and income-decreasing accruals earnings management (measured by both absolute abnormal accruals and absolute current accruals). They interpret the negative association as high audit quality can effectively constrain the aggressive and extreme (and presumably self-serving) accounting choices.

There are also some prior studies claim that longer auditor tenure cements the economic relationship between audit firms and their clients, impairs the independence of audit firms, and hence induces greater earnings management. Chi, Lisic, and Pevzner (2011) provide evidence on the positive relationship between auditor tenure and real earnings management. In other words, longer auditor tenure is associated with greater real earnings management. Likewise, Yasser and Soliman (2018) argue that longer auditor tenure increases the level of accruals earnings management. These findings indicate that real earnings management can be reduced by mandatory audit firm rotation.

Real Earnings Management

Kim and Park (2014) find that the companies with higher magnitude of real earnings management are less likely to be retained by their auditors. Specifically, they argue that auditors are more likely to resign if the clients undertake real earnings management to meet or beat earnings targets. Crucially, they find that sales and discretionary expenses manipulation is significantly associated with litigation risk against the auditor.

CHAPTER 5. THE RESEARCH GAP

Real Earnings Management

As the review above shows, the research on the relationship of audit quality and real earnings management is relatively less than accruals earnings management. Specifically, most of previous studies on audit quality and real earnings management only use audit size (Big-N audit firms or not) as the proxy of audit quality, and findings are not consistent. Since we still know little about audit quality and real earnings management, one fruitful area for future research is here.

Private Companies

Private companies account for the majority of the world's economy. However, significant research focuses on the association between audit quality and earnings management in public companies and IPO companies, but only a few studies analyze the relation in private companies. Furthermore, relative to public companies, private companies engage more in earnings management (Burgstahler, Hail and Leuz, 2006; Tendeloo and Vanstraelen, 2008).

Van Tendeloo and Vanstraelen (2008) use the data of private companies of six European countries to examine the relation between audit quality and earnings management. They provide evidence that high quality audit (measured by Big 4 audit firms) can only effectively constraints earnings management in the countries with high tax alignment between financial reporting and tax accounting. In addition, they find that in stronger legal environment, the magnitude of earnings management in private companies is less. They interpret the result as that in high tax alignment countries financial statements are the basis of taxation, and thus tax authorities will scrutinize the financial statements. Hence, to avoid audit failure and damage of reputation, Big 4 audit firms have an incentive to provide high-quality audit and examine their clients' financial statements extremely. Therefore, they argue that strong legal environment could enhance audit quality in private firms.

One of the reasons why few studies examine on private companies is that the financial information of private companies is not easily available for public use or not widely distributed to

academic researchers. However, in recent trend of corporate governance, other stakeholders, including tax regulators, suppliers and customers, more than just equity investors, become the main users of financial reporting. Also, there are a lot of private companies, which are not entirely operated by owners. This type of private companies are usually big firms, therefore the research on the effect of audit quality on earnings management is as same important as that in public companies.

Non-Empirical Research

The vast majority of prior studies on the association between audit quality and earnings management are empirical research and use the numbers from financial reporting to provide quantitative evidence. However, there is little qualitative research on this relationship, which definitely helps researchers and regulators better understand how audit quality affects earnings management. Quantitative, or empirical research, uses large source of data from financial reporting and other archival database to draw a statistical evidence, which can only prove correlation not causation. By contrast, qualitative research, such as questionnaire surveys and field interviews, directly provide the inside causes of the correlation and insights into the mechanism, which empirical work cannot. Therefore, it is obviously that qualitative research helps researchers to find the reasons why the conclusions to the same relationship in different settings are not identical as expected. In addition, qualitative research is also helpful to find the deviation between academic theories and the business operation and accounting activities in the real financial world. I summarize some qualitative research on audit quality and earnings management below.

Graham, Harvey, and Rajgopal (2005) conduct a survey and provide qualitative evidence that managers do manage earnings through real business activities. Their findings provide direct evidence on the existence of real earnings management: managers admit that to meet short-term targets or benchmarks they do manipulate business activities to intentionally increase and decrease earnings, although this manipulation sacrifices long-term economic value of companies. Furthermore, they take use of qualitative research to “(i) get financial officers to rate the relative importance of extant academic theories about financial reporting policies, (ii) discover new patterns of behavior

and new explanations for known patterns, and (iii) highlight stylized facts on issues that are relatively hard to document from archival data, such as earnings benchmarks, earnings guidance, and the identity of the marginal investor”.

Barghathi, Collison, and Crawford (2018) provide an insight by conducting an investigation in the form of interviews and questionnaire survey. They survey into the perceptions of stakeholders with regard to the role of external auditor relating to earnings management. On the one hand, the interviewees generally acknowledge that external auditors are able to discover earnings management but they doubt that auditors are likely to deter earnings manipulation. On the other hand, questionnaire respondents have more confidence in the ability of auditor to prevent earnings management through the influence on audit report.

Commerford et al. (2016) also use qualitative research to find that auditors are conscious of the usage of real earnings management by clients through an in-depth interview with 20 experienced auditors. Auditors regard the engagement of real earnings management as the desire of company to achieve short-term target and the possible signal to conduct accruals earnings management, and consequently increase skepticism, modify the procedures of auditing, and increase risk assessments.

Meta-Analysis

Meta-analysis is a quantitative method to systematically assess the result of prior research to test independent variables, find research gaps, and draw a conclusive result. Only a few of previous studies use this method to summarize the existing literature articles on the effect of audit quality on earnings management. Hay, Knechel, and Wong (2006) conduct a meta-analysis of audit fees. Lin and Hwang (2010) conduct a meta-analysis of audit quality, corporate governance, and earnings management, but the majority of earnings management choices in this analysis is accruals earnings management. Inaam and Khamoussi (2016) also meta-analyze the results of previous research on audit committee effectiveness, audit quality and earnings management. As far as I know, there is no pure meta-analysis of audit quality and earnings management. Thus, I call for this kind of meta-analysis for the future research.

CHAPTER 6. CONCLUSION

This paper summarizes the public articles about the effect of audit quality on earnings management in the existing literature. This paper identifies the trend of academic research on the effect of audit quality on earnings management switches from accruals earnings management to real earnings management. However, in comparison with the studies on accruals earnings management, the studies on real earnings management are relatively less, while the costs, especially long-term costs, of real earnings management is higher: real earnings management is more difficult to detect, has influence on future cash flows, and damages the corporate value.

Future research could investigate the following issues:

- 1) Empirical research on audit quality and real earnings management.
- 2) Meta-analysis on previous studies on audit quality and earnings management.
- 3) Qualitative research, i.e. survey and interview investigation, on audit quality and earnings management, with auditors, managers, or both.
- 4) Research on private companies, which consist of the majority of world's economy. In addition, regulations on private companies are less than public companies.

The limitation of this paper are as follows.

First, I might slip some articles due to different keywords used and thus make a not comprehensive conclusion. Second, I have not read all individual studies in this area, therefore my summary of the effect of audit quality on earnings management might not represent the results of the existing literature. Third, my summary is based on my understanding of prior research, which could be not right.

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