Auditing and Regulations

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To my mother.

Auditing and Regulations

Abstract

Effective financial reporting has become of critical importance in our economic markets and the international accounting scandals of the last decades have accentuated the role of auditing in protecting stakeholders' interests and contributing to an efficient functioning of financial markets.

Auditing regulation has been at the centre of recent international debates (e.g. EU Green paper; 2010) and different regulatory interventions have been put in place in different countries and in different periods of time.

From a theoretical point of view, there is a broad spectrum of regulatory choices that legislators could take, the extremes being self-regulation and government direct interventions.

My empirical works focus on two extreme examples of how regulation may interact with auditing processes with the ultimate objective of improving financial information and therefore enhancing the effectiveness of financial markets.

In one case, I analyze whether an example of enforced audit self-regulation is effective in improving audit quality and ultimately, reporting quality. In particular, I analyze the mandatory audit rotation rule, i.e. the rule imposing the change of the auditor after a specified period of time, as a potential means to increase auditor independence and therefore audit and reporting quality.

I then study a case of direct monitoring activity on reporting quality carried out by a supervising body, namely the SEC in the U.S., and how this interacts and influences audit processes.

The evidence collected may be useful to legislators in order to understand the potential effects of different audit regulatory choices and therefore to effectively address the need of high-quality auditing which strongly characterize our economic markets especially after the financial and accounting scandals.

CHAPTER ONE

INTRODUCTION

1. Introduction

1.1 Background

The communication about effective information of organizations' levels of performance has become of crucial strategic importance in our economic markets. Investors base their investment decisions on companies reporting, and so in general do financial institutions and creditors when deciding lending strategies. Other users of financial information include tax authorities, costumers, competitors etc.. A conflict of interest arises in all these cases as the reporting organizations have incentives to distort information in their favour in order to enhance their position in the contractual exchanges between the parties (Mookherjee and Png, 1989).

Moreover, the reporting entity typically holds a higher amount of information compared to external users, and could use this disparity to pursue its own interests, potentially creating harmful externalities to the market. The presence of information asymmetry in contractual exchanges has been defined as one source of market failure (Cooter and Ulen, 2008). Taking the example of Akerlof (1970) in his famous work "the market for lemons", the buyer of a car does not know beforehand all the latent defects. Therefore purchasers may end up paying too much for cars of low quality or refraining from purchases because of a fear of latent defects. Similarly, investors are often at a disadvantage in learning the true performance of a company and this could lead financial markets not to work in a socially optimal manner. In order to protect the recipients of financial information and to avoid these kinds of market failures, financial reporting in most economies is subject to audit by an independent external party, who should assess

the truth and fairness of the information communicated to the market. This review process enhances the reliability of reporting information for the other contracting parties who do not take part in the information preparation (Arrunada, 2000). Given the critical role of this monitoring activity in assuring the correct functioning of financial markets, a crucial question becomes how to regulate the three parties involved: reporting companies, auditors of financial information and the external users.

From a theoretical point of view, two extreme possibilities could be envisioned: effective self-regulation versus direct governmental regulation.

Arrunada (2000) strongly favours the first solution. He argues that the market is by itself able to punish market failures and dynamically to realign contractual mechanisms in order to reach another stage of market equilibrium. The Enron scandal represents in his view a good example. After the company's bankruptcy in 2002, Arthur Andersen ceased to trade as an audit partnership and new policies were voluntarily adopted by all players. Companies voluntarily decided to change their auditors or to limit the purchase of non-audit services and audit firms enhanced their internal control mechanisms, for example by imposing the rotation of the responsible partner after a specific number of years. Arrunada (2000) considers these as examples of low-cost strategies that increase auditors' incentives to perform a high quality monitoring activity thus preventing the risk of other market failures. Other examples of low-cost strategies would be the threat of loosing reputation capital and the use of client specific assets which would be lost in case of a break in the audit-client contractual relationship. Finally, the author argues that the audit market would naturally self-regulate having all the incentives to implement policies that would increase its perceived independence (thus its value) in the other contracting

parties' eyes (client, investors or the market). Under this perspective, the market would automatically implement self-regulated policies that would optimize contractual efficiency among the parties. Gunninghan and Rees (1997) define self-regulation as "regulatory processes whereby an industry-level organization sets rules and standards relating to the conduct of firms in the industry". The benefits of self-regulation are indeed apparent: speed, flexibility to market circumstances and lower costs. However, complete self regulation may not always be optimal. As some critics argue, it could also be used by interested parties to give the "appearance" of regulation, thereby warding off the more direct and effective government intervention (Braithwaite, 2010). In fact, corporations may not be necessarily willing to regulate themselves effectively. As argued by Braithwaite (2010), recommendations will stop many violations which are costly for the company, are cost-neutral or eventually benefit the company only in the short-term, but all others will be commonly ignored. This could be the case for auditors, who could potentially prefer to collude with the client's management in order to pursue economic interests. In such cases, the optimal regulatory choice would perhaps be "enforced self-regulation", where the government compels each company to write a set of rules tailored to the unique set or contingencies facing that firm.

Direct government regulation represents the opposite extreme within the spectrum of regulatory choices. There is however a general consensus in the literature which stands against this regulatory framework. Gunninghan and Rees (1997) state that direct government regulation has become less attractive in the last decades and Braithwaite (1982) argues that the state simply cannot afford to perform an effective job on its own as it lacks critical competences given its position as neither producer nor client (Arrunada,

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1999). Arrunada (1999) also argues that regulators would lack the right incentives as the may tend to exaggerate eventual external effects and therefore require higher than optimum quality (that would involve no additional cost for them) and they may be influenced by private interests alien to the audit market. Notwithstanding this argument, governments in Europe have tightened their involvement in audit regulation after the Enron scandal, as full self-regulation turned out to be not an effective solution (J. Tiedje, in Quick et al., 2008). The result of this was the issuance of the new Directive on Statutory Audit in 2006.

My empirical works focus on two extreme examples of how regulation may interact with auditing processes with the ultimate objective of improving financial information and therefore enhance the effectiveness of financial markets.

In one case, I analyze whether an example of enforced audit self-regulation is effective in improving audit quality and ultimately, reporting quality. In particular, I analyze the mandatory audit rotation rule, i.e. the rule imposing the change of the auditor after a specified period of time, as a potential means to increase auditor independence and therefore audit and reporting quality.

I then study a case of direct monitoring activity on reporting quality carried out by a supervising body, namely the SEC in the U.S., and how this interacts and influences audit processes.

I obviously do not pretend to find a definite answer on how to put an end to corporate scandals and management misbehaviours. My intention is to provide empirical evidence to better understand how different regulatory mechanisms may effectively and

efficiently work to improve financial information and therefore enhance investors' confidence.

1.2 Empirical Studies

This dissertation includes three empirical studies.

Specifically, the first two empirical papers analyze the mandatory rotation rule and its role in affecting auditing and reporting quality. As briefly mentioned above, this rule imposes a requirement for a specific company to change its auditor after a certain number of years, drawing from the underlying assumption that extended audit tenure may weaken auditor independence and impair the auditor's capacity for critical judgement. After the Enron scandal, the Sarbanes Oxley Act of 2002 introduced in the US a mandatory five-year rotation for the leading and concurring audit partner as a way of increasing audit quality and to restore public confidence. The possibility of extending the requirement to audit firms was also taken into consideration, but the decision was postponed as the potential effects of the rule were not clear (GAO 2003). In fact, although academics and legislators around the world are still debating the potential benefits and costs associated with the mandatory rotation rule, there is still a call for supporting empirical evidence, mainly due to a lack of data availability. This is due to two main problems. At the partner level, research is made difficult given the lack of data availability, as the name of the responsible partner is not published in the audit opinions of most of the countries in which the rule is actually in force. At the firm level, the analysis of the empirical effects of the rule is hindered because a mandatory rotation rule is actually in force in very few countries, most of which are developing countries.

For this reason, I decided to take advantage of a unique research setting, Italy. Here the mandatory rotation rule is in force both at the firm level since 1975, and at the partner level since 2006 and the name of the partner is available on the audit opinion. By analyzing this audit environment I wanted to shed light on the actual benefits and costs and help to improve the general understanding of this rule. Such evidence will be useful for legislators around the world who are considering introducing or even extending this rule in their own countries.

The specific topics covered in these two papers are summarized below.

The first empirical paper is entitled "Partner mandatory rotations versus firm mandatory rotations: Evidence from Italy". In this study, I contrast the relation of partner versus firm mandatory rotations with higher audit quality. Partner mandatory rotations are likely to be associated with lower information asymmetry, lower loss of client specific knowledge and smaller set up costs as the audit firm (and in most cases the audit team) remains unchanged. Therefore I expect partner mandatory rotations to be associated with higher audit quality compared to firm mandatory rotations. I test this using a unique research setting where the mandatory rotation rule (MRR) is in force both at firm and at partner level. Consistent with expectations, I find that only partner mandatory rotations are positively associated with improved audit quality. I also predict that the relation between auditor rotations and audit quality is a function of the complexity of the audit task and demand for audit quality. I find that the positive association between partner mandatory rotations and audit quality is weaker in a highly complex audit environment. However, I do not find that this association varies with my

proxies for the demand for audit quality. Finally, I show that voluntary rotations are not associated with improved audit quality.

The second paper is entitled "Mandatory auditor rotation, earnings conservatism and the mandatory adoption of IFRS". This paper examines the role of audit firm rotations and auditor tenure for the supply of reporting conservatism, measured as timely loss recognition (TLR) - under the regime of mandatory audit firm rotations in Italy. We argue that conservative reporting will be required by more independent auditors and auditors facing high information asymmetry. If auditor independence and information asymmetry increase (decrease) with auditor rotations (tenure), we expect to find positive (negative) association between mandatory rotations (tenure) and reporting conservatism. If, however, the ability to identify and report a loss event in a timely fashion improves over time, and is a dominant factor, we expect to find the reverse. We further investigate whether these relations are moderated by external demand for TLR. Finally, we explore whether the adoption of IFRS in 2005 has influenced the relations between tenure and auditor rotations and TLR. We provide some evidence supporting a positive association between mandatory firm rotations and TLR and that this association is stronger after 2005 than before 2001. We document that TLR is positively related to tenure, but only before the adoption of IFRS. We also find evidence consistent with new auditors responding to external demand for conservatism, but not incumbent auditors.

In the last empirical chapter I focus on a different monitoring mechanism, which is the direct review activity that the SEC carries out on the quality of the financial statements of listed companies in the U.S.. The title of the third empirical study is "An Analysis of External Auditor Fees Following Sec Comment Letters".

The SEC is mandated to review the filings of public companies in the U.S. to confirm that they comply with federal securities laws. Where the SEC staff believe that filings could be improved or enhanced, a formal Comment Letter is issued to the company setting out the commission's concerns. While the responsibility for reply and the need to make any additional disclosures if necessary, lies completely with the company, it is likely that the external auditor will become involved especially in the case where the application of specific accounting standards is questioned. This research considers first whether external auditor fees rise following the issue of a comment letter and secondly whether for those letters that question the application of specific accounting standards the fee change, if any, is more significant than for other reasons for letter issuance. Then an investigation of persistence effects is conducted to see whether the data is consistent with the hypothesis that SEC investigation and production of a comment letter result in the external auditor materially revising the overall reporting risk measure they assign to a client when setting risk adjusted audit prices in subsequent years, even when no further comment letter is received.

1.3   Structure of the thesis

The thesis is structured as follows.

Chapter 2 includes an overview of the different possible regulatory frameworks in the auditing area, and Chapter 3 provides a more detailed description of the two regulatory mechanisms analyzed in this dissertation. Firstly, the regulation involving mandatory auditor rotations is presented. In particular, the analysis focuses on Italy first, which represents the research setting of my first two empirical works. A brief description of the way the rule is applied in Europe follows and finally the U.S, system regarding the

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mandatory rotation rule is presented. The second part of chapter 3 describes the SEC Comment letter process in depth, starting from the provision included in the Sarbanes Oxley Act of 2002 and then moving to the actual steps the SEC Staff and the filer usually undertake when a Comment letter is sent.

The three empirical works which constitute the core of this thesis follow.

Chapter 4 presents the first work "Partner Mandatory Rotations Versus Firm Mandatory Rotations: Evidence From Italy". Chapter 5 follows which includes the paper "Mandatory auditor rotation, earnings conservatism and the mandatory introduction of IFRS". Finally, the study "An Analysis of External Auditor Fees Following Sec Comment Letters" is presented in Chapter 6. These last three chapters present the typical structure of articles included in international Journals. They first introduce the topic, highlighting the motivation behind the study. Then the main relevant literature is presented, followed by the development of the main hypotheses tested in the research. The data and the methodology used in the study follow, together with the description of the main results and any eventual additional tests performed in order to assess their soundness. The final comments and conclusions are included in the last section of each chapter.

All references included in the thesis are listed in Chapter 8.

CHAPTER TWO

AUDIT REGULATORY CHOICES

2.   Audit Regulatory Choices

In this chapter different possible audit regulatory choices are presented, together with a description of different regulatory frameworks. The final part of this chapter positions this study within these frameworks and justifies the choice of the specific audit regulations analyzed in this dissertation.

2.1   Self-Regulation & Market Mechanisms

Arrunada (2010) strongly favours the development and use of safeguards provided by the free action of market forces. In his opinion, the role of regulation should be minimal and only limited to facilitating audit firms, audit clients and self-regulatory bodies to discover the most efficient mix of services and corresponding quality safeguards directly through market interactions. Supporters of direct-market regulation state that the threat of auditors bending to clients' pressure caused by lax regulation is limited by reputation mechanisms. Even in that extreme case in which the law does not provide any system of sanctions against auditors and it is therefore impossible for external parties to sue them, there would still be private enforcement and sanctioning instruments. In fact a certain level of demand for high quality would still be present as it is independent of regulatory mechanisms: in such cases, switching decisions and low rents would castigate underperformance.

Another example of "market mechanism" which represents an incentive to carry out high quality audits regardless of the level of regulation consists of what is called in technical terms "quasi rents". Auditors who benefit from a high-level reputation would be

able to charge a higher price compared to their competitors who contract without a reputation. Therefore quasi-rents are defined as the difference between the remuneration for any productive resource in its current use and the maximum remuneration which would be received for its best alternative use (Arrunada, 2010). Of course, the continued receipt of these higher fees is only ensured if the service provided is characterized by a level of quality which is consistent with expectations.

Complete free-audit market monitoring, although strongly favoured by some academics (Arrunada, 2010), is only theoretical and not present in any developed economy, the reason being the importance of investors interests and of guaranteeing a minimum level of investors' protection in those cases in which the incentives to produce high-quality audits mentioned above are not sufficiently strong.

This is the reason why self-regulation as an alternative regulatory framework has traditionally encountered strong support (Gunninghan and Rees, 1997; Braithwaite, 1982).

2.1.1 Self-regulation

Self-regulation is defined as "regulatory processes whereby an industry-level organization sets rules and standards relating to the conduct of firms in the industry" (Gunninghan and Rees, 1997). The supporters of self-regulation state that it is usually characterized by speed, flexibility and relatively low costs. On the other hand, opponents of this form of regulation state that it may not always be optimal, as private incentives could impair its effectiveness. Braithwaite (2010) concludes that recommendations will stop many violations which are costly for the company, are cost-neutral or eventually benefit the company only in the short-term, but all others will be commonly ignored. This

might be the case for auditors who may potentially prefer to collude with the client's management in order to pursue economic interests. In such cases, the optimal regulatory choice would perhaps be "enforced self-regulation", where the government compels each company to write a set of rules tailored to the unique setting or contingencies facing that firm.

Enforced Self-regulation

Enforced self-regulation in the audit-market is typically aimed at protecting auditor independence. Independence has two main dimensions: real independence (or independence in mind) and perceived independence. The first concerns the actual state of mind of the auditor and how the auditor acts in/deals with a specific situation. Perceived independence refers to the level of independence in appearance, or, in other words, how independent the auditor is perceived by the market. Auditors have all the incentives to increase at least the level of perceived independence, as this enhances reputation and consequently the level of quasi-rents. However, it is the real independence which in the end affects audit quality: for this reasons legislators in different countries have traditionally intervened to guarantee that certain specific requirements be put in place with the ultimate objective of increasing audit quality. These requirements typically concerned the length of audit-client relationship and the delivery of non-audit services.

The mandatory rotation rule

Long audit tenure may lead to potentially dangerous "cosy relationships" between the auditor and the client. For this reason Big audit firms have often introduced internal policies of auditor partner rotations in order to impose breaks on tight auditor-client relationships and therefore increase auditor independence. As these decisions were in

most cases voluntarily adopted by the audit firms themselves, they may be considered as examples of self-regulation. Different legislators around the world then decided to mandate auditor rotation by law after a specific period of time, either at the partner or at the firm level[1]. This, in turn, represents an example of enforced self-regulation, where the imposition comes directly from the legislator. It is important to notice that currently the EU is considering a dual MRR by also requiring audit firm rotations (EC's Green Paper - Audit Policy: Lessons from the Crisis, 2010).

Provision of non-audit services

Non-audit services refer to the provision of activities such as advice and consultancy, assistance and support in implementing transactions, tax services, advising on information systems and other specific tasks. Even if this phenomenon is quite widespread (in the late nineties non-audit services would count approximately 50% of total audit fees, Arrunada, 2010), it has often been argued that the provision of this kind of services could reduce the level of audit independence by increasing the economic bonding between the auditor and the client. Even if empirical evidence does not provide consistent results related to the effects of non-audit services on auditor independence (Arrunada, 2010), legislators around the world are introducing different restrictions to the possibility of delivering services different from the audit ones. The initial debate started in the early seventies in the United States[2], and the first reference in the European context is the Cadbury Report in the U.K, which strongly opposed the non-audit service restriction as it was considered an unnecessary and costly constraint on the freedom of companies to choose their sources of advice. The Cadbury Report only recommended

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[1] The mandatory rotation rule is described in depth in Chapter 3, section 3.1.
[2] In 1976, following a series of financial scanalds, a Senate sub-committee reported that one of the most critical causes of alleged lack of independence was the delivery of non-audit services

audit clients to publish the amount of fees related to non-audit work. The Spanish Oliviera Report on auditor independence in 1998 used a similar approach by only including a recommendation for audit committees and Boards of Directors to monitor the delivery of non-audit services. In 1996, the European Commission published the Green Paper on the role of the statutory auditor in the EU. The text of the report, however, has been subject to different criticisms as potentially subject to different kind of interpretation (Arrunada, 2010). In short, the Green Paper does not prohibit ex-ante the delivery of non-audit service, but proposes a set of restrictions that should avoid the auditor finding him/herself in any situation which could compromise his/her independence. Looking at the choices adopted in different countries around the word, three different groups can be distinguished (Arrunada, 2010):

- Countries which allow all types of non-audit services to be provided: these include Australia, Canada, Ireland, Luxemburg, The Netherlands, Sweden and the U.K.. General rules safeguarding auditor independence are still present in these countries.

- Countries which prohibit the provision of any type of non-audit services: Belgium and France prohibit audit firms from providing audit services by the same legal entity, while in Italy the prohibition is clear-cut.

- Countries which prohibit only certain types of non-audit activities: almost all countries (with the exception of Australia, Canada, Denmark, Ireland, Japan, Luxemburg, The Netherlands, Portugal, Sweden and the U.K.) prohibit the delivery of book-keeping and accountancy services. Japan prohibits tax and management advisory activities while Denmark, Greece, Japan, Portugal and the U.S. forbid the provision of legal services. Finally, Japan and Portugal prohibits the delivery of corporate recovery services.

2.1.2 Direct Intervention

On the opposite side of the regulatory spectrum we find what is called "direct intervention". Direct involvement from the State has traditionally encountered strong opposition among academics (Gunninghan and Rees, 1997; Braithwaite, 1982; Arrunada, 1999, 2010), the reason being that in most cases the State does not have sufficient competence to carry out an efficient and effective monitoring role.

Strict legal intervention

According to Arrunada (2010) extremely restrictive legal sanctions should be avoided. The assumption behind this position is that when auditors are subject to disproportionate liability, their independence may be trivialized. In this case, the auditor could be tempted to "play safe", and base his/her opinion only on evidence that can be easily verified by third parties (so called "hard" information), as this may be used as a defence in litigation. "Soft" information, i.e. all kind of evidence which is not verifiable by external parties, will not generally be considered by external auditors, even if it contains valuable information for the auditor. As mentioned before, the market is usually more competent than the legal system in verifying qualitative information and therefore even soft information would be used by auditors should the sanctions be decided by the market as opposed to the legal system. This would benefit the ultimate quality of the audit.

SEC reviews

One extreme example of strict legal intervention is represented by the situation in which direct review processes on financial information are carried out directly by the State or other governmental bodies. A typical example is represented by the periodical reviews carried out by the SEC in the U.S. on the financial reporting of all listed

companies. In the worst scenario in which the financial information is seriously misreported, the review process leads to enforcement action. The latter typically has a significant financial impact on the company's stock prices, suggesting that the review process performed by the SEC is considered to be of high value by investors. In most cases the review process will lead to no action by the SEC, meaning that the Staff considers the company's financial reporting true and fair. If the SEC has doubts or concerns, the Staff sends a comment letter to the company and the latter has a limited period of time (typically 10 days) to answer the SEC concerns. Even if the severity of these comment letters is much lower compared to cases of enforcement, prior literature has demonstrated that comment letters do have an impact on financial markets[3]. These findings suggest that, at least with reference to this specific monitoring activity performed directly by the SEC, the Staff is considered capable and with the right competences to perform a valuable monitoring activity.

- The role of peer reviews

The accounting profession in the U.S. represents an interesting example of shifting from a self-regulated environment to a more strictly regulated industry, where governmental bodies play a significant role.

Until the introduction of the Sarbanes Oxley Act in 2002, audit firms in the U.S. were subject to a specific form of self/regulated peer reviews. These were administered by the American Institute of Certified Public Accountants (AICPA). However, this particular form of self-regulation was heavily criticized (Hilary and Lennox, 2005) for two main reasons. First of all, reviews were conducted by interviewing audit staff and inspecting

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[3] Chen and Johnston (2010) find evidence of reduced return volatility and trading volume around earnings announcements that were preceded by a SEC comment letter

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working papers but they did not directly test the validity or appropriateness of the audit work. Secondly, it was claimed that reviewers lacked incentives to perform independent reviews as they may have been subject to future reviews, potentially carried out by the same firms they had to report on. For this reason, the Sarbanes Oxley Act of 2002 replaced this form of self-regulation with independent inspections conducted directly by the Public Companies Accounting Oversight Board (PCAOB) which can be defined as a "non-profit corporation established by Congress to oversee the audits of public companies in order to protect the interests of investors and further the public interest in the preparation of informative, accurate and independent audit reports"[4]. This with the aim of restoring investors' confidence in the role of independent auditors after the well known accounting scandals and audit failures. In short, the PCAOB may be defined as the "auditor of auditors". The PCAOB has broad powers, including the ability to levy fines and other penalties for non-compliance (from expanded civil liability to outright criminal prosecution).

2.1.3 The focus of this thesis

This thesis focuses on two different regulatory examples within the broad spectrum of legislative frameworks outlined in this chapter. In particular, the first two empirical chapters of this dissertation (ch. 4 and ch. 5) analyze the mandatory auditor rotation rule as an example of auditing enforced self-regulation. The aim of this part is to understand whether such regulatory choice is valid in enhancing audit quality and therefore reporting quality. The third empirical chapter focuses on SEC oversight activity as an example of direct governmental monitoring performed on the financial statements of listed

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[4] www. Pcaobus.org

companies in the U.S.. In particular, we analyze how auditors react to SEC comment letters when adjusting their risk pricing: increases in auditor fees after the receipt of a SEC comment letter would suggest that auditors believe in the validity of the SEC monitoring process and therefore perceive an increase in risk. By examining the effects of SEC comment letters and auditors risk-adjusted fees, therefore, we can also better understand how the two monitoring parties (SEC and external auditors) interact with the ultimate objective of assuring transparent financial information. The choice of these two different regulatory frameworks is motivated by two main reasons. Firstly, given that the possible auditing legislative frameworks may be quite different and therefore the empirical analysis of the effectiveness of each regulatory solution is almost impossible, by looking at two extreme examples (self-regulation and direct oversight activity) I endeavour to catch their most important aspects. This in order to obtain a good understanding of where these two opposite regulatory tendencies might lead. Secondly, while most of the regulatory choices outlined above have already been empirically studied[5], the call for empirical evidence on the two areas analyzed in this dissertation still exists, for reasons which will be outlined in more detail in chapters 4, 5, and 6.

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[5] For example, the effect of non-audit fees on auditor independence (De Fond et al., 2002); the effectiveness of PCAOB review process (Hilary and Lennox, 2000); the effects of SEC enforcement actions (Feroz et al. 1991; Beneish, 1999) etc.

CHAPTER THREE

INSTITUTIONAL BACKGROUND

3.   Institutional background

In this chapter the two different types of regulation analyzed in the empirical part are presented. Firstly, the audit mandatory rotation rule is presented, with particular focus on Italy, Europe and the U.S. The SEC Comment Letter process is then presented, as an example of direct oversight activity carried out by a governmental supervisory body on the quality of reporting information.

- Self-Regulation

- Direct Intervention

- The role of peer reviews

3.1   The mandatory rotation rule: application around the world
3.1.1   Italy

Auditing activity was only introduced in Italy in the early twenties, with a considerable delay compared with the Anglo-Saxon experience. The first Italian regulation dealing with audit activity dates back to 1936, when the Regio Decreto n. 1648 was enforced.

However, audit regulation remained unchanged for the following twenty-five years.

3.1.1.1   Presidential Decree 136/1975

Presidential Decree n.136/1975 which enforced Law 216/1974 aimed at filling in the regulatory gap concerning audit activity. This law regulated audit activity and mandated all listed companies to subject their financial statements to an audit which was

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to be carried out by audit firms registered in a specific register ("Albo Speciale") ruled by CONSOB[6].

Article 2. of the Decree introduced for the first time in Italy the mandatory rotation rule for listed companies, marking a difference between Italian audit regulation and the audit disciplines of most other countries. In particular, art.2, comma 4 stated.

"L'incarico ha la durata di tre esercizi, può essere rinnovato per non più di due volte e può essere nuovamente conferito alla stessa società solo dopo il decorso di cinque esercizi ".

(Audit engagement lasts three years, may be renewed maximum twice and the same audit firm cannot be reappointed before five years have passed)

This was defined as the "3+3+3" scheme according to which the length of the audit engagement was set at three years and this was renewable maximum twice, setting the limit for audit firm tenure at nine years. A "cooling-off" period of five years before the same audit firm could be reappointed was also introduced.

The assumption behind this choice was that auditor independence might be threatened in long-lasting relationship between the auditor and the client's management. No rotation requirements were introduced at the partner level.

3.1.1.2   Legislative Decree 58/1998

The peculiarity of the Italian audit regulation was confirmed with the reform of the Italian commercial law which was enforced in 1998.

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[6] Consob (Commissione Nazionale per le Società e la Borsa) is the public authority responsible for regulating the Italian securities market.

Article 159 confirmed the previous regulation, stating that:

L'incarico [di revisione] *dura tre esercizi e può essere rinnovato per non*

più di due volte.

(The audit engagement lasts three years and cannot be renewed more than twice).

The "3+3+3" scheme was confirmed, but no specific mention of the cooling-off period was foreseen. This caused different interpretative problems (Tron and Sanzo, 1998; Donativi, 1998), as it may have been suggesting a complete impossibility of future reappointments. CONSOB therefore intervened, stating that a cooling-off period of three years still had to be applied (CONSOB, 2001). Again, no rotation requirements were introduced for the audit partners.

3.1.1.3   Law 262/2005

The period between the above mentioned enforcement of Legislative Decree 58/1998 and the following legislative reform was characterized by two important events which significantly influenced the new audit regulation. On the one hand, as mentioned in the following paragraph 3.1.2, a set of European Community interventions were issued, drawing from the Green Paper of 1996 on the role of auditors in the European Union. On the other hand, a series of financial scandals shocked the financial markets around the world. In particular, the Parmalat scandal pushed the Italian Legislator to set up regulatory interventions aimed at strengthening the role of auditors in Italy, thus restoring investors' confidence. Drawing from this, law n.262/2005 was enforced.

With reference to audit activity and in particular to the mandatory rotation regime, article 159 of Legislative Decree 58/1998 was substituted with the following (art. 159.4)

L'incarico [di revisione] *ha durata di sei esercizi, è rinnovabile una sola*

volta e non può essere rinnovato se non siano decorsi almeno tre anni

dalla data di cessazione del precedente. In caso di rinnovo il responsabile

della revisione deve essere sostituito con altro soggetto. (art. 159.4)

(The audit engagement lasts six years, can be renewed only once and the

same audit company cannot be reappointed if at least three years have not

passed since the previous engagement. In case of renewal, the responsible

partner has to rotate)

Moreover, Article 160 introduces for the first time in Italy the mandatory rotation of the audit partner.

L'incarico di responsabile della revisione dei bilanci di una stessa società

non può essere esercitato dalla medesima persona per un periodo

eccedente sei esercizi sociali, né questa persona può assumere

nuovamente tale incarico, relativamente alla revisione dei bilanci della

medesima società o di società da essa controllate, ad essa collegate, che

la controllano o sono sottoposte a comune controllo, neppure per conto di

una diversa società di revisione, se non siano decorsi almeno tre anni

*dalla cessazione del precedente. (art. 160.1-*quater*)*

(The audit partner engagement cannot exceed six years. The same partner

cannot be reappointed to audit the financial statements of the client, or of

controlled or associate companies, or of companies controlling the same

client or which are subject to common control, even for a different audit

company, if at least three years have not passed since the previous

engagement). (art. 160.1-quater)

However, the interpretation of this new formulation of the rule was subject to different critiques (Sabbatini 2006). The original intention of the Italian legislator was in fact to reduce the maximum limit for audit firm engagement from nine to six years and to introduce partner mandatory rotation as mentioned in the Parliamentary Act of the 3rd of March 2005 (Documento Camera dei Deputati). However, during the legislative iter, the formulation of the rule was slightly modified with critical consequences. The greatest part of the professionals and academics interpreted the rule as introducing a "6+6" scheme, where the six years engagement could be renewed once, up to a maximum limit of twelve years and the mandatory rotation of the responsible partner was introduced after the end of the first engagement. The cooling off period was interpreted as being three years both for the audit firm and for the audit partner.

3.1.1.4 *Legislative Decree 303/2006*

As the reform introduced by the previous legislation was subject to hard critiques, the Italian Legislator issued the Legislative Decree 303/2006.

The previous disputed article 159.4 was modified.

L'incarico ha durata di nove esercizi e non può essere rinnovato o nuovamente conferito se non siano decorsi almeno tre anni dalla data di cessazione del precedente.

(The length of the audit engagement is nine years, and cannot be renewed before at least three years have passed since the previous engagement)

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The maximum limit for the audit engagement was brought back to nine years. According to this new formulation, however, the "three years scheme" was abolished. The dispositions concerning the partner rotation and the cooling-off period were not modified.

To conclude, a brief summary of the development of the Italian audit regulation is presented in the Table below.

Table 3.1

	D.P.R 136/1975	D.Lgs. 58/1998	Law 262/2005	D.Lgs. 303/2006
Audit Firm Rotation	3+3+3	3+3+3	6+6	9
Audit Firm Cooling-off Period	5	3	3	3
Partner Rotation	No	no	6	6
Partner Cooling-off Period	No	no	3	3

3.1.2 The European Union

There are many differences concerning the rotation rules around the world, and these were even more pronounced before the European Union began its long harmonization process. Apart from Italy, other European countries which applied the rotation rule at the firm level were Spain and Austria, but in both cases the rule was abandoned[7]. Partner mandatory rotation, on the other hand, has encountered much greater

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[7] Austria enforced the firm mandatory rotation rule every six years (with a cooling-off period of three years) in 2004, but the rule was then dropped in 2005 as a consequence of commercial law reform (Cameran et al., 2007). Spain introduced mandatory firm rotation every nine years in 1988, but the requirement was then abolished in 1995 and therefore never enforced (Carrera et al., 2007)

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support. In particular, apart from Italy, the UK and The Netherlands introduced mandatory partner rotation every five years in 2003. Germany and France enforced the rule in 2002 and 2003 respectively, mandating partner rotations every six years.

With the so called "Green Paper" of 1996, the European Union provided an overview of auditing legislations among the State members, at the same time highlighting international best practices which could be applied within the EU. In particular, at paragraph 4.15 on "auditor independence", the EU commissions mention the mandatory audit firm rotation as a means of reducing the "familiarity threat". However, this eventuality is not considered favourably as "the arguments in favour of such a system are not conclusive". Greater support is given to partner mandatory rotation: "A solution which could enhance the perception of the auditor's objectivity, without causing the efficiency and quality drawbacks of firm rotation, could consist in setting up a rotation of audit partners within the same firm". Even if in paragraph 4.16 it is acknowledged that auditor independence is dealt with differently in Member States, being based on different traditions and experiences, the Green Paper definitely expresses preference for the partner mandatory rotation rule.

The Commission Recommendation of 16th of May 2002, "Auditing: Commission Issues Recommendations on independence of statutory auditors" represents another important step towards understanding the position of EU with reference to auditor rotation rules. It is stated that "to mitigate a familiarity or trust threat to the independence of a Statutory Auditor who is engaged to audit an Audit Client of public interest, the requirement to replace the Engagement Partner and the other Key Audit Partners of the Engagement Team within a reasonable period of time cannot be replaced by other

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safeguards". Finally, in the Eighth Company Law Directive, 2006/43/EC, the partner mandatory rotation rule is again considered as an effective means to increase auditor independence. Article 26 of the Directive states: "In order to reinforce the independence of auditors of public-interest entities, the key audit partner(s) auditing such entities should rotate. To organise such rotation, Member States should require a change of key audit partner(s) dealing with an audited entity, while allowing the audit firm with which the key audit partner(s) is/are associated to continue being the statutory auditor of such entity. Where a Member State considers it appropriate in order to attain the objectives pursued, that Member State might, alternatively, require a change of audit firm, without prejudice to Article 42(2)". Article 42.(2) continues "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".

To conclude, mandatory firm rotation seems to be considered as an additional requirement which should not however substitute partner rotations. The European Union therefore confirms its greater preference for partner rotations as an effective means of enhancing audit independence.

3.1.3 The United States

The American Institute of Certified Public Accountants (AICPA) introduced the mandatory partner rotation in the eighties as a fundamental aspect of monitoring processes for those audit firms serving SEC registrants (SEC, 2003). In particular, partner rotations every seven years (with a cooling-off period of two years) were introduced as a

means to enhance auditor independence and to bring in "new fresh eyes". On the other hand, the "Securitises Exchange Act" did not discipline mandatory rotations until the Sarbanes-Oxley Act (SOX) was introduced in 2002.

In Section 203, SOX states:

"AUDIT PARTNER ROTATION. - It shall be unlawful for a registered public accounting firm to provide audit services to an issuer if the lead (or coordinating) audit partner (having primary responsibility for the audit), or the audit partner responsible for reviewing the audit, has performed audit services for that issuer in each of the 5 previous fiscal years of that issuer".

Partner mandatory rotations every five years were therefore legally introduced, whereas no specific mention is made with reference to the cooling-off period.

Concerning firm mandatory rotations, on the other hand, the US legislator opted for a more cautious approach. Sec. 207, titled "Study of Mandatory Rotation of Registered Public Accounting firms", delegates The Comptroller General of the United States to "conduct a study and review of the potential effects of requiring the mandatory rotation of registered public accounting firms". The results of this study, which were presented in a report in November 2003, did not support the introduction of the rule and therefore the decision was postponed until the debate around the costs and benefits of mandatory firm rotations provided consistent opinions.

It is also important to mention Sec. 208, which delegates the SEC to issue a final regulation to carry out each subsection of the above mentioned rule. A fertile debate arose in which all interested parties were asked to provide comments on the proposed

rules. This lead the SEC to issue the "Final rule: Strengthening the Commissions' Requirements Regarding Auditor Independence", which was enforced on 6th of May 2003. The mandatory partner rotation was confirmed for both the leading and concurring partner every five years and a cooling-off period of five years was also introduced. Particularly interesting is the definition of audit partner given by the rule:

> *"(...) a member of the audit engagement team who has responsibility for decision-making on significant auditing, accounting, and reporting matters that affect the financial statements or who maintains regular contact with management and the audit committee. The term (...) would include the lead and concurring partners, partners such as relationship partners who serve the client at the issuer or parent level, other than a partner who consults with other on the audit engagement team during the audit, review, attestation engagement regarding technical or industry-specific issues, transactions, or events, and the lead partner on subsidiaries of the issuer whose assets or revenues constitute 20% or more of the consolidates assets or revenues of the issuer".*

The rule therefore does not take into consideration the formal appointment of the partner, but rather the substantial type of relationship between the partner and the audit client.

For partners different from the lead and the concurring ones, a different regime of rotation is introduced, i.e. every seven years and with a cooling-off period of two years. This, in order to facilitate the switch of the leading and of the concurring partners through appropriate processes. The incoming partner could in fact enter the engagement team in

the two years prior to the switch before becoming the new lead partner. This, in order to overcome the potential loss of client specific knowledge deriving from the rotation.

Finally, the "Final Rule" gives the option to small audit firms (i.e. with less than ten partners and five SEC Registrants) of not applying the rule but to be subject to periodical audits from the Public Accounting Oversight Board (PCAOB).

3.1.4 The rest of the world

The other countries which have adopted the firm mandatory rotation rule are very few. The mandatory audit firm rotation is enforced, apart from Italy, in Brazil, South Korea, Singapore and India (Cameran et al., 2007). Brazil introduced mandatory firm rotation for banks every five years in 1996 and then extended the rule for all listed companies in 1999. South Korea adopted the rule in 2006, mandating a change of the audit firm every six years. In Singapore the mandatory rotation rule is enforced only for banks (starting from 2002), while in India it was set for banks, privatised insurance companies and Governmental companies in 2004.

Partner mandatory rotation is more commonly enforced. It is also recommended by the IFAC Codes of Ethics (Section 290).

Apart from the European Union and United States mentioned above, the rule has been enforced in Japan (GAO 203), Australia (Ryen et al, 2007), and Malaysia (Sori and Karbhari, 2005). In particular, Japan introduced partner mandatory rotation in 2004, requiring the rotation for both the lead and concurring partner every seven years. Australian regulation is similar to the US one: starting from December 2003 the rotation of the lead partner every seven years was imposed. In December 2004 the rule became

stricter, imposing mandatory rotation every five years for both the lead and concurring partner. Finally, Malaysia introduced the rotation every seven years.

3.2 Arguments supporting and contrasting the mandatory rotation rule

There are different views concerning the effects that mandatory audit rotation may have on audit quality. Some of these arguments support the assumption that audit quality decreases as audit tenure (the number of years the same auditor performs its services to the same client company) increases. The supporters of this view look favourably at the introduction of the mandatory rotation rule as an instrument aimed at enhancing audit quality. Equally logical arguments exist which support the opposite, i.e. audit quality should increase as audit tenure increases. Obviously, in this case, the mandatory rotation rule is not seen as an effective way of improving the quality of an audit and thus protecting the investors' interests.

All of these arguments may be valid both at the audit firm and at the partner level, even if some differences exist which justify a separate discussion.

3.2.1 Audit firm level

At the audit firm level, mandatory audit rotation may enhance audit quality by increasing auditor independence. Long-term relationships between the auditor and audit client management may become "cosy" and thus may work to affect the monitoring role played by the auditor adversely. Under this perspective, rotation would lead to better audit quality when the new auditor comes in, as it would impose a break in the

development of tight personal relationships between the two parties (Mautz and Sharaf,1961; Farmer et al,1987; Brody and Moscove,1998).

Moreover, it is argued that mandatory rotation may increase auditor critical capacity, as "new fresh eyes" approach the financial statement, (AICPA 1978; Hoyle 1978; McLaren 1958). If the auditor performs its services towards the same client for a long number of years, it could incur in a type of professional routine (Shockley, 1981). The auditor could in fact assume to have a good knowledge of the clients' internal control procedures and accounting systems, thus decreasing the level of scepticism which should instead characterize every audit. Moreover, it is possible that the auditor will tend to rely on previous years' controls, especially with reference to the extensive internal control tests which are usually performed during the initial years of the audit engagement. In all these cases, the probability of not discovering an error or a mistake increases, and thus audit quality would decrease.

On the other hand, it could also be argued that imposing the rotation of the audit firm may decrease audit quality. Supporters of this view state that in the first years of the engagement period the new auditor is usually less familiar or experienced with the affairs of the new audited firm, and, for this reason, it can monitor audit quality less effectively (PriceWaterhouseCoopers, 2002; Petty and Cuganesan, 1996; Geiger and Raghumamdan, 2002; Carcello and Nagy, 2004; Myers et al., 2003). This suggests that audit quality will be poorer following the auditor rotation.

In addition, the incoming auditor will have strong incentives to retain the new client and therefore to use a low balling approach (DeAngelo, 1981). If the new auditor is unable to recoup the "low balling costs" deriving from delivering its service to the new

client, he/she will exert less effort thus reducing audit quality (Beck, Frecka, and Solomon 1988).

Finally, another argument against the effectiveness of the mandatory rotation rule looks at the last years of the engagement. In this period, should the rule be applied, the economic incentive to perform high quality audit decreases and hence earnings quality would suffer, as the incumbent auditor reaches the termination of the contract (Elitzur and Falk, 1996). However, one needs to take into account the possibility that reputation and litigation considerations on part of the incumbent auditor may attenuate this argument.

3.2.2 Audit partner level

At the partner level, arguments in favour and against the mandatory rotation rule are similar, but it is still necessary to highlight some differences.

As before, the mandatory rotation of the audit partner should enhance audit independence by imposing a limit to the management-partner relationship and should increase partners' critical ability as a new "fresh look" comes in.

On the other hand, the loss of client specific knowledge which could characterize the first years of a new engagement should be lower at the partner level compared to the audit firm level. In the former case, in fact, the audit team usually remains unchanged whereas the overall guidance and responsibility come from a new perspective (Hamilton et al. 2005). Moreover, the transfer of knowledge from the previous auditor to the new one is much more immediate if the change occurs at the partner level as compared to the firm level.

Also the economic incentives may be different at the partner level compared to the firm level. At the beginning of the new engagement the audit partner does not feel the same pressure to keep the audit fees low in order to "capture" the client (the so called "low balling approach") as the audit firm does when starting a new audit. This means that the partner will not have to eventually lower the level of quality of the audit in the initial years of tenure in order to recoup these "low balling" costs. On the other hand, the economic incentives of the partner to bond and retain the client are stronger compared to those of the audit firm, during the last years of tenure. The economic impact of losing one client will be much higher at the partner level than at the firm level: the audit firm, in fact, will be generally able to diversify such potential loss on a wider client portfolio (Fargher et al., 2008).

Perhaps for all these reasons, the introduction of the mandatory audit partner rotation has incurred much less resistance across the legislators in different countries, as illustrated in the previous section (3.1) of this chapter.

Finally, it is important to highlight the audit profession's point of view. In order to assess auditors' opinion about the mandatory rotation rule, the partners responsible for professional practice and audit risk management of the Big Four in Italy were interviewed[8]. The opinions declared were substantially uniform and are consistent with what was stated by auditors and accountants in 2003 in the US, when the SEC asked the accounting profession for opinions about the mandatory rotation rule on the occasion of

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[8] In particular, the interviews were made with partners of the Milan offices of Deloitte, PriceWaterhouseCoopers and Kpmg. For all the Big Four audit firms, the office in Milan is the largest in Italy.

the drawing up of the "final regulation" (SEC 208) [9]. Audit firms seem to consider partner rotation as an effective way to enhance audit quality, while they perceive firm rotation as a highly inefficient means which could even harm the quality of the audit. Each time the audit firm is obliged to leave a client company, they state, it has to set up appropriate organizational procedures in order to allocate all the professionals and the personnel who were following the former client to other audit engagements; this, with unavoidable impact to other audits of the same firm. This internal turnover, if not properly managed, could increase the audit risk and therefore reduce audit quality. On the other hand, auditors confirmed that the substitution of the responsible partner is usually highly supported by the entire organization, with the aim of optimizing the transfer of client knowledge from the previous partner to the new one: therefore the loss of client specific knowledge deriving form the partner rotation should be minimized.

In conclusion, there exist arguments both in favour and against the mandatory audit rotation rule and both views seem perfectly logical. For this reason, there is a general need for empirical evidence, in order to assess what actually happens to audit quality when the audit firm or the engagement partner rotates. This academic evidence would help governments, legislators and professional boards in different countries to draw up effective and efficient rules aimed at enhancing audit independence, audit quality and, by this, restoring the confidence both of the public and of investors.

3.3. SEC comment letters

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[9] All the comments left by the accounting profession are still available on line at www.sec.gov/rules/proposed/s74902.shtml.

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For many years the SEC periodically reviewed the financial reports of publicly listed companies in the US with the general aim of enhancing the quality and timeliness of disclosure in order to provide investors with all the information needed to efficiently undertake investments' decisions. This process became more and more critical after the financial scandals of the last decades and the recent financial crisis, as these events made it clear that corporate disclosure needed careful monitoring and improvements.

The reviews are undertaken by the SEC Division of Corporation Finance and are intended to provide companies with comments on filings they believe could be enhanced or improved. These generally consist of requests for supplemental information, filings amendments or improvements to future filings.

The primary objective of the comment letter process is therefore to "improve disclosure for investors". The process generally involves many interactions between the Division and the issuer for clarifications or additional information regarding the disclosure in the filing.

3.3.1 Section 408 Sarbanes Oxley Act

After the Enron's scandal the Sarbanes Oxley Act was signed in 2002, as a response to major concerns about abuses of management discretion and to the consequential loss of investors' confidence. A particular section of this Act dealt with the comment letters process which was therefore formalized by law. In particular, Section 408 (a) states:

SEC. 408. ENHANCED REVIEW OF PERIODIC DISCLOSURES BY ISSUERS.

(a) REGULAR AND SYSTEMATIC REVIEW.—The Commission shall

review disclosures made by issuers reporting under section 13(a)

of the Securities Exchange Act of 1934 (including reports filed on Form

10–K), and which have a class of securities listed on a national securities

exchange or traded on an automated quotation facility of a national

securities association, on a regular and systematic basis for the protection

of investors. Such review shall include a review of an issuer's financial

statement.

Under this requirement, the Commission assures that all issuers of securities or whose securities are publicly traded provide all available information, whether positive or negative, that might be relevant for any investment decision[10].

Section 408 also defines the periodicity with which the Commission undertakes these reviews.

c) MINIMUM REVIEW PERIOD.—In no event shall an issuer required to

file reports under section 13(a) or 15(d) of the Securities Exchange Act of

1934 be reviewed under this section less frequently than once every 3

years.

SEC staff have therefore to review every issuer's disclosure, including financial reports (10Qs, 10Ks, S1-4), at least once every three years. This assures consistency and continuity in the SEC reviews. Until 2005, the SEC released comment letters and the relative answers for complete reviews under specific requests, in compliance with the "Freedom Information Act". In 2004, however, SEC began to receive an increasing number of requests for comment letters and responses. In order to enhance transparency and to permit equal access to investors to public information, the SEC decided to publish,

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[10] SEC website: http://www.sec.gov

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free of charge, all comment letters and response letters related to all disclosure filings made after the 1st of August 2004[11]. These are released on EDGAR[12] no earlier than 45 days. SEC however allowed filers to request confidential treatment for some portions of the response letters (Rule 83). Generally, the filer cannot use the comment process as a defence in any securities related litigation against them and the SEC staff may even require the filer to specify this in writing (the so called "Tandy letter").

3.3.2 Comment letter process

3.3.2.1 The review process

The comment letter process involves different steps by from the SEC Division and by the filer. This process is undertaken by the Division of Corporation Process, which includes eleven offices each of which is specialized in a specific industry. In particular, the offices relate to the following industries:

- Health care and insurance

- Consumer products

- Computers and online services

- Natural resources and food

- Structured finance, transportation, and leisure

- Manufacturing and construction

- Financial Services

- Real estate and business services

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[11] SEC website: http://www.sec.gov
[12] Electronic Data Gathering, Analysis, and Retrieval system. This database "performs automated collection, validation, indexing, acceptance, and forwarding of submissions by companies and others who are required by law to file forms with the U.S. Securities and Exchange Commission (SEC)". SEC website: http://www.sec.gov

- Beverages, apparel, and health care services

- Electronics and machinery

- Telecommunications

In 2009, SEC issued an overview of the filing review process, in order to increase the transparency of the comment letter process[13]. The Commission receives the filings and sends them to the relative office Division for a first screening review. As mentioned previously, according to Section 408 of SOX, the Division has to review every filer at least once every three years. In addition to this, the Division reviews transactional filings (IPO filings, business combination transactions and proxy solicitations). The preliminary review performed at this stage by the Division is aimed at selecting filings requiring additional reviews and it is performed taking the perspective of potential investors. The extent of this further review varies and depends on different factors. In particular, there are three levels of reviews which are usually undertaken by a Staff accountant, the "examiner", within the Division:

- *Full cover-to-cover review:* the entire filing is reviewed to assess compliance with federal securities laws and regulations

- *Financial statement review:* the financial statement and related disclosure is reviewed, in order to assess compliance with GAAP and other disclosure requirements of the federal securities laws and regulations

- *Targeted issue review:* only specific items of filer's disclosure are reviewed, in order to assess compliance with GAAP and/or federal securities laws and regulations.

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[13] This is available on SEC website www.sec.gov

If the examiner believes that filings may be improved or extended to make disclosure clearer for investors, he will propose a comment letter. Then a second examiner, referred to as the "reviewer", will perform a second review and will confirm or amend the examiners' comments. The comment letter is then sent by the Division to the filer and a communication process begins between the issuer, the staff accountant and the examiner. Before answering the comments via a written letter, the filer has the right to speak directly with the examiner or reviewer and ask for clarifications. The issuer may even ask to involve more senior Division staff, Division's Office of Chief Accountant or the Division Director. Once the filer has answered via a written letter to the Staff, the latter can either accept the answer closing the process, or send a follow-up letter asking for additional disclosure or filings' amendments therefore starting an iteration process. Once the Division believes the process can be closed, it will issue a "no further comment" letter to confirm the filing is complete.

3.3.2.2 The selection process

The process by which the Division selects filings for review is not public and it is strictly confidential. Section 408(b) of SOX, however, indicates some factors the Staff should consider when selecting filings for review. These reflect a distinct perspective on the relative benefits of the regulatory review process (Alexander and Hanely, 2007):

> b) REVIEW CRITERIA.—For purposes of scheduling the reviews
>
> required by subsection (a), the Commission shall consider, among
>
> other factors—
>
> (1) issuers that have issued material restatements of financial
>
> results;

(2) issuers that experience significant volatility in their

stock price as compared to other issuers;

(3) issuers with the largest market capitalization;

(4) emerging companies with disparities in price to earning

ratios;

(5) issuers whose operations significantly affect any material

sector of the economy; and

(6) any other factors that the Commission may consider

relevant.

Historically, the Staff has mainly focused on marked capitalization. A study from the SEC Office of Economic Analysis (Alexander and Hanely, 2007), however, showed that the third factor is not a good predictor of non-compliance risk[14]. Factors (2) and (4) indicate cases where investor uncertainty and incentives for management discretion are higher (Alexander and Hanely, 2007). Factors (3) and factors (5) are considered to be associated with a higher potential harm from non-compliance.

3.3.2.3 Filers' answer process

On the other hand, some best practice developed for filers regarding how to manage SEC comment letters. In general, the filer should answer within the time framework indicated in the letter (usually approximately ten days).

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[14] The authors use disclosure of material weaknesses in internal controls under Section 404 as an indicator for non-compliance. They found that relatively few large size companies have disclosed material weaknesses in internal controls. Price volatility, on the other hand, is found to bee a good predictor for non-compliance.

A report by Deloitte[15] summarizes the steps the filer should take in order to successfully deal with answering comment letters. These are listed below:

- Consider the impact the comment letter may have on filer's ability to issue financial statements.

- Consult with its SEC legal counsel about the impact the comment letter may have on the certifications contained in its Form 10-K.

- Consult with its auditors to discuss the impact the comment letter may have on their ability to issue the current-year audit report.

- Review the comment letter immediately and respond to the SEC staff reviewer (named in the letter) within the time indicated in the comment letter (usually 10 business days). If possible, the registrant should not request an extension, since this may delay resolution of the comment letter. However, in certain circumstances, the registrant should consider requesting an extension to provide a more thorough and complete response which addresses all of the staff's comments.

- If the registrant does not fully understand any specific comment, it should contact its SEC staff reviewer quickly for clarification so that it can provide an appropriate response.

- Include in the response a discussion of supporting authoritative accounting literature and references to the specific paragraph(s) from the standard(s).

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[15] "Best practices for managing unresolved SEC Comment letters", in SEC Comment Letters on Domestic Registrants. Deloitte (2009)

- Because some comments may request disclosure in future filings, the registrant should consider including such disclosure in the response letter to potentially eliminate additional requests from its SEC staff reviewer.

- If an immaterial disclosure is requested, the registrant should consider explaining why the disclosure is immaterial instead of including the immaterial disclosure in future filings.

- Maintain contact with its SEC staff reviewer and make the reviewer aware of the registrant's required timing (on the basis of its current-year filing deadlines).

- If the registrant has not received a follow-up letter or been contacted within two weeks of filing the initial response letter, the registrant should contact its SEC staff reviewer to determine the status of the comments. The registrant should promptly address any follow-up questions.

- If the registrant is uncertain about whether its review has been completed without further comments, it should ask the SEC staff reviewer about the status of the review. If the review is complete, the registrant should ask the reviewer for a completion letter.

A specific section of the report deals with oral comments. SEC Division staff may in fact provide an oral comment instead of a written letter. In this case, it is suggested to specifically ask the SEC reviewer the format with which the answer should be given. If no preference is stated by the SEC staff, best practice still suggests to formally answering via a written letter.

3.3.3 Contents of comment letters

As the purpose of the comment letter process is to enhance the quality of the filers' disclosure, it is not surprising that the recent financial turmoil which affected global markets greatly influenced the areas on which SEC Staff is focusing its major attention. In particular, the topics which received greater scrutiny by the SEC are the following[16]:

Management discussion and analysis

The purpose of the Management discussion and analysis section (MD&A) is to provide investors with information "necessary to an understanding of [a company's] financial condition, changes in financial condition and results of operations"[17]. In particular, the Commission Statement About Management's Discussion and Analysis of Financial Condition and Results of Operations[18], states that the three main objectives of the MD&A section are:

- to provide a narrative explanation of a company's financial statements that enables investors to see the company through the eyes of management;

- to enhance the overall financial disclosure and provide the context within which financial information should be analyzed; and

- to provide information about the quality of, and potential variability of, a company's earnings and cash flow, so that investors can ascertain the likelihood that past performance is indicative of future performance.

MD&A should include an analysis of the company's business from the perspective of management. As stated by the document released by SEC "Interpretation: Commission

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[16] SEC Comment Letters on Domestic Registrants. Deloitte (2009)
[17] Item 303(a) of Regulation S-K [17 CFR 229.303(a)]
[18] Release No. 33-8056 (Jan. 22, 2002) [67 FR 3746] ("January 2002 Release").

Guidance Regarding Management's Discussion and Analysis of Financial Condition and Results of Operations"[19], MD&A should not include a mere narrative description of the financial statements. The document should rather take advantage of the unique perspective and knowledge management has of its own business to provide useful key information to investors.

Especially after the financial crisis, SEC Staff attention focused on this section of the financial statement with the aim of enhancing the quality and usefulness of MD&A. In particular, many comment letters highlighted the need for filers to include in the MD&A an appropriate explanation of how the financial crisis is affecting or had affected their results from operations, liquidity and capital resources. MD&A should also address any material opportunity, risks and uncertainties deriving from the current economic environment. Different comment letters also asked for a deeper explanation of the methods and assumptions behind any critical accounting estimation. In some cases the Division also asks for a sensitivity analysis of estimates to change on the bases of outcomes that are reasonably likely to occur and that would have a material effect.

Goodwill impairment and testing

SEC staff has frequently asked filers to extend disclosure regarding goodwill impairment and testing. The Division has stressed the fact that such disclosure should not only focus on the noncash nature of the impairment, but it should also include a discussion about the business and economic condition behind the charge. Additional information has also been requested concerning three main areas:

- *Identification of impairment recoverability risks:* additional quantitative information is often required by SEC Staff about potential risks to revenue,

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[19] 17 CFR Parts 211, 231 and 241; Release Nos. 33-8350; 34-48960; FR-72. Available on www.sec.gov

operating results and asset recoverability. This should help investors to judge the probability of future impairments

- *Detailed sensitivity analysis:* SEC Staff has asked for additional disclosure concerning the sensitivity analyses used in order to monitor both the validity of the impairment charges, and of the management's estimation process.

- *Managerial judgement process:* SEC is requiring companies to make their impairment "thought process" clearer, giving more details about the inputs they used in their calculations.

Particular attention has also been given to the identification process of determining the unit level at which goodwill has been allocated and then tested for impairment, the determination of fair value of each reporting unit, the reasons behind the choice of a particular valuation model, and the determination of goodwill in cases fair value is less than book value.

Valuation allowances and repatriation of foreign earnings

Another topic on which SEC has recently focused its attention in its comment letters has been the assessment of the realizability of deferred tax assets. In particular, additional disclosure has been required in the MD&A concerning the effects that the financial crisis had or is still having on the realization assessments of deferred tax balances and any triggering events or new evidence leading to an adjustment of the valuation allowance as well as the effect on current and future results. Moreover, SEC staff also required registrants to clearly disclose the current and anticipated effects of repatriation of foreign earnings and to disclose whether such repatriation is uncertain: in this case, the effects that this would have on future earnings should also be highlighted.

Fair Value

SEC staff has frequently required registrants to provide additional transparent disclosure (within the MD&A section) about the use of unobservable inputs in fair value measurements, especially for financial securities not actively traded. In particular, when the determination of fair value is based on unobservable items, SEC requires filers to disclose:

- the valuation models used to determine fair value;

- the significant inputs into the models;

- the assumptions that could have the greatest impact on the valuations;

- whether, how, and why those assumptions have changed from prior years.

In cases in which the filer holds inactive financial instruments, SEC requires additional information regarding the criteria used to determine whether the market is inactive, the specific date on which the filer last considered the market active, and the period passed between that date and the fair value measurement date.

Debt

Again as a consequence of the financial crisis, SEC Staff has focused its attention on companies' solvability and solidity. In particular, additional disclosure and explanations concerning debt covenance compliance has been required in several comment letters. For example, filers have been asked to disclose the most material debt-covenant ratios as of the latest balance sheet date compared with the minimum/maximum allowed in the contract.

Other than-temporary impairments (OTTI)

Registrants are asked to clarify the assumptions (both positive and negative) behind the choice of not recording an investment with a fair value below cost as an "other than temporary investment". The Staff has also frequently asked questions in order to check

whether the impairment was recorded in the appropriate period and to clarify how the company considered any eventual change in factors since the last reporting period.

Pensions

SEC Staff has also focused its attentions also on the key assumptions behind the calculation of pension obligation and fair value of plan assets. In particular, comments have focused on:

- how registrants considered recent market performance in determining their key assumptions,

- the impact of recent market performance on net periodic benefit cost and an entity's financial position, and

- the impact of funding requirements on an entity's liquidity.

Staff members have also frequently asked for sensitivity analyses in order to pinpoint to investors what are the assumptions the change of which might have a material effect on reporting (e.g. discount rate used to calculate the company's benefit obligation).

Executive compensation

Many comment letters recently focused on executive compensation and in particular on the analysis of factors affecting executives' compensation and policies. On many occasions SEC Staff have asked registrants to disclose any eventual performance targets on which executive compensation is based. For competition reasons, filers are allowed not to publish performance targets or factors involving confidential information. If required, however, they must disclose information about how feasible it would be for executives to meet such targets.

Other topics

SEC Staff have recently focused on the above topic especially as a consequence of the financial crisis and the impact this had on financial reporting. Apart from this, SEC Division has continued to scrutiny with particular attention other disclosure areas such as revenue recognition, business combination, segment reporting, financial instruments and impairments.

3.3.4 Examples of comment letters

3.3.4.1   McCormick & Company

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION WASHINGTON,
D.C. 20549-4628**

DIVISION OF CORPORATION FINANCE

February 26, 2010
Mr. Gordon M. Stetz, Jr.
Executive Vice President & Chief Financial Officer
McCormick & Company, Incorporated
18 Loveton Cirlce
Sparks, MD 21152

      **Re: McCormick & Company, Incorporated
Form 10-K for the Fiscal Year Ended November 30, 2009
Filed January 28, 2010**

File No. 1-14920

Dear Mr. Stetz:
      We have reviewed your filing and have the following comments. Please provide a written response to our comments. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.
Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall

disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Form 10-K for Fiscal Year Ended November 30, 2009
Exhibit 13
2009 Annual Report
Liquidity and Financial Condition, page 27

1. We note in both your 2009 Highlights section and the Chairman's message to shareholders, your disclosures indicate you have reduced your cash conversion cycle by five days in both 2009 and 2008. Please tell us and expand your liquidity disclosures to explain your cash conversion cycle including the following:

   a. Explain how your cash conversion cycle is calculated.
   b. Explain how the five day reductions in the cash conversion cycle were achieved in both 2009 and 2008, by quantifying the working capital changes that impacted these reductions.
   c. Provide disclosure of the number of days in your cash conversion cycle for each period end presented.
   d. Provide indicative disclosures regarding the extent to which you expect the downward trend in your cash conversion cycle to continue in the future.

Financial Statements
Note 2 – Acquisitions, page 47

1. We note your disclosure that indicates you have reclassified $135.5 million of your preliminary Lawry's purchase price allocation from brands and other intangible assets to goodwill. Please tell us and disclose the reasons why you were unable to allocate the purchase price to the intangible assets as originally expected.

Note 9 – Employee Benefit and Retirement Plans
Defined Benefit Pension Plans, page 53

1. We note you have either increased or held constant, your expected return on plan assets. Please tell us and disclose the critical assumptions and benchmarks you used in determining your expected return on plan assets. Further, please tell us why you believe your return on plan asset expectations are reasonable.

Definitive Proxy Statement filed on February 16, 2010
Compensation Discussion and Analysis, page 18

1. Starting on page 21, you state that the Compensation Committee determined actual 2009 incentive bonuses for each NEO based on performance metrics. One of the performance metrics is EPS growth. The bonuses of Messrs. Timbie, Kurzius and Langmead were based on metrics other than EPS growth, such as operating income

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from US consumer and Mexico consumer businesses. Please disclose the target levels for each performance metric. See Instructions 2 and 4 to Item 402(b) of Regulation S-K. Alternatively, provide us with your analysis of how you meet the standard for confidential treatment for these targets. In addition, to the extent there is sufficient basis to keep the targets confidential, disclose how difficult or likely you believe it will be for such targets to be achieved.

Closing Comments

Please respond to these comments within 10 business days or tell us when you will provide us with a response. Please furnish a letter that keys your responses to our comments and provides any requested information. Detailed letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your responses to our comments.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes all information required under the Securities Exchange Act of 1934 and that they have provided all information investors require for an informed investment decision. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

In connection with responding to our comments, please provide, in writing, a statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;

- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and

- the company may not assert staff comments as a defence in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in our review of your filing or in response to our comments on your filing.

You may contact Kevin Stertzel at (202) 551-3723, or Kimberly Calder, Assistant Chief Accountant, at (202) 551-3701 if you have questions regarding comments on the financial statements and related matters. Please contact Parker Morrill at (202) 551-3696, or me at (202) 551-3611 with any other questions.

Sincerely,
Anne Nguyen Parker
Branch Chief

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549-4628

DIVISION OF CORPORATION FINANCE
MAIL STOP 4628

April 15, 2010
Mr. Daniel F. Sansone
Senior Vice President
Vulcan Materials Company
1200 Urban Center Drive
Birmingham, Alabama 35242

> Re: **Vulcan Materials Company**
> **Form 10-K for the Fiscal Year Ended December 31, 2009**
> **Filed February 26, 2010**
> **File No. 1-33841**

Dear Mr. Sansone:

We have reviewed your filing and have the following comments. We have limited our review of your filing to those issues we have addressed in our comments. Please provide a written response to our comments. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Form 10-K for the Fiscal Year Ended December 31, 2009
Management's Discussion and Analysis of Financial Condition and Results of Operations, page 23
Critical Accounting Policies, page 36
Pension and other postretirement benefits, page 39

1. We note your disclosure stating that you expect to make contributions totaling $72.5 million to the funded pension plans during 2010, and that it is anticipated that these contributions, along with existing funding credits, are sufficient to fund projected

minimum required contributions until the 2013 plan year. Please tell us how you considered the target funding levels of the PPA of 2006 in your determination that these contributions will be sufficient.

Financial Statements, page 45
Note 1- Summary of Significant Accounting Policies, page 50
Stripping costs, page 54

2. We note your disclosure stating that pre-production stripping costs are expensed as incurred unless certain criteria are met, and capitalized pre-construction stripping costs are typically amortized over the productive life of the mine. Please tell us, with a view towards disclosure, the following:

Clarify what types of costs you consider to be pre-production stripping costs versus pre-construction stripping costs, and describe to us in detail the criteria you use to determine if your stripping costs are expensed as incurred or capitalized;
Explain to us the authoritative accounting literature on which you relied to conclude pre-production stripping costs should be expensed as incurred and pre-construction stripping costs should be capitalized;
Tell us how you determine when you have entered into the production stage;
Clarify for us how you define the "productive life of the mine" with respect to the method you use to amortize capitalized costs; and
Quantify the amount of stripping costs you have either capitalized or expensed in fiscal 2009.

Note 10- Benefit Plans, page 72

1. We note your disclosure on page 56 stating that amounts representing differences between actual results and expected or estimated results recognized in other comprehensive income are reclassified to earnings in a systematic manner over the average remaining service period of active employees expected to receive benefits under the plan. Please tell us the average remaining service period of active employees expected to receive benefits under the plan, and provide us with your calculation of the amortization of actuarial loss recognized in fiscal year 2009.

Closing Comments
    Please respond to these comments within 10 business days or tell us when you will provide us with a response. Please furnish a letter that keys your responses to our comments and provides any requested information. Detailed letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your responses to our comments.
We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes all information required under the Securities Exchange Act of 1934 and that they have provided all information investors require for an informed investment decision. Since the company and its management are

in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

In connection with responding to our comments, please provide, in writing, a statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;

- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and

- the company may not assert staff comments as a defence in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in our review of your filing or in response to our comments on your filing.

You may contact Tracie Towner at (202) 551-3744 if you have questions regarding comments on the financial statements and related matters. Please contact me at (202) 551-3299 with any other questions.

Sincerely,
Mark Shannon
Branch Chief

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549**

February 23, 2010

Mr. William E. Keitel
Executive Vice President and Chief Financial Officer
QUALCOMM Incorporated
5775 Morehouse Drive
San Diego, CA 92121-1714

      **RE: QUALCOMM Incorporated
              Form 10-K for the Year Ended September 27, 2009
              Filed November 5, 2009
              Form 10-Q for the Quarterly Period Ended December 27, 2009
              File No. 0-19528**

Dear Mr. Keitel:

      We have reviewed your filing and have the following comments. Please address the following comments in future filings. Confirm in writing that you will do so and explain to us how you intend to comply. If you disagree, we will consider your explanation as to why our comment is inapplicable or a future revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may or may not raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or on any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Form 10-K for the Year Ended September 27, 2009
Item 2. Properties, page 35

1. Please tell us and disclose in your filing how you evaluated the guidance in ASC 410 in determining whether you have a legal retirement obligation associated with the operation of your tangible long-lived assets. We note that you lease space on base station towers and buildings. Do any of these lease agreements include obligations at the end of the lease term to restore facilities or remove equipment?

Liquidity and Capital Resources, page 55

1. We note that your capital expenditures decreased 46% in the 2009 as compared 2008 and your 2008 capital expenditures increased by 71% as compared to 2007. Please tell the nature of the increase in capital expenditures in 2008 and why the 2009 capital expenditures are less than 2007. In addition, revise to disclose if you expect the capital expenditures to continue to decrease or increase in the future and the reasons why.

Note 1. Goodwill and Other Intangible Assets, page F-10

1. Please tell us why the weighted-average amortization period for the wireless licenses decreased to 5 years in the current year from 15 years in 2008.

Note 10. Segment Information, page F-28

1. We note that $255 million of goodwill was allocated to reporting units within your Qualcomm Wireless & Internet segment. We further note your declines in revenue and your near break-even EBT over the last three years within this segment. Please explain in detail why you recorded no impairment charge in this segment. Identify your reporting units within this segment, the amount of goodwill allocated to each reporting unit and the methodology you used to test each reporting unit including the assumptions utilized.

* * * *

Please respond to these comments through correspondence over EDGAR within 10 business days or tell us when you will provide us with a response. Please furnish a letter that keys your responses to our comments and provides any requested information. Detailed letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your responses to our comments.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filings reviewed by the staff to be certain that they have provided all information investors require for an informed decision. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made. In connection with responding to our comment, please provide, in writing, a statement from the company acknowledging that

- the company is responsible for the adequacy and accuracy of the disclosure in the filings;

- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filings; and

- the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in our review of your filings or in response to our comments on your filings.

You may contact Dean Suehiro, Senior Staff Accountant, at (202) 551-3384 or Kyle Moffatt, Accounting Branch Chief at (202) 551-3836 if you have questions regarding comments on the financial statements and related matters. Please contact me at (202) 551-3810 with any other questions.

Sincerely,
Larry Spirgel
Assistant Director

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CHAPTER FOUR

PARTNER MANDATORY ROTATIONS VERSUS

FIRM MANDATORY ROTATIONS: EVIDENCE

FROM ITALY

4. PAPER I: Partner mandatory rotations versus firm mandatory rotations: Evidence from Italy

4.1 Introduction

Auditors play an important role in the provision of high quality financial information (Krishnan, 2003). This role, however, has been questioned following Enron's case and other high-profile accounting scandals (e.g., Worldcom, Parmalat). In most of these cases, the company's auditor was accused of colluding with the management and helping it to hide the company's true financial situation. This, in turn, prompted a number of countries to consider and/or adopt mandatory rotation rules (MRR) as a means of enhancing auditor independence. The reasoning is that long audit tenure may weaken auditor independence and impair the auditor's capacity for critical judgement. Specifically, the Sarbanes Oxley Act of 2002 introduced in the US a mandatory five-year rotation for the leading and concurring audit partner. Moreover, the Congress has debated the possibility of introducing the mandatory rotation also at the audit firm level. The decision was postponed as the potential effects of the rule were not clear (GAO 2003)[20].

Several years after the introduction of rotation rules, the debate on its effectiveness is still open. Currently, the EU is considering a dual MRR by also requiring audit firm rotations (EC's Green Paper, 2010). In this paper I attempt to shed light on the following questions. First, do mandatory rotation rules improve audit quality? And if so, is it better

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[20] Even before the US initiative other countries had considered introducing the mandatory rotation rule into their own legislations (Petty and Cuganesan, 1996; Vanasco et al., 1996; Arrunada, 1997).

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to apply the rule at the audit firm level or is it sufficient to require it for audit partners? Do these rules work similarly for all companies? Finally, are mandatory rotations different from voluntary ones with respect to audit quality?

Accounting professionals have traditionally strongly opposed rotation requirements, as they increase both the auditor's and auditee's costs and, for audit firm rotation, it requires great organizational effort. The latter could even harm audit quality if not properly managed (Gietzmann and Sen, 2002). But, empirical evidence concerning MRR is scarce. This is caused by two main problems. First, in most countries (U.S. and U.K. included) where a policy of mandatory partner rotation is already in force, the names of the audit partner are not disclosed. Second, most of the literature examining the impact of audit firm changes on financial reporting quality (Ghosh and Moon 2005; Johnson et al. 2002; Myers et al. 2003), studies environments where audit firm rotations are voluntary. However, the results of these studies may not be generalizeable to a mandatory rotation regime. Endogeneity issues may complicate the interpretation of the results of such studies (e.g., Bamber et al., 2009; Lennox and Francis, 2008)[21].

In this paper I analyze mandatory rotations in Italy. This choice is motivated by the observation that Italy is a country with the longest tradition of mandatory audit firm rotation, as the rule has been in force since 1975. It has also introduced mandatory audit partner rotations in 2006[22]. I therefore investigate the 2006-2008 period, as this allows me to contrast the two types of auditor rotations while keeping other institutional factors fixed.

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[21] There are only a few exceptions to this literature (Barbadillo et al., 2009; Cameran et al. 2010), which will be discussed later in this paper.
[22] For a more detailed description of audit legislation in Italy, see Chapter 3, Paragraph 3.1.1.

Against the presumed benefits of audit rotations it is important to consider a number of shortcomings. First, audit firm rotations may involve excessive setup costs. If the new audit firm cannot recoup these costs through higher fees, it may not exert sufficient effort to overcome the lack of client-specific knowledge. During the initial engagement period the new auditor is more prone to judgement errors (Johnson et al. 2002; Myers et al. 2003). In contrast, audit partner rotations are not expected to result in loss of client-specific knowledge since the access to documents and working papers is maintained. The organizational side effects are also expected to be much weaker at the partner level[23]. To the extent that audit partner rotations enhance the new auditor's ability to make better judgments without being affected by setup costs or loss of client-specific knowledge, I expect partner mandatory rotations to be associated with higher audit quality. In contrast, owing to the abovementioned shortcomings, I do not expect mandatory audit firm rotations to be strongly related to improved audit quality.

The main result is consistent with this prediction. Using an accrual measure as a proxy for audit quality, I find that only partner mandatory rotations are positively associated with improved audit quality. This result is consistent with the claim that the costs associated with firm rotations may outbalance the relative benefits. These findings also provide support for the regulatory path undertaken by U.S. and U.K. legislators and by the other countries which decided to introduce the MRR only at the partner level.

I also analyze whether the association between mandatory rotation and audit quality varies cross-sectionally in a predictable way. I argue that the association between mandatory rotations and audit quality is weaker when audit task complexity is higher.

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[23] See Chapter 3, paragraph 3.2

The information asymmetry induced by rotations is more severe in highly complex environments. It is therefore more difficult for the incoming auditor to perform a high-quality audit, especially in the first years of the engagement. I also expect that the association between mandatory rotations and audit quality is higher when the demand for audit quality is more pronounced. If rotations lead to improved independence, it stands to reason the new auditor will respond better to the information demands of users than the incumbent auditor. I use company's leverage and ownership concentration as proxies for external demand for audit quality (Carey et al., 2000; Fan and Wong, 2005). Using size to proxy for task complexity, I find that the association between mandatory partner rotations and audit quality is weaker in larger companies. However, I do not find that the association between mandatory rotations and audit quality varies with demand for audit quality.

Finally, I contrast mandatory and voluntary rotations. The underlying reason causing the change of auditors may influence the association between rotations and audit quality, but is not observed by the researcher. I test and find that the association between rotations and audit quality seems to be different according to their nature (i.e. voluntary vs mandatory). In particular, I find that voluntary rotations are not associated with improved audit quality. Collectively, the evidence presented in this study seem to supports the introduction of mandatory audit partner rotations as a way to enhance the quality of audit services and therefore to reinforce markets' effectiveness and potentially mitigate the risk of frauds or other financial scandals.

In assessing this paper's results it should be noted that some features of the Italian institutional setting could hinder the generalizability of the findings. These include a

weak investor protection regime, the weak level of enforcement and the high level of ownership concentration (LaPorta et al., 1998). These notwithstanding, LaPorta, et al. (1998) state that Italy's creditor rights provide a level of protection higher than those of some Anglo-Saxon markets like US, Canada or Australia. Windgate (1997) assigns Italy a litigation risk score of 6.22 out of 10, which is the same for France, Germany, Ireland, The Netherlands, Norway and Switzerland. Gietzmann and Sen (2002) describe Italy as an audit thin market and they argue that MRR is beneficial especially in this kind of settings[24]. Recent reforms, however, made audit activity compulsory for a much larger set of firms, significantly enlarging the market for audit services and aligning Italy with other deeper markets. These institutional features suggest that auditors in Italy in the period examined here may be exposed to similar forces as in these other countries. Nevertheless, it remains an open question as to what extent auditors' incentives in Italy are similar to those of auditors in other countries.

This paper contributes to the existing literature on audit rotations in a number of ways. First, to best of my knowledge, it is the first paper to directly contrast the effects of mandatory firm rotations and mandatory partner rotations within the same institutional setting. This helps to shed light on whether regimes that require rotations at the partner level are more effective than regimes imposing rotations at the firm level. Moreover, this study can help inferring what could be the effects of requiring both kinds of rotations. The evidence presented may therefore be helpful for legislators considering introducing or augmenting mandatory rotation rules. Second, prior literature provides scant evidence on the effects of mandatory rotations at the partner level (Chen et al., 2008; Carey and

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[24] In thin markets auditors may hardly find new clients after the end of an audit engagement. Therefore they may have more incentives to succumb to managerial influence.

Simnett, 2006; Hamilton et al., 2005). The analysis of partner rotations in Italy therefore can help developing a better understanding of the effects of the mandatory rotation rule at the partner level. Third, this study shows that audit task complexity likely influences the effectiveness of audit rotations.

4.2 Literature Review

4.2.1 Audit firm level

4.2.1.1   *Audit firm tenure and audit quality*

Most of the literature written so far about audit rotation is mainly focused on the audit firm level. As the rule is enforced in very few countries (see chapter 3, paragraph 3.1), the majority of papers studying MRR analyze the association between audit firm tenure and audit quality. This is generally proxied by the quality of the reporting earnings, (e.g., Jackson et al. 2008; Johnson et al. 2002; Myers et al. 2003), fraudulent reporting (Carcello and Nagy, 2004), and audit failures[25] (Geiger and Raghunandan, 2002).

Among these papers, the one which is perhaps considered to be the "milestone" of this research area, is the one from Myers et al (2003). In this paper, the authors study the relation between audit firm tenure and the quality of earnings, proxied by the amount of discretionary accruals and current accruals in the company's earnings. Following the literature on earnings management and earnings quality (De Angelo 1986, Healy 1985, Jones 1991, Sloan 1996, Xie 2001, Dechow and Dichev 2002, Richardson et al. 2002), they assume that the higher the proportion of uncertain items in the earnings figure and

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[25] Audit failures are defined as cases in which an auditor does not issue a modified going concern opinion for a company which went subsequently bankrupt (Geiger and Raghunandan, 2002).

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thus the higher the proportion of accruals, the lower the quality of the financial statement. Using a sample of more than forty thousands U.S. firm-year observations, they found that longer auditor tenures are usually characterized by lower dispersion in the distributions of both discretionary and current accruals. Moreover, they also found that auditors seem to place a greater constraint to income increasing and income decreasing accruals as the engagement length increases. Johnson et al (2002) used two proxies for measuring financial reporting quality: the absolute value of discretionary accruals as an indicator for earnings management activities, and earnings persistence, as a measure of accruals quality. Studying a sample of industry and size matched companies audited by Big audit firms[26], they also analyzed the association between auditor tenure and financial reporting quality. In their paper they found that one-to-three years engagements (shorter tenures) are generally associated with lower audit quality compared to four-to-eight years engagements (medium tenures). The authors are not able to identify any statistically significant difference between the quality of financial reporting of longer tenures (more than eight years) and the quality of medium ones.

Another stream of research uses financial reporting failures as a proxy for audit quality (Francis, 2004). Geiger and Raghunandan (2002), studied a sample of firms which went bankrupt in the period 1996-1998 and analyzed the type of audit opinion which was issued in the year preceding the bankruptcy. Defining audit failure as the case in which an auditor does not issue a modified going concern opinion for a company which went subsequently bankrupt, they analyzed the association between auditor tenure and audit report failure. The authors use a logistic regression in order to test the above

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[26] In Johnson et al (2002) the number of the large international audit firms was six (Big 6). As this number continuously changes due to the concentration process which invested the audit market within the last decades, I will hereafter refer to this group of accounting firms generally as "Big audit firm".

mentioned relation and they found that audit report failures were more likely to occur in the initial years of their engagement.

Similarly to Johnson et al (2002), Carcello and Nagy (2004) compared the quality of the audit of short tenures (up to three years) and long tenures (over nine years) with the quality of medium tenures (between four and eight years). More specifically, they analyzed the association between auditor tenure and the fraudulent financial reporting, using the SEC Accounting and Auditing Enforcement Releases issued between 1990 and 2001[27]. Again similarly to Johnson et al (2002), the authors found that the quality of the audit seems to be lower within shorter tenure, as evidence showed that fraudulent financial reporting was more likely to be detected in the first three years of the audit engagement. As in Johnson et al (2002), they don't find a significant difference between the quality of long and medium engagement, indicating that the quality of an audit does not necessarily decrease as auditor tenure increases.

While all the papers mentioned above focused on US companies, Knechel and Vanstraelen (2007) analyzed the relation between audit tenure and audit quality basing on Belgium private companies. Less developed audit standards on going concern which differentiate Belgium from US companies, and the different threat for audit failures with reference to bankruptcy companies in private companies compared to the listed ones, make their sample more likely to be characterized by a negative audit tenure and audit quality relationship. The authors analyzed a sample of 618 Belgium private financial distressed companies, approximately half of which went successively bankruptcy and used the likelihood of properly issuing a going concern opinion (i.e. issuing a going

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[27] Also available on website: http://www.sec.gov/divisions/enforce/friactions.shtml

concern opinion for companies which successively went bankrupt and not issuing a going concern opinion when the company did not go bankrupt) as a proxy for audit quality. They found that, with reference to the bankrupt sample, auditor tenure seemed not to affect audit quality, whereas in the non bankrupt sample, they found some evidence of a negative association between auditor tenure and the issuance of a going concern opinion.

Overall, this stream of research seems to suggest that audit quality tend to increase as audit tenure increases. Under this perspective, the mandatory rotation rule seems not to be the means to enhance audit quality.

However, as argued by Elitzur and Falk (1996), audit and client incentives may be strongly altered by the presence of mandatory future auditor changes. Therefore, the findings of this literature are difficult to extend to settings involving mandatory rotations. Moreover, the fact that most of these studies focus on a voluntary setting, may actually hide a potential problem of endogeneity. It could be that auditors tend to stay longer in those companies showing a greater quality of earnings and more in general, a more transparent accounting system. This would justify the positive relationship between audit firm tenure and audit quality which has been found so far in the literature.

4.2.1.2   *Audit firm switches and audit quality*

There are a few studies which focus directly on auditor switches.

De Fond and Subramanyam (1998) studied the behaviour of discretionary accruals for companies changing their auditor. What they tried to demonstrate in their paper was that auditor switches are usually driven by clients' refusal for auditors' conservatism choices. Using a sample of 503 firms which changed their auditors during the period 1990 to 1993 they found that discretionary accruals, measured according to DeFond and

Jiambalvo (1994) model (also known as the modified Jones Model) were significantly income decreasing during the last year of an audit engagement and not significant in the first year of the following auditor relationship. They also found a positive relation between litigation risk and amount of negative discretionary accruals: firms showing greater litigation risk usually reported a greater amount of negative discretionary accruals. Even if the authors are aware of the fact that financial distress may explain in part their results, they suggest that auditor switches may be driven by the incumbent auditors' choices of constraining discretionary accruals.

There is one paper which specifically looks at mandatory audit firm rotations, which is Cameran et al. (2010). The authors analyze the impact of firm tenure and firm mandatory rotation in Italy during the period 1984-2004. They find that mandatory firm rotations are followed by more aggressive accounting[28].

Barbadillo et al. (2009) also study an audit firm mandatory rotation regime, comparing the likelihood of issuing going concern opinions for financially distressed companies within a mandatory rotation period (1991-1994) and a voluntary rotation period (1995-2000) in Spain.[29] However, the paper fails to find any significant association between the quality of the audit and the application of the rule.

Finally, Bluin et al (2007) studied a sample made up of ex Arthur Andersen client companies and they were able to detect which of these decided to follow their previous audit team into the new auditor and which companies, on the contrary, preferred to break the relationship with the previous team. They found that companies characterized by

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[28] They use the amount of abnormal working capital accruals and current accruals as proxy for audit quality.
[29] A rule imposing the mandatory rotation rule every nine years was present in Spain from 1988 till 1995 but was never enforced (see chapter 3, paragraph 3.1).

extreme discretionary accruals before Arthur Andersen collapse which decided not to follow their previous audit team, failed to show a significant improvement in earnings quality, suggesting that being forced to rotate the audit firm did not have any effect on reporting quality. Even if this setting could be in a certain way compared to a mandatory rotation one, as companies were in fact forced to change their auditors after the demise of Arthur Andersen, these results cannot be generalized and therefore cannot be used as evidence supporting the mandatory rotation rule.

To conclude, academic results do not support mandatory firm rotations as an effective legislative way to increase and assure audit quality.

4.2.2 Audit partner level

The literature on partner tenure and partner rotation and their potential effects on audit quality is very recent and not very developed (Francis, 2004), even if it has been receiving an increasing attention in more recent years. As stated above, the name of the partner signing the audit opinion is not available in many countries (e.g. USA and UK), and therefore it becomes quite difficult to conduct empirical research in these settings.

Carey and Simnett (2006) analyzed the impact of partner tenure in Australia with three different measures of earnings quality: the propensity of issuing a going concern opinion, the direction and amount of abnormal accruals and the tendency of just beating (missing) earnings benchmark. Focusing on a period in which the rotation of the partner was not mandatory by law[30], they found lower propensity of issuing a modified going concern opinion and a greater tendency in beating and missing earnings benchmark in longer tenures, thus supporting the assumption that audit quality decreases as partner

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[30] Mandatory rotation of the audit partner was introduced in Australia in year 2003.

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tenure increases. On the contrary, abnormal accruals did not show a significant relation with tenure. The contribution of this paper is significant, as it is one of the first researches which analyze audit rotation at the partner level. However, it focuses only on one year, which is 1995, thus using a cross-sectional technique. As in the meanwhile many financial and accounting scandals took place and a lot of pressure was put on auditors and on their part of responsibility in these issues by legislators, investors and the public in general, the results found by Carey and Simnett (2006) may not hold any more.

Conflicting results were found by Chen et al (2008), who studied the behaviour of earnings quality linked to partner level and found that discretionary accruals tend to decrease when audit tenure increases. It should be highlighted, however, that this study focuses on Taiwan: as this is a developing country, results may not be necessarily generalized to other western countries. Moreover, as stated by the authors, results my be to a certain extent biased by the double signing system existing in this country, under which two concurrent partners sign the opinion, and these do not necessarily rotate at the same time: moreover in the audit opinion it is not specified who of the two is responsible for maintaining the engagement relationship.

Fargher et al (2008) found that audit partner tenure is negatively related to earnings quality. More specifically, they found that when the partner of an engagement changes, a positive effect on earnings quality may be detected, as the amount of discretionary accruals decreases. On the contrary, when the entire audit firm rotates (and therefore also the audit partner changes), management discretion increases.

Hamilton et al (2005) found greater earnings conservatism following an audit partner rotation. Studying once more the Australian setting, they found that the level of

positive abnormal accruals was lower and that the asymmetrical timely recognition of losses was greater in the year following a partner rotation. Moreover, they also found that this association seemed stronger when partner rotation was mandated by law, suggesting that greater earnings quality may be achieved by imposing the change of the responsible partner after a certain number of years, as in this case the client ability to resist partner rotation is weakened. Again in this case, however, the authors focus on only one year: the cross sectional analysis may leave out potentially critical information.

To conclude, the literature focusing on the partner level does not always lead to consistent results. Parts of the findings, however, do suggest that audit quality tend to decrease with partner tenure and that it could be positively affected by mandatory rotations.

4.3   Hypotheses development

There are different views concerning the effectiveness of MRR in enhancing audit quality[31]. The proponents of the MRR rule state that rotation could lead to improved audit independence as it imposes a break in the development of tight relationships between the management and the auditor (Brody and Moscove, 1998; Farmer et al., 1987; Mautz and Sharaf, 1961). Long-term engagements may also increase the risk of the auditor following a "professional routine", by relying excessively on previous years' control test and becoming overconfident about the client's accounting system and control procedures (Shockley, 1981). Auditor rotation reduces this risk as it brings in "new fresh eyes", thus increasing the auditor critical capacity (AICPA 1978; Hoyle 1978; McLaren 1958). In contrast, opponents of the MRR state that in the first years of the engagement period the

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[31] See Chapter 3, paragraph 3.2

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new auditor is usually less familiar or experienced with the affairs of the newly audited firm. Consequently the information asymmetry between client management and the auditor is larger, potentially decreasing audit quality (Carcello and Nagy, 2004; Geiger and Raghumamdan, 2002; Myers, 2003; Petty and Cuganesan, 1996). In addition, an incoming auditor may have strong incentives to retain the new client by using a low balling approach (DeAngelo, 1981). If the new auditor is unable to recoup the "low balling fees", he will exert less effort, thus reducing audit quality (Beck, Frecka, and Solomon 1988).

These arguments are generally valid for any kind of rotation[32]. However, it is worth highlighting certain differences across rotation types which may affect the association between rotation and audit quality. Specifically, the strength of these arguments may differ according to whether this is a firm vs. partner rotation or a mandatory vs. voluntary rotation. In addition, client specific factors my influence the way rotations affect audit quality.

Bamber et al. (2009) point out that in case of partner rotations, the auditor methodology, prior working papers, other members of the audit team and the firms' history largely remain intact. The main change usually concerns the responsible partner, who may be nominated from within the same audit team. For these reasons, the assumed benefits that come with a rotation (e.g., severance of tight relationship) induced by partner rotations may be lower compared to firm rotations. On the other hand, this also

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[32] In particular, all of the arguments presented here are theoretically valid both for mandatory and voluntary rotations. However, this study is primarily interested in empirically analyzing mandatory rotations, as the effects induced by voluntary switches may be biased by the abovementioned endogeneity problem. This notwithstanding, some potential differences in the way mandatory and voluntary rotations affect audit quality are discussed in H5. Moreover, voluntary rotations are also added in most of the empirical models for control and comparison reasons.

means lower set up costs compared with audit firm rotations. The transfer of knowledge from the previous auditor to the new one is also more direct in partner rotations as opposed to firm rotations. This significantly limits the costs associated with "inexperience". Moreover, the initial economic incentives are also different at the two levels. "Low Balling" is not present at the partner level. To the extent that the initial fee discount represents a threat to audit quality (Palmrose, 1986), partner rotations will be associated with higher lower rotation costs. Empirical findings also suggest that firm and partner rotations may be differently associated with audit quality. Fargher et al. (2008) demonstrate that partner mandatory rotations are associated with higher audit quality, while Cameran et al. (2010) find that firm mandatory rotations in the period 1990-2004 are followed by lower audit quality. Finally, different studies (Carey and Simnett, 2006; Fargher et al., 2008) have found that the audit performed after a partner rotation event is higher than the quality of the engagement reaching the contract termination. On the other side, the opposite has been found for audit firm tenure, where a positive association between tenure and audit quality has been widely detected (Johnson et al. 2002; Myers et al. 2003; Carcello and Nagy, 2004; Geiger and Raghunandan, 2002). Taken together, the arguments described above and the empirical evidence collected so far suggest that benefits induced by a partner rotation outbalance the potential limit on audit independence represented by maintaining the link with the same audit firm. At the firm level, on the other hand, rotation costs seem to be greater than the relative benefits, making MRR less effective at this level. I thus expect that partner mandatory rotations are associated with higher audit quality compared to firm mandatory rotations. The first hypothesis test, in its null form, is therefore the following[33]:

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[33] All hypotheses are expressed in their null form.

H1: Audit firm and audit partner rotations are similarly associated with audit quality, ceteris paribus.

In analyzing the association between auditor rotations and audit quality, it is important to consider client-specific factors because these may influence the relation of interest. These include audit task complexity and firm-specific demand for audit quality. It is reasonable to assume that if rotations take place in highly complex information environments, the incoming auditor will encounter more difficulties in performing his services in the first year of the engagement[34]. The level of information asymmetry caused by rotation will be higher in such cases, potentially adversely affecting the quality of the audit carried out. I argue that the association between mandatory rotations and audit quality is weaker when audit task complexity is higher. I use client size as a proxy for task complexity as larger firms likely have more segments, more international operations, M&A activities etc., all of which make the audit task harder (Amir et al., 2010; Antle et al., 2006). I therefore hypothesize:

H2: Auditor rotations have similar association with audit quality regardless of client size, ceteris paribus.

Auditor rotations may also lead to different effects on audit quality depending on the demand for audit quality in the client firm. If the demand for audit quality is higher, the new auditor will exert a higher level of effort in order to deliver an audit of high quality, especially in the first years of new engagement, where information asymmetry is higher and bonding is weaker. Carey et al. (2000) argue that the demand for high quality

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[34] Lassila et al. (2010) demonstrate that the client's operating complexity increases the probability that the auditee retained its auditor as the potential benefits from knowledge accumulation increase.

auditing is positively correlated with leverage. As the proportion of debt in a firm's capital structure increases, shareholders have greater incentives to transfer wealth from creditors, suggesting that financial institutions demand a high level of quality to monitor the firm and its operation. Moreover, as stated by Khan and Watts (2009), financial distress is increasing with leverage and highly levered companies are more likely to be sued. This represents both a source of demand for audit quality and litigation risk for the new auditor. I therefore argue that auditor rotations have a greater positive association with audit quality in highly leveraged companies. The third hypothesis is then:

H3: Auditor rotations are similarly associated with audit quality regardless of the client's level of leverage, ceteris paribus.

Italy is characterized by a high concentration of family owned firms (Corbetta and Minichilli, 2006). Agency problems are present both in family and non-family firms. The nature of agency conflict is however different (e.g. Shleifer and Vishny, 1997; Gilson and Gordon, 2003; Prencipe and Sasson, 2008). In diffused ownership firms, the separation between management and control creates conflicts of interests and the management has incentives to manipulate earnings to pursue its personal interests (e.g., Leuz, et al. 2003). In family firms, the agency conflict exists between the controlling share-holders and minorities. The former has incentives to exploit the private benefits of control (Coffee, 2005). However, it has empirically demonstrated that agency problems tend to be more severe in non-family firms. Wang (2006) finds that family firms report higher quality earnings while Ali et al. (2007) find that bid-ask spreads are lower in family firms. The literature on audit quality suggests that firms with high agency costs are more likely to demand higher audit quality (Francis and Krishnan, 1999, and DeFond, 1992). For this

reason, I use ownership concentration as my second proxy for audit quality to argue that demand for audit quality is higher in non-family firms. The role of monitoring bodies is also different in family and non-family firms. Coffee (2005) argues that auditors tend to be less independent than in non-family firms, as they are inevitably subject to the control of the party they are expected to monitor. Thus I expect that the association between auditor rotation and audit quality is higher in non-family firms. My fourth hypothesis is:

H4: Auditor rotations are similarly associated with audit quality in family and non-family firms, ceteris paribus.

The association between MRR and audit quality may vary according to the nature of rotation, i.e. mandatory vs. voluntary. One particular argument is given by fee structure after the rotation event. For a voluntary rotation, the client company has the option of retaining the incumbent auditor client or switching to a new auditor, potentially a less expensive one. In a market mostly dominated by the BIG 4[35], this means an option between four potential suppliers. In the case of a mandatory rotation, the choice is limited only three alternative auditors. Competition is therefore higher in a voluntary rotation event compared to a mandatory one, increasing the threat of "low balling". To the extent that low balling leads to lower quality (Palmrose, 1986), voluntary rotations are expected to be less effective than mandatory rotation. Furthermore, voluntary rotations may be triggered by "opinion shopping" (Lennox, 2000). If this is the case, the subsequent engagement would be of lower audit quality. "Opinion shopping" is less likely when the switch is imposed as in mandatory rotations. Mandatory rotations can be scheduled well in advance and therefore be efficiently organized so as to maximise the transfer of

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[35] Big 4 auditors provide service to 92% of listed companies (Cameran, 2007)

knowledge at the partner level and to minimize costs at the firm level. I therefore argue that mandatory rotations are more positively associated with audit quality compared to voluntary rotations.

H5: Auditor rotations are similarly associated with audit quality, regardless of their nature (mandatory vs voluntary), ceteris paribus.

4.4   Data and methodology

The sample consists of Italian non financial companies listed on the Milan Stock Exchange during the period 2006 to 2008. This period was chosen in order to have both audit firm and audit partner mandatory rotations in force, keeping other institutional factors constant. Accounting data was taken from Compustat global (industrial/commercial issue). The names of the audit firm and audit partner were hand-collected from financial statements, available online or on the cd-rom Borsa Italiana[36]. The final sample consists of 603 company-year observations (228 firms belonging to 17 industries[37]).

Audit firm rotations which followed an audit engagement of nine years are coded as mandatory firm rotations. Partner rotations which followed a partner engagement of six years are coded as mandatory partner rotations. All other rotations are coded as voluntary.

Consistent with other papers (Cameran et al., 2010; Fargher et al., 2008; Johnson et al., 2002; Myers et al., 2003), this study uses earnings quality as a proxy for audit quality. Specifically, this is measured as the amount of absolute abnormal working capital accruals. The auditor is performing a high quality audit if it minimizes management's

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[36] Audit firm data is also available on Compustat but many mistakes were found. For this reasons, even audit firms were double checked with the company's annual report.
[37] Using the NAICS industry classification.

self-serving accounting choices (Dechow, 1994; Subramanyam and Wild, 1996; Jones, 1991; Dechow et al. 1995; De Fond and Jiambalvo, 1994; Wysocky, 2004; Meuwisswn et al. 2005). Consequently, the client will report earnings figures of high quality, traditionally measured by the amount of discretionary accruals present in its figure[38].

According to DeFond and Park (2001), abnormal working capital accruals are defined as:

$$AWCA_t = WC_t - (WC_{t-1}/S_{t-1})*S_t \qquad \text{(i)}$$

Where $AWCA_t$ is the amount of abnormal working capital accruals in year t and WC_t is the actual level of working capital observed in year t[39]. In particular:

$$WC_t = (\text{current assets}_t (\#75) - \text{short term investments}_t (\#69)) - (\text{current liabilities}_t (\#104) - \text{short term debt}_t (\#94)) \qquad \text{(ii)}$$

The second term of the first equation [$(Wct-1/St-1)*St$] represents the predicted value of working capital, i.e. the level of working capital accruals expected according to the current level of sales (S_t). This measure of abnormal accruals is chosen as it has been found that abnormal working capital accruals better capture management accounting discretion in settings in which stock markets are relatively "young" and/or small and therefore the number of observations do no permit long time series analyses (Wysocky, 2004; Meuwissen et al. 2005).

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[38] Other studies (Geiger and Raghunandan, 2002; Knechel and Vanstraelen, 2007) have used the direct outcome of the audit process as a proxy for audit quality, i.e. the audit opinion. In Italy, however, as in most European countries, the variety of type of audit opinion issued is very low. In 2007, 96% of audit opinions issued towards listed companies were "clean opinion", whereas there were no cases of "Adverse opinion" (Report Osservatorio di Revisione, SDA Bocconi, 2007).
[39] The number in parenthesis indicates the relative Compustat Code

Following Johnson et al. (2002), I use the absolute value of abnormal working capital accruals (*AbsAwca*), as I am only interested in the magnitude of accruals, having no prediction about the direction of management discretion. *AbsAwca* measures the client's success in managing earnings either up or down, as needed, depending on year-specific situations.

In the first model, *AbsAwca* is regressed on firm and partner mandatory rotations[40].

$$AbsAwca_{i,t} = \alpha_0 + \alpha_1 Fmanrot_{i,t} + \alpha_2 Pmanrot_{i,t} + \beta_1 Fage_{i,t} + \beta_2 NonBig_{i,t} + \beta_3 Fsize_{i,t} + \beta_4 Lloss_{i,t} + \beta_5 Leverage_{i,t} + \beta_6 Growth_{i,t} + \beta_7 Cfo_{i,t} + \beta_8 d2006_{i,t} + \beta_9 d2007_{i,t} + \varepsilon_{i,t} + fe$$

$$(1)$$

The explanatory variables of interest in this model are *Fmanrot* and *Pmanrot*. These are dummy variables set equal to one if there has been a firm or a partner mandatory rotation respectively in year t, zero otherwise. As I argued earlier, I expect audit quality to be associated with partner rotation. I therefore expect the coefficient α_2 to be negative. I also expect the association between partner rotation and audit quality to be stronger than the association between firm rotation and audit quality. I therefore expect to find that $\alpha_1 > \alpha_2$[41].

Consistent with previous literature, a number of control variables are added to the model to control for other determinants affecting *AbsAwca*. *Fage* measures the number of years the client company has been listed on the Milan Stock Exchange (Anthony and Ramesh 1992); *NonBig* controls for auditor size and it is a dummy variable equal to 1 if the audit firm is non-Big, 0 otherwise (Becker et al. 1998; Francis et al. 1999). *Fsize* is included as abnormal accruals are found to be negatively related to firm size (Johnson et

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[40] I use OLS panel regressions with industry fixed effects and robust standard errors.
[41] A higher level of *ABSAWCA* suggests a lower level of audit quality.

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al. 2002; Cameran et al. 2010). *Lloss* is a dummy variable equal to one if the client experienced a loss in the previous year, 0 otherwise. Such firms are expected to carry out a higher level of earnings management in order to avoid showing losses in the current financial year (Cameran et al. 2010; Carey and Simnett, 2006). *Leverage* is included in the model to control for the client company's leverage level (Frankel et al. 2002; Dechow et al. 1998). *Growth* controls for the impact of growth on earnings management (Carey and Simnett, 2006). Finally, year dummies are added to control for time differences.

Voluntary rotations are then added to model (1) in order to understand whether these are differently associated with audit quality as compared to mandatory rotations.

The following model is estimated.

$$AbsAwca_{i,t} = \alpha_0 + \alpha_1 Fmanrot_{i,t} + \alpha_2 Pmanrot_{i,t} + \alpha_3 Fvolrot_{i,t} + \alpha_4 Pvolrot_{i,t} + \beta_1 Fage_{i,t} + \beta_2 NonBig_{i,t} + \beta_3 Fsize_{i,t} +$$
$$+ \beta_4 Lloss_{i,t} + \beta_5 Leverage_{i,t} + \beta_6 Growth_{i,t} + \beta_7 Cfo_{i,t} + \beta_8 d2006_{i,t} + \beta_9 d2007_{i,t} + \varepsilon_{i,t} + fe$$

(2)

Fvolrot is a dummy variable equal to one if the rotation in year t is not due to a legal requirement, zero otherwise. *Pvolrot* is a dummy variable equal to one if there has been a voluntary partner rotation in year t, zero otherwise). I argue that mandatory rotations are more positively associated with audit quality compared to voluntary rotations. I therefore expect $\alpha_1 < \alpha_3$ and $\alpha_2 < \alpha_4$. For comparative and control reasons, voluntary rotations are included in all the following models.

In model (3) I analyze whether the association between rotations and audit quality varies with audit task complexity.

$$AbsAwca_{i,t} = \alpha_0 + \alpha_1 Fmanrot_{i,t} + \alpha_2 Pmanrot_{i,t} + \alpha_3 Fvolrot_{i,t} + \alpha_4 Pvolrot_{i,t} + \beta_1 Fage_{i,t} + \beta_2 NonBig_{i,t} + \beta_3 Fsize_{i,t} +$$
$$+ \beta_4 Lloss_{i,t-1} + \beta_5 Leverage_{i,t} + \beta_6 Growth_{i,t} + \beta_7 Cfo_{i,t} + \beta_8 d2006_{i,t} + \beta_9 d2007_{i,t} + \beta_{10} Fmanrot * size_{i,t} + \beta_{11} Pmanrot * size_{i,t} +$$
$$+ \beta_{12} Fvolrot * size_{i,t} + \beta_{13} Pvolrot * size_{i,t} + \varepsilon_{i,t} + fe$$

<div align="right">

(3)

</div>

In model (3), the interaction variables *Fmanrot*size, Pmanrot*size, Fvolrot*size* and *Pvolrot*size* are added. I have argued that the association between auditor rotations and audit quality is weaker when audit task complexity is higher. Therefore the coefficients from β_{10} to β_{13} are expected to be positive.

The demand for audit quality is also taken into consideration in analysing the association between rotations and audit quality. Model (4) is estimated as follows.

$$AbsAwca_{i,t} = \alpha_0 + \alpha_1 Fmanrot_{i,t} + \alpha_2 Pmanrot_{i,t} + \alpha_3 Fvolrot_{i,t} + \alpha_4 Pvolrot_{i,t} + \beta_1 Fage_{i,t} + \beta_2 NonBig_{i,t} + \beta_3 Fsize_{i,t} +$$
$$+ \beta_4 Lloss_{i,t-1} + \beta_5 Leverage_{i,t} + \beta_6 Growth_{i,t} + \beta_7 Cfo_{i,t} + \beta_8 d2006_{i,t} + \beta_9 d2007_{i,t} + \beta_{14} Fmanrot * lev_{i,t} + \beta_{15} Pmanrot * lev_{i,t} +$$
$$+ \beta_{16} Fvolrot * lev_{i,t} + \beta_{17} Pvolrot * lev_{i,t} + \varepsilon_{i,t} + fe$$

<div align="right">

(4)

</div>

In model (4), the interaction variables *Fmanrot*lev, Pmanrot*lev, Fvolrot*lev* and *Pvolrot*lev* are added. I have argued that auditor rotations have a greater positive association with audit quality in highly leveraged companies. The coefficients from β_{14} to β_{17} are therefore expected to be negative.

Finally, model (5) is estimated distinguishing between family and non-family client firms.

$$AbsAwca_{i,t} = \alpha_0 + \alpha_1 Fmanrot_{i,t} + \alpha_2 Pmanrot_{i,t} + \alpha_3 Fvolrot_{i,t} + \alpha_4 Pvolrot_{i,t} + \beta_1 Fage_{i,t} + \beta_2 NonBig_{i,t} + \beta_3 Fsize_{i,t} +$$
$$+ \beta_4 Lloss_{i,t-1} + \beta_5 Leverage_{i,t} + \beta_6 Growth_{i,t} + \beta_7 Cfo_{i,t} + \beta_8 d2006_{i,t} + \beta_9 d2007_{i,t} + \beta_{18} family_{i,t} + \beta_{19} Fmanrot * family_{i,t} +$$
$$+ \beta_{20} Pmanrot * family_{i,t} + \beta_{21} Fvolrot * family_{i,t} + \beta_{22} Pvolrot * family_{i,t} + \varepsilon_{i,t} + fe$$

I assume that auditor rotations are more positively associated with audit quality in non-family firms. Therefore, the coefficients from β_{19} to β_{22} are expected to be positive.

4.5 Main results

4.5.1 Descriptive statistics

Table 4.8.2 reports the main descriptive statistics.

The average absolute value of *AbsAwca* is 0.09 (median 0.04)[42].

Six percent (four percent) of firm-year observations involve a mandatory (non-mandatory) firm rotation, whereas ten percent (seven percent) of observations involve a mandatory (voluntary) partner rotation[43].

Non-Big audit firms cover 13% of the sample. This percentage is a fare representation of the whole Italian market, where Big audit firms detain a market share of about 90% (Cameran, 2007). 62% of the companies in the sample are family owned. On average, client companies have been listed for 14 years, report operating cash flows (on total assets) of 0.04 and leverage of 62%.

Univariate correlation coefficients are presented in Table 4.8.3. *AbsAwca* is negatively correlated with firm size and cash flow from operations and positively correlated with growth and lagged losses, as one would expect. Firm and partner rotations seem not to be significantly correlated with audit quality. Firm mandatory rotations

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[42] The top and the bottom 1% of abnormal working capital accruals. cash flow, leverage and growth were winsorised in order to limit the impact of extreme observations

[43] The rate of firm mandatory rotations is slightly lower than the predicted one (11%) due to young companies which have recently been listed on the Stock Exchange and therefore have not reached the nine years tenure.

appear to be positively associated with lagged losses, leverage and negatively related to the amount of operating cash flow. Partner mandatory rotations show positive correlation with auditee's size and a negative correlation with the *nonBig* variable. This suggests that partner turnover tends to be generally higher in non-Big audit firms, as there is a lower probability that the same partner serves one client for more than six years.

4.5.2 Empirical results

Table 4.8.4 shows results of regressing *Absawca* on firm and partner mandatory rotations (Table 4.8.4, column 1).

Partner mandatory rotations are negatively associated with *AbsAwca* (α_2= -0.023 p=0.016). This result is consistent with Fargher et. al (2008) who also found that the amount of discretionary accruals decreased in the year of partner rotation. No significant association is found for firm mandatory rotations. Taken together, these results meet previous expectations, suggesting partner mandatory rotations to be associated with higher audit quality compared to firm mandatory rotations. The coefficient β_2 of *NonBig* is negative and highly significant (β_2=-0.067 p=0.007), implying that non-Big audit firms are associated with a lower level of *Absawca*. This result appears somewhat surprising as it has been well documented that audit quality is positively correlated with auditor size (DeAngelo, 1981; Becker et al., 1998; Francis et al., 1999). Recently, however, literature has shown that institutional regimes highly affect earnings quality in general (La Porta et al. 1998; La Porta et al. 2000) and the way Big audit firms affect client earnings. Francis et Wang (2008) state that Big four behaviour is not uniform around the world but varies systematically with incentives. They argue that Big audit firms are expected to deliver higher audit quality in stricter investor protection regimes. The level of investor

protection in Italy is relatively low (LaPorta et al., 1998). Big audit firms in Italy therefore may not be as incentived as in other countries to pursue a high level of audit quality. Finally, Cameran et al. (2010) study the opinion that Italian Chief Financial Officers have about their auditors. They find that Big audit firms in Italy are not always perceived as superior compared to non-Big counterparts, confirming the above arguments. As expected, *Fsize* appears to be significantly negatively related to *AbsAwca,* suggesting that smaller firms tend to have a more "aggressive" approach to accounting (β_3=-0.089 p=0.002). Consistently with previous studies, the coefficient of *Growth* variable is positive and significant, implying that firms showing a higher level of growth tend to report a greater amount of absolute abnormal accruals (β_6=0.057 p=0.057). Finally, the year dummy variable d_2007 is negatively associated with *AbsAwca* (β_9=-0.027 p=0.058). All other control variables are not significant.

Column 2 (voluntary rotations) of Table 4.8.4 reports results of the regression of *AbsAwca* on firm and partner voluntary rotations. Coefficients α_3 and α_4 are both insignificant, implying that when rotations are a consequence of a voluntary choice, the effects on audit quality are minimized. Finally, mandatory and voluntary rotations are included in the same model (Table 4.8.4, column 3). The coefficient α_2 is again negative and significant (α_2=-0.021 p=0.024); coefficients α_1, α_3 and α_4 remain insignificant. These findings suggest that mandatory rotations are more positively associated with audit quality compared to voluntary rotations, as I expected. Control variables show the same behaviour described for mandatory rotations, with the one exception of the year dummy *d_2006,* which in this case is also negative and significant (β_8=-0.021 p=0.073).

Table 4.8.5 reports results for model (3), where interaction variables between

rotations and client's size, used as a proxy for task complexity, are added to model (2)[44].

In Table 4.8.5, column 2 (*Size Interactions*), the coefficient α_2 for partner mandatory rotations is negative and significant, but in this case the economic effect increases (from -0.02 to -0.46) and the significance level decreases (from 5 to 10%). Looking at the interaction variables (β_{10}-β_{13}), it seems that the effects of partner mandatory rotation in highly complex companies are weaker (β_{11}=0.050 p=0.084). As expected, the beneficial effects of mandatory partner rotations are counterbalanced by the higher effort that has to be carried out in guaranteeing an effective and smooth transfer of knowledge. Control variables show the same behaviour as column (1).

In Table 4.8.5, under column 3 (*Leverage Interactions*), leverage is interacted with rotation variables. The coefficient α_2 for partner mandatory rotations is not significant (even if the p-value 0.11 is slightly above the significance level) and none of the interaction variables show a significant coefficient. The coefficients of *NonBig* and *Fsize*, β_2 and β_3 respectively continue to show a negative and significant sign (β_2=-0.066, p=0.011; β_3=-0.091, p=0.002); also the coefficient β_6 of *Growth* is still positive and significant (β_6=0.049, p=0.094). Year dummy variables are not significant.

The last analysis tests whether auditor rotations have different impact in family and non-family firms. Column 4 of Table 4.8.5 reports the results of adding interaction variables between *family* and rotation variables. Overall, it seems that auditor rotations are not differently associated with audit quality in family and non-family firms. As before, non-Big audit firms and larger companies are associated with a higher level of

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[44] For comparability reasons table 4.8.5, column 2 reports results of the regression of *AbsAwca* on both firm and partner mandatory and voluntary rotations (model 2).

audit quality and *Growth* is positively related with the dependent variable. Given the results reported in Columns 3 and 4 of Table 4.8.5, it appears that the association between auditor rotations and audit quality does not vary with the demand for audit quality.

4.6 Additional analyses and robustness tests

I perform additional analyses and a set of robustness tests in order to check the soundness of the results.

Firstly, analyses are performed controlling for firm and partner tenure, which are added to all models presented as control variables. Results are presented in table 4.8.6.

Results remain consistent in all specifications. Findings also confirm previous evidence from Cameran et al. (2010) and from most of the literature (Carcello and Nagy, 2004; Johnson et al. 2002; Myers et al. 2003; Nagy et al. 2005). Audit firm tenure is highly negatively associated with *Absawca* (1% level) suggesting that the ability of audit firms to constrain discretionary accounting choices improves over time. This reinforces results found in Table 4.4 and described above. If audit quality seems to increase with firm tenure and mandatory firm rotations bring in no incremental beneficial effect, legislators should be very cautious in introducing or augmenting the mandatory rotation rule at firm level, especially considering that such a rule might be very costly both for the auditor and for the client. The same positive association between audit quality and tenure is not revealed at the partner level. This is consistent with Carey and Simnet (2006) who also fail to detect any significant association between partner tenure and abnormal accruals.

Secondly, as Big and non-Big audit firms are considered to be not homogeneous,

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analyses are repeated only for Big audit firms, i.e. deleting all firm year observations audited by non-Big audit firms in order to test whether general results are confirmed for Big audit firms. Results are presented in Table 4.8.7.

Again, partner mandatory rotations are negatively related to *Absawca* and seem to have a lower effect in larger client companies. In this case partner mandatory rotations are negatively associated with *AbsAwca* also when leverage interactions variables are added to the model, thus reinforcing results obtained with the whole sample. Results for demand for audit quality and ownership concentration remain unchanged.

I then use different a different proxy for audit task complexity: the sum of auditee's inventories and receivables divided by the company's total assets, which is another proxy traditionally used in the literature to measure audit task complexity (Amir et a., 2010). Again, (results not tabulated) partner mandatory rotations are associated with a lower level of absolute abnormal working capital accruals and again this effect appears to be weaker for more complex companies. A similar result, even if weaker, is observed for firm mandatory rotations. Finally, firm voluntary rotations seems to be associated with a lower level of audit quality, but the opposite (higher audit quality) happens for clients which are characterized by a higher level of complexity.

I also repeat the analysis redefining size and leverage interaction variables as the product of rotation variables and dummy variables taking the value of 1 if above the median and 0 otherwise. Also in this case results (not tabulated) remain unchanged. In particular, the significance level in audit task complexity is even higher (coefficient α_2 of partner mandatory rotations is equal to -0.076, p=0.003; coefficient β_{11} of the interaction variable *Pmanrot*Dsize* is equal to 0.096, p=0.010, where *Dsize* is a dummy variable

equal to 1 if the company's size is above the sample median, 0 otherwise).

As a final robustness test, I use a different measure of earnings quality to check whether results are driven by the proxy chosen for the dependent variable. In particular, I use the absolute amount of abnormal accruals as defined by Francis and Wang, (2008):

Abnormal accruals= Total accruals − Predicted accruals

Where:

$$Total\ Accruals_t = \frac{(Earnings\ before\ extraordinay\ items_t - CFO_t)}{Total\ assets_{t-1}}$$

And:

$$Predicted\ Accruals_t = \frac{\left[sales_t * \frac{current\ accruals_{t-1}}{sales_{t-1}} + gross\ PPE_t * \frac{depreciation_{t-1}}{gross\ PPE_{t-1}} \right]}{Total\ assets_{t-1}}$$

Results are presented in Table 4.8.8

In this case, the coefficient α_2 of the variable *Pmanrot* in model 2 is not significant, even if the negative sign holds. However, when controlling for audit task complexity, partner mandatory rotations are again associated with a lower level of absolute abnormal accruals (α_2=-0.286; p-value=0.047). Also the offsetting result for more complex companies is confirmed, as the coefficient β_{11} is positive and significant (β_{11}=0.031, p=0.07). As

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before, the demand for audit quality and ownership concentrations seems not to affect the association between auditor rotations and audit quality.

4.7   Conclusions and limitations

This study contrasts the relation of partner mandatory rotations versus firm mandatory rotations with higher audit quality. Given that the loss of client specific knowledge and information asymmetry induced by rotations are much less evident at the partner level, I test whether mandatory partner rotations are more beneficial compared to firm mandatory rotations. Then, I perform analyses to test whether the effects of auditor rotations on audit quality are homogenous across firms or are different according to the economics behind rotations. For this purpose, audit task complexity and the demand for audit quality are taken into consideration in the analyses of auditor rotations on audit quality. I finally test whether mandatory auditor rotations are more strongly associated with audit quality compared to voluntary rotations.

Using the amount of absolute abnormal working capital accruals (DeFond and Park, 2001) as a proxy for audit quality, results suggest that only partner mandatory rotations might have a beneficial effect on reporting quality, while no significant effects can be detected when the entire firm is forced to rotate. Partner mandatory rotations are also found to be less effective in highly complex environments. Results also suggest that the demand for audit quality does not affect the association between auditor rotation and audit quality. Finally, voluntary rotations are not associated with audit quality.

Two are the most important messages in this study. Firstly, given that only partner mandatory rotations seem to have a beneficial effect on audit quality and audit firm

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rotations are considered to be highly costly, the choice undertaken by those countries (e.g. US and UK) which introduced the mandatory rotation rule at the partner level only finds empirical support. Secondly, audit firms should place greater effort to support partner mandatory rotations in highly complex clients, so as to make the MRR lead to its best results.

I acknowledge that Italy is characterized by specific institutional features (small and young financial markets, low enforcement levels etc.). Even if this means that extending the results of this study to other settings is not straightforward, this research exploits a unique audit environment where both partner and mandatory rotations are enforced for all listed companies and it supports partner mandatory rotations as a means of enhancing audit quality.

4.8 Tables

Table 4.8.1
Sample composition

Table 4.8 1

Firm/year observations	Sample period 2006-2008
Initial sample	654
Missing audit & accounting data, M& A obs	-51
Final sample	603

Table 4.8.2
Descriptives

Table 4.8 2

Variable	Obs	Mean	Median	Std. Dev.	Min	Max
AbsAwca	603	0.090	0.039	0.164	0	1.16
Fmanrot	603	0.055	0	0.228	0	1
Pmanrot	603	0.098	0	0.297	0	1
Fvolrot	596	0.042	0	0.201	0	1
Pvolrot	590	0.073	0	0.260	0	1
Fage	603	14.353	8	24.104	0	185
NonBig	603	0.128	0	0.334	0	1
FSize	603	8.514	8.458	0.792	5.89	11.03
Lloss	603	0.234	0	0.424	0	1
Leverage	603	0.622	0.636	0.185	0.10	1.04
Growth	603	0.154	0.079	0.421	-0.67	3.03
Cfo	603	0.044	0.052	0.118	-0.44	0.50
Family	603	0.620	1	0.485	0	1
d_2006	603	0.343	0	0.475	0	1
d_2007	603	0.351	0	0.478	0	1
d_2008	603	0.305	0	0.461	0	1

Variable definitions
AbsAwca = absolute abnormal working capital accruals, scaled by sales; *Fmanrot*= 1 if there has been a firm mandatory rotation in year t, 0 otherwise; *Pmanrot*= 1 if there has been a partner mandatory rotation in year t. 0 otherwise; *Fvolrot*= 1 if there has been a firm voluntary rotation in year t. 0 otherwise; *Pvolrot* = if there has been a partner voluntary rotation in year t, 0 otherwise; *Fage*= number of years passed since the auditee's IPO; *NonBig* = 1 if the audit firm is a non-Big audit firm, 0 otherwise; *Fsize* = natural logarithm of total sales; *Lloss*= 1 if the company reported a loss in year t-1, 0 otherwise; *Leverage*= total liabilities divided by total assets; *Growth* = change in sales divided by sales in year t-1: *Cfo* = operating cash flows in year t scaled by beginning total assets; *Family* = 1 if the company is family owned, 0 otherwise. Firms are classified as family owned if the majority of the stock (over 50%) is owned by a family; *d_2006*=1 if the

observations belongs to 2006; d_2007=1 if the observations belongs to 2007; d_2008=1 if the observations belongs to 2008.

In some cases, it was not possible to correctly identify the presence of a voluntary rotation, therefore the observation was left blank (this is the reason why the number of observations for *fvolrot* and pvolrot is lower than 603)

Table 4.8.3

Correlations

Table 4.8 3

	LNAF	LET	LET_ACC	LET_NNACC	LET_DISC	LET_RISK	LET1	LET2	LET3	GC	REST	FOR	BIG	MA	ROA	DEC
LNAF	1	0.0823*	0.1382*	-0.0634*	0.1200*	0.0374*	0.0148	-0.0252*	-0.0268*	-0.2674*	0.0001	0.4911*	0.6298*	0.1486*	0.2737*	0.0784*
LET	0.0844*	1	0.7552*	0.4723*	0.7595*	0.2946*	-0.3780*	-0.2622*	-0.1787*	0.0217*	0.0213*	0.0195*	-0.0148	0.0246*	-0.0458*	0.0569*
LET_ACC	0.1388*	0.7552*	1	-0.2211*	0.7917*	0.2884*	-0.2855*	-0.1980*	-0.1349*	-0.0401*	0.0261*	0.0594*	0.0505*	0.0131	0.0333*	0.0388*
LET_NNACC	-0.0611*	0.4723*	-0.2211*	1	0.0654*	0.0505*	-0.1786*	-0.1238*	-0.0844*	0.0862*	-0.0034	-0.0509*	-0.0899*	0.0190*	-0.1129*	0.0324*
LET_DISC	0.1215*	0.7595*	0.7917*	0.0654*	1	0.2997*	-0.2871*	-0.1991*	-0.1357*	-0.0367*	0.0140	0.0639*	0.0370*	0.0177*	0.0254*	0.0325*
LET_RISK	0.0378*	0.2946*	0.2884*	0.0505*	0.2997*	1	-0.1114*	-0.0773*	-0.0526*	-0.0008	-0.0049	0.0034	0.0064	0.0140	-0.0306*	0.0261*
LET1	0.0159*	-0.3780*	-0.2855*	-0.1786*	-0.2871*	-0.1114*	1	0.1405*	0.1570*	0.0106	-0.0154*	-0.0092	-0.0296*	0.0023	-0.0228*	0.0084
LET2	-0.0209*	-0.2622*	-0.1980*	-0.1238*	-0.1991*	-0.0773*	0.1405*	1	0.1692*	0.0347*	-0.0201*	-0.0137	-0.0610*	-0.0157*	-0.0525*	-0.0005
LET3	-0.0226*	-0.1787*	-0.1349*	-0.0844*	-0.1357*	-0.0526*	0.1570*	0.1692*	1	0.0546*	-0.0206*	-0.0214*	-0.0477*	-0.0141	-0.0626*	0.0032
GC	-0.2670*	0.0217*	-0.0401*	0.0862*	-0.0367*	-0.0008	0.0106	0.0347*	0.0546*	1	-0.0247*	-0.1798*	-0.2659*	-0.0640*	-0.3605*	0.0353*
REST	0.0003	0.0213*	0.0261*	-0.0034	0.0140	-0.0049	-0.0154*	-0.0201*	-0.0206*	-0.0247*	1	0.0119	-0.0137	-0.0071	-0.0079	0.0038
FOR	0.4813*	0.0195*	0.0594*	-0.0509*	0.0639*	0.0034	-0.0092	-0.0137	-0.0214*	-0.1798*	0.0119	1	0.2868*	0.1258*	0.2282*	-0.0557*
BIG	0.6207*	-0.0148	0.0505*	-0.0899*	0.0370*	0.0064	-0.0296*	-0.0610*	-0.0477*	-0.2659*	-0.0137	0.2868*	1	0.0714*	0.2226*	0.0687*
MA	0.1437*	0.0246*	0.0131	0.0190*	0.0177*	0.0140	0.0023	-0.0157*	-0.0141	-0.0640*	-0.0071	0.1258*	0.0714*	1	0.0743*	0.0175*
ROA	0.3007*	-0.0567*	0.0340*	-0.1301*	0.0280*	-0.0386*	-0.0048	-0.0262*	-0.0281*	-0.4505*	0.0026	0.2270*	0.2487*	0.0358*	1	-0.0553*
DEC	0.0833*	0.0569*	0.0388*	0.0324*	0.0325*	0.0261*	0.0084	-0.0005	0.0032	0.0353*	0.0038	-0.0557*	0.0687*	0.0175*	-0.0514*	1
ARINV	-0.0262*	-0.0474*	-0.0092	-0.0582*	0.0009	-0.0232*	-0.0007	0.0022	-0.0038	-0.0423*	0.0023	0.1471*	-0.1061*	-0.0062	0.1652*	-0.2039
DEBT	0.1575*	0.0258*	0.0264*	0.0029	0.0125	0.0119	-0.0009	-0.0007	0.0080	0.0347*	-0.0099	-0.0423*	0.1111*	0.0344*	-0.0444*	0.0862*
LNASS	0.8560*	0.0544*	0.1304*	-0.0943*	0.1096*	0.0238*	-0.0008	-0.0416*	-0.0438*	-0.3581*	-0.0050	0.3761*	0.6193*	0.1337*	0.4083*	0.0715*
LOSS	-0.2866*	0.0310*	-0.0424*	0.1031*	-0.0339*	0.0127	0.0386*	0.0755*	0.0518*	0.2922*	-0.0018	-0.1779*	-0.2527*	-0.1025*	-0.4171*	0.0351*
ABSDA	-0.1365*	0.0365*	-0.0071	0.0638*	0.0030	0.0392*	-0.0533*	-0.0330*	-0.0187*	0.1163*	-0.0138	-0.0467*	-0.1102*	0.0169*	-0.2327*	0.0310*
SEG	0.3851*	0.0189*	0.0445*	-0.0317*	0.0437*	-0.0072	-0.0089	-0.0142	-0.0224*	-0.1063*	0.0226*	0.2133*	0.1803*	0.0847*	0.1684*	0.0039

Variable definitions

See Table 4.8.2.

Pair-wise Pearson correlations are reported below the diagonal; Spearman correlations are reported above the diagonal.

Table 4.8 4

	Expected sign	(1) Mandory rotations	(2) Non-mandatory rotations	(3) All rotations
Intercept (α0)	?	0.844***	0.846***	0.842***
		(0.001)	(0.001)	(0.001)
Fmanrot (α1)	+	0.040		0.042
		(0.281)		(0.248)
Pmanrot (α2)	-	-0.023**		-0.021**
		(0.016)		(0.024)
Fvolrot (α3)	?		0.021	0.021
			(0.552)	(0.566)
Pvolrot (α4)	?		0.020	0.020
			(0.574)	(0.566)
Fage (β1)	-	0.001	0.001	0.001
		(0.120)	(0.149)	(0.136)
NonBig (β2)	+	-0.067***	-0.065***	-0.068***
		(0.007)	(0.008)	(0.009)
Fsize (β3)	-	-0.089**	-0.090***	-0.089***
		(0.002)	(0.002)	(0.003)
Lloss (β4)	+	0.008	0.007	0.006
		(0.605)	(0.645)	(0.680)
Leverage (β5)	+	0.033	0.035	0.0312
		(0.614)	(0.619)	(0.655)
Growth (β6)	+	0.057*	0.053*	0.054*
		(0.057)	(0.068)	(0.0658)
Cfo (β7)	-	-0.165	-0.168*	-0.164
		(0.102)	(0.095)	(0.103)
d_2006 (β8)	?	-0.018	-0.028**	-0.021*
		(0.106)	(0.019)	(0.073)
d_2007 (β9)	?	-0.027*	-0.031**	-0.028**
		(0.058)	(0.027)	(0.048)
Observations		603	590	590
R-squared		0.225	0.219	0.224
Industry fixed effects		YES	YES	YES

Regression Models:
(1) Mandatory rotations

$AbsAwca_{i,t} = \alpha_0 + \alpha_1 Fmanrot_{i,t} + \alpha_2 Pmanrot_{i,t} + \beta_1 Fage_{i,t} + \beta_2 NonBig_{i,t} + \beta_3 Fsize_{i,t} + \beta_4 Lloss_{i,t} + \beta_5 Leverage_{i,t} +$

$+ \beta_6 Growth_{i,t} + \beta_7 Cfo_{i,t} + \beta_8 d2006_{i,t} + \beta_9 d2007_{i,t} + \varepsilon_{i,t} + fe$

(2) Voluntary rotations

$AbsAwca_{i,t} = \alpha_0 + \alpha_3 Fvolrot_{i,t} + \alpha_4 Pvolrot_{i,t} + \beta_1 Fage_{i,t} + \beta_2 NonBig_{i,t} + \beta_3 Fsize_{i,t} + \beta_4 Lloss_{i,t} + \beta_5 Leverage_{i,t} +$

$+ \beta_6 Growth_{i,t} + \beta_7 Cfo_{i,t} + \beta_8 d2006_{i,t} + \beta_9 d2007_{i,t} + \varepsilon_{i,t} + fe$

(3) All rotations

$$AbsAwca_{i,t} = \alpha_0 + \alpha_1 Fmanrot_{i,t} + \alpha_2 Pmanrot_{i,t} + \alpha_3 Fvolrot_{i,t} + \alpha_4 Pvolrot_{i,t} + \beta_1 Fage_{i,t} + \beta_2 NonBig_{i,t} + \beta_3 Fsize_{i,t} +$$

$$+\beta_4 Lloss_{i,t} + \beta_5 Leverage_{i,t} + \beta_6 Growth_{i,t} + \beta_7 Cfo_{i,t} + \beta_8 d2006_{i,t} + \beta_9 d2007_{i,t} + \varepsilon_{i,t} + fe$$

Variable definitions:
See Table 4.8.2.

Table 4.8.5
Regression of absolute abnormal working capital accruals on auditor rotations considering task complexity and demand for audit quality

Table 4.8 5

	Expected sign	(1) Basic Model	(2) Size Interactions	(3) Leverage Interactions	(4) Family Interactions
Intercept (α0)	?	0.842***	0.844***	0.876***	0.850***
		(0.001)	(0.000)	(0.001)	(0.001)
Fmanrot (α1)	+	0.042	0.316	-0.148	0.030
		(0.248)	(0.639)	(0.605)	(0.659)
Pmanrot (α2)	-	-0.021**	-0.463*	-0.085	-0.023
		(0.024)	(0.072)	(0.112)	(0.153)
Fvolrot (α3)	?	0.021	0.786	-0.045	0.022
		(0.566)	(0.246)	(0.449)	(0.583)
Pvolrot (α4)	?	0.020	-0.161	-0.063	-0.009
		(0.566)	(0.627)	(0.655)	(0.784)
Fage (β1)	-	0.001	0.000	0.001	0.001
		(0.136)	(0.194)	(0.128)	(0.139)
NonBig (β2)	+	-0.068***	-0.070**	-0.066**	-0.067***
		(0.009)	(0.011)	(0.011)	(0.010)
Fsize (β3)	-	-0.089***	-0.089***	-0.090***	-0.089***
		(0.003)	(0.001)	(0.002)	(0.002)
Lloss (β4)	+	0.006	0.011	0.004	0.006
		(0.680)	(0.491)	(0.783)	(0.644)
Leverage (β5)	+	0.031	0.024	-0.007	0.030
		(0.655)	(0.719)	(0.893)	(0.674)
Growth (β6)	+	0.054*	0.053*	0.049*	0.053*
		(0.066)	(0.064)	(0.094)	(0.085)
Cfo (β7)	-	-0.164	-0.154	-0.150	-0.165
		(0.103)	(0.149)	(0.136)	(0.101)
d_2006 (β8)	?	-0.021*	-0.019**	-0.018	-0.021*
		(0.073)	(0.018)	(0.130)	(0.069)
d_2007 (β9)	?	-0.028**	-0.025*	-0.026	-0.028*
		(0.048)	(0.077)	(0.110)	(0.059)
*Fmanrot*Size (β10)*	+		-0.032		
			(0.685)		
*Pmanrot*Size (β11)*	+		0.050*		
			(0.084)		
*Fvolrot*Size (β12)*	+		-0.094		
			(0.241)		
*Pvolrot*Size (β13)*	+		0.021		
			(0.565)		
*Fmanrot*lev (β14)*	-			0.281	
				(0.517)	
*Pmanrot*lev (β15)*	-			0.106	
				(0.190)	
*Fvolrot*lev (β16)*	-			0.099	
				(0.293)	
*Pvolrot*lev (β17)*	-			0.138	
Family (β18)	?				-0.013
					(0.482)

*Fmanrot*family (β19)*	+				0.019
					(0.823)
Pmanrot family* (β20)	+				0.007
					(0.750)
Fvolrot family (β21)*	+				-0.005
					(0.932)
Pvolrot family (β22)*	+				0.041
					(0.372)
Observations	590	590	590	590	
R-squared	0.224	0.242	0.231	0.226	
Industry fixed effects	YES	YES	YES	YES	

Regression Models:

(1) *Basic Model*

$$AbsAwca_{i,t} = \alpha_0 + \alpha_1 Fmanrot_{i,t} + \alpha_2 Pmanrot_{i,t} + \alpha_3 Fvolrot_{i,t} + \alpha_4 Pvolrot_{i,t} + \beta_1 Fage_{i,t} + \beta_2 NonBig_{i,t} + \beta_3 Fsize_{i,t} +$$
$$+ \beta_4 Lloss_{i,t} + \beta_5 Leverage_{i,t} + \beta_6 Growth_{i,t} + \beta_7 Cfo_{i,t} + \beta_8 d2006_{i,t} + \beta_9 d2007_{i,t} + \varepsilon_{i,t} + fe$$

(2) *Size interactions*

$$AbsAwca_{i,t} = \alpha_0 + \alpha_1 Fmanrot_{i,t} + \alpha_2 Pmanrot_{i,t} + \alpha_3 Fvolrot_{i,t} + \alpha_4 Pvolrot_{i,t} + \beta_1 Fage_{i,t} + \beta_2 NonBig_{i,t} + \beta_3 Fsize_{i,t} +$$
$$+ \beta_4 Lloss_{i,t} + \beta_5 Leverage_{i,t} + \beta_6 Growth_{i,t} + \beta_7 Cfo_{i,t} + \beta_8 d2006_{i,t} + \beta_9 d2007_{i,t} + \beta_{10} Fmanrot*size_{i,t} + \beta_{11} Pmanrot*size_{i,t} +$$
$$+ \beta_{12} Fvolrot*size_{i,t} + \beta_{13} Pvol*rotsize_{i,t} + \varepsilon_{i,t} + fe$$

(3) *Leverage interactions*

$$AbsAwca_{i,t} = \alpha_0 + \alpha_1 Fmanrot_{i,t} + \alpha_2 Pmanrot_{i,t} + \alpha_3 Fvolrot_{i,t} + \alpha_4 Pvolrot_{i,t} + \beta_1 Fage_{i,t} + \beta_2 NonBig_{i,t} + \beta_3 Fsize_{i,t} +$$
$$+ \beta_4 Lloss_{i,t} + \beta_5 Leverage_{i,t} + \beta_6 Growth_{i,t} + \beta_7 Cfo_{i,t} + \beta_8 d2006_{i,t} + \beta_9 d2007_{i,t} + \beta_{14} Fmanrot*lev_{i,t} + \beta_{15} Pmanrot*lev_{i,t} +$$
$$+ \beta_{16} Fvolrot*lev_{i,t} + \beta_{17} Pvolrot*lev_{i,t} + \varepsilon_{i,t} + fe$$

(4) *Family interactions*

$$AbsAwca_{i,t} = \alpha_0 + \alpha_1 Fmanrot_{i,t} + \alpha_2 Pmanrot_{i,t} + \alpha_3 Fvolrot_{i,t} + \alpha_4 Pvolrot_{i,t} + \beta_1 Fage_{i,t} + \beta_2 NonBig_{i,t} + \beta_3 Fsize_{i,t} +$$
$$+ \beta_4 Lloss_{i,t} + \beta_5 Leverage_{i,t} + \beta_6 Growth_{i,t} + \beta_7 Cfo_{i,t} + \beta_8 d2006_{i,t} + \beta_9 d2007_{i,t} + \beta_{18} family_{i,t} + \beta_{19} Fmanrot*family_{i,t} +$$
$$+ \beta_{20} Pmanrot*family_{i,t} + \beta_{21} Fvolrot*family_{i,t} + \beta_{22} Pvolrot*family_{i,t} + \varepsilon_{i,t} + fe$$

Variable definitions:

*Fmanrot*Fsize*= Interaction between *Fmanrot* (defined as above) and *Fsize* (defined as above); *Pmanrot*Fsize*= Interaction between *Pmanrot* (defined as above) and *Fsize* (defined as above); *Fvolrot*Fize*= Interaction between *Fvolrot* (defined as above) and *Fsize* (defined as above); *Pvolrot*Fsize*= Interaction between *Pvolrot* (defined as above) and *Fsize* (defined as above); *Fmanrot*lev*= Interaction between *Fmanrot* (defined as above) and *Leverage* (defined as above); *Pmanrot*lev*= Interaction between *Pmanrot* (defined as above) and *leverage* (defined as above); *Fvolrot*lev*= Interaction between *Fvolrot* (defined as above) and *leverage* (defined as above); *Pvolrot*lev*= Interaction between *Pvolrot* (defined as above) and *leverage* (defined as above); *Family* = 1 if the company is family owned, 0 otherwise. Firms are classified as family owned if the majority of the stock (over 50%) is owned by a family; *Fmanrot*family*= Interaction between *Fmanrot* (defined as above) and *family* (defined as above); *Pmanrot*family* = Interaction between *Pmanrot* (defined as above) and *family* (defined as above); *Fvolrot*family* = Interaction between *Fvolrot* (defined as above) and *family* (defined as above); *Pvolrot*family* = Interaction between *Pvolrot* (defined as above) and *family* (defined as above).
For all other variables see Table 4.8.2.

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Table 4.8.6
Regression of absolute abnormal working capital accruals on auditor rotations and auditor tenure

Table 4.8 6

	Expected sign	(1) Basic Model	(2) Size Interactions	(3) Leverage Interactions	(4) Family Interactions
Intercept (α0)	?	0.875*** (0.001)	0.879*** (0.000)	0.908*** (0.001)	0.877*** (0.001)
Fmanrot (α1)	+	0.026 (0.463)	0.289 (0.674)	-0.164 (0.568)	0.019 (0.776)
Pmanrot (α2)	-	-0.016* (0.091)	-0.465* (0.074)	-0.086 (0.128)	-0.015 (0.342)
Fvolrot (α3)	?	0.007 (0.828)	0.773 (0.250)	-0.061 (0.315)	0.011 (0.775)
Pvolrot (α4)	?	0.012 (0.751)	-0.179 (0.582)	-0.065 (0.645)	-0.036 (0.384)
Ften (α5)	-	-0.002*** (0.005)	-0.003*** (0.004)	-0.003*** (0.004)	-0.002*** (0.000)
Pten (α6)	?	-0.001 (0.771)	-0.001 (0.781)	-0.001 (0.724)	-0.000 (0.865)
Fage (β1)	-	0.000 (0.161)	0.000 (0.226)	0.001 (0.151)	0.000 (0.160)
NonBig (β2)	+	-0.076*** (0.007)	-0.079*** (0.009)	-0.074*** (0.009)	-0.076*** (0.008)
Fsize (β3)	-	-0.091*** (0.002)	-0.091*** (0.001)	-0.092*** (0.002)	-0.090*** (0.002)
Lloss (β4)	+	0.013 (0.459)	0.018 (0.328)	0.010 (0.542)	0.014 (0.370)
Leverage (β5)	+	0.030 (0.667)	0.023 (0.735)	-0.008 (0.860)	0.027 (0.696)
Growth (β6)	+	0.058* (0.064)	0.057* (0.064)	0.054* (0.094)	0.058* (0.080)
Cfo (β7)	-	-0.150 (0.149)	-0.139 (0.207)	-0.137 (0.187)	-0.151 (0.148)
d_2006 (β8)	?	-0.024** (0.033)	-0.022*** (0.004)	-0.021* (0.067)	-0.024** (0.030)
d_2007 (β9)	?	-0.029** (0.031)	-0.026* (0.054)	-0.027* (0.084)	-0.029** (0.041)
Fmanrot*Size (β10)	+		-0.031 (0.702)		
Pmanrot*Size (β11)	+		0.051* (0.082)		
Fvolrot*Size (β12)	+		-0.094 (0.240)		
Pvolrot*Size (β13)	+		0.023 (0.536)		
Fmanrot*lev (β14)	-			0.279 (0.517)	
Pmanrot*lev (β15)	-			0.114 (0.189)	
Fvolrot*lev (β16)	-			0.103 (0.281)	

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Pvolrot*lev (β17)	-			0.126
				(0.606)
Family	?			-0.007
				(0.725)
Fmanrot*family (β18)	+			0.013
				(0.878)
Pmanrot* family (β19)	+			0.002
				(0.944)
Fvolrot* family (β20)	+			-0.008
				(0.892)
Pvolrot* family (β21)	+			0.062
				(0.210)
Observations		581	581	581	581
R-squared		0.231	0.249	0.237	0.232
Industry fixed effects		YES	YES	YES	YES

Regression Models:

(1) *Basic Model*

$AbsAwca_{i,t} = \alpha_0 + \alpha_1 Fmanrot_{i,t} + \alpha_2 Pmanrot_{i,t} + \alpha_3 Fvolrot_{i,t} + \alpha_4 Pvolrot_{i,t} + \alpha_5 Ften_{i,t} + \alpha_6 Pten_{i,t} + \beta_1 Fage_{i,t} +$

$+\beta_2 NonBig_{i,t} + \beta_3 Fsize_{i,t} + \beta_4 Lloss_{i,t} + \beta_5 Leverage_{i,t} + \beta_6 Growth_{i,t} + \beta_7 Cfo_{i,t} + \beta_8 d2006_{i,t} + \beta_9 d2007_{i,t} + \varepsilon_{i,t} + fe$

(2)*Size interactions*

$AbsAwca_{i,t} = \alpha_0 + \alpha_1 Fmanrot_{i,t} + \alpha_2 Pmanrot_{i,t} + \alpha_3 Fvolrot_{i,t} + \alpha_4 Pvolrot_{i,t} + \alpha_5 Ften_{i,t} + \alpha_6 Pten_{i,t} + \beta_1 Fage_{i,t} +$

$+\beta_2 NonBig_{i,t} + \beta_3 Fsize_{i,t} + +\beta_4 Lloss_{i,t} + \beta_5 Leverage_{i,t} + \beta_6 Growth_{i,t} + \beta_7 Cfo_{i,t} + \beta_8 d2006_{i,t} + \beta_9 d2007_{i,t} +$

$+\beta_{10} Fmanrot * size_{i,t} + \beta_{11} Pmanrot * size_{i,t} + +\beta_{12} Fvolrot * size_{i,t} + \beta_{13} Pvol * rotsize_{i,t} + \varepsilon_{i,t} + fe$

(3)*Leverage interactions*

$AbsAwca_{i,t} = \alpha_0 + \alpha_1 Fmanrot_{i,t} + \alpha_2 Pmanrot_{i,t} + \alpha_3 Fvolrot_{i,t} + \alpha_4 Pvolrot_{i,t} + \alpha_5 Ften_{i,t} + \alpha_6 Pten_{i,t} + \beta_1 Fage_{i,t} +$

$+\beta_2 NonBig_{i,t} + \beta_3 Fsize_{i,t} + \beta_4 Lloss_{i,t} + \beta_5 Leverage_{i,t} + \beta_6 Growth_{i,t} + \beta_7 Cfo_{i,t} + \beta_8 d2006_{i,t} + \beta_9 d2007_{i,t} +$

$+\beta_{14} Fmanrot * lev_{i,t} + \beta_{15} Pmanrot * lev_{i,t} + \beta_{16} Fvolrot * lev_{i,t} + \beta_{17} Pvolrot * lev_{i,t} + \varepsilon_{i,t} + fe$

(4)*Family interactions*

$AbsAwca_{i,t} = \alpha_0 + \alpha_1 Fmanrot_{i,t} + \alpha_2 Pmanrot_{i,t} + \alpha_3 Fvolrot_{i,t} + \alpha_4 Pvolrot_{i,t} + \alpha_5 Ften_{i,t} + \alpha_6 Pten_{i,t} + \beta_1 Fage_{i,t} +$

$+\beta_2 NonBig_{i,t} + \beta_3 Fsize_{i,t} + \beta_4 Lloss_{i,t} + \beta_5 Leverage_{i,t} + \beta_6 Growth_{i,t} + \beta_7 Cfo_{i,t} + \beta_8 d2006_{i,t} + \beta_9 d2007_{i,t} +$

$+\beta_{18} family_{i,t} + \beta_{19} Fmanrot * family_{i,t} + \beta_{20} Pmanrot * family_{i,t} + \beta_{21} Fvolrot * family_{i,t} + \beta_{22} Pvolrot * family_{i,t} + \varepsilon_{i,t} + fe$

Variable definitions:
See Tables 4.8.2. and 4.8.5.

Table 4.8 7

	Expected sign	(1) Basic Model	(2) Size Interactions	(3) Leverage Interactions	(4) Family Interactions
Intercept (α0)	?	0.868***	0.843***	0.905***	0.880***
		(0.001)	(0.000)	(0.001)	(0.001)
Fmanrot (α1)	+	0.055	0.479	-0.181	0.060
		(0.189)	(0.460)	(0.580)	(0.413)
Pmanrot (α2)	-	-0.020**	-0.442*	-0.103*	-0.022
		(0.024)	(0.086)	(0.067)	(0.245)
Fvolrot (α3)	?	0.044	1.125*	-0.007	0.043
		(0.300)	(0.100)	(0.920)	(0.348)
Pvolrot (α4)	?	0.015	-0.124	-0.076	-0.019
		(0.696)	(0.719)	(0.615)	(0.672)
Fage (β1)	-	0.000	0.000	0.000	0.000
		(0.451)	(0.436)	(0.444)	(0.459)
Fsize (β3)	-	-0.091***	-0.087***	-0.092***	-0.091***
		(0.004)	(0.002)	(0.004)	(0.004)
Lloss (β4)	+	0.012	0.019	0.011	0.012
		(0.555)	(0.423)	(0.600)	(0.524)
Leverage (β5)	+	0.015	0.003	-0.031	0.013
		(0.850)	(0.974)	(0.582)	(0.872)
Growth (β6)	+	0.047	0.046	0.041	0.046
		(0.245)	(0.236)	(0.320)	(0.280)
Cfo (β7)	-	-0.146	-0.132	-0.136	-0.143
		(0.177)	(0.250)	(0.214)	(0.175)
d_2006 (β8)	?	-0.020	-0.019**	-0.019	-0.021
		(0.130)	(0.043)	(0.182)	(0.117)
d_2007 (β9)	?	-0.031**	-0.027*	-0.029*	-0.031**
		(0.039)	(0.079)	(0.073)	(0.040)
Fmanrot*Size (β10)	+		-0.049		
			(0.517)		
Pmanrot*Size (β11)	+		0.048*		
			(0.100)		
Fvolrot*Size (β12)	+		-0.132		
			(0.101)		
Pvolrot*Size (β13)	+		0.016		
			(0.670)		
Fmanrot*lev (β14)	-			0.339	
				(0.482)	
Pmanrot*lev (β15)	-			0.137	
				(0.122)	
Fvolrot*lev (β16)	-			0.078	
				(0.468)	
Pvolrot*lev (β17)	-			0.150	
				(0.561)	
Family (β18)	?				
Fmanrot*family (β19)	+				-0.012

				(0.565)
Pmanrot* family (β20)	+			-0.007
				(0.936)
Fvolrot* family (β21)	+			0.005
				(0.810)
Pvolrot* family (β22)	+			-0.001
				(0.988)
Observations	517	517	517	517
R-squared	0.223	0.250	0.231	0.225
Industry fixed effects	YES	YES	YES	YES

Regression Models:

(1) *Basic Model*

$$AbsAwca_{i,t} = \alpha_0 + \alpha_1 Fmanrot_{i,t} + \alpha_2 Pmanrot_{i,t} + \alpha_3 Fvolrot_{i,t} + \alpha_4 Pvolrot_{i,t} + \beta_1 Fage_{i,t} + \beta_2 Fsize_{i,t} +$$

$$+ \beta_3 Lloss_{i,t} + \beta_4 Leverage_{i,t} + \beta_5 Growth_{i,t} + \beta_6 Cfo_{i,t} + \beta_7 d2006_{i,t} + \beta_8 d2007_{i,t} + \varepsilon_{i,t} + fe$$

(2) *Size interactions*

$$AbsAwca_{i,t} = \alpha_0 + \alpha_1 Fmanrot_{i,t} + \alpha_2 Pmanrot_{i,t} + \alpha_3 Fvolrot_{i,t} + \alpha_4 Pvolrot_{i,t} + \beta_1 Fage_{i,t} + \beta_2 Fsize_{i,t} +$$

$$+ \beta_3 Lloss_{i,t} + \beta_4 Leverage_{i,t} + \beta_5 Growth_{i,t} + \beta_6 Cfo_{i,t} + \beta_7 d2006_{i,t} + \beta_8 d2007_{i,t} + \beta_9 Fmanrot * size_{i,t} + \beta_{10} Pmanrot * size_{i,t} +$$

$$+ \beta_{11} Fvolrot * size_{i,t} + \beta_{12} Pvol * rotsize_{i,t} + \varepsilon_{i,t} + fe$$

(3) *Leverage interactions*

$$AbsAwca_{i,t} = \alpha_0 + \alpha_1 Fmanrot_{i,t} + \alpha_2 Pmanrot_{i,t} + \alpha_3 Fvolrot_{i,t} + \alpha_4 Pvolrot_{i,t} + \beta_1 Fage_{i,t} + \beta_2 Fsize_{i,t} +$$

$$+ \beta_3 Lloss_{i,t} + \beta_4 Leverage_{i,t} + \beta_5 Growth_{i,t} + \beta_6 Cfo_{i,t} + \beta_7 d2006_{i,t} + \beta_8 d2007_{i,t} + \beta_{14} Fmanrot * lev_{i,t} + \beta_{15} Pmanrot * lev_{i,t} +$$

$$+ \beta_{16} Fvolrot * lev_{i,t} + \beta_{17} Pvolrot * lev_{i,t} + \varepsilon_{i,t} + fe$$

(4) *Family interactions*

$$AbsAwca_{i,t} = \alpha_0 + \alpha_1 Fmanrot_{i,t} + \alpha_2 Pmanrot_{i,t} + \alpha_3 Fvolrot_{i,t} + \alpha_4 Pvolrot_{i,t} + \beta_1 Fage_{i,t} + \beta_2 Fsize_{i,t} +$$

$$+ \beta_3 Lloss_{i,t} + \beta_4 Leverage_{i,t} + \beta_5 Growth_{i,t} + \beta_6 Cfo_{i,t} + \beta_7 d2006_{i,t} + \beta_8 d2007_{i,t} + \beta_{18} Family_{i,t} + \beta_{19} Fmanrot * family_{i,t} +$$

$$+ \beta_{20} Pmanrot * family_{i,t} + \beta_{21} Fvolrot * family_{i,t} + \beta_{22} Pvolrot * family_{i,t} + \varepsilon_{i,t} + fe$$

Variable definitions:
See Tables 4.8.2. and 4.8.5.

Table 4.8.8
Regression of absolute abnormal accruals on auditor rotations

Table 4.8 8

	Expected sign	(1) Basic Model	(2) Size Interactions	(3) Leverage Interactions	(4) Family Interactions
Intercept ($\alpha0$)	?	0.173***	0.223***	0.171***	0.187***
		(0.006)	(0.004)	(0.007)	(0.001)
Fmanrot ($\alpha1$)	+	0.001	-0.193	0.014	0.016
		(0.944)	(0.306)	(0.816)	(0.711)
Pmanrot ($\alpha2$)	-	-0.014	-0.286**	0.010	-0.018
		(0.289)	(0.047)	(0.891)	(0.471)
Fvolrot ($\alpha3$)	?	0.004	-0.001	0.104**	0.012
		(0.830)	(0.997)	(0.043)	(0.735)
Pvolrot ($\alpha4$)	?	0.005	-0.147	-0.003	0.047
		(0.578)	(0.212)	(0.940)	(0.149)
Fage ($\beta1$)	-	0.001***	0.000***	0.000***	0.001***
		(0.003)	(0.006)	(0.003)	(0.002)
NonBig ($\beta2$)	+	-0.001	-0.003	-0.003	-0.004
		(0.932)	(0.782)	(0.814)	(0.780)
Fsize ($\beta3$)	-	-0.022***	-0.027***	-0.022***	-0.023***
		(0.005)	(0.002)	(0.004)	(0.002)
Lloss ($\beta4$)	+	0.022*	0.023*	0.023**	0.020
		(0.076)	(0.052)	(0.050)	(0.136)
Leverage ($\beta5$)	+	0.092***	0.089***	0.104***	0.095***
		(0.001)	(0.001)	(0.000)	(0.001)
Growth ($\beta6$)	+	0.059***	0.057***	0.058***	0.056***
		(0.003)	(0.003)	(0.003)	(0.005)
Cfo ($\beta7$)	-	0.016	0.020	0.013	0.024
		(0.684)	(0.634)	(0.737)	(0.502)
d_2006 ($\beta8$)	?	0.029**	0.030**	0.029**	0.030**
		(0.027)	(0.021)	(0.030)	(0.023)
d_2007 ($\beta9$)	?	0.011	0.011	0.011	0.011
		(0.373)	(0.392)	(0.346)	(0.361)
Fmanrot*Size ($\beta10$)	+		0.022		
			(0.284)		
Pmanrot*Size ($\beta11$)	+		0.031*		
			(0.070)		
Fvolrot*Size ($\beta12$)	+		0.000		
			(0.993)		
Pvolrot*Size ($\beta13$)	+		0.018		
			(0.205)		
Fmanrot*lev ($\beta14$)	-			-0.019	
				(0.824)	
Pmanrot*lev ($\beta15$)	-			-0.040	
				(0.723)	
Fvolrot*lev ($\beta16$)	-			-0.153**	
				(0.035)	
Pvolrot*lev ($\beta17$)	-			0.016	
				(0.818)	
Family ($\beta18$)	?				-0.008
					(0.591)
Fmanrot*family ($\beta18$)	+				-0.020

					(0.627)
Pmanrot*family (β19)	+				0.006
					(0.793)
Fvolrot*family (β20)	+				-0.015
					(0.738)
Pvolrot*family (β21)	+				-0.054
					(0.160)
Observations	472	472	472	472
R-squared	0.185	0.196	0.191	0.195
Industry fixed effects	YES	YES	YES	YES

Regression Models:

(1) *Basic Model*

$$AbsAA_{i,t} = \alpha_0 + \alpha_1 Fmanrot_{i,t} + \alpha_2 Pmanrot_{i,t} + \alpha_3 Fvolrot_{i,t} + \alpha_4 Pvolrot_{i,t} + \beta_1 Fage_{i,t} + \beta_2 NonBig_{i,t} + \beta_3 Fsize_{i,t} +$$
$$+ \beta_4 Lloss_{i,t} + \beta_5 Leverage_{i,t} + \beta_6 Growth_{i,t} + \beta_7 Cfo_{i,t} + \beta_8 d2006_{i,t} + \beta_9 d2007_{i,t} + \varepsilon_{i,t} + fe$$

(2) *Size interactions*

$$AbsAA_{i,t} = \alpha_0 + \alpha_1 Fmanrot_{i,t} + \alpha_2 Pmanrot_{i,t} + \alpha_3 Fvolrot_{i,t} + \alpha_4 Pvolrot_{i,t} + \beta_1 Fage_{i,t} + \beta_2 NonBig_{i,t} + \beta_3 Fsize_{i,t} +$$
$$+ \beta_4 Lloss_{i,t} + \beta_5 Leverage_{i,t} + \beta_6 Growth_{i,t} + \beta_7 Cfo_{i,t} + \beta_8 d2006_{i,t} + \beta_9 d2007_{i,t} + \beta_{10} Fmanrot * size_{i,t} + \beta_{11} Pmanrot * size_{i,t} +$$
$$+ \beta_{12} Fvolrot * size_{i,t} + \beta_{13} Pvol * rotsize_{i,t} + \varepsilon_{i,t} + fe$$

(3) *Leverage interactions*

$$AbsAA_{i,t} = \alpha_0 + \alpha_1 Fmanrot_{i,t} + \alpha_2 Pmanrot_{i,t} + \alpha_3 Fvolrot_{i,t} + \alpha_4 Pvolrot_{i,t} + \beta_1 Fage_{i,t} + \beta_2 NonBig_{i,t} + \beta_3 Fsize_{i,t} +$$
$$+ \beta_4 Lloss_{i,t} + \beta_5 Leverage_{i,t} + \beta_6 Growth_{i,t} + \beta_7 Cfo_{i,t} + \beta_8 d2006_{i,t} + \beta_9 d2007_{i,t} + \beta_{14} Fmanrot * lev_{i,t} + \beta_{15} Pmanrot * lev_{i,t} +$$
$$+ \beta_{16} Fvolrot * lev_{i,t} + \beta_{17} Pvolrot * lev_{i,t} + \varepsilon_{i,t} + fe$$

(4) *Family interactions*

$$AbsAA_{i,t} = \alpha_0 + \alpha_1 Fmanrot_{i,t} + \alpha_2 Pmanrot_{i,t} + \alpha_3 Fvolrot_{i,t} + \alpha_4 Pvolrot_{i,t} + \beta_1 Fage_{i,t} + \beta_2 NonBig_{i,t} + \beta_3 Fsize_{i,t} +$$
$$+ \beta_4 Lloss_{i,t} + \beta_5 Leverage_{i,t} + \beta_6 Growth_{i,t} + \beta_7 Cfo_{i,t} + \beta_8 d2006_{i,t} + \beta_9 d2007_{i,t} + \beta_{18} family_{i,t} + \beta_{19} Fmanrot * family_{i,t} +$$
$$+ \beta_{20} Pmanrot * family_{i,t} + \beta_{21} Fvolrot * family_{i,t} + \beta_{22} Pvolrot * family_{i,t} + \varepsilon_{i,t} + fe$$

Variable definitions:

AbsAA = absolute abnormal accruals, scaled by beginning total assets.
For all other variables, see Tables 4.8.2. and 4.8.5.

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CHAPTER FIVE

MANDATORY AUDITOR ROTATION, ACCOUNTING CONSERVATISM AND THE MANDATORY ADOPTION OF IFRS

5.   PAPER II: Mandatory Auditor Rotation, Accounting Conservatism and the Mandatory Adoption of IFRS

5.1   Introduction

As argued in previous chapters, mandatory rotations, in particular firm rotations, impose considerable setup costs and likely increase the information asymmetry between auditors and clients owing to the new auditor lacking firm-specific knowledge. This exposes him to a greater risk, because of the threat of expected losses and litigation (Solomon et al., 1999; Geiger and Raghunandan, 2002; Ball et al., 2003). One potential response to these threats by the new auditor could be carrying out an expensive initial audit. But this may not be a viable strategy, if the new auditor cannot demand additional fees. A potentially more cost effective approach would be to require more conservative reporting (Krishnan, 2007).

Conservative reporting may be in auditors' best interest as it maintains reputation and mitigates litigation at all times (Benston, 1975; Watts, 2003). Auditors can also help satisfy demand by various stakeholders for conservative reporting (e.g., Ball and Shivakumar, 2005; LaFond and Watts, 2008). However, as argued before, a long relationship between an auditor and his client can compromise independence (e.g., Bazerman et al., 1997) and hence the auditor's inclination for conservative reporting. On the other hand, an incumbent auditor may be better placed to identify a loss event when it occurs. However, long-term relationships between auditors and clients may result in *both* auditors serving managers' reporting needs at the expense of shareholders and other stakeholders (Myers et al, 2003) *and* a general reduction in information

asymmetry. If the latter is the dominant factor, we expect incumbent auditors to progressively underreport loss events (even if indentified in a timely fashion) and respond less well to external demand for conservative reporting. A new auditor, in contrast, free from adverse effects of long relationships, will favor conservative reporting and be more responsive to the external demand, but may do a poorer job at detecting loss events as they occur owing to lack of client-specific knowledge.

Prior studies provide limited guidance on these relations, in part because they do not use reporting conservatism as a measure of audit quality. For example, Johnson et al. (2002) and Myers et al. (2003) find evidence consistent with a positive relation between auditor tenure and reporting quality, the latter proxied by a variety of accrual-based measures. However, accrual-based measures are not designed to capture certain important dimensions of reporting conservatism, such as timely loss recognition (TLR) – our measure of reporting conservatism. In addition, the nature of the relationship between auditors and clients examined here differs markedly from prior literature. Specifically, this literature typically examines settings where auditor tenure is unrestricted by a mandatory rotation rule. A likely breaking point for the client-auditor relationship arises when the auditor wishes to be more conservative than what is acceptable by the client (Lennox, 2000; DeFond and Subramanyam, 1998). Finding positive association between tenure and audit quality is then expected, if the client selects an auditor who is more willing to accommodate the client's (more aggressive) reporting choices to secure the new engagement. Under mandatory rotations, a new auditor is less exposed to such pressure, as the client is forced to replace the incumbent auditor at the end of the mandatory engagement period. This, in turn, reduces the new auditor's incentive to compromise on fee or effort, especially if the market for high quality audit is not sufficiently competitive (e.g., dominated by

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the Big-4 firms). In addition, having a cap on tenure reduces client-specific rents and hence increases independence (Teoh, 1992).

We investigate the relation between mandatory firm rotations and auditor tenure and TLR using data from Italy during 1990-2008. This is a unique and useful setting because of the relatively long history of mandatory audit firm rotation in Italy since 1975 (see Chapter 3, par. 3.11). We analyze this dataset using the Basu (1997) model for asymmetric timeliness of changes in earnings and the asymmetric operating accrual-cash flow specification (Ball and Shivakumar, 2005). Following LaFond and Watts (2008) and Khan and Watts (2009), we also examine if the relations between tenure and rotations and TLR are influenced by external demand for reporting conservatism. Consistent with this literature, we proxy for this demand using firm size, leverage and the market-to-book ratio. Specifically, it has been argued the demand for TLR decreases with size because information asymmetry is larger in smaller companies. The demand for TLR is expected to increase with leverage and market-to-book because creditors prefer conservative reporting and managers know about growth opportunities more than outsiders.

Italy has adopted in 2005 International Financial Reporting Standards (IFRS). We exploit this fact to explore if the relations of interest operate differently under Italian GAAP than IFRS. Ball et al. (2003) provide evidence suggesting that market and political incentives are potentially more important than accounting standards. Moreover, Ball et al. (2000) express doubt that a change in reporting requirements alone will have any effect on the demand for high quality reporting. These arguments thus predict little effect for the adoption of IFRS. Nevertheless, the adoption of IFRS introduced a new set of rules that may, or may not, support more TLR than Italian GAAP. But, it is difficult to assess whether IFRS collectively require more TLR than Italian GAAP. More important, the potential for an auditor to influence reporting outcomes is a

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function of the discretion a set of standards avails to the reporting entity. IFRS may furnish more room for professional judgment on part of auditors than Italian GAAP because it is more principles-based (Benston et al., 2006). If standards matter, rotations under IFRS are then expected to be more strongly associated with TLR, because of new, more independent, auditors' preference for conservative reporting. If incumbent auditors are less independent and have a better client-specific knowledge, they may be less incentivized to employ the discretion under IFRS to increase TLR. Ultimately, whether IFRS allow more discretion and whether it is used by auditors is an empirical issue and therefore we make no prediction as to the effect of IFRS. Rather, we seek here evidence that can shed light on whether the adoption of IFRS has affected the ability of incumbent and new auditors to require TLR.

Results of the Basu's changes-in-earnings model in the pooled sample indicate a greater degree of TLR for audit firm rotations, but we find no association between tenure and TLR. In addition, the accruals-cash flow specification reveals no significant association for either tenure or rotations with TLR. That the two model specifications do not yield similar results suggests they potentially capture different dimensions of conservatisms (Givoly et al., 2007). In examining the role of external demand for conservative reporting, our findings are as follows. Audit firm rotations are positively related to TLR in highly leveraged firms, small firms and high market-to-book firms for the changes-in-earnings model, consistent with expectations, but not for the accruals-cash flow model. The association between auditor tenure and TLR is insignificant in all model specifications and for all three proxies for the demand for TLR, with one exception. Surprisingly, in the changes-in-earnings model we find a positive association for *large* firms. Distinguishing between Italian GAAP and IFRS we document a stronger association of rotations with TLR under IFRS than Italian GAAP before 2001 for the changes-in-earnings

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model specification. We also find that tenure and TLR are positively related under Italian GAAP using the same model, but not under IFRS.

Collectively, these analyses provide some evidence consistent with rotations increasing TLR, especially in the presence of external demand for conservative reporting. In contrast, incumbent auditors do not seem to respond well to this demand. A positive association between tenure and TLR is found only under Italian GAAP. This suggests that (1) tenure and TLR need not be positively related under all GAAP regimes and (2) the adoption of IFRS may have allowed incumbent auditors to be less conservative. Taken together, these suggest standards do matter for incumbent auditors. That rotations and TLR are similarly related under IFRS and Italian during 2001-2004, may be related to new auditors' incentives being shaped by similar and recent forces (e.g., adoption of SOX by global audit practices).

The study contributes to the auditing literature in several ways. First, taken together, the findings of prior literature suggest that audit quality increases with audit firm tenure. As acknowledged by this literature (e.g., Myers et al, 2003), this evidence is nonetheless silent on whether mandatory rotations may have a positive effect on audit quality. This paper helps fill this gap in our knowledge by providing evidence that suggests that rotations are capable of improving a reporting outcome, such as TLR. A contemporary paper by Cameran et al. (2010), using a similar dataset, concludes that mandatory firm rotations tend to hamper audit quality. The "contradiction" may be attributable to differences in measures used to assess audit quality. Cameran et al. use abnormal working capital accruals, consistent with prior literature.[45] We offer a supplementary approach, relying on a well developed theory supporting conservatism as a means to resolve agency problems, and hence, as a measure of reporting quality (e.g., Watts

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[45] Notwithstanding the popular use of abnormal accruals as a measure of audit quality, some have questioned its ability to accurately capture the abnormal or discretionary component in earnings (Bamber et al., 2009).

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2003; Ball and Shivakumar, 2005). Our second contribution rests therefore with the use of TLR as a measure of audit quality that is likely not captured in abnormal accruals. In doing so, we add to the small body of research that investigates the role of auditors, and auditor rotations in particular, in the production of conservative reporting.[46] Third, we extend the literature exploring whether external demand for audit quality is a likely factor influencing the relations of interest. This, we believe, can help to better understand the economics of rotations and tenure. Fourth, to the best of our knowledge, this is the first paper to explore how rotations and tenure may influence TLR under different GAAP systems. The evidence provided here can be of use to researchers, accountants and practitioners interested in how the adoption of IFRS interacts with other accounting and legal institutions. This may be relevant in the event that IFRS are adopted in the US.

In assessing these findings, it is important to add a cautionary note. The results are obtained for Italy – a country characterized by large family ownership, audit market controlled by Big-4 audit firms and a relatively small capital market - and therefore it is not clear that they can be extrapolated to other settings that may differ with respect to the institutional environment, such as legal, economic and auditing infrastructure.

The reminder of this paper is organized as follows. Paragraph 4.2 develops the various hypotheses, whereas paragraph 5.3 presents the data and methodology used un this study. Paragraph 5.4 describes main results and 5.5 concludes[47].

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[46] Exceptions include, Ruddock et al., (2006), Krishnan (2007) and Jenkins and Velury (2008).
[47] For the literature review on mandatory rotation, see Chapter 4, paragraph 4.2.

5.2 Hypotheses development

In this section, we (1) discuss the forces that may affect the relation between audit firm rotations and TLR; (2) posit that the association between audit firm tenure and TLR is expected to be negative unless incumbent auditors are more likely to identify and report loss events in a timely fashion; (3) argue that the association between TLR and auditor rotations is moderated by leverage, firm size and market-to-book; and (4) discuss whether the adoption of IFRS is expected to affect the relation between rotations and TLR.

5.2.1 Auditor rotations and reporting conservatism

Owing to threat of litigation and loss of reputation auditors prefer conservative reporting. This is because litigation and loss of reputation are more likely when companies are found to have inflated reported numbers or withhold bad news (Kasznik and Lev, 1995; Skinner, 1997). However, close relationship between the auditor and client may alter this basic "instinct." This may be a result of psychological biases as well as economic forces. Over time, as the auditor becomes more familiar with client's personnel, the auditor may lessen the extent to which he applies differential verifiability to the recognition of profits versus losses (Watts, 2003). Bazerman et al., (1997) posit that auditors have an unconscious bias that prevents impartial audits because of close relationships with client personnel with whom auditors identify at a personal level. Dependence on client's fees may be another reason for the auditor to accept delayed loss recognition, especially when no mandatory rotation rule is in place. The threat of losing a constant stream of income, inclusive of lucrative non-audit fee income, may persuade auditors to cooperate with clients. If mandatory auditor rotations constrain the development of close personal relationships and weaken the financial incentive to co-operate with clients, we would expect the new auditor to require more conservative reporting than the incumbent auditor.

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Furthermore, following a rotation, the new auditor has less client-specific knowledge. Facing higher level of information asymmetry, the auditor is exposed to greater litigation and reputational risks, especially in the first year. Though increasing effort level may reduce such risks, requiring conservative reporting is likely a cost effective strategy, especially when clients are reluctant to pay for additional effort.

Reporting conservatism can be manifest in a variety of ways. Consequently, the literature has distinguished between conditional and unconditional conservatism (Ball and Shivakumar, 2005; Beaver and Ryan, 2005). However, in line with Ball and Shivakumar (2005) and LaFond and Watts (2008) and a number of other papers, we focus on the measure of conditional conservatism as originally developed by Basu (1997) - timely loss recognition (TLR). This leads us to the first hypothesis (presented in the null form).[48]

H1: TLR in audit firm rotation years is similar to TLR in non-rotation years, ceteris paribus.

5.2.2 Auditor tenure and reporting conservatism

An incumbent auditor learns more about his client over time as he acquires firm-specific knowledge. Because information asymmetry declines over time, the need to use conservatism as defensive mechanism against litigation and potential loss of reputation also lessens over time. In addition, social bonding can increase with tenure, and to the extent this results in re-alignment of the auditor's interest with that of managers, as opposed to that of shareholders, the incumbent auditor's independence will progressively weaken. This, in turn, suggests that he will find constraining aggressive accounting choices more difficult. However, firm-specific knowledge may enhance the ability of the incumbent auditor to identify a loss event when it occurs. The model developed by Elitzur and Falk (1996) suggests that over time the economic bond declines

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[48] All hypotheses are presented in the null form.

under a mandatory rotation rule. This, in turn, suggests that the auditor has an increasingly smaller incentive to underreport such a loss.

H2: TLR is unrelated to audit firm tenure, ceteris paribus.

5.2.3 External demand for TLR: leverage, firm size and market-to-book

The extant literature on accounting conservatism has posited that there is market demand for conservative reporting, owing to contracting, litigation, taxation and accounting regulation (e.g., Watts 2003). In a recent paper, Khan and Watts (2009) argue that these four factors are correlated with a firm's investment opportunity set (IOS) and propose three firm-specific measures that can serve as proxies for the firm's IOS. These measures are, leverage, size and market-to-book. They predict and find that leverage and market-to-book are positively related to TLR whereas size is negatively related to TLR. Because auditors have to provide an opinion on reported numbers and are capable of influencing managers' reporting decisions, they play a pivotal role in the production of reporting conservatism. If new auditors bond less with managers than incumbent auditors, they will be more responsive to the demand for conservative reporting. However, the preceding discussion suggests that independence may not decrease with tenure. We therefore expect highly leveraged firms, high market-to-book firms and small firms that mandatorily rotate their audit firm to exhibit stronger association with TLR than other firms. We do not form expectations as to the moderating effect of these variables on the relation between tenure and TLR because the countervailing effects of firm-specific knowledge combined with external demand versus lack of independence.

H3: The association between TLR and leverage, firm size and market-to-book in rotation years is the same as in non-rotation years and is unaffected by tenure, ceteris paribus.

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5.2.4 IFRS vs. domestic Italian GAAP

International Financial Reporting Standards (IFRS) are set by the IASB. The IASB is a global standard-setting body which promulgates rules that are not geared to suit any individual country's legal, economic and political institutions. In contrast, the development of domestic GAAP is influenced by local institutions and so the properties of reported numbers under local GAAP vary across countries. The international accounting literature has linked these variations to factors such as bank vs. market oriented systems, origin of legal systems, investor protection rights, and ownership structure, to name a few (e.g., Ali and Hwang, 2000; Ball et al. 2000; Ball et al. 2003; Leuz et al. 2003).

This prior literature suggests a strong demand for conservative reporting by banks and other creditors. Creditors particularly prefer rules that restrict distributions to other parties to ensure solvency. Italian firms rely of funding from banks with firms having multiple number of banking relationships (Ongena and Smith, 2000). The dominance of debt financing over equity financing is also explained by family controlled firms (Setia-Atmaja et al., 2009), which is a common control structure in Italy. Consistent with this, Italian GAAP adopted the Conservatism Principle: only earned revenues may be recorded, but all estimated provisions and expenses should be included, even if they have not occurred yet. Melis et al. (2006) call this a strong form of conservatism. IFRS, in contrast, pays no regard to conservatism as a qualitative property of accounting numbers (IASB, 2001).

Yet, it is difficult to assess under which system TLR will be more pronounced because a particular GAAP system is ultimately a collection of a number of individual rules. Some rules are unconditionally more (less) conservative, and at the same time, less (more) conditionally

conservative because of the pre-emption property (Beaver and Ryan, 2005).[49] For example, unlike Italian GAAP, IFRS allow recording of unrealized gains to a greater degree in some cases (e.g., fair value accounting for financial instruments). At the same time, these rules are accompanied by the requirement for impairment reviews (e.g., of available for sale securities) that should result in more TLR. On the other hand, some IFRS rules are more unconditionally conservative. These include recognition of pension liability and a stricter standard on capitalization of R&D. Such rules reduce the expected incidence of TLR.

Perhaps more important, IFRS may allow in certain standards a greater scope for auditor professional (more conservative) judgments because it is more principles-based (Benston et al., 2006).[50] New auditors may use this discretion, whenever available, to enhance TLR, while incumbent auditors may use this discretion to reduce TLR, if the independence problem is severe.

Notwithstanding the differences between Italian GAAP and IFRS, Ball et al. (2003) provide evidence suggesting that market and political incentives are potentially more important than accounting standards. If a country's institutions are unchanged, auditors' incentives may not change with the adoption of IFRS (Burgstahler et al., 2006). Ball et al. (2000) even express doubt that a change in reporting requirements alone will have any effect on the demand for high quality reporting. These arguments thus predict little effect for the adoption of IFRS. In Italy, we note three changes that are potentially important for auditor incentives. First, incentives for TLR are lower since 2002 because penalties for false accounting were reduced. On the other hand, in the same year the Sarbanes Oxley act was enacted in the US. This possibly affected global auditing

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[49] Conditional (unconditional) conservatism is also known as news-dependent (independent) conservatism.

[50] Ball et al. (2003) show that TLR is less pronounced in code law countries, such as Italy. In some contrast, Aharony et al. (2009) find that Italian GAAP deviate the *least* from IFRS compared to 14 other European countries. Cordazzo (2008) provides evidence suggesting Italian GAAP is more conservative than IFRS.

practices - who also dominate the Italian audit market - to become more conservative. Third, in 2006 the mandatory partner rotation rule came into effect. However, more fundamentally, Italian political and economic institutions, such as the role of banks and families, probably did not change much.

In sum, whether following the adoption of IFRS in 2005 auditors can and are incentivized to play a bigger role in the production of TLR is an empirical issue. We therefore make no specific prediction with respect to the adoption of IFRS.

H4: TLR in rotation years relative to non-rotation years is the same under Italian GAAP as under IFRS. Similarly, the relation between auditor tenure and TLR is the same under Italian GAAP as under IFRS, ceteris paribus.

5.3 Data and methodology

The sample analyzed here consists of Italian listed companies during the period 1990-2008. Accounting data were downloaded from Compustat Global (industrial/commercial issue). The name of the audit firm and audit partner were hand-collected from the financial statement of each company, available on the cd-rom Borsa Italiana physically stored in Università Bocconi Library (Milan) or on the website of the Italian Stock exchange (Borsa Italiana) for recent years. We exclude partner rotations (since 2006) and voluntary rotations to capture more accurately the difference between mandatory rotations firm-year observations and non-rotations years. Data on market-to-book value were downloaded from Datastream.

The initial sample consists of 3,532 firm-year observations. Observations with no accounting data are excluded from the sample, giving a final sample of 2,029 firm-year observations. We excluded 304 firm-year observations involving rotations other than firm mandatory rotation. This results in 1,725 observations are used in the analyses of firm mandatory

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rotations. The top and the bottom 1% of main variables were winsorized in order to limit the impact of extreme observations.

We employ regression specifications in the spirit of Basu (1997) changes-in-earnings model and Ball and Shivakumar (2005) accrual-cash flow model. We do not use the Basu (1997) earnings-returns model because of the concern that the small Italian stock market and the dominance of family-controlled firms combine to generate uninformative share prices.

In the first specification, changes in income are regressed on lagged changes in income. For rotations and tenure we employ models (1a) and (1b), respectively.

$$
\begin{aligned}
\Delta NI_t = {} & \alpha_0 + \alpha_1 D\Delta NI_{t-1} + \alpha_2 \Delta NI_{t-1} + \alpha_3 D\Delta NI_{t-1} \mathrm{x} \Delta NI_{t-1} \\
& + \beta_1 ROT_{t-1} + \beta_2 ROT_{t-1} \mathrm{x} D\Delta NI_{t-1} + \beta_3 ROT_{t-1} \mathrm{x} \Delta NI_{t-1} \\
& + \beta_4 ROT_{t-1} \mathrm{x} D\Delta NI_{t-1} \mathrm{x} \Delta NI_{t-1} + \varepsilon
\end{aligned}
$$

(1a)

$$
\begin{aligned}
\Delta NI_t = {} & \alpha_0 + \alpha_1 D\Delta NI_{t-1} + \alpha_2 \Delta NI_{t-1} + \alpha_3 D\Delta NI_{t-1} \mathrm{x} \Delta NI_{t-1} \\
& + \beta_1 TEN_{t-1} + \beta_2 TEN_{t-1} \mathrm{x} D\Delta NI_{t-1} + \beta_3 TEN_{t-1} \mathrm{x} \Delta NI_{t-1} \\
& + \beta_4 TEN_{t-1} \mathrm{x} D\Delta NI_{t-1} \mathrm{x} \Delta NI_{t-1} + \varepsilon
\end{aligned}
$$

(1b)

In these models ΔNI is the change in earnings before extraordinary items from year t-1 to year t, scaled by beginning total assets and $D\Delta NI$ is set equal to one if the change in earnings is negative, and zero otherwise. ROT stands for auditor mandatory rotation, whereas TEN is the measure of firm tenure in years. The coefficient α_3 measures the incremental speed with which negative earnings reverse. If the recognition of gains is either delayed or transitory, but recognition of losses is timely, we would expect α_2 to be non-positive and $\alpha_3 < 0$. The coefficient β_4 measures the additional speed of the reversal of negative earnings in a rotation year. If auditor

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rotation enhances timely loss recognition, we would then expect $\beta_4 < 0$, but we do not have

formed expectation as to the sign of β_4 in (1b), as tenure may have countervailing effects.[51]

The second specification relates accruals (ACC) to cash from operations (CFO). Here

ACC is earnings before extraordinary items minus CFO, scaled by beginning total assets and

CFO is earnings before extraordinary items + depreciations and amortization - Δ(working

capital),[52] also scaled by beginning total assets. $DCFO$ is set equal to one if the change in CFO is

negative, and zero otherwise. As before, we use two models, one for rotations and the other for

tenure.

$$
\begin{aligned}
ACC_t = \alpha_0 &+ \alpha_1 DCFO_t + \alpha_2 CFO_t + \alpha_3 DCFO_t xCFO_t \\
&+ \beta_1 ROT_t + \beta_2 ROT_t xDCFO_t + \beta_3 ROT_t xCFO_t \\
&+ \beta_4 ROT_t xDCFO_t xCFO_t + \varepsilon
\end{aligned}
\tag{2a}
$$

$$
\begin{aligned}
ACC_t = \alpha_0 &+ \alpha_1 DCFO_t + \alpha_2 CFO_t + \alpha_3 DCFO_t xCFO_t \\
&+ \beta_1 TEN_t + \beta_2 TEN_t xDCFO_t + \beta_3 TEN_t xCFO_t \\
&+ \beta_4 TEN_t xDCFO_t xCFO_t + \varepsilon
\end{aligned}
\tag{2b}
$$

It follows from the definition of accruals and cash from operations that they tend to be inversely

related. For example, collecting cash from selling inventory results in higher CFO but lower

ACC because the balance of inventory decreases when a sale is made. This suggests that $\alpha_2 < 0$.

However, timely loss recognition may be based on expected, not *realized*, cash flows and

therefore attenuates this relationship. For example, if the reporting entity is experiencing a

decline in demand for its products, it likely needs to recognize a loss for the possibility that

inventory can only be liquidated below cost. In such a case ACC will decrease at the same time

as the entity is experiencing lower or negative cash from operations. That is, timely recognition

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[51] A similar approach is taken by Jenkins and Velury (2008) who study the relation between audit tenure and TLR.

[52] Working capital is defined as in DeFond and Park (2001): (current assets - short term investment) - (current liabilities - short term debt).

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of losses may create a positive relationship between *ACC* and *CFO*. It follows that timely recognition of unrealized losses should attenuate the negative relationship between accruals and cash from operations (Ball and Shivakumar, 2005). It is therefore expected that $\alpha_3 > 0$. If auditor rotations enhance the process of timely recognition of unrealized losses, we expect $\beta_4 > 0$. We do not have priors for β_4 in (2b).

Since GAAP changed in 2005 following the adoption of IFRS, the relation between changes in earnings and between accruals and operating cash flows may be affected by the difference in accounting rules. Consequently, in all the regressions we include a dummy variable, *IFRS*, which assumes the value of "1" if the time index in the right hand side of these models falls in the period 2005-2008, and "0" otherwise.

5.4 Main results

5.4.1 Descriptive statistics

Table 5.6.2 presents descriptive statistics for the sample. Around 40% of sample firms report a negative change in net income, with average change very close to zero. The average of our accrual measure (*ACC*) is -4% of beginning total assets, suggesting that Italian firms are on average conservative in that earnings are below cash from operations (*CFO*). *CFO* has an average of 0.05 of beginning total assets, and 23% of the firm-year observations involve a negative cash flow from operations. About eight percent of firm-year observations involve a mandatory firm rotation. Average tenure is five and a half years, below the nine years mandatory term. As the average client age is 16 years (not tabulated) this is explained by voluntary rotations that are included in the larger sample. The maximum value for tenure is 20 years. This is

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obtained because the rotation rule applies only to listed firms and tenure was tracked back before the company's IPO.

Univariate correlation coefficients are presented in Table 5.6.3. *CFO* and *ACC* are highly and negatively related, as would be expected. *CFO* is positively related to firm size, market-to-book value, and negatively related to ΔNI, *DCFO* and *LEV*. Change in net income is positively related to CFO. Mandatory firm rotations are negatively related to firm tenure, reflecting the cap on tenure required by mandatory rotations. Audit firm tenure is largely uncorrelated with other variables. This alleviates a concern that tenure is correlated with performance.

5.4.2 Pooled regressions

Table 5.6.4 reports the results for the analysis of the pooled samples. Panel A provides results for estimating the changes-in-earnings model and Panel B reports the findings for the accruals-CFO model. For brevity, in all tables we report only the coefficients α_3 and β_4, as they are the coefficients of main interest (representing incremental timeliness of loss recognition and the incremental effect on this timeliness owing to rotations or tenure, respectively). Examining audit firm rotations in 1990-2008 we find these rotations are associated with TLR in the changes-in-earnings model ($\beta_4 = -1.158$, p = 0.004), but not in the accruals-CFO model. Audit firm tenure is not associated with TLR in both models. The coefficients on $DANI_{t-1} \times \Delta NI_{t-1}$ (Panel A) and on $DCFO_t \times CFO_t$ (Panel B) provide evidence on the presence of TLR independently of rotations or tenure. As can be seen, α_3 is insignificant with the predicted sign in the changes-in-earnings model, for both rotations and tenure. It is significant in the accruals-CFO model for rotations and marginally

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significant for tenure. Overall, Table 5.6.4 provides some support to the claim that rotations increase reporting conservatism. However, tenure is unrelated to TLR.[53]

5.4.3 Rotations and the role of client firm leverage, size and market-to-book

Table 5.6.5 investigates if the association between auditor firm rotations and TLR varies with leverage (Panel A: low *LEV* vs. high *LEV*), client-firm size (Panel B: small *SIZE* vs. large *SIZE*) and market-to-book (Panel C: low *MB* vs. high *MB*) using the changes-in-earnings model. Note first that, consistent with the arguments advanced by Khan and Watts (2009), TLR is present in high leverage client firms (α_3 = -0.553, p = 0.000) independent of rotations. The difference from low *LEV* firms is also significant. TLR is also present for high *MB* firms (α_3 = -0.305, p = 0.05), though the difference from low MB is insignificant. In contrast to Khan and Watts (2009), however, there is no evidence for TLR in small firms, absent rotations.

Turning attention to rotations, audit firm rotations are positively associated with TLR in high leverage client firms (β_4 = -1.134, p = 0.009), but not in low leverage firms. This is consistent with expectations, though the difference in β_4 between low and high leverage client firms is insignificant. Firm rotations are positively associated with TLR in small size clients (β_4 = -1.445, p = 0.001), but not in large client firms. The difference in β_4 between small and large firms is insignificant. As expected, TLR is more pronounced for audit firm rotations in high *MB* clients (β_4 = -1.415, p = 0.001), but not in low *MB* clients. The difference in β_4 between low and high MB clients is insignificant though. Table 5.6.6 reports the results of the analysis of tenure, again using the changes-in-earning specification. It is structured in a similar way to Table 5.6.5.

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[53] This stands in contrast to the findings of Jenkins and Velury (2008) who use a large US sample where rotations are voluntary.

First, inspecting the α_3 coefficients, we note that α_3 is negative and significant, as expected, in high leverage firms. Tenure is largely unrelated to TLR. The only case where β_4 is negative and significant is for large client firms (Panel B: β_4 = -0.112, p = 0.025). In other words, tenure is positively related to TLR in large firms, contrary to expectations, as Khan and Watts (2009) factors predict *weak* demand for conservatism in large firms.

Table 5.6.7 investigates if the association between auditor firm rotations and TLR varies with leverage (Panel A: low *LEV* vs. high *LEV*), client-firm size (Panel B: small *SIZE* vs. large *SIZE*) and market-to-book (Panel C: low *MB* vs. high *MB*) using the accruals-CFO model. The coefficient α_3 measures the degree of conservatism absent rotations. This coefficient is positive and significant in Panel A and Panel C, regardless the level of leverage and MB, respectively. In Panel B it is positive and significant, as expected, for small client firms. While these results indicate conservative reporting in Italy, they are somewhat inconsistent with the prediction that the demand for conservative reporting influences its supply.

Turning to the association of rotations with TLR, the coefficients β_4 are insignificant in all panels, regardless of the level of leverage, size and market-to-book. This suggests that the supply of TLR by new auditors is insensitive to external demand for TLR.

Table 5.6.8 reports the results of the analysis of tenure and external demand for conservatism, again using the accruals-CFO model. Inspecting the α_3 coefficients, we note that α_3 is positive and significant, as expected, in high leverage firms and small firms. Tenure is unrelated to TLR in all panels. Collectively, the evidence in Tables 5.6.5-5.6.8 provides some support to the notion that audit firm rotations boost TLR in rotation years in clients where this is expected to be the case (i.e., high leverage firms, small size firms and high market-to-book

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firms). In contrast, the relation between tenure and TLR is unrelated to external demand for conservative reporting.

5.4.4 Audit firm rotations, tenure and the adoption of IFRS

We now turn to examine whether the relations of interest behave differently under Italian GAAP than under IFRS. We compare the period under IFRS (2005-2008) first to the entire sample period under Italian GAAP (1990-2004). Because such a comparison may be affected by variety of changes in legal, economic and other institutions, which in turn, may have affected auditors' incentives, we also provide a comparison for 2001-2004. We believe that the four years just preceding the adoption of IFRS can serve as an alternative comparison period to the four years under IFRS. This is because the decision to require IFRS in EU member states was announced in 2002 (and probably was anticipated beforehand). Consequently, changes to certain new institutional arrangements might have implemented during that period and remained stable since. Another reason is that sample sizes are more similar.

Table 5.6.9 reports the results of these analyses. Starting with firm rotations under the changes-in-earnings specification (Panel A), the coefficient α_3 is insignificantly different from zero under both Italian GAAP and IFRS. That is, the changes-in-earnings indicate that neither GAAP system is conditionally conservative. Audit firm rotations are positively related to TLR both under IFRS and under Italian GAAP during 2001-2004, but not under Italian GAAP during the entire period.

Panel B provides the results for audit firm rotations using the accruals-CFO specification. The coefficient α_3 is positive and significantly except for 2005-2008 (IFRS). The difference between α_3 under Italian GAAP and IFRS is also significant. Thus, this model indicates that

Italian GAAP have resulted in more TLR than IFRS. Examining the coefficient β_4 it is seen that rotations do not have an incremental effect on TLR in all periods examined.

In Panels C and D we report the results for the analysis of tenure. As in Panel A, the coefficients on negative change in lagged earnings, α_3, are insignificantly different from zero under both Italian GAAP and IFRS. In contrast to the pooled regressions reported in Table 5.6.4, we find that tenure is positively related to TLR under Italian GAAP, but not under IFRS. Specifically, β_4 is negative and significant for the 1990-2004 and 2001-2004 periods. Panel D reports the accruals-CFO specification. Similar to Panel B, TLR is more pronounced under Italian GAAP than IFRS. Moreover, IFRS does not seem to espouse TLR. Nonetheless, audit firm tenure is not associated with TLR under both GAAP regimes.

Overall, the results across the two models are not consistent, presumably because the changes-in-earnings model captures a different dimension of TLR than that captured in the accruals-CFO model. Nevertheless, the analysis suggests that IFRS is not more conservative than Italian GAAP. It also indicates that audit firm rotations may have resulted in more TLR in recent years, and that the change in standards may have a relatively modest effect on the economics of rotations. Rather, potentially, this result relates to the way that global audit practices such as the Big-4 have reacted to the early accounting scandals of the 2000s and the Sarbanes-Oxley act that followed. While this is true for incumbent auditors, changes in auditors' incentives are likely more pronounced for new auditors having a fresh start. That tenure is positively related to TLR under Italian GAAP but not under IFRS is consistent with incumbent auditors employing discretion in IFRS to reduce TLR. It is also suggestive that for incumbent auditors the events of early 2000s had relatively little effect on their incentives.

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5.4.5 Additional analyses

In the previous analyses we have used a sample spanning 19 years. It is possible that in such a long period changes were made that may have affected the incentives of auditors to advocate TLR. In Italy, we already noted three changes that are potentially important for auditor incentives. In 2002 penalties for false accounting were reduced by the Italian government. In the same year the Sarbanes Oxley act was enacted in the US. In 2006 the mandatory partner rotation rule came into effect. In all the analyses so far we included an indicator variable for observations during 2005-2008 (the IFRS period). We reexamine the findings by including indicators for 2002 and 2006. The results remain unchanged.

We also extend the analysis to employ other measures for information asymmetry between a client firm and external parties. In the spirit of LaFond and Watts (2008) and Khan and Watts (2009), we argue that information asymmetry is correlated with a demand for conservative reporting. We identify two additional proxies: family ownership, bearing in mind family ownership is pervasive in Italy as well as in our sample, and intangible asset intensity.

While prior literature agrees the information environment in family firms is likely different than in non-family firms, it is unclear where the problem of information asymmetry is more sever. Agency problems may arise in both firm types (e.g., separation of ownership in non-family firms; reduced flow of information in family firms). As for auditors, auditors of family-controlled firms may not be as independent as in firms with dispersed ownership (Coffee, 2005). Empirically, Wang (2006) finds that family firms report higher quality earnings while Ali et al (2007) find that bid-ask spreads are lower in family firms. Taken together, these findings suggest that information asymmetry is higher in non-family firms.

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Barth et al. (2001) find that more analysts follow intangibles-intensive firms than other firms. They posit that this is the result of investor demand for more information in such firms. Outsiders do not have a good understanding of intangibles as insiders do, implying more information asymmetry between managers and shareholders. Analysts respond to this demand by increasing following of intangibles-intensive firms. Aboody and Lev (2000) find greater gains to insider trading in R&D intensive firms. They attribute this to managers taking advantage of the higher information asymmetry in R&D intensive firms to enrich themselves.

We therefore expect to find more TLR in non-family firms and in intangibles-intensive firms. In addition, to the extent that auditor rotations and tenure positively respond to this demand, we expect to find greater association between rotations or tenure and TLR in client firms characterized by high intangibles intensity and non-family ownership.[54]

Untabulated results indicate that, for the changes-in-earnings specification, rotations are positively related to TLR regardless of ownership structure and intangibles intensity. However, TLR is increasing with tenure in family firms. We do not find the relation between TLR and tenure varies with intangibles intensity. The accrual-CFO model shows no variations in the relations of interest with either ownership structure or intangibles intensity. In all cases we are unable to find significant association between TLR and rotations or tenure.

5.5   *Conclusions and limitations*

In this paper we investigate whether mandatory audit firm and tenure are associated with conditional conservatism, measured as timely loss recognition (TLR). We argue there are strong incentives for a new auditor to promote TLR and that there are weaker incentives for incumbent

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[54] We use the classification from Corbetta and Minichilli (2006) to distinguish between family and non-family firms. About 61% of firm-year observations come from family-owned firms. Intangibles intensity is measured as intangible assets (including goodwill) scaled by beginning total assets. The mean (median) of this variable is 0.139 (0.064).

auditor. These incentives relate to lack of client-specific knowledge in the initial years of the engagement, and absence of personal relationships with client management and personnel. Requiring TLR helps the new auditor to mitigate threats of litigation and loss of reputation and is likely more cost effective. On the other hand, an incumbent auditor may be better able to identify and help report loss events when they take place. We therefore make no prediction as to the relation between tenure and TLR as the effect of weaker incentives may be cancelled out by this better ability.

Building on Khan and Watts (2009) we expect stronger external demand for TLR in high leverage, small size and high market-to-book client firm. To the extent that new auditors respond better to this demand, we expect to find stronger association between rotations and TLR in firms characterized by high leverage, small size and high market-to-book. In contrast, it is not a-priory clear that the relation between tenure and TLR will vary with these external factors.

The potential for auditor rotation and tenure to enhance conservatism is also a function of the specific set of reporting standards used as well as institutional factors. In 2005 Italy adopted IFRS. Because IFRS were developed by the International Accounting Standard Board reflecting an international consensus, they likely are sub-optimal with respect to the demand for accounting conservatism in Italy. But IFRS are more principle-based and probably leave more room for auditor professional judgments. If new auditors *can* and *want* to make more conservative judgments under IFRS, we would expect to see a stronger association between rotations and TLR under IFRS. Incumbent auditors, on the other hand, may use this discretion to reduce TLR if the independence problem is severe. These arguments notwithstanding, if incentives for conservative reporting by auditors have been stable over time, the adoption of IFRS may change very little.

Employing a unique data set involving Italian auditors during 1990-2008, we provide some evidence supporting a positive association between mandatory firm rotations and TLR and that this association is stronger after 2005 than before 2001. We document that TLR is positively related to tenure, but only before the adoption of IFRS. We also find evidence consistent with new auditors responding to external demand for conservatism, but not incumbent auditors.

We conclude with a caveat, which is similar to the one highlighted for the paper in Chapter 4 (4.7). The results are obtained for Italy – a country characterized by large family ownership, audit market controlled by Big-4 audit firms and a relatively small capital market - and therefore it is not clear that they can be extrapolated to other settings that may differ with respect to the institutional environment, such as legal, economic and auditing infrastructure.

5.6 Tables

Table 5.6.1
Sample Composition

Table 5.6 1

Firm/year observations	Entire sample period
Initial sample	3532
Missing accounting or auditing data	<u>1503</u>
Final tenure sample	2029
Less:	
Firm-year observations which involved either a firm voluntary rotation, a partner mandatory rotation or a partner voluntary rotation	<u>304</u>
Number of observations used to analyze audit rotations	1725

Table 5.6.2
Descriptive Statistics 1990-2008

Table 5.6 2

Variable	Obs	Mean	Median	Std. Dev.	Min	Max
ΔNI	2029	0.003	0.003	0.062	-0.758	0.362
$D\Delta NI$	2029	0.399	0	0.490	0.000	1.000
ACC	2029	-0.038	-0.04	0.084	-0.364	0.315
CFO	2029	0.051	0.06	0.105	-0.384	0.349
$DCFO$	2029	0.231	0	0.422	0.000	1.000
$SIZE$	2029	19.700	19.58	2.134	0.000	25.407
LEV	2029	0.612	0.63	0.193	0.000	1.044
MB	2029	1.906	1.44	1.970	-1.530	12.310
TEN	2029	5.548	5	3.061	1.000	20.000
ROT	1725	0.076	0	0.265	0.000	1.000

Notes:

ΔNI = change in earnings from year t-1 to year t, scaled by beginning total assets. Earnings are measured before extraordinary items; $D\Delta NI$ = 1 if $\Delta NI < 0$, zero otherwise; ACC = earnings before extraordinary items – CFO, scaled by beginning total assets; CFO = earnings before extraordinary Items + depreciations and amortization - Δ(Working Capital), scaled by beginning total assets; Working capital is (following DeFond and Park, 2001): (current assets item #75 in Compustat Global- short term investment #65) - (current liabilities #104 - short term debt #94); $DCFO$ = 1 if $CFO < 0$, zero otherwise; $SIZE$= natural logarithm of sales in year t; LEV = total liabilities divided by total assets; MB = market-to-book value of equity,

available on Datastream; *TEN*= number of years the same audit company is performing its services to the same client; *ROT*=1 if mandatory firm rotation in year t. zero otherwise.

Pre Euro data is translated using the official conversion factor existing at the date of conversion on 31st December 1998 (€1 = Italian Lira 1936.27).

Table 5.6.3 - Correlations

Table 5.6 3

	$\varDelta NI$	$D\varDelta NI$	ACC	CFO	$DCFO$	LEV	$SIZE$	MB	TEN	ROT
$\varDelta NI$	1.000	0.041	0.011	0.262*	-0.174*	-0.039	0.047*	0.117*	0.014	-0.027
$D\varDelta NI$	0.048*	1.000	-0.037	-0.176*	0.124*	0.076*	-0.100*	-0.142*	-0.033	0.040
ACC	0.044*	-0.026	1.000	-0.659*	0.457*	-0.056*	-0.056*	-0.003	0.006	0.004
CFO	0.212*	-0.173*	-0.658*	1.000	-0.730*	-0.222*	0.160*	0.128*	0.050*	-0.016
$DCFO$	-0.164*	0.124*	0.466*	-0.709*	1.000	0.172*	-0.191*	-0.017	-0.062*	0.003
LEV	-0.022	0.059*	-0.059*	-0.166*	0.154*	1.000	0.343*	0.005	-0.028	0.034
$SIZE$	0.011	-0.0694*	-0.006	0.135*	-0.158*	0.399*	1.000	0.012	-0.012	0.064*
MB	0.05*	-0.111*	-0.024	0.079*	0.021	0.040	-0.018	1.000	0.015	-0.028
TEN	0.035	-0.039	0.001	0.058*	-0.064*	-0.018	-0.009	-0.006	1.000	-0.461*
ROT	-0.043	0.040	0.004	-0.015	0.003	0.039	0.053*	-0.029	-0.438*	1.000

Notes:

See Table5.6.2 for variable definitions.

Pair-wise Pearson correlations are reported below the diagonal; Spearman correlations are reported above the diagonal.

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Table 5.6.4
Firm Rotations, Firm tenure and Timely Loss Recognition

Table 5.6 4

Panel A: Pooled regression of changes in earnings on lagged changes in earnings	Expected Sign	1990-2008 Firm rotations	1990-2008 Firm tenure
$D\Delta NI_{t-1} \times \Delta NI_{t-1}$ (α_3)	-	-0.189 (0.114)	-0.033 (0.875)
$ROT_{t-1} \times D\Delta NI_{t-1} \times \Delta NI_{t-1}$ (β_4)	-	-1.158*** (0.004)	
$TEN_{t-1} \times D\Delta NI_{t-1} \times \Delta NI_{t-1}$ (β_4)	-		-0.054 (0.149)
Observations		1725	2029
R-squared		0.036	0.039
Panel B: Pooled regression of accruals on cash from operations			
$DCFO_t \times CFO_t$ (α_3)	+	0.271** (0.016)	0.238 (0.101)
$ROT_t \times DCFO_t \times CFO_t$ (β_4)	+	0.049 (0.850)	
$TEN_t \times DCFO_t \times CFO_t$ (β_4)	+		0.009 (0.761)
Observations		1725	2029
R-squared		0.463	0.451

This table presents the results for investigating the association between firm mandatory rotations and tenure and timely loss recognition (TLR), using regressions of changes in earnings on lagged changes in earnings (Panel A) and of accruals on cash from operations (Panel B). For space reasons, only the coefficients of interests are reported.

Regression models:

Panel A: regression of changes in earnings on lagged changes in earnings

Firm rotations

$$\Delta NI_t = \alpha_0 + \alpha_1 D\Delta NI_{t-1} + \alpha_2 \Delta NI_{t-1} + \alpha_3 D\Delta NI_{t-1} \times \Delta NI_{t-1} + \beta_1 ROT_{t-1} + \beta_2 ROT_{t-1} \times D\Delta NI_{t-1} +$$
$$+ \beta_3 ROT_{t-1} \times \Delta NI_{t-1} + \beta_4 ROT_{t-1} \times D\Delta NI_{t-1} \times \Delta NI_{t-1} + \delta_1 IFRS_{t-1} + \varepsilon$$

Firm tenure

$$\Delta NI_t = \alpha_0 + \alpha_1 D\Delta NI_{t-1} + \alpha_2 \Delta NI_{t-1} + \alpha_3 D\Delta NI_{t-1} \times \Delta NI_{t-1} + \beta_1 TEN_{t-1} + \beta_2 TEN_{t-1} \times D\Delta NI_{t-1} +$$
$$+ \beta_3 TEN_{t-1} \times \Delta NI_{t-1} + \beta_4 TEN_{t-1} \times D\Delta NI_{t-1} \times \Delta NI_{t-1} + \delta_1 IFRS_{t-1} + \varepsilon$$

Panel B: regression of accruals on cash from operations

Firm rotations

$$ACC_t = \alpha_0 + \alpha_1 DCFO_t + \alpha_2 CFO_t + \alpha_3 DCFO_t \times CFO_t + \beta_1 ROT_t + \beta_2 ROT_t \times DCFO_t + \beta_3 ROT_t \times CFO_t$$
$$+ \beta_4 ROT_t \times DCFO_t \times CFO_t + \delta_1 IFRS_t + \varepsilon$$

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Firm tenure

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$$ACC_t = \alpha_0 + \alpha_1 DCFO_t + \alpha_2 CFO_t + \alpha_3 DCFO_t \times CFO_t + \beta_1 TEN_t + \beta_2 TEN_t \times DCFO_t + \beta_3 TEN_t \times CFO_t$$
$$+\beta_4 TEN_t \times DCFO_t \times CFO_t + \delta_1 IFRS_t + \varepsilon$$

Notes:

See Table 5.6.2 for variable definitions

For all the analyses, the coefficients are estimated using robust OLS and errors clustered by company. p-values in parentheses. *, **, *** Significant at the 0.10, 0.05 and 0.01 levels, respectively.

Table 5.6.5
Mandatory Audit Firm Rotations in 1990-2008: Leverage, Firm Size, Market-to-Book and Timely Loss Recognition
Regression of changes in earnings on lagged changes in earnings

Table 5.6 5

Panel A: Leverage	Expected sign	Low *LEV*	High *LEV*	Difference
$D\Delta NI_{t-1} \times \Delta NI_{t-1}$ (α_3)		0.312	-0.553***	-0.865***
	-	(0.114)	(0.000)	(0.002)
$ROT_{t-1} \times D\Delta NI_{t-1} \times \Delta NI_{t-1}$ (β_4)		-0.263	-1.134***	-0.871
	-	(0.592)	(0.009)	(0.195)
Observations		863	862	1725
R-squared		0.041	0.089	0.067

Panel B: Firm Size		Small *SIZE*	Large *SIZE*	
$D\Delta NI_{t-1} \times \Delta NI_{t-1}$ (α_3)		-0.234	-0.143	0.091
	-	(0.118)	(0.482)	(0.722)
$ROT_{t-1} \times D\Delta NI_{t-1} \times \Delta NI_{t-1}$ (β_4)		-1.445***	-0.378	1.067
	-	(0.001)	(0.517)	(0.151)
Observations		863	862	1725
R-squared		0.051	0.03	0.045

Panel C: Market-to-Book		Low *MB*	High *MB*	
$D\Delta NI_{t-1} \times \Delta NI_{t-1}$ (α_3)		-0.073	-0.305*	-0.232
	-	(0.717)	(0.050)	(0.388)
$ROT_{t-1} \times D\Delta NI_{t-1} \times \Delta NI_{t-1}$ (β_4)		-0.738	-1.415***	-0.677
	-	(0.245)	(0.001)	(0.384)
Observations		862	863	1725
R-squared		0.022	0.058	0.041

This table presents the results for investigating the moderating role of leverage, firm size and market-to-book for timely loss recognition in years of mandatory audit firm rotation relative to other firm-year observations. It presents the results of the regression of changes in earnings on lagged changes in earnings. For space reasons, only the coefficients of interests are reported.

Regression model:

$$\Delta NI_t = \alpha_0 + \alpha_1 D\Delta NI_{t-1} + \alpha_2 \Delta NI_{t-1} + \alpha_3 D\Delta NI_{t-1} \times \Delta NI_{t-1} + \beta_1 ROT_{t-1} + \beta_2 ROT_{t-1} \times D\Delta NI_{t-1} +$$

$$+ \beta_3 ROT_{t-1} \times \Delta NI_{t-1} + \beta_4 ROT_{t-1} \times D\Delta NI_{t-1} \times \Delta NI_{t-1} + \delta_1 IFRS_{t-1} + \varepsilon$$

Notes:

DLEV = 1 if *LEV* is above the regression sample median, 0 otherwise. *DSIZE* = 1 if *SIZE* is above the regression sample median, 0 otherwise. *DMB* = 1 if *MB* is above the regression sample median, 0 otherwise. See Table 5.6.2 for variable definitions

Table 5.6.6
Firm tenure in 1990-2008: Leverage, Firm Size, Market-to-Book and Timely Loss Recognition
Regression of changes in earnings on lagged changes in earnings

Table 5.6 6

Panel A: Leverage

	Expected sign	Low *LEV*	High *LEV*	Difference
$D\Delta NI_{t-1} \times \Delta NI_{t-1}$ (α_3)		0.457	-0.452**	-0.909**
	-	(0.168)	(0.035)	(0.013)
$TEN_{t-1} \times D\Delta NI_{t-1} \times \Delta NI_{t-1}$ (β_4)		-0.08	-0.028	0.052
	?	(0.241)	(0.470)	(0.508)
Observations		1014	1015	2029
R-squared		0.033	0.08	0.057

Panel B: Firm Size

		Small *SIZE*	Large *SIZE*	
$D\Delta NI_{t-1} \times \Delta NI_{t-1}$ (α_3)		-0.19	0.329	0.519
	-	(0.487)	(0.310)	(0.236)
$TEN_{t-1} \times D\Delta NI_{t-1} \times \Delta NI_{t-1}$ (β_4)		-0.029	-0.112**	-0.083
	?	(0.580)	(0.025)	(0.257)
Observations		1014	1015	2029
R-squared		0.036	0.06	0.043

Panel C: Market-to-Book

		Low *MB*	High *MB*	
$D\Delta NI_{t-1} \times \Delta NI_{t-1}$ (α_3)		-0.082	0.01	0.093
	-	(0.839)	(0.963)	(0.848)
$TEN_{t-1} \times D\Delta NI_{t-1} \times \Delta NI_{t-1}$ (β_4)		-0.02	-0.083	-0.063
	?	(0.717)	(0.113)	(0.423)
Observations		1014	1015	2029
R-squared		0.051	0.041	0.046

This table presents the results for investigating the moderating role of leverage, firm size and market-to-book for timely loss and audit firm tenure. It presents the results of the regression of changes in earnings on lagged changes in earnings. For space reasons, only the coefficients of interests are reported.

Regression model:

$$\Delta NI_t = \alpha_0 + \alpha_1 D\Delta NI_{t-1} + \alpha_2 \Delta NI_{t-1} + \alpha_3 D\Delta NI_{t-1} \times \Delta NI_{t-1} + \beta_1 TEN_{t-1} + \beta_2 TEN_{t-1} \times D\Delta NI_{t-1} +$$

$$+\beta_3 TEN_{t-1} \times \Delta NI_{t-1} + \beta_4 TEN_{t-1} \times D\Delta NI_{t-1} \times \Delta NI_{t-1} + \delta_1 IFRS_{t-1} + \varepsilon$$

Notes:

$DLEV = 1$ if *LEV* is above the regression sample median, 0 otherwise. $DSIZE = 1$ if *SIZE* is above the regression sample median, 0 otherwise. $DMB = 1$ if *MB* is above the regression sample median, 0 otherwise. See Table 5.6.2 for variable definitions

Table 5.6.7
Mandatory Audit Firm Rotations in 1990-2008: Leverage, Firm Size, Market-to-Book and Timely Loss Recognition
Regression of accruals on cash from operations

Table 5.6 7

Panel A: Leverage

	Expected sign	Low *LEV*	High *LEV*	Difference
$DCFO_i \times CFO_i$ (α_3)	+	0.297*	0.327**	0.031
		(0.066)	(0.029)	(0.888)
$ROT_i \times DCFO_i \times CFO_i$ (β_4)	+	-0.08	0.148	0.228
		(0.838)	(0.611)	(0.637)
Observations		863	862	1725
R-squared		0.530	0.458	0.489

Panel B: Firm Size

	Expected sign	Small *SIZE*	Large *SIZE*	
$DCFO_i \times CFO_i$ (α_3)	+	0.398***	-0.059	-0.458**
		(0.003)	(0.704)	(0.026)
$ROT_i \times DCFO_i \times CFO_i$ (β_4)	+	-0.036	0.042	0.078
		(0.904)	(0.938)	(0.900)
Observations		863	862	1725
R-squared		0.446	0.518	0.475

Panel C: Market-to-Book

	Expected sign	Low *MB*	High *MB*	
$DCFO_i \times CFO_i$ (α_3)	+	0.281**	0.296*	0.015
		(0.047)	(0.082)	(0.946)
$ROT_i \times DCFO_i \times CFO_i$ (β_4)	+	-0.12	0.228	0.348
		(0.767)	(0.398)	(0.459)
Observations		862	863	1725
R-squared		0.478	0.463	0.47

This table presents the results for investigating the moderating role of leverage, firm size and market-to-book for timely loss recognition in years of mandatory audit firm rotation relative to other firm-year observations. It presents the results of the regression of accruals and cash flow from operations. For space reasons, only the coefficients of interests are reported.

Regression model:

$$ACC_i = \alpha_0 + \alpha_1 DCFO_i + \alpha_2 CFO_i + \alpha_3 DCFO_i \times CFO_i + \beta_1 ROT_i + \beta_2 ROT_i \times DCFO_i + \beta_3 ROT_i \times CFO_i$$
$$+ \beta_4 ROT_i \times DCFO_i \times CFO_i + \delta_1 IFRS_i + \varepsilon$$

Notes:

DLEV = 1 if *LEV* is above the regression sample median, 0 otherwise. *DSIZE* = 1 if *SIZE* is above the regression sample median, 0 otherwise. *DMB* = 1 if *MB* is above the regression sample median, 0 otherwise. See Table 5.6.2 for variable definitions

Table 5.6.8
Firm tenure in 1990-2008: Leverage, Firm Size, Market-to-Book and Timely Loss Recognition
Regression of accruals on cash from operations

Table 5.6 8

Panel A: Leverage				
	Expected sign	**Low *LEV***	**High *LEV***	**Difference**
$DCFO_t \times CFO_t$ (α_3)		0.004	0.549***	0.545**
	+	(0.985)	(0.002)	(0.035)
$TEN_t \times DCFO_t \times CFO_t$ (β_4)		0.066	-0.027	-0.093**
	?	(0.131)	(0.321)	(0.025)
Observations		1014	1015	2029
R-squared		0.506	0.462	0.482
Panel B: Firm Size				
		Small *SIZE*	**Large *SIZE***	
$DCFO_t \times CFO_t$ (α_3)		0.420**	-0.081	-0.501
	+	(0.016)	(0.799)	(0.167)
$TEN_t \times DCFO_t \times CFO_t$ (β_4)		-0.013	0.018	0.031
	?	(0.708)	(0.719)	(0.612)
Observations		1014	1015	2029
R-squared		0.422	0.519	0.46
Panel C: Market-to-Book				
		Low *MB*	**High *MB***	
$DCFO_t \times CFO_t$ (α_3)		0.29	0.113	-0.177
	+	(0.147)	(0.531)	(0.487)
$TEN_t \times DCFO_t \times CFO_t$ (β_4)		-0.008	0.05	0.057
	?	(0.764)	(0.270)	(0.250)
Observations		1014	1015	2029
R-squared		0.478	0.446	0.461

This table presents the results for investigating the moderating role of leverage, firm size and market-to-book for timely loss recognition and firm tenure. It presents the results of the regression of accruals and cash flow from operations. For space reasons, only the coefficients of interests are reported.

Regression model:

$$ACC_t = \alpha_0 + \alpha_1 DCFO_t + \alpha_2 CFO_t + \alpha_3 DCFO_t \times CFO_t + \beta_1 TEN_t + \beta_2 TEN_t \times DCFO_t + \beta_3 TEN_t \times CFO_t$$
$$+ \beta_4 TEN_t \times DCFO_t \times CFO_t + \delta_1 IFRS_t + \varepsilon$$

Notes:

DLEV = 1 if *LEV* is above the regression sample median. 0 otherwise. *DSIZE* = 1 if *SIZE* is above the regression sample median, 0 otherwise. *DMB* = 1 if *MB* is above the regression sample median, 0 otherwise. See Table 5.6.2 for variable definitions

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Table 5.6.9
Mandatory Audit Firm Rotations, firm tenure, adoption of IFRS and Timely Loss Recognition

Table 5.6 9

Panel A: Firm rotations. Regression of changes in earnings on lagged changes in earnings

	Expected sign	(A) ITALIAN GAAP 1990-2004	(B) ITALIAN GAAP 2001-2004	(C) IFRS 2005-2008	(A-C) Difference	(B-C) Difference
$D\Delta NI_{t-1} \times \Delta NI_{t-1}$ (α_3)	-	-0.221	-0.253	-0.164	0.058	0.09
		(0.102)	(0.140)	(0.431)	(0.812)	(0.744)
$ROT_{t-1} \times D\Delta NI_{t-1} \times \Delta NI_{t-1}$ (β_4)	-	-0.252	-0.788*	-1.630***	-1.378**	-0.842
		(0.627)	(0.089)	0.000	(0.010)	(0.102)
Observations		1160	616	565	1725	1181
R-squared		0.028	0.028	0.058	0.043	0.043

Panel B: Firm rotations. Regression of accruals on cash from operations

	Expected sign	(A)	(B)	(C)	(A-C)	(B-C)
$DCFO_t \times CFO_t$ (α_3)	+	0.421***	0.557***	-0.044	-0.465**	-0.602***
		(0.003)	0.000	(0.731)	(0.010)	(0.002)
$ROT_t \times DCFO_t \times CFO_t$ (β_4)	+	0.125	0.128	-0.158	-0.282	-0.285
		(0.668)	(0.694)	(0.711)	(0.561)	(0.575)
Observations		1160	616	565	1725	1181
R-squared		0.481	0.404	0.453	0.473	0.43

Panel C: Firm tenure. Regression of changes in earnings on lagged changes in earnings

	Expected sign	(A)	(B)	(C)	(A-C)	(B-C)
$D\Delta NI_{t-1} \times \Delta NI_{t-1}$ (α_3)	-	0.2	0.219	-0.176	-0.376	-0.395
		(0.505)	(0.509)	(0.637)	(0.468)	(0.468)
$TEN_{t-1} \times D\Delta NI_{t-1} \times \Delta NI_{t-1}$ (β_4)	?	-0.105*	-0.132**	-0.04	0.065	0.065
		(0.079)	(0.043)	(0.561)	(0.520)	(0.520)
Observations		1335	712	694	2029	1406
R-squared		0.036	0.036	0.067	0.051	0.051

Panel D: Firm tenure. Regression of accruals on cash from operations

	Expected sign	(A)	(B)	(C)	(A-C)	(B-C)
$DCFO_t \times CFO_t$ (α_3)	+	0.345*	0.659***	0.015	-0.33	-0.644**
		(0.084)	(0.004)	(0.935)	(0.206)	(0.019)
$TEN_t \times DCFO_t \times CFO_t$ (β_4)	?	0.015	-0.032	-0.012	-0.027	0.02
		(0.691)	(0.400)	(0.656)	(0.562)	(0.662)
Observations		1335	712	694	2029	1406
R-squared		0.455	0.395	0.471	0.461	0.433

This table presents the results for investigating whether the association between rotations, tenure and timely loss recognition is different under Italian GAAP than under IFRS. For space reasons, only the coefficients of interests are reported.

Regression models:

Panel A: Firm rotations. Regression of changes in earnings on lagged changes in earnings

$$\Delta NI_t = \alpha_0 + \alpha_1 D\Delta NI_{t-1} + \alpha_2 \Delta NI_{t-1} + \alpha_3 D\Delta NI_{t-1} \times \Delta NI_{t-1} + \beta_1 ROT_{t-1} + \beta_2 ROT_{t-1} \times D\Delta NI_{t-1} +$$
$$+ \beta_3 ROT_{t-1} \times \Delta NI_{t-1} + \beta_4 ROT_{t-1} \times D\Delta NI_{t-1} \times \Delta NI_{t-1} + \delta_1 IFRS_{t-1} + \varepsilon$$

Panel B: Firm rotations. Regression of accruals on cash from operations

$$ACC_t = \alpha_0 + \alpha_1 DCFO_t + \alpha_2 CFO_t + \alpha_3 DCFO_t \times CFO_t + \beta_1 ROT_t + \beta_2 ROT_t \times DCFO_t + \beta_3 ROT_t \times CFO_t$$
$$+ \beta_4 ROT_t \times DCFO_t \times CFO_t + \delta_1 IFRS_t + \varepsilon$$

Panel C: Firm tenure. Regression of changes in earnings on lagged changes in earnings

$$\Delta NI_t = \alpha_0 + \alpha_1 D\Delta NI_{t-1} + \alpha_2 \Delta NI_{t-1} + \alpha_3 D\Delta NI_{t-1} \times \Delta NI_{t-1} + \beta_1 TEN_{t-1} + \beta_2 TEN_{t-1} \times D\Delta NI_{t-1} +$$
$$+ \beta_3 TEN_{t-1} \times \Delta NI_{t-1} + \beta_4 TEN_{t-1} \times D\Delta NI_{t-1} \times \Delta NI_{t-1} + \delta_1 IFRS_{t-1} + \varepsilon$$

Panel D: Firm tenure. Regression of accruals on cash from operations

$$ACC_t = \alpha_0 + \alpha_1 DCFO_t + \alpha_2 CFO_t + \alpha_3 DCFO_t \times CFO_t + \beta_1 TEN_t + \beta_2 TEN_t \times DCFO_t + \beta_3 TEN_t \times CFO_t$$
$$+ \beta_4 TEN_t \times DCFO_t \times CFO_t + \delta_1 IFRS_t + \varepsilon$$

See Table 5.6.2 for variable definitions.

CHAPTER SIX

AN ANALYSIS OF EXTERNAL AUDITOR FEES

FOLLOWING SEC COMMENT LETTERS

6. PAPER III: An Analysis of External Auditor Fees Following Sec Comment Letters

6.1 Introduction

The SEC's Division of Corporation Finance is responsible for reviewing company filings of all publicly listed companies. Section 408(c) of the Sarbanes-Oxley Act 2002 requires that all issuers be reviewed no less than once every three years. In Press Release 2005-72 the SEC announced it would begin the process of publicly releasing SEC comment and company response letters relating to disclosure filings made after Aug. 1, 2004. Comment letters have frequently requested additional information about the accounting treatment underlying items in the financial statements and the related disclosures made. In response to this Press Release one independent research agency[55] commented that: "SEC comment letters, and their responses, are analytically rich. We consistently find them to be an important and helpful supplement to some of the more formal disclosure and communication mechanisms available to, and employed by, registrants. Like us, public companies know that SEC comment letters reveal areas of Staff concern about their accounting and/or disclosure practices. To the average securities analyst or investor, the SEC Staff is in the enviable position of being able to ask, and often secure the answers to, questions that are frequently dodged, dismissed, or ignored by a registrant when asked by a non-regulator".

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[55] Response by SEC Insight Inc. Sept 30th 2004 to the press release, filed and recorded on the SEC Edgar site http://www.sec.gov/news/press/s72804/secinsight093004.pdf .

Although there have been many studies of the determinants of audit fees, to date no research has investigated the effect on audit fees of SEC concerns raised in comment letters[56]. Earlier research has taken account of the effect of SEC enforcement actions (Feroz et al. 1991; Beneish 1999) but enforcement actions are relatively rare events whereas comment letters are more frequent. Since the SEC correspondence letters often[57] refer specifically to the application of certain accounting standards, this research tests the hypothesis that receiving a correspondence letter results in a significant increase in the audit fees set by external auditors responsible for attesting whether financial statements conform to federal securities laws. In addition since the receipt of a comment letter may affect the reputation of a company to produce high quality financial statements this research tests the hypothesis that audit fee increases associated with responding to SEC concerns with financial statements at a specific point in time, persist into future periods.

As a significant proportion of comment letters does not explicitly reference accounting standards this also facilitates test comparing audit fees for companies that receive comment letters that do, or alternatively do not, refer to the application of specific accounting standards.

The paper is organized as follows. We first provide a brief overview of the audit fee literature and of the relatively few research papers that have investigated SEC comment letters. We then set out the principal hypotheses and present a discussion of the data sources. We provide the principal empirical results, distinguishing between the fee levels analysis and the fee changes analysis. Persistence analysis and sensitivity checks follow. In the final section we present our main conclusions.

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[56] An example comment letter is included in Appendix C.
[57] We provide more details later in the text.

6.2 Literature Review

6.2.1 The audit fee literature

Starting with Simunic (1980) different studies have analyzed various determinants of external auditor fees. Initially, studies focused on the existence of Big auditor premium prices (Simunic 1980; Palmrose 1986; Francis and Simon 1987; Beattie 1989). Subsequently links between fee premiums and institutional variables were investigated (Choi et al. 2008). The effect of audit specialization has also been considered (Simunic 1980; Palmrose 1986; Craswell et al. 1995; Freguson and Stokes 2002) as well as the low balling effect of initial engagements (Palmrose 1986; Lee and Gu 1998; Simon and Francis 1988). More recently, studies have focused on risk as an important determinant of audit fees, drawing upon the so called "audit risk model" (SAS n.47) in which audit risk (AR) is the result of the interaction among inherent risk (IR), control risk (CR) and detection risk (DR):

$$AR=IR \times CR \times DR$$

As IR and CR[58] increase, the auditor will exert extensive testing in order to lower DR[59] and maintain an acceptable level of AR. This model has been empirically supported by looking at the response change of auditor planning activity to different level of risks[60]. As auditors react to increase in risk by augmenting the level of tests, the costs of the audit is also affected. To the extent these higher costs are transferred to the client, increased risk leads to increased audit fees.

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[58] IR is defined as the risk that a specific account or a section of accounts is materially misstated without considering internal controls. CR represents the risk that material misstatements will not be prevented or detected by the internal control system.

[59] The risk that an auditor's substantive procedures will not detect a material misstatement that exists in an account balance or class of transactions.

[60] Findings are however not always consistent. Mock and Wright (1999) found limited sensibility of audit programs to client risk, consistently with other previous studies (Bedard, 1989; Mock and Wright, 1993). O'Keefe et al. (1994) find that audit hours are sensitive to the level of inherent risk. but surprisingly not to control risk. Hackenbrack and Knechel (1997) and Felix et al. (2001) found similar result.

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Consistent with this conjecture, Bedard and Johnstone (2004) find that higher earnings management risk and corporate governance risk are both associated with an increase in planned audit effort and increased billing rates. Private data on actual audit engagements is however limited and not easily available. For this reason, recent studies have analysed the way auditors price risk by looking at the association between audit fees and different proxies of risk, such as earnings management and restatements. Gul et al. (2003) find that discretionary accruals are associated with higher auditor fees, especially when they reflect management opportunism. Feldmann et al. (2009) provide evidence of increased audit fees following restatements. The ability of accruals to capture management opportunism (and therefore reporting risk) has however been subject to question (Bamber et al. 2009, McNichols 2000; Jones et al. 2008). On the other hand, financial reporting restatements are usually the consequence of "extreme" cases and therefore results are not necessarily generalizable. Other studies therefore have used different proxies for client's risk. Hogan and Wilkins (2008) found that audit fees increase with internal control weakness disclosure. Charles et al. (2010) use a commercially developed measure of reporting risk[61], which is found to be positively associated with audit fees. Moreover, they demonstrate that this positive association is stronger after 2002, possibly as a consequence of accounting scandals and of SOX introduction.

As the earlier quote from SEC Insight illustrates we contribute to the literature on audit risk pricing by observing that the SEC comment letters are one of the few publicly available sources of detailed analysis of the quality of accounting statements and hence could add to our understanding of reporting risk. We develop a research design to test whether an analysis of the issuance of SEC comment letters and resultant fee increases through time, if any, can help

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[61] In particular, their measure of financial reporting risk is based on Audit Integrity's risk score determined by modeling accounting and governance variables associated with known financial frauds.

improve our understanding of auditor assessed client specific reporting risk implied by the way auditors set risk adjusted fees.

6.2.2 Prior research on SEC comment letters

Given the SEC is the primary overseer and regulator of U.S. securities markets it is not surprising that academic research has developed an interest in the SEC monitoring role and its effects on financial reporting and capital markets. Some prior studies have focused on cases of SEC Accounting and Auditing Enforcement Actions for alleged violations of generally accepted accounting principles (GAAP). Feroz et al. (1991) and Beneish (1999) investigate consequences of enforcement actions for managers, auditors and market participants. Dechow et. al (1996) uses firms subject to SEC enforcement actions to detect earnings manipulation. Srinivasan (2005) studies whether earnings restatements lead to SEC actions. Farber (2005) investigates the role of governance in restoring reputation for fraudulent firms involved in SEC enforcement actions.

Little research has been devoted to investigate the enforcement role of the SEC through other (non-disciplinary) mechanisms, particularly via the comment letters issuance process. We are only aware of three research papers that look at this topic. Ertimur and Nondorf (2006) investigate the association between SEC comment letters and IPO performance. For a sample of 95 firms listing an IPO they find no significant association between SEC comment letters and IPO underpricing, bid-ask spread, or market depths. These findings support the hypothesis that comment letters do not affect investors' perceptions concerning the information environment which determines the market response to initial pricing. However, it is important to note that IPO firms start off as being characterized by high asymmetries of information relative to existing publicly listed stocks so one must exercise extreme caution before drawing conclusions for a wider sample of publicly traded stocks. Indeed Chen and Johnston (2010) find the converse result

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when they redirect attention to 150 publicly listed firms that received comment letters during 2005 and 2006. They find evidence of reduced return volatility and trading volume around earnings announcements that were preceded by a SEC comment letter. They argue that this suggests that SEC (enforcement) investigation has a material effect on investors' perceptions of the information environments of firms. Gietzmann and Isidro (2010) study the comment letters received by foreign companies listing in the US. Using a Tobit analysis they investigate the probability that the SEC will issue a comment letter questionning the application of an IFRS accounting standard rather than for a matched sample of US firms receiving a comment letter questioning the application of an equivalent US, SFAS standard. They find the SEC acts as if it assigns a higher probability to investigation of (foreign) IFRS reporting companies. In addition they show that this effect is further confirmed by the investment reactions of long term (low turnover) institutional investors who react more negatively to the receipt of comment letters that question the application of IFRS.

6.3   Principal Hypotheses

When deciding how to price audit attestation services, external auditors conduct risk assessment procedures on clients. Each major audit partnership applies its own detailed proprietary methodology. However some common general features include[62] an assessment of the adequacy of operating management oversight, the complexity of the operating environment, the experience and turnover of management, the nature of transactions in terms of numbers and dollar volumes. Also, increasingly as regulators are becoming more proactive and prepared to make public their findings, another critical risk factor is the likelihood of regulatory investigation and action. In addition the subsequent ability of management to respond to such issues as and

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[62] This list is meant to be indicative not exhaustive. See Louwers et al. (2008) for a more extensive list.

when they occur is a related risk. Whereas public regulatory intervention was previously seen as quite an extreme event, happening only infrequently, the ongoing regulatory requirements of Section 408(c) of the Sarbanes-Oxley Act 2002 and other statutory requirements results in the SEC conducting regulatory reviews of companies at least once every three years and as this research shows a significant number of US registered companies are receiving comment letters from the SEC that question the application of accounting standards and or the quality of existing disclosures in financial statements. From the point of view of the external auditor, the issuance of such comment letters has both in part a negative and positive effect. The fact that a client receives a comment letter means that even though the client has responsibility to resolve the issue it is most likely that the client will ask for and pay the external auditor to do additional work to address the public concerns the SEC has voiced in the comment letter. The SEC has a large experienced staff reviewing financial accounts on an ongoing basis, thus, although the comment letter is an additional fee "opportunity" for the external auditor the reception of a letter also indicates that a knowledgeable regulator is prepared to voice concerns[63] about the quality of the clients financial accounts and thus the issuance of a comment letter should alert the external auditor to consider revising upward the reporting risk assigned to the client, with obvious effect on subsequent risk adjusted fees.

This research therefore explores three hypotheses. First an investigation of audit fees following receipt of an SEC comment letter by a client is carried out. The first hypothesis is that clients receiving comment letters will ask their external auditor to perform additional work to help produce a response to the comment letter and that year on year any observed fee increases are significantly larger than any fee increases experienced by other audit clients.

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[63] See Chen and Johnson (2010) for an extended discussion of this point.

H1: Fee increases for firms receiving an SEC comment letter are significantly larger than fee increases experienced by other audit clients, ceteris paribus.

Given the full text of comment letters is available we are able to search through them and investigate whether comment letters questioned the particular application of any accounting standards or whether the comment letter referred alternatively to risk issues[64] or other disclosure issues. Since auditors now apply an holistic approach to risk assessment (see for instance Eilifsen et al. 2001) we hypothesize that there is no reason to believe that comment letters that refer specifically to the application of accounting standards will lead to a more significant increase in audit fees than those that refer to client risk factors.

H2: Any audit fee increases experienced by companies receiving a SEC comment letter is independent from the letter content, ceteris paribus.

If the sole basis for an audit fee increase was simply the additional work (billable hours) that external auditors had to perform to help a client reply to an SEC comment letter, then once the comment letter was resolved, one would expect audit fee levels to return to their normal level in subsequent years in which no comment letter was subsequently received by the client. However, we hypothesize that the fact that the SEC issues a comment letter results in auditors materially revising the overall reporting risk measure they assign to a client when setting risk adjusted audit prices in subsequent years. Consistent with this hypothesis we therefore hypothesize that any increase in audit fees following receipt of a comment letter persist into subsequent years as the external auditor revises the risk measure they assign to the client given the concerns voiced by the SEC in a particular year. That is, even though the client does not subsequently receive another correspondence letter from the SEC, audit fees are risk adjusted upwards consistent with a positive oversight role played by the SEC in identifying a revised

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[64] We will make precise these three categories produced by Audit Analytics when we discuss our data sources.

measure of disclosure risk factors that external auditors had not previously or incompletely incorporated into prior risk adjusted audit pricing.

H3: Any audit fee increases experienced by companies receiving a SEC comment letter will persist into subsequent years, ceteris paribus.

6.4 Data sources and model specification

The sample consists of US listed companies during the period 2004-2008. Data on SEC comment letters was downloaded from SEC comment letter section of Audit Analytics. We obtain audit fees data from Audit Analytics and accounting data from the Compustat database. The Audit Analytics data initially identified 77, 819 firm-year observations. Of this aggregate database of firms for which Audit Analytics holds audit fee data, we next identified firms that had received SEC correspondence letters during the period and for which it was possible to download accounting and other (control) data. This final sample consisted of 16,474 firm-year observations, corresponding to 4,756 firms. Of these 16,474 firm-year observations, 6,303 received a SEC comment letter in our span period. In particular, 4,302 firm-year observations received a letter which referred to an accounting issue, 4,338 firm-year observations received a letter including "other disclosure issues" and for 841 firm-year observations the SEC comment letter referred to "risk issues"[65].

When testing for the significance, if any, of fee increases following issuance of a correspondence letter we controlled for other determinants of audit fees that have been established in the literature. That is we control for the size of the firm using the log of total asset value and for complexity using the sum of receivable and inventory scaled by total assets, the number of business segments in which the client operates, an indicator for foreign transactions,

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[65] That is a sample of comment letters referred to accounting issues and at least one of "other" or "risk" issues.

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and whether the client closes its financial statement in December, which is also a proxy for audit busyness. We control for audit quality using the Big/non-Big dichotomy and for profitability using the level of ROA and a dummy variable indicating whether the client reported a loss in the previous three years period. We finally control for the level of debt, restatements, going concern opinions, M&A transactions and the amount of discretionary accruals.

In particular, the model used in this study is the following[66].

$$LNAF_{i,t} = \alpha + \beta_1 LET\_ACC_{i,t} + \beta_2 LET\_DISC_{i,t} + \beta_3 LET\_RISK_{i,t} + \beta_4 GC_{i,t} + \beta_5 REST_{i,t} + \beta_6 FOR_{i,t} +$$
$$\beta_7 BIG_{i,t} + \beta_8 MA_{i,t} + \beta_9 ROA_{i,t} + \beta_{10} DEC_{i,t} + \beta_{11} ARINV_{i,t} + \beta_{12} DEBT_{i,t} + \beta_{13} LNASS_{i,t} + \beta_{14} LOSS_{i,t} +$$
$$\beta_{15} ABSDA_{i,t} + \beta_{16} SEG_{i,t} + \varepsilon_{i,t}$$

In order to test the existence of any persistence effect, we run the following regression.

$$LNAF_{i,t} = \alpha + \gamma_1 LET_{i,t} + \gamma_2 LET1_{i,t} + \gamma_3 LET2_{i,t} + \gamma_4 LET3_{i,t} + \beta_4 GC_{i,t} + \beta_5 REST_{i,t} + \beta_6 FOR_{i,t} + \beta_7 BIG_{i,t} +$$
$$+ \beta_8 MA_{i,t} + \beta_9 ROA_{i,t} + \beta_{10} DEC_{i,t} + \beta_{11} ARINV_{i,t} + \beta_{12} DEBT_{i,t} + \beta_{13} LNASS_{i,t} + \beta_{14} LOSS_{i,t} + \beta_{15} ABSDA_{i,t} +$$
$$+ \beta_{16} SEG_{i,t} + \varepsilon_{i,t}$$

A full list of the variables and their definitions is provided in the Appendix-A.

6.5 Empirical Results

Table 6.7.1 Panel A, reports the number of total firm-observations and the relative percentages receiving comment letters per year.

As the SEC started to publish SEC comment letters only starting from August 2004, the number of firm-observations receiving a letter in 2004 in our sample is much lower compared to other years. Panel B of Table 6.7.1 reports the distribution of SEC-comment letters by industry.

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[66] The dependent variable consists in the natural logarithm of audit fees for the level analysis and change in natural logarithm of audit fees for the change analysis. In our robustness test, we also use the natural logarithm of non-audit fees and the natural logarithm of total fees as the dependent variable.

Table 6.7.2 reports the descriptive statistics for the sample of firms which had an audit fee recorded in Audit Analytics and matching independent (control) variables in Compustat.

For the sample the mean of the natural logarithm of audit fees is 13.257 (median 13.334) and of the natural logarithm of total assets is 5.437 (median 5.427). On average, 9% of our firm-year observations received a going-concern opinion and around 12% restated their accounts. The majority of our sample is audited by a Big audit firm (65%), closes its financial statement in December (67%) and reports on average two business segments. Next 47% of the companies analyzed, reported a loss in one of the previous three years and the mean return on assets[67] is - 10.9% (median 0.026) The mean of DEBT is 0.178 (median 0.089) and of receivables and inventory scaled by assets ARINV is 0.236 (median 0.196). Finally, companies on average report an absolute amount of discretionary accruals of 0.405 (median 0.14). Focusing on our variables of interest, 38% of firm-year observations received a comment letter in our sample period. Focusing on letters' content, 68% of SEC comment letters referred to accounting issues, 69% of the letters included "other disclosure issues" while 13% to "risk issues"[68].

Table 6.7.3 reports pair-wise correlation coefficients for observations included in the analysis. Audit fees are significantly positively correlated with SEC comment letters, regardless of its three possible content types (accounting, other disclosure or risk issue the correlation coefficients of LET_ACC, LET_DISC and LET_RISK are all positive and significant). Consistently with the literature, audit fees are significantly positively correlated with size (LNASS), Big audit firms, the number of business segments (SEG), M&A activities, profitability (ROA), audit busyness (DEC), the level of debt and foreign transactions (FOR). Audit fees

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[67] Charles et al. (2010) report similar negative return on assets for the 2000 – 2003 period.
[68] That is the three groups are not mutually exclusive. A SEC comment letter may include an accounting issue and risk or other disclosure issue at the same time. We repeat analysis classifying into the two categories "LET_RISK" or "LET_DISC" only letters not including accounting issues and results remain mostly consistent.

appear to be negatively correlated with going concern opinions (GC), scaled receivables and inventories ARINV, the level of discretionary accruals (ABSDA) and LOSS.

6.5.1 Levels Analysis

Table 6.7.4, column A, presents results for regressing the natural logarithm of audit fees on SEC comment letters[69], distinguishing among three letter categories classified as letters referring to accounting issues (LET_ACC), letters referring to risk issues (LET_RISK) and letters referring to other disclosure issues (LET_DISC).

In particular, we follow Audit Analytics classification and we define LET_ACC as "SEC comments associated with general areas of accounting and disclosures". In these letters the application of specific accounting GAAP is questioned. The Audit Analytics classification taxonomy for accounting issues and relative frequencies that the specific issues appear in a comment letter referring to any accounting issue are presented in Appendix B, Panel A.

LET_RISK captures "SEC comments about risk factor discussion in an issuer's Exchange Act reports" as outlined in Appendix B Panel B and LET_DISC refers to "SEC comments about material areas of disclosures that do not fit neatly into the other main groups, including things like lock up provisions, non-GAAP measures, EBITDA, Laws, etc."[70] as outlined in Appendix B Panel C.

The coefficient of LET_ACC is positive and significant ($\beta 1=0.047$; p-value=0.014). The coefficient of RISK is also positive and significant ($\beta 3=0.057$; p-value=0.030) while the coefficients of LET_DISC is not significantly related to audit fees.

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[69] We use OLS regression with White-adjusted and firm-clustered standard errors in all our models. This. in order to control for non-independence of firm-level observations over time.
[70] See Audit Analytics data-manual.

These findings suggest that the increase in audit fees following a comment letter is not only the result of external auditors' additional work to satisfy the SEC about the application of accounting standards but also that sufficient risk controls are in place. As one may expect, the auditor response in terms of adjusting audit pricing is not statistically significant for other disclosure issues. Most of the control variables relate to audit fees in a way consistent with the literature. In particular, auditor fees are highly positively associated with client size, as expected (LNASSETS is positive and economically significant, showing a coefficient $\beta 13$ of 0.471). Big audit firms charge higher fees, consistent with the literature on premium prices. Complexity also leads to higher audit fees, as shown by variables FOR, MA, ARINV, DEC and SEG, which all show significant and positive coefficients. Variables GC, REST and ABSDA are positively associated with fees while profitability is negatively related to audit price, as expected (ROA is negative and significant), and the same is true for the level of debt.

6.5.2 Persistence Effects

In this section we finally test whether the response of audit fees to SEC comment letters persists to future periods. We attempt to capture the persistence effect by adding a dummy variable for each year following the receipt of the SEC comment letter. LET1 therefore captures firm-observations falling one year after the one in which the company was issued a comment letter (on any of the three categories); similarly LET2 and LET3 capture firm-observations two or three years following the letter year, respectively.

Results of this analysis are presented in Table 6.7.4 and 6.7.5 (for level and change analysis, respectively), column B. Focusing on level analysis, it appears that auditors continue to charge higher fees up to three years after the company received the letter (LET1, LET2 and LET3 are positive and significant).

This confirms our hypothesis that auditors react to SEC comment letters by revising their client risk assessment. This revision persists to future periods even though the client does not subsequently receive a comment letter in the following year. This therefore suggests that fee increases are not simply associated with additional billable hours of work to respond to SEC concerns voiced in a comment letter, since if it were simply this, the fee increase would not persist to subsequent periods where no new comment letter (with associated required additional work) was issued. The persistence result is consistent with the identification of something more systemically associated with risks inherent with the clients reporting environment.

Another interesting issue is whether the strength of these persistence effects falls off through time. The Wald test suggests that the economic impact decreases up to year two (the difference among LET, LET1 and LET2 is significant while difference between LET2 and LET3 is not). Since Section 408(c) of the Sarbanes-Oxley Act 2002 sets out SEC review of the accounts at least once every three years it is as if the external auditors permanently increase their risk assessment of the client until the state of the clients reporting environment is re-examined by the normal three year investigation cycle of the SEC.

6.5.3 Changes Analysis

We repeat the same analyses by looking at the impact of SEC comment letters on the change in audit fees. Results are presented in Table 6.7.5, Column A.

In this case, only "risk issues" appear to have a significant impact on the change in audit fees ($\beta3=0.108$; p-value=0.000), reflecting once more the fact that auditors react to SEC comment letters highlighting a perceived increased risk in financial reporting and the auditors thus revise their risk assessment of the client. REST and FOR are negatively related to the change in audit

fees, while MA and CHLNASS report positive and significant coefficients. All other variables are not significant.

6.5.4 Sensitivity Checks

In this research we are assuming that any increase in work by external auditors in response to an SEC correspondence letter is detected by looking at the audit fee in the year following the reporting year that the SEC raises issues[71]. However we need to check that any increase in fees is not instead charged to non-audit fees, or if it does, this does not change the qualitative form of the results. Thus we repeat the analysis using the amount of non-audit fees (Table 6.7.6) and total gross fees (Table 6.7.7). Non-audit fees show a lower response to SEC comment letters compared to audit fees. We are able to detect a significant increasing effect only following letters referring to "other disclosure issues" (Table 6.7.6, column A) suggesting any non-audit work is not associated with SEC questioning the application of accounting standards in financial reports.

That is, non-audit fees do not respond to the SEC issuance of a comment letter referring to an accounting issue (LET_ACC is not significant) as one would expect, nor to a risk issue (LET_RISK is again not significant). Finally, the increasing effect on non-audit fees appears to persist only till the year after the receipt of the comment letter (Table 6.7.6, column B). The Wald test does not however confirm any trend in the economic impact of SEC letters through time.

As another robustness check, we also use total audit fees as the dependent variable (Table 6.7.7).

Results are consistent with those presented in Table 6.7.4 for audit fees. SEC comment letters have a significant impact on total audit fees, especially for those letters referring to

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[71] So, for example, if the company receives a SEC Comment letter in July 2008 referring to the financial statement closed on the 31st December 2007, we expect to detect increased audit fees in the reporting year closing December 2008.

accounting or risk issues. The impact lasts three years after receiving the letter, with a decreasing economic impact up to year two.

We control for industry effects in our analyses by adding industry dummies to the models. Results remain consistent in all our specifications suggesting that the way auditors react to SEC comment letters does not vary across industries.

Instead of running regressions with firm error clusterting and industry dummies, we perform a "2-way clustered regressions". In this way, errors are clustered on two dimensions: firms and years. Even with this specification, results remain qualitatively the same72. However, as suggested by Cameron et al. (2006), 2-way clustering method requires a large number of clusters. As we analyse a five years period, we think that only including firm clustering and then adding year dummies could be the best specification.

As extensively explained in Chapter 3, session 3.3, SEC is obliged to review each listed company at least every three years. For this reason, we do not think endogeneity issues may critically bias our results. To be on the safe side, we run an ML model for regressions with continuous outcome (audit fees) with a potential endogenous dummy variable (SEC comment letters) for correcting any potential endogenous switching problem. Choosing measures of size and risk in the specification models[73] , SEC comment letters still lead to significantly higher audit fees.

6.6 Conclusion

Research on how audit firms risk-adjust audit fees is still at a relatively early stage, given in part, paucity of data on client reporting risk. One relatively new quality source of client reporting

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[72] The only significat difference concerns the change analysis of the persistence effect in which case also the variable *LET2* presents a negative sign whereas the variable *LET3* shows a positive significant coefficient.
[73] This is the model used to predict the probability of receiving an SEC comment letter. In particular, we used size (natural logarithm of total assets), loss, restatement and absolute value of discretionary accruals.

risk that has become publicly available since 2005 is Comment Letter issuance by the SEC to registered firms. This research considers whether external auditors, when setting annual audit fees, act as if the issuance of comment letters materially changes their assessment of individual client risk.

When a firm receives a comment letter from the SEC it is likely that the firm will ask the external auditor to assist with preparation of a timely response to this important regulator. Thus, it is not surprising to see audit fees increasing in the year following the issuance of a comment letter. We confirm that the increase is statistically significant. When one classifies the principle topic covered by a SEC comment letters into one of three categories: accounting, risk or other disclosures it is not self evident how audit fees will respond to comment letters from each category. We confirm our initial hypothesis that audit fees increase in response to comment letters that refer specifically to the application of accounting standards. In addition, consistent with auditors taking a holistic response to audit risk we also find evidence that audit fees increase in response to comment letters that refer to specific and general risk issues. For our remaining set of comment letters that refer to other disclosures issues not covering accounting or risk we show there is no significant increase in audit fees.

Of primary research interest here is whether the source of any significant increase in audit fees is simply the result of the external auditor being able to bill additional hours to the client (to help produce a response to an SEC comment letter) or alternatively the result of the external auditor revising their assessment of client reporting risk given the SEC has raised an issue about this via a comment letter. Thus under the first interpretation fee increases may be transitory and simply work flow driven. Under the second interpretation external auditors may fundamentally change the risk based pricing model they have for a client and this effect could persist for some periods until the auditor had some specific reason to revise their model of client reporting risk.

In this research we show that audit fee increases following the issuance of a comment letter by the SEC, persist to subsequent periods in which no further SEC letters have been received. In addition this persistence effect slightly decreases through time until the period in which the firm is by law due to be reviewed again by the SEC on the regular three year cycle. Thus the data is consistent with our persistence hypothesis that upon reception of a SEC comment letter. the external auditor revises their fees upwards in order to reflect the greater perceived client reporting risk signaled by the SEC choosing to issue a comment letter. This suggests that external auditors may positively value the SEC's parallel investigation work of the clients reporting system as the auditors make significant changes to the client fees conditional on the issuance of an SEC comment letter.

6.7 Tables

Table 6.7.1
Yearly and industry relative distribution of comment letters

Panel A: Yearly relative distribution of comment letters

Table 6.7 1 A

Year	Number of observations receiving a comment letter	Percentage of letters	Firm - year Observations
2004	21	4%	502
2005	1411	35%	3986
2006	1632	40%	4102
2007	1676	41%	4106
2008	1563	41%	3778
Total	6303	38%	16474

Panel B: Industry relative distribution of comment letters

Table 6.7.1 B

Industry	Firm-year observations per industry	Percentage of firm-year observations per industry	Number of firm-observation receiving a letter	Percentage of letters
Agriculture, Foresting and Fishing	43	0.26%	19	44.19%
Mining	988	6.00%	477	48.28%
Constructions	128	0.78%	56	43.75%
Manufacturing	8,119	49.28%	3017	37.16%
Transport, Communications, Electric, Gas and Sanitary Services	1.918	11.64%	713	37.17%
Wholesale Trade	592	3.59%	210	35.47%
Retail Trade	1,088	6.60%	393	36.12%
Finance, Insurance and Real Estate	380	2.31%	130	34.21%
Services	3.212	19.50%	1288	40.10%
Others	6	0.04%	0	0.00%
Total	16,474	100.00%	6303	38.26%

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Table 6.7.2
Descriptive statistics

Table 6.7 2

Variable	Mean	Median	Std. Dev.	Q1	Q3
LNAF	13.257	13.334	1.409	12.294	14.227
LET_ACC	0.261	0	0.439	0	1
LET_DISC	0.263	0	0.440	0	1
LET_RISK	0.051	0	0.220	0	0
GC	0.089	0	0.285	0	1
REST	0.120	0	0.325	0	1
FOR	0.383	1	0.486	0	1
BIG	0.649	1	0.477	0	1
MA	0.156	0	0.363	0	1
ROA	-0.109	0.026	0.459	-0.123	0.085
DEC	0.668	1	0.471	0	1
ARINV	0.236	0.196	0.196	0.073	0.354
DEBT	0.178	0.089	0.235	0	0.276
LNASS	5.437	5.427	2.257	3.710	7.029
LOSS	0.470	0	0.499	0	1
ABSDA	0.405	0.14	0.707	0.047	0.402
SEG	2.214	1	1.722	1.000	3.000
N= 16,474					

Variable definition
See Appendix A.

Table 6.7.3
Correlation matrix

Table 6.7 3

	LNAF	LET	LET_ACC	LET_NNACC	LET_DISC	LET_RISK	LET1	LET2	LET3	GC	REST	FOR	BIG	MA	ROA
LNAF	1	0.0823*	0.1382*	-0.0634*	0.1200*	0.0374*	0.0148	-0.0252*	-0.0268*	-0.2674*	0.0001	0.4911*	0.6298*	0.1486*	0.2737*
LET	0.0844*	1	0.7552*	0.4723*	0.7595*	0.2946*	-0.3780*	-0.2622*	-0.1787*	0.0217*	0.0213*	0.0195*	-0.0148	0.0246*	-0.0458*
LET_ACC	0.1388*	0.7552*	1	-0.2211*	0.7917*	0.2884*	-0.2855*	-0.1980*	-0.1349*	-0.0401*	0.0261*	0.0594*	0.0505*	0.0131	0.0333*
LET_NNACC	-0.0611*	0.4723*	-0.2211*	1	0.0654*	0.0505*	-0.1786*	-0.1238*	-0.0844*	0.0862*	-0.0034	-0.0509*	-0.0899*	0.0190*	-0.1129*
LET_DISC	0.1215*	0.7595*	0.7917*	0.0654*	1	0.2997*	-0.2871*	-0.1991*	-0.1357*	-0.0367*	0.0140	0.0639*	0.0370*	0.0177*	0.0254*
LET_RISK	0.0378*	0.2946*	0.2884*	0.0505*	0.2997*	1	-0.1114*	-0.0773*	-0.0526*	-0.0008	-0.0049	0.0034	0.0064	0.0140	-0.0306*
LET1	0.0159*	-0.3780*	-0.2855*	-0.1786*	-0.2871*	-0.1114*	1	0.1405*	0.1570*	0.0106	-0.0154*	-0.0092	-0.0296*	0.0023	-0.0228*
LET2	-0.0209*	-0.2622*	-0.1980*	-0.1238*	-0.1991*	-0.0773*	0.1405*	1	0.1692*	0.0347*	-0.0201*	-0.0137	-0.0610*	-0.0157*	-0.0525*
LET3	-0.0226*	-0.1787*	-0.1349*	-0.0844*	-0.1357*	-0.0526*	0.1570*	0.1692*	1	0.0546*	-0.0206*	-0.0214*	-0.0477*	-0.0141	-0.0626*
GC	-0.2670*	0.0217*	-0.0401*	0.0862*	-0.0367*	-0.0008	0.0106	0.0347*	0.0546*	1	-0.0247*	-0.1798*	-0.2659*	-0.0640*	-0.3605*
REST	0.0003	0.0213*	0.0261*	-0.0034	0.0140	-0.0049	-0.0154*	-0.0201*	-0.0206*	-0.0247*	1	0.0119	-0.0137	-0.0071	-0.0079
FOR	0.4813*	0.0195*	0.0594*	-0.0509*	0.0639*	0.0034	-0.0092	-0.0137	-0.0214*	-0.1798*	0.0119	1	0.2868*	0.1258*	0.2282*
BIG	0.6207*	-0.0148	0.0505*	-0.0899*	0.0370*	0.0064	-0.0296*	-0.0610*	-0.0477*	-0.2659*	-0.0137	0.2868*	1	0.0714*	0.2226*
MA	0.1437*	0.0246*	0.0131	0.0190*	0.0177*	0.0140	0.0023	-0.0157*	-0.0141	-0.0640*	-0.0071	0.1258*	0.0714*	1	0.0743*
ROA	0.3007*	-0.0567*	0.0340*	-0.1301*	0.0280*	-0.0386*	-0.0048	-0.0262*	-0.0281*	-0.4505*	0.0026	0.2270*	0.2487*	0.0358*	1
DEC	0.0833*	0.0569*	0.0388*	0.0324*	0.0325*	0.0261*	0.0084	-0.0005	0.0032	0.0353*	0.0038	-0.0557*	0.0687*	0.0175*	-0.0514*
ARINV	-0.0262*	-0.0474*	-0.0092	-0.0582*	0.0009	-0.0232*	-0.0007	0.0022	-0.0038	-0.0423*	0.0023	0.1471*	-0.1061*	-0.0062	0.1652*
DEBT	0.1575*	0.0258*	0.0264*	0.0029	0.0125	0.0119	-0.0009	-0.0007	0.0080	0.0347*	-0.0099	-0.0423*	0.1111*	0.0344*	-0.0444*
LNASS	0.8560*	0.0544*	0.1304*	-0.0943*	0.1096*	0.0238*	-0.0008	-0.0416*	-0.0438*	-0.3581*	-0.0050	0.3761*	0.6193*	0.1337*	0.4083*
LOSS	-0.2866*	0.0310*	-0.0424*	0.1031*	-0.0339*	0.0127	0.0386*	0.0755*	0.0518*	0.2922*	-0.0018	-0.1779*	-0.2527*	-0.1025*	-0.4171*
ABSDA	-0.1365*	0.0365*	-0.0071	0.0638*	0.0030	0.0392*	-0.0533*	-0.0330*	-0.0187*	0.1163*	-0.0138	-0.0467*	-0.1102*	0.0169*	-0.2327*
SEG	0.3851*	0.0189*	0.0445*	-0.0317*	0.0437*	-0.0072	-0.0089	-0.0142	-0.0224*	-0.1063*	0.0226*	0.2133*	0.1803*	0.0847*	0.1684*

Variable definition
See Appendix A

Pair-wise Pearson correlations are reported below the diagonal; Spearman correlations are reported above the diagonal.

Table 6.7.4
Effect of SEC Comment Letters on Audit Fees

Table 6.7 4

	Expected sign	Column A Letter contents	Column B Persistence Effect
Intercept (α)	?	9.877***	9.812***
		(0.000)	(0.000)
LET (γ1)	+		0.111***
			(0.000)
LET_ACC (β1)	?	0.047**	
		(0.014)	
LET_DISC (β2)	?	0.002	
		(0.915)	
LET_RISK (β3)	?	0.057**	
		(0.030)	
LET1 (γ2)	+		0.071***
			(0.000)
LET2 (γ3)	+		0.042**
			(0.020)
LET3 (γ4)	+		0.065***
			(0.003)
GC (β4)	+	0.157***	0.153***
		(0.000)	(0.000)
REST (β5)	+	0.031*	0.028*
		(0.066)	(0.089)
FOR (β6)	+	0.464***	0.465***
		(0.000)	(0.000)
BIG (β7)	+	0.445***	0.453***
		(0.000)	(0.000)
MA (β8)	+	0.080***	0.078***
		(0.000)	(0.000)
ROA (β9)	-	-0.144***	-0.139***
		(0.000)	(0.000)
DEC (β10)	+	0.041**	0.042**
		(0.024)	(0.022)
ARINV (β11)	+	0.482***	0.486***
		(0.000)	(0.000)
DEBT (β12)	+	-0.134***	-0.134**
		(0.000)	(0.000)
LNASS (β13)	+	0.471***	0.470***
		(0.000)	(0.000)
LOSS (β14)	+	0.272***	0.267***
		(0.000)	(0.000)
ABSDA (β15)	+	0.009	0.009
		(0.315)	(0.314)
SEG (β16)	+	0.050***	0.050***
		(0.000)	(0.000)
Observations		16474	16474
R-squared		0.802	0.802
Time control		YES	YES
Clustered standard errors		YES	YES

Regression Models:

(1) Letter contents

$$LNAF_{i,t} = \alpha + \beta_1 LET\_ACC_{i,t} + \beta_2 LET\_DISC_{i,t} + \beta_3 LET\_RISK_{i,t} + \beta_4 GC_{i,t} + \beta_5 REST_{i,t} + \beta_6 FOR_{i,t} +$$
$$\beta_7 BIG_{i,t} + \beta_8 MA_{i,t} + \beta_9 ROA_{i,t} + \beta_{10} DEC_{i,t} + \beta_{11} ARINV_{i,t} + \beta_{12} DEBT_{i,t} + \beta_{13} LNASS_{i,t} + \beta_{14} LOSS_{i,t} +$$
$$\beta_{15} ABSDA_{i,t} + \beta_{16} SEG_{i,t} + \varepsilon_{i,t}$$

(2) Persistence effect

$$LNAF_{i,t} = \alpha + \gamma_1 LET_{i,t} + \gamma_2 LET1_{i,t} + \gamma_3 LET2_{i,t} + \gamma_4 LET3_{i,t} + \beta_4 GC_{i,t} + \beta_5 REST_{i,t} + \beta_6 FOR_{i,t} + \beta_7 BIG_{i,t} +$$
$$+ \beta_8 MA_{i,t} + \beta_9 ROA_{i,t} + \beta_{10} DEC_{i,t} + \beta_{11} ARINV_{i,t} + \beta_{12} DEBT_{i,t} + \beta_{13} LNASS_{i,t} + \beta_{14} LOSS_{i,t} + \beta_{15} ABSDA_{i,t} +$$
$$+ \beta_{16} SEG_{i,t} + \varepsilon_{i,t}$$

Variable definition:
See Appendix A

Table 6.7.5
Effect of SEC Comment Letters on Change in Audit Fees

Table 6.7 5

	Expected sign	Column A Letter contents	Column B Persistence Effect
Intercept (α)	?	0.010 (0.380)	0.022 (0.110)
LET (γ1)	+		0.019* (0.068)
LET_ACC (β1)	?	0.009 (0.569)	
LET_DISC (β2)	?	0.007 (0.662)	
LET_RISK (β3)	?	0.108*** (0.000)	
LET1 (γ2)	+		-0.040*** (0.000)
LET2 (γ3)	+		-0.006 (0.605)
LET3 (γ4)	+		0.017 (0.210)
GC (β4)	+	0.019 (0.221)	0.018 (0.266)
REST (β5)	+	-0.030** (0.015)	-0.030** (0.013)
FOR (β6)	+	-0.020** (0.010)	-0.019** (0.012)
BIG (β7)	+	0.009 (0.296)	0.010 (0.253)
MA (β8)	+	0.051*** (0.000)	0.51*** (0.000)
CHROA (β9)	-	-0.006 (0.755)	-0.004 (0.820)
DEC (β10)	+	-0.009 (0.240)	-0.009 (0.244)
CHARINV (β11)	+	0.102 (0.235)	0.098 (0.253)
CHDEBT (β12)	+	-0.003 (0.945)	-0.006 (0.905)
CHLNASS (β13)	+	0.355*** (0.000)	0.357*** (0.000)
LOSS (β14)	+	0.006 (0.446)	0.007 (0.430)
CHABSDA (β15)	+	-0.006 (0.353)	-0.007 (0.302)
CHSEG (β16)	+	0.012 (0.122)	0.011 (0.135)
Observations		11733	11733
R-squared		0.122	0.121
Time control		YES	YES
Clustered standard errors		YES	YES

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Regression Models:

(1) Letter contents

$$CHLNAF_{i,t} = \alpha + \beta_1 LET\_ACC_{i,t} + \beta_2 LET\_DISC_{i,t} + \beta_3 LET\_RISK_{i,t} + \beta_4 GC_{i,t} + \beta_5 REST_{i,t} + \beta_6 FOR_{i,t} +$$
$$\beta_7 BIG_{i,t} + \beta_8 MA_{i,t} + \beta_9 CHROA_{i,t} + \beta_{10} DEC_{i,t} + \beta_{11} CHARINV_{i,t} + \beta_{12} CHDEBT_{i,t} + \beta_{13} CHLNASS_{i,t} +$$
$$\beta_{14} LOSS_{i,t} + \beta_{15} CHABSDA_{i,t} + \beta_{16} CHSEG_{i,t} + \varepsilon_{i,t}$$

(2) Persistence effect

$$CHLNAF_{i,t} = \alpha + \gamma_1 LET_{i,t} + \gamma_2 LET1_{i,t} + \gamma_3 LET2_{i,t} + \gamma_4 LET3_{i,t} + \beta_4 GC_{i,t} + \beta_5 REST_{i,t} + \beta_6 FOR_{i,t} + \beta_7 BIG_{i,t} +$$
$$+ \beta_8 MA_{i,t} + \beta_9 CHROA_{i,t} + \beta_{10} DEC_{i,t} + \beta_{11} CHARINV_{i,t} + \beta_{12} CHDEBT_{i,t} + \beta_{13} CHLNASS_{i,t} + \beta_{14} LOSS_{i,t} +$$
$$\beta_{15} CHABSDA_{i,t} + \beta_{16} CHSEG_{i,t} + \varepsilon_{i,t}$$

Variable definition:
See Appendix A

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Table 6.7.6
Effect of SEC Comment Letters on Non-audit Fees

Table 6.7 6

	Expected sign	Column A Letter contents	Column B Persistence Effect
Intercept (α)	?	4.037*** (0.000)	3.832*** (0.000)
LET (γ1)	+		0.325*** (0.000)
LET_ACC (β1)	?	-0.083 (0.431)	
LET_DISC (β2)	?	0.217** (0.041)	
LET_RISK (β3)	?	-0.157 (0.283)	
LET1 (γ2)	+		0.262*** (0.004)
LET2 (γ3)	+		0.130 (0.271)
LET3 (γ4)	+		0.197 (0.226)
GC (β4)	+	-0.254 (0.142)	-0.265 (0.124)
REST (β5)	+	0.060 (0.526)	0.050 (0.595)
FOR (β6)	+	0.712*** (0.000)	0.717*** (0.000)
BIG (β7)	+	0.863*** (0.000)	0.889*** (0.000)
MA (β8)	+	0.469*** (0.000)	0.461*** (0.000)
ROA (β9)	-	-0.173 (0.119)	-0.150 (0.177)
DEC (β10)	+	-0.257*** (0.008)	-0.257*** (0.008)
ARINV (β11)	+	1.369*** (0.000)	1.383*** (0.000)
DEBT (β12)	+	0.146 (0.438)	0.146 (0.440)
LNASS (β13)	+	0.686*** (0.000)	0.680*** (0.000)
LOSS (β14)	+	0.382*** (0.000)	0.366*** (0.000)
ABSDA (β15)	+	0.132*** (0.005)	0.130*** (0.005)
SEG (β16)	+	0.163*** (0.000)	0.163*** (0.000)
Observations		16474	16474
R-squared		0.230	0.231
Time control		YES	YES
Clustered standard errors		YES	YES

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Regression Models:

(1) Letter contents

$$LN\_NAF_{i,t} = \alpha + \beta_1 LET\_ACC_{i,t} + \beta_2 LET\_DISC_{i,t} + \beta_3 LET\_RISK_{i,t} + \beta_4 GC_{i,t} + \beta_5 REST_{i,t} + \beta_6 FOR_{i,t} +$$
$$\beta_7 BIG_{i,t} + \beta_8 MA_{i,t} + \beta_9 ROA_{i,t} + \beta_{10} DEC_{i,t} + \beta_{11} ARINV_{i,t} + \beta_{12} DEBT_{i,t} + \beta_{13} LNASS_{i,t} + \beta_{14} LOSS_{i,t} +$$
$$\beta_{15} ABSDA_{i,t} + \beta_{16} SEG_{i,t} + \varepsilon_{i,t}$$

(2) Persistence effect

$$LN\_NAF_{i,t} = \alpha + \gamma_1 LET_{i,t} + \gamma_2 LET1_{i,t} + \gamma_3 LET2_{i,t} + \gamma_4 LET3_{i,t} + \beta_4 GC_{i,t} + \beta_5 REST_{i,t} + \beta_6 FOR_{i,t} + \beta_7 BIG_{i,t} +$$
$$+ \beta_8 MA_{i,t} + \beta_9 ROA_{i,t} + \beta_{10} DEC_{i,t} + \beta_{11} ARINV_{i,t} + \beta_{12} DEBT_{i,t} + \beta_{13} LNASS_{i,t} + \beta_{14} LOSS_{i,t} + \beta_{15} ABSDA_{i,t} +$$
$$+ \beta_{16} SEG_{i,t} + \varepsilon_{i,t}$$

Variable definition:
LN_NAF= natural logarithm of non-audit fees in year t.
For all other variables see Appendix A

Table 6.7.7

Effect of SEC Comment Letters on Total Audit Fees

Table 6.7 7

	Expected sign	Column A Letter contents	Column B Persistence Effect
Intercept (α)	?	9.984*** (0.000)	9.919*** (0.000)
LET (γ1)	+		0.115*** (0.000)
LET_ACC (β1)	?	0.037* (0.060)	
LET_DISC (β2)	?	0.010 (0.627)	
LET_RISK (β3)	?	0.074*** (0.004)	
LET1 (γ2)	+		0.072*** (0.000)
LET2 (γ3)	+		0.040* (0.024)
LET3 (γ4)	+		0.067*** (0.003)
GC (β4)	+	0.143*** (0.000)	0.139*** (0.000)
REST (β5)	+	0.029* (0.080)	0.026 (0.113)
FOR (β6)	+	0.459*** (0.000)	0.459*** (0.000)
BIG (β7)	+	0.434*** (0.000)	0.442*** (0.000)
MA (β8)	+	0.112*** (0.000)	0.110*** (0.000)
ROA (β9)	-	-0.149*** (0.000)	-0.143*** (0.000)
DEC (β10)	+	0.024 (0.178)	0.024 (0.168)
ARINV (β11)	+	0.492*** (0.000)	0.496*** (0.000)
DEBT (β12)	+	-0.116*** (0.001)	-0.115*** (0.001)
LNASS (β13)	+	0.481*** (0.000)	0.480*** (0.000)
LOSS (β14)	+	0.268*** (0.000)	0.263*** (0.000)
ABSDA (β15)	+	0.023*** (0.008)	0.023*** (0.008)
SEG (β16)	+	0.055*** (0.000)	0.055*** (0.000)
Observations		16474	16474
R-squared		0.810	0.811
Time control		YES	YES
Clustered standard errors		YES	YES

Regression Models:

(1) Letter contents

$$LN\_TAF_{i,t} = \alpha + \beta_1 LET\_ACC_{i,t} + \beta_2 LET\_DISC_{i,t} + \beta_3 LET\_RISK_{i,t} + \beta_4 GC_{i,t} + \beta_5 REST_{i,t} + \beta_6 FOR_{i,t} +$$
$$\beta_7 BIG_{i,t} + \beta_8 MA_{i,t} + \beta_9 ROA_{i,t} + \beta_{10} DEC_{i,t} + \beta_{11} ARINV_{i,t} + \beta_{12} DEBT_{i,t} + \beta_{13} LNASS_{i,t} + \beta_{14} LOSS_{i,t} +$$
$$\beta_{15} ABSDA_{i,t} + \beta_{16} SEG_{i,t} + \varepsilon_{i,t}$$

(2) Persistence effect

$$LN\_TAF_{i,t} = \alpha + \gamma_1 LET_{i,t} + \gamma_2 LET1_{i,t} + \gamma_3 LET2_{i,t} + \gamma_4 LET3_{i,t} + \beta_4 GC_{i,t} + \beta_5 REST_{i,t} + \beta_6 FOR_{i,t} +$$
$$\beta_7 BIG_{i,t} + \beta_8 MA_{i,t} + \beta_9 ROA_{i,t} + \beta_{10} DEC_{i,t} + \beta_{11} ARINV_{i,t} + \beta_{12} DEBT_{i,t} + \beta_{13} LNASS_{i,t} + \beta_{14} LOSS_{i,t} +$$
$$\beta_{15} ABSDA_{i,t} + \beta_{16} SEG_{i,t} + \varepsilon_{i,t}$$

Variable definition:
LN_NAF= natural logarithm of non-audit fees in year t.
For all other variables see Appendix A

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Appendix A
Variables Definition

LNAF= natural logarithm of audit fees in year t.

CHLNAF= change in natural logarithm of audit fees from year t-1 to year t.

ARINV= sum of receivables and inventory scaled by total assets.

CHARINV= change in ARINV from year t-1 to year t.

LNASS= natural logarithm of total assets.

CHLNASS= change in LNASS from year t-1 to year t.

BIG= dummy variable that takes the value of 1 if the company is audited by a Big audit firm in year t, 0 otherwise.

ABSDA= absolute amount of discretionary accruals from a cross-sectional Modified-Jones model regression estimated for each two-digit SIC and year combination with at least 10 observation.

CHABSDA= change in ABSDA from year t-1 to year t.

DEBT= Long term debt scaled by total assets.

CHDEBT= change in debt from year t-1 to year t.

DEC= dummy variable that takes the value of 1 if the company closes its accounts in December.

FOR= dummy variable that takes the value of 1 if the company paid taxes abroad in year t, 0 otherwise.

GC= dummy variable that takes the value of 1 if the company received a going-concern opinion in year t, 0 otherwise.

LET= dummy variable that takes the value of 1 if the company received a letter in year t, 0 otherwise.

LET_ACC= dummy variable that takes the value of 1 if the SEC comment letter referred to any accounting issues, 0 otherwise.

LET_DISC= dummy variable that takes the value of 1 if the SEC comment letter referred to "other disclosure issues", as reported in Audit Analytics.

LET_NNACC= dummy variable that takes the value of 1 if the SEC comment letter did not referred to any accounting issues, 0 otherwise.

LET_RISK= dummy variable that takes the value of 1 if the SEC comment letter referred to "risk issues", as reported in Audit Analytics.

LET1= dummy variable that takes the value of 1 if the observation falls in the year after which the company received the SEC comment letter.

LET2= dummy variable that takes the value of 1 if the observation falls in the second year after which the company received the SEC comment letter.

LET3= dummy variable that takes the value of 1 if the observation falls in the third year after which the company received the SEC comment letter.

LOSS= dummy variable that takes the value of 1 if the company reported a loss in the previous three years, 0 otherwise.

MA= dummy variable that takes the value of 1 if the company undertook a M&A transaction in year t, 0 otherwise.

REST= dummy variable that takes the value of 1 if the company restated the accounts in year t, 0 otherwise.

ROA= earnings before extraordinary items scaled by beginning total assets.

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CHROA= change in ROA, from year t-1 to year t.
SEG= number in business segments in year t.

Appendix B
SEC comment letters content taxonomy

Panel A – "Accounting Issues"

Audit Analytics coding	Description of the accounting issue	Number of firm-year observations	Percentage (over 4302 LET_ACC)
176	Accounts receivable & cash reporting issues	706	16.41%
177	Acquisitions, mergers, and business combinations	1083	25.17%
178	Asset sales, disposals, divestitures, reorganization issues	626	14.55%
179	Balance sheet classification of assets issues	82	1.91%
180	Capitalization of expenditures issues	212	4.93%
181	Cash flow statement (FAS- 95 or IAS 7) classification errors	830	19.29%
182	Comprehensive income (Equity Section) issues	138	3.21%
183	Consolidation (Fin 46, variable interest, SIV, SPE & off-B/S)	361	8.39%
184	Consolidation, foreign currency/inflation issue	153	3.56%
185	Debt and/or equity classification issues	57	1.32%
186	Debt, quasi-debt, warrants & equity (BCF) security issues	1318	30.64%
187	Deferred, stock-based and/or executive comp issues	1400	32.54%
188	Deferred, stock-based options backdating only	46	1.07%
189	Deferred, stock-based SFAS 123 only (subcategory)	712	16.55%
190	Depreciation, depletion or amortization reporting issues	657	15.27%
191	EPS, ratio and classification of income statement issues	475	11.04%
192	Expense (payroll, SGA, other) recording issues	485	11.27%
194	Financial derivatives/hedging (FAS 133) acct issues	322	7.48%
195	Foreign (affiliate or subsidiary) issues	120	2.79%
196	Subsidiary issues-- US or foreign (subcategory)	140	3.25%
200	Investment in subs./affiliate issues	343	7.97%
201	Intercompany accounting issues	104	2.42%
202	Inventory, vendor and/or cost of sales issues	994	23.11%
203	Contingencies & Commit, legal, (FAS 5 or IAS 37) accounting issues	860	19.99%
204	Lease, leasehold (FAS 13 (98) and IAS 17)	429	9.97%
205	Liabilities, payables, and accrual estimate issues	999	23.22%
206	Pension and related Employee Plan issues	347	8.07%
207	PPE fixed asset (value/diminution) issues	665	15.46%
208	PPE issues - Intangible assets and goodwill	1091	25.36%
212	Revenue recognition (incl deferred revenue) issues	1645	38.24%
214	Tax expense/benefit/deferral/other (FAS 109) issues	709	16.48%
283	Loans receivable, valuation and allowances issues	67	1.56%
284	Loss reserves (LAEs, Reinsurance) disclosure issues	55	1.28%
254	Asset retirement obligation (FAS 143) issues	144	3.35%
278	Fin statement segment reporting ((FAS 131) subcategory) issues	1073	24.94%
1011	Non-monetary exchange (APB 29, EITF 01-2) issues	30	0.70%
816	Percentage of completion	212	4.93%
897	Tax rate disclosure issues	93	2.16%
931	Investments (SFAS 115) and cash and cash equivalents issues	399	9.27%

934	Changes in accounting principles and interpretation issues	126	2.93%
935	Fair value measurement, estimates, use (incl. VSOE)	1006	23.38%
1012	Gain or loss recognition issues	396	9.21%
1016	Research and Development issues	294	6.83%
1027	Dividend and/or distribution issues	134	3.11%

Panel B – "Risk Issues"

Audit Analytics coding	Description of the risk issue	Number of firm-year observations	Percentage (over 841 LET_RISK)
933	Risk Factors - Accounting Policy Change	6	0.71%
1312	Risk Factors - Anti-takeover issues	47	5.59%
912	Risk Factors - Barriers to entry	4	0.48%
1289	Risk Factors - Capital adequacy and liquidity restrictions	26	3.09%
1069	Risk Factors - Change in shareholder rights	18	2.14%
990	Risk Factors - Clarify/quantify price volatility risks	38	4.52%
1803	Risk Factors - Climate change matters	0	0.00%
1304	Risk Factors - Compensation levels and expense	1	0.12%
910	Risk Factors - Competition and competitors	64	7.61%
1303	Risk Factors - Conflicts of interest/related party issues	42	4.99%
1163	Risk Factors - Credit restrictions	45	5.35%
1108	Risk Factors - Credit risk for accounts receivable	37	4.40%
1395	Risk Factors - Data protection and security breaches	2	0.24%
1318	Risk Factors - Descriptive subheading issues	45	5.35%
1112	Risk Factors - Dissent over merger or offer	1	0.12%
1313	Risk Factors - Dividend payments	14	1.66%
1321	Risk Factors - Exchange listing issues	14	1.66%
1267	Risk Factors - Fluctuations in currency or exchange rates	17	2.02%
1735	Risk Factors - Going concern	24	2.85%
1234	Risk Factors - Government regulatory effects/changes	47	5.59%
228	Risk Factors - Inadequate disclosure issues	522	62.07%
1266	Risk Factors - Ineffective internal or disclosure controls	53	6.30%
918	Risk Factors - Information about industry	11	1.31%
1190	Risk Factors - Information technology	6	0.71%
915	Risk Factors - Intellectual property rights	47	5.59%
1290	Risk Factors - International operations	18	2.14%
251	Risk Factors - Investments at risk	11	1.31%
914	Risk Factors - Legal exposures, reliance, claims etc.	98	11.65%
1396	Risk Factors - Licensing or regulatory agency approvals	12	1.43%
1393	Risk Factors - Limited operating history	12	1.43%
1302	Risk Factors - Loss reserves may prove inadequate	0	0.00%
1301	Risk Factors - Market for offered securities	8	0.95%
1270	Risk Factors - Market for products or services	61	7.25%
1397	Risk Factors - Merging and acquiring risks	14	1.66%
1394	Risk Factors - Operating losses	20	2.38%
917	Risk Factors - Reliance on certain personnel	66	7.85%
913	Risk Factors - Reliance on suppliers, customers, governments	122	14.51%
991	Risk Factors - Remove language downplaying or mitigating risk	46	5.47%
1105	Risk Factors - Remove or specify generic risks	77	9.16%
916	Risk Factors - Revenue sources	33	3.92%

1291	Risk Factors - Seasonal fluctuations	6	0.71%
1253	Risk Factors - Share dilution issues	48	5.71%
1273	Risk Factors - Substantial debt	45	5.35%
921	Risk Factors - Tax positions and assumptions	20	2.38%
911	Risk Factors - Technology reliance, feasibility, etc.	16	1.90%
1317	Risk Factors - Unbundle discrete risks	31	3.69%

Panel C – "Other Disclosure Issues"

Audit Analytics coding	Description of the disclsoure issue	Number of firm-year observations	Percentage (over 4338 LET_DISC)
819	Confidentiality in filing content sought	559	12.89%
906	Director compensation and options incentive issues	334	7.70%
927	Director compensation and options incentives--Benchmark issues	313	7.22%
268	Disclosure Control reporting issues	1236	28.49%
1342	Ethics code issues	29	0.67%
924	Family/related party transaction disclosure issues	670	15.44%
930	Foreign subsidiary--non-accounting disclosure issues	11	0.25%
1403	Future Comment	2774	63.95%
1028	Inadequate proxy disclosures	13	0.30%
902	Internal Control (404) Over Financial Reporting Issues	136	3.14%
232	Materiality - questions about disclosure decisions	940	21.67%
222	Missing information - disclosure issues	48	1.11%
1792	Non-compliance with prior SEC Staff directive	0	0.00%
813	Non-GAAP measures (incl. EBIT, EBITDA issues)	861	19.85%
238	Outsourcing of accounting and disclosure issues	4	0.09%
223	Plain English principles - reporting issues	58	1.34%
209	Proforma financial information reporting issues	559	12.89%
1014	Regulatory asset or liabilities accounting & reporting issues	74	1.71%
932	Reorganization and restructuring issues (internal)	151	3.48%
224	Repetitious statements - reporting issues	71	1.64%
210	Restatements made while in bankruptcy/receivership	3	0.07%
396	Tax agreements	9	0.21%
248	Terrorist Nation Sponsor Reporting Issues	137	3.16%
818	Third party expert input/consulting/advice issues	815	18.79%
270	Trade Restrictions - TSRA and OFAC financial disclosure issues	65	1.50%
929	Website issues of registrant/website review by SEC	97	2.24%

CHAPTER SEVEN

CONCLUSIONS AND FUTURE RESEARCH

7. Conclusions and future research

7.1 *Empirical findings*

In this dissertation I analyze two different examples of how alternative mechanisms of regulation may work to enhance the quality of the information provided on the market. In particular, in my first two empirical works (Chapter 4 and Chapter 5), I focus on a particular example of enforced self-regulation which is the mandatory auditor rotation rule. Even if in the last decades there have been different debates at the international level about the effectiveness of this rule, there still is a call for empirical evidence. The rule is in fact enforced in very few countries in the world[74] and data is not always publicly available, hampering empirical research on the topic. In this perspective, Italy represents an optimal research environment as it is the country with the longest audit firm rotation tradition (this rule is enforced since 1975) and data sets are available for the signing audit partner. In the first study, I evaluate the effects of mandatory and voluntary audit firm and audit partner changes on reporting quality for approximately 200 firms over a three year period from 2006-2008. Results indicate that only partner mandatory rotations are associated with improved reporting quality; there is no significant effect on reporting quality associated with audit firm rotation. As the latter is considered to be a highly costly regulatory framework (Arrunada, 1997), this evidence should help professional associations and legislators considering whether to introduce the rule in their own country. The second empirical work (Chapter 5), demonstrates that audit firm rotations are followed by a more conservative approach in Italy, and this evidence is even stronger after 2005 than before 2001. Evidence is provided suggesting a positive association

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[74] See Chapter 3, section 3.1.

between conservatism and audit tenure, but only before the adoption of IFRS. Finally, new auditors seem to respond to external demand for conservatism, but not incumbent auditors.

The last empirical work (Chapter 6) analyzes an example of direct governmental monitoring activity on corporate information disclosure. In particular, the paper analyses how external auditors in the U.S. react to the SEC review activity on listed company and provides evidence of an increase in the audit fees paid by the company after a receipt of a SEC comment letter, which represents the output of this monitoring activity. In particular, this increase is evident not only for those letters specifically referring to accounting issues, but also for letters referring to specific or general risk issues. This suggests that this increase in audit fees represents an audit adjustment to the perceived level of risk. Evidence also suggests that this adjustment persists in future years, even if no additional letters are received by the reporting companies.

7.2 Comments to empirical findings

There are two most important messages which arise from the analysis of the findings outlined above.

First of all, the mandatory rotation rule as an example of enforced self-regulation may be beneficial when enforced at the partner level, while results suggest that extending mandatory rotation requirements to include audit firm rotations in addition to partner rotations may not yield better reporting. The findings are thus consistent with the view that incremental costs associated to mandatory audit firm rotations are not outweighed by their relative benefits in the presence of mandatory partner rotations.

This evidence might be of high importance for those regulators who are considering introducing firm mandatory rotations in their own countries, especially in the light of the recent EU Green paper (2010) which is considering extending auditor rotation rule to the firm level within the European Union. On the other hand, firm mandatory rotations seem to increase earnings conservatism, especially after the introduction of IFRS in Italy.

The second important message of this dissertation is that direct oversight activity and in particular the SEC periodical reviews seem to affect auditing processes in the U.S. and auditors value the outcome of this activity recognizing increased risk in those clients receiving a comment letter by this governmental body. However, this comes with a certain cost to the client, as auditors significantly increase the fees charged to clients in the year in which the comment letter is received and, most importantly, this increase in audit fees continues in the following years, even if no letter is received.

Of course, the direct comparison of the two regulatory mechanisms is difficult to pursue, especially as empirical findings are based on two different institutional settings (i.e. Italy and the U.S) and therefore results found in one country are not necessarily generalizable to the other one.

However, future steps of research may be envisioned in order to better understand the costs and benefits of enforced self-regulation and direct oversight activity. These are outlined below in the following paragraph.

7.3 *Future research*

Future lines of research may be envisioned with reference to the two regulation mechanisms analyzed in this dissertation.

First, one cannot rule out the possibility that the positive association between partner mandatory rotations and audit quality in Italy during the period 2005-2008 is the result of a temporary effect. The public pressure which has been weighing on the audit profession since the financial scandals in 2003 (e.g. Parmalat) and the new regulatory changes introduced by Law 262/2005 (among others, partner mandatory rotation rule) may have influenced the results. In this sense, a future extension of the sample in the future years could help understating whether the apparent effectiveness of the rule may fade away in time.

One of the major criticisms against the mandatory rotation rule refers to the high costs it induces both on clients and auditors. A future research path could therefore be to focus directly on the cost side of the rule and to check whether audit costs are significantly higher in a mandatory rotation regime. Ideally, this could be tested at the engagement level, for example looking at the amount of audit-hours the incoming auditor dedicates to the new client. As this data is seldom available, audit fees could also be used as a proxy for audit costs.

This dissertation focuses on a particular aspect of the monitoring activity performed by the SEC, i.e. the auditor response to SEC comment letters in terms of risk assessment and relative adjustment to audit fees. One different approach could be to directly analyze the effectiveness of the SEC review process in enhancing financial reporting quality. Does the level of reporting quality increase after the receipt of a SEC comment letter? Is this effect permanent? It is important to find an answer to these questions in order to directly compare the effectiveness of direct governmental monitoring activity in increasing corporate information quality with other regulatory mechanisms.

Finally, empirical evidence could be gathered on the determinants of SEC comment letters. Given that higher audit quality should lead to higher reporting quality, it could be interesting to analyze whether audit quality influences the probability of receiving a SEC comment letter. As Chen and Johnston (2010) demonstrated that SEC comment letters seem to have an impact on investors' perceptions of firms' information environment[75], this evidence could help companies to understand how to avoid the negative effects induced by SEC comment letters.

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[75] In particular they find reduced return volatility and trading volume around earnings announcements that were preceded by a SEC comment letter. See Chapter 6, section 6.2.2.

CHAPTER EIGHT

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