



PhD Thesis

Accounting estimates – risks and challenges in the audit mission

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"Intâi datoria, apoi bucuria!"
"First comes obligation and later comes satisfaction!"
"C'est d'abord le devoir et ensuite c'est la joie"
- Pr. Teofil Părăian

I started this "journey" without even being fully aware that a journey in the true sense of the word would follow. I started this research work with a lot of enthusiasm, so I am finishing it. The ups and downs that awaited me proved to be a complex mission both professionally (technically), as well as personally. At the beginning, I had not imagined that a PhD thesis could contribute so much to my personal and human development, not only to the professional one. A thought I once read has stayed with me and guided me through these years: "first comes obligation and later comes satisfaction!" It meant a lot for me to be aware that you have joy when you accomplish your duty.

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Title Accounting estimates - risks and challenges in the audit mission

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ABBREVIATIONS

AA - Audit Analytics

AICPA - American Institute of Certified Public Accountants

ANEVAR- National Association of Romanian Authorized Valuers

ASC - Accounting Standard Codification

EEA - European Economic Area

EFRAG - European Financial Reporting Advisory Group

FAS - Financial Accounting Standard

FASB - Financial Accounting Standard Board

FV - Fair Value

GAAP- Generally Accepted Accounting Principles

IAS - International Accounting Standards

IASB - International Accounting Standard Board

IAASB - International Auditing and Assurance Standards Board

IFRS - International Financial Reporting Standards

IVS - International Valuation Standards

IVSC - International Valuation Standards Council

NYSE - New York Stock Exchange

GENERAL INTRODUCTION AND OVERVIEW

Context of the research

Over time, maintaining and enhancing the quality of financial statements was a priority both for the management and for the other interested parties. In this vein, the regulatory bodies have made sustained and constant efforts to support this goal through updated standards at the contemporary realities. The main purpose of the financial reports is to provide decision-useful information, free from manipulation and capable to represent the exact economic reality of the company. So, in theory, things seem simple and clear: the common goal is to have high-quality financial statements, to provide the most relevant information to investors, analysts and stakeholders. The question that has been asked directly or indirectly over time is what could prevent the achievement of this objective? The answers are multiple and intuitive and can be deduced by observing the realities and challenges in the economic environment in recent years.

First, the macroeconomic conditions could be one of the starting points. Thus, if we only think at the 2008-2009 financial crises, we are aware of its consequences for the economic activity. This kind of periods, with economic turbulence, is the perfect incentive for managers to manipulate numbers and to issue lower-quality financial reports. There are several reasons behind it, as: to hide poor performance, to increase personal compensation, to increase the share price etc. It may be that not only crisis periods lead managers to such decisions, but certainly then the pressure is greater. The next question that comes instinctively is: in what ways can managers manipulate the financial statements? The answers are once again multiple, but we will stop at those accounting elements with a big impact on earnings and that allow very easy manipulation, the so called *accounting estimates*.

Therefore, we introduce the main character or star of this research, namely the accounting estimates. We will discuss in the next chapter in detail about them, but for now we just want to emphasize that we are talking about elements that are based on subjective as well as objective factors, that involves subjective assumptions and measurement uncertainty and require a lot of professional judgment. Thus, there is the right context for the managers' incentives to manage earnings. Given the multiple possibilities that accounting estimates offer to manipulate numbers (given their subjective and uncertain character), the quality of financial reports can be called into question. This is why estimates are considered challenging and a continuing area of audit issues.

In the last years, the regulatory bodies have constantly worked on improving the audit standards regarding accounting estimates (IAASB, 2017; PCAOB, 2018; PCAOB, 2019), being aware of

the burden that these accounting elements impose on auditors. We could say that this is almost a "never-ending work", the proof being the continuous work of the normalizers to provide guidance and support to auditors. Recently, IFAC issued an implementation tool or a guide to assist auditors in implementing ISA 540 Revised (IFAC, 2022). On the other hand, PCAOB has initiated a request for comments on the initial impact of the new requirements for auditing accounting estimates and using the work of specialists (PCAOB, 2022). The aim of this initiative was to verify whether additional guidance may be appropriate. We will see in the next chapters of this research, that there is a joint and constant effort between regulatory bodies, professionals and researchers, in order to reduce the risks of accounting estimates on the quality of the financial statements and on the audit quality.

The ongoing work and attempts to improve the audit of accounting estimates is justified especially by the challenging times that have recently heightened the risks related to these elements. As suggested lately by professionals through the AICPA articles, one of the 4 key COVID-19 audit risks is related to the audit of accounting estimates (AICPA, 2020). In the same time, the International Forum of Independent Audit Regulators' (IFIAR) reports showed that the deficiencies related to the audit of accounting estimates had one of the highest percentage in the inspection results reported in recent years (IFIAR, 2021; IFIAR, 2022). The latest report provides us with data on the last 5 years (2017-2021). As we can see in Figure 2, from the total deficiencies found within the 17 themes investigated, an important amount of these issues were related to accounting estimates, including fair value measurement (hereinafter, FV measurement). According to IFIAR's analysis, the accounting estimates findings were on the 2nd place on the list of deficiencies. As we see, the auditors still struggle with estimates' challenges.

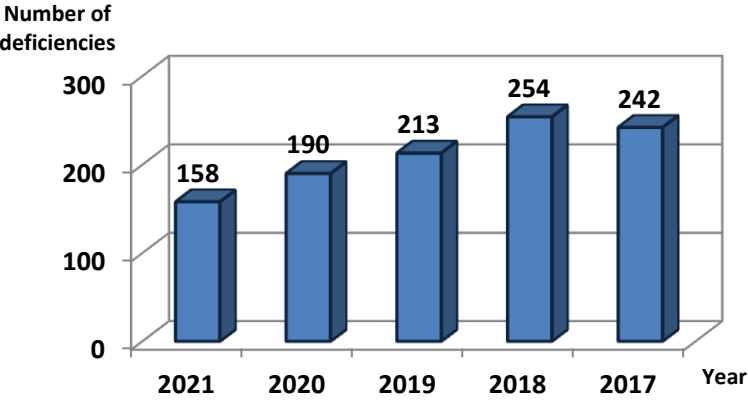


Figure 1. Number of accounting estimates audit deficiencies

Source of the data: <https://www.ifiar.org/?wpdmdl=13957>

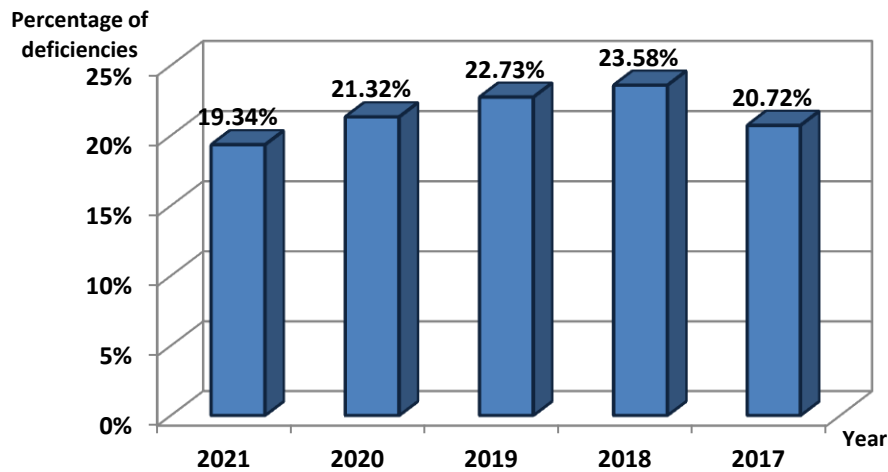


Figure 2. Percentage of accounting estimates audit deficiencies from the total number of findings

Source of the data: <https://www.ifiar.org/?wpdmdl=13957>

Given the demanding character of accounting estimates in terms of making them, but especially in terms of verifying them, the topic has seen a real interest from researchers. The theoretical and empirical findings in the field brought insights with respect to various issues direct linked to the audit of accounting estimates. We mention only a few of the main research directions, as: the estimation uncertainty, the management bias, the use of an external specialist, the professional skepticism (Christensen et al., 2012; Bratten et al., 2013; Griffin, 2014; Abernathy et al., 2015; Brink et al., 2016; Cannon & Bedard, 2017; Glover et al. 2017; Griffith & Hammersley, 2021). The researchers support through their work the attempt to mitigate the risks of accounting estimates on the auditors' work and on the other interested parties. Thus, they addressed these risks and the related issues (with a potential positive or negative impact) through a series of empirical studies, linking the professionals' claims with the improvement of accounting and auditing standards.

An important place in the debates regarding the audit of accounting estimates was occupied by the FV measurement as a significant form of accounting estimate. We addressed this particular form of estimate in our research as well, as it was a controversial subject, intensively discussed, especially during the financial crisis. Even if numerous authors paid special attention to the audit of FV measurements, empirical evidence for emerging countries can still be considered scarce.

Consequently, through this thesis we would like to contribute to the existent literature, to the ongoing debates on auditing the estimates and the auditors' reaction when facing accounting estimates complexity. In this vein, we provide through the next chapters one theoretical

approach, one literature survey, and three empirical essays, each with a contribution in the directions identified following the literature analysis.

A glimpse on the thesis' data, methodology and structure

Research' objectives, data and methodology

The aim of this research work is to provide original empirical evidence and to contribute to the literature on the audit risks related to accounting estimates and fair value. The initial goal was to explore the existing literature to identify the real challenges regarding the audit of accounting estimates. Next, based on that, the purpose was to offer empirical evidence on: the contribution of regulatory bodies on the pressing issues about estimates, the factors influencing the fair value audit and the auditor's reaction for an emergent context, and to find indicators of management bias related to estimates.

The present research has a multidisciplinary character, being at the intersection of the fields of accounting, audit, financial valuation, and tangentially management, fact that allowed approaching this subject from both *qualitative and quantitative* perspective. The role of qualitative research is to identify in the literature the information needed to clarify the analyzed concepts, its characteristics and the context in which it occurs. Quantitative research has the role of quantifying relevant aspects identified in the qualitative analysis, by testing and validating some hypotheses through specific methods.

In general, the content analysis and the systematization of data were used for the entire work, as for every chapter we performed a short literature review, or standards analysis as well as reporting the data and results in tables. In Figure 1 we present the PhD thesis structure by chapters.

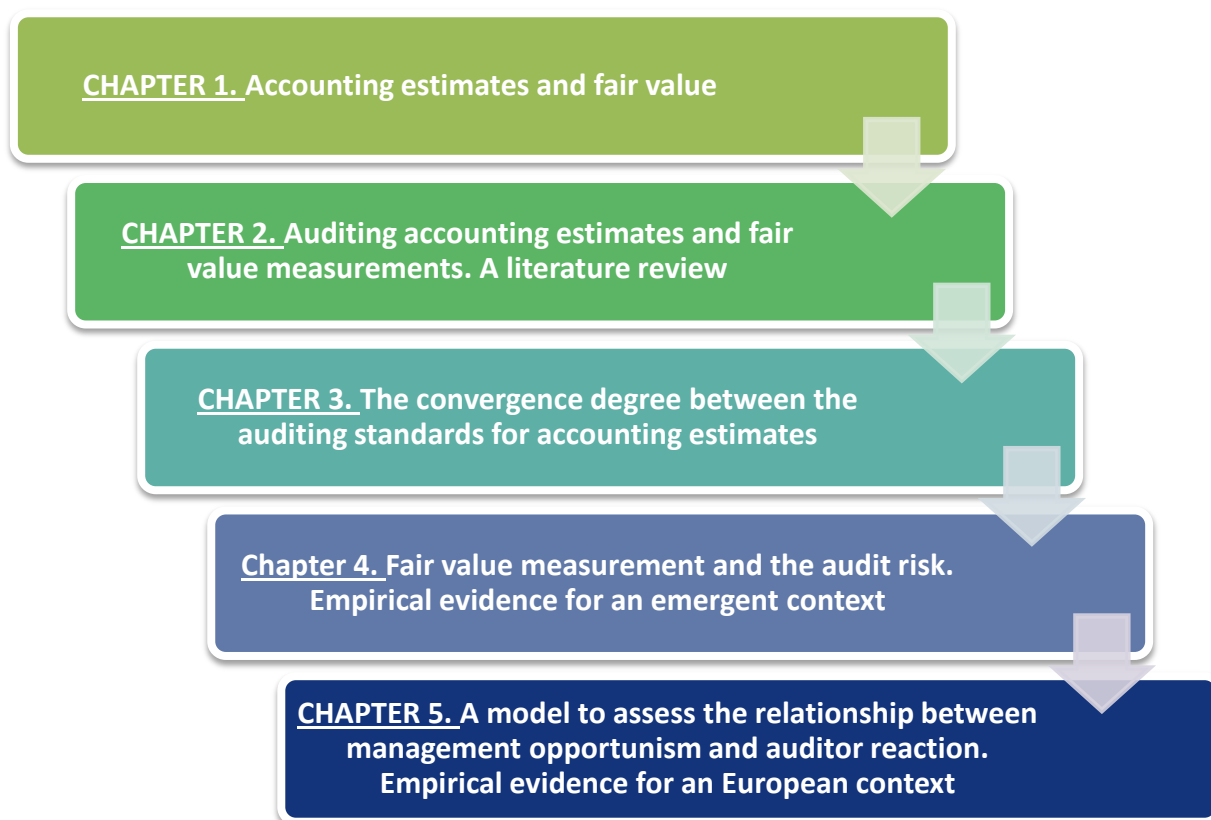


Figure 3.The chapter structure of our PhD thesis

In the first chapter, based on a *deductive reasoning*, we introduced accounting estimates in the debate, with a special focus on FV measurement, in order to see their specific link with the related audit risks. We used *content analysis* to explore the accounting and audit relevant regulation for both contexts, international and American. We also used *the systematization of the data* in tables. This was required as a means to identify the categories of estimates, the FV pros and cons and the items measured at FV under IFRS and US GAAP.

In the second chapter, we applied the *qualitative analysis* for the purpose of identifying the main research directions in the field, used later to substantiate the structure of our work. The purpose of the *quantitative analysis* was to describe the selected sample of articles with the aim of establishing the current state of knowledge regarding the audit risks related to accounting estimates and FV measurement. As regards the data, we selected 745 articles from three important databases, namely Web of Science (WOS), Springer Link, and Scopus. Being very restrictive and focusing on very particular topics regarding the audit of accounting estimates, the final sample was composed of the 60 most relevant articles.

The third chapter started with a *content analysis* appropriate to investigate the audit standards and the contribution of the new ones. Then, an *empirical analysis based on similarity and*

dissimilarity coefficients was performed, to determine the level of convergence between the American and international audit referential, compared also with the new issued standards.

The aim of the fourth chapter was to identify the influencing factors on FV audit and the auditors' way of perceiving and coping with these factors in their work. In order to carry out this study we used both *qualitative and quantitative analysis*. The qualitative analysis was performed to examine the audit standards and literature, in order to determine the influential factors of FV audit and their positive or negative effects. The auditors' reaction was revealed with the help of the *experiment method*. Then, we used the quantitative analysis in order to process the auditor's responses and to present the results of the experiment. Data analysis methods in this chapter include *univariate and multivariate analysis* as well as *simple effects tests*. Regarding the data, our sample consisted of 76 auditors from an emergent environment (the Romanian context). The experiment was previously tested on 160 students.

In the last chapter the *quantitative analysis* prevails, as we provide empirical evidence on the relationship of accounting estimates, related restatements and earnings management. To test and validate the working hypotheses we use *Ordinary Least Square (OLS) estimator*, along with *Fixed Effects* and *Random Effects models*. Given that our empirical analysis focuses on accounting estimates related restatements, the data collection was, to some degree, challenging. As financial restatements is not an act desirable for companies (being a measure of financial reporting quality), constructing a sample of financial restatements related to estimates issues was even more challenging. We managed to collect the data from Audit Analytics and Thomson Reuters Eikon databases, for a final sample of 64 companies, for a period of 18 years.

Thesis outline

Chapter 1 "*Accounting estimates and fair value*", is a preview for the subjects we will discuss in the next chapters and introduces accounting estimates and fair value as the main topics of the entire thesis. We felt it was important to provide this preview in order to give readers a clear picture of what accounting estimates mean, about their characteristics and the inherent challenges. Moreover, we explained how accounting estimates work and why they play such an important role for the financial statements quality. This allowed us to better understand the impact and their challenging character for the auditors' work. Likewise, we proposed a discussion on the theoretical research framework developed by Bonner, (2008) and Bratten et al. (2013) on factors affecting the quality of audit judgments as: environmental factors, task factors and auditor-specific factors. This allowed us to develop a link between the factors affecting the auditors' judgments and those affecting management's discretion, as stated by management

literature. This was the first step to substantiate our interest for the management bias in relation to accounting estimates and the associated audit risks. The introduction of fair value, as one of the most controversial estimates, was another step to understand it and to justify our choice to perform an experiment related to auditing FV measurements in chapter 4.

Chapter 2 "*Auditing accounting estimates and fair value measurements. A literature review*" represents our contribution to the analysis of the current state of knowledge regarding the audit of accounting estimates. We carried out a review of the most relevant articles from WOS, Springer Link, and Scopus, in various top journals in the field. The time analysis for the publications related to our theme revealed an increased trend in the last 10 years, proving a higher interest for this issue. At the same time, based on Bratten et al. (2013) framework and the discussion from the previous chapter, we reviewed the literature, with a focus on the main topics related to auditing accounting estimates, as: estimation uncertainty, management bias, professional skepticism, the use of valuation specialists and other audit quality consequences.

We are aware that the audit risks related to accounting estimates and FV measurements is a narrow and particular subject. This is the reason why we could not necessarily carry out an analysis of the literature on types of economies (emerging vs. developed) or financial markets. However, we observed that in general, the empirical studies focused on rather limited data, especially for the American capital markets. Thus, we saw that evidence on emerging markets can still be considered scarce.

Nevertheless, the conclusion of our literature review was that we can see the standard bodies' efforts to improve the audit of accounting estimates and their attempt to keep pace with the scholars' and the professionals' concerns expressed through research. Furthermore, this analysis showed us the very close connection between the factors identified by researchers as affecting the audit of accounting estimates or presenting particular risks. In this vein, we saw that uncertainty is a problem inherent to estimates, creating the perfect scenario for distortion or management bias. Undoubtedly, this has an impact on the audit task itself (skills and judgments, extra work, external specialist etc.) and the audit quality (adjustment/restatements requirements, financial reporting quality, litigation risks etc.); not to mention the obvious consequences for other interested parties.

Chapter 3 "*The convergence degree between the auditing standards for accounting estimates*" examines the level of improvement and the convergence degree between ISA 540 and AS 2501, the audit standards regarding the accounting estimates and FV measurements. During 2017-2020, both IAASB and PCAOB have coordinated their efforts and have initiated the revision of

these standards. Immediately after publishing the new updated references, we were interested to see how the efforts and plans of the normalizers in terms of convergence were realized. The aim of this study is to observe both the evolution of ISA 540 compared to the old standard and a comparison with the amendments proposed by PCAOB in the United States.

The motivation behind this analysis is primarily related to the topicality of the subject. Then we wanted to have a contribution to this international debate regarding the audit of accounting estimates. The importance of analyzing ISA standards is justified by the large adoption rate of ISA at global level- around 67% according to the latest IFAC reports. The relevance of the comparison between the American and the International norms is consistent with the effort of PCAOB to converge U.S. GAAP with ISAs, according to AICPA's Auditing Standards Board and their strategic plan (PCAOB; 2019).

To perform our analysis we used three similarity coefficients (Simple Matching, Rogers & Tanimoto, Sokal & Sneath) and one for dissimilarity (Euclidean Distance). Thus, it appears that regulatory bodies converged toward the same specific audit risks approach. We confirm this by the introduction of the complexity and subjectivity as inherent risk factors specific to the estimates for both referential and the emphasis on the need to exercise professional skepticism. This similarity (ISA540/AS2501) it was something to be expected and should be seen by auditors or stakeholders as the regulators' response to increase the quality of the audit, the existence of a more uniform approach for risks and obviously to increase the degree of convergence between standards. However, some elements differentiate the two standards, such as the use of different terms for external sources of information, for the person assisting the management in making accounting estimates, or different approaches for fair value.

Chapter 4 "*Fair value measurement and the audit risk. Empirical evidence for an emergent context*" is motivated by the sparse literature on auditors' behavior in relation to accounting estimates for emerging contexts. We investigate, through an experiment, how auditors perceive and behave in relation with one of the most important estimates, namely FV. We discussed about the influential factors, with a focus on FV provider.

Among our general research questions we asked ourselves why estimates are associated with risks, and what are the factors that determine these risks or involve a higher risk for auditors. Thus, in this chapter we focused on some of these factors and on one category of estimates (the fair value). One of the influential factors we addressed is the FV provider. We investigated if and in which cases the use by the management of an external expert versus the internal one, decreases the estimation risk and effort for the auditors. We correlated FV provider with the FV

estimation process. Hence, we chose two other factors as variables: FV measurement (with two valuation approaches- income and cost) and FV disclosure for the valuation report (focus on inputs characteristics, their source, and risk of volatility vs. focus on methods, assumptions and models). Therefore, through this experiment we focused on those measurable factors that we considered as having the potential to improve the audit process and minimize the related audit risks.

We found that auditors rely more on the expertise of an external valuator than on management estimations in specific circumstances. These specific circumstances are strong quality of the internal control and a component of FV reporting linked to the valuation methodology. This observation is in line with previous studies, who found that the auditors consider the FV estimation less risky if it is generated by an external source. On the other hand, a result that surprised us was the fact that income approach appeared as requiring more audit effort than the cost approach.

Therefore, this chapter contributes to the existing literature firstly by enlarging the discussion on FV estimates audit effort and risk of estimation over the entire process of valuation, not only FV provider. Secondly, we addressed a less explored item, the FV estimate issues for non-financial assets (the focus being usually on financial assets), for which the valuation process is even more difficult, prone to estimation risks, and to audit risks as well. We emphasize also the incomplete understanding of the auditor facing the risk and complexity of FV and which confirms the lack of sufficient expertise in terms of valuation issues, for the particular case of developing countries. The results showed that the quality of the valuation report and the process in terms of sufficient description of inputs and approaches could minimize the audit risk and additional audit effort.

Chapter 5 "*A model to assess the relationship between management opportunism and auditor reaction. Empirical evidence for an European context*" represents another answer to our research questions related to the audit risk factors in the case of accounting estimates and FV. One of these factors is management bias. Thus, our main concern- finding indicators of management bias related to the estimates- is justified by the recent literature that claims the need of such indicators for the auditors. We emphasize the impact of financial restatements requested by auditors as corrections of material misstatements related to fair value and accounting estimates issues, in previous financial statements. We see these restatements as a consequence of management biased estimates, thus as a red flag for the auditors in terms of risk of misstatement.

Therefore, we investigate the link between accounting estimates (with the related audit risks), financial restatements and the management opportunism assessed as earnings management. Our analysis is performed on a sample with 64 European companies, listed on U.S. stock exchange, from 2000 to 2017. Using Audit Analytics database we selected for our sample only those companies having accounting estimates and other accounting options related restatements. We chose European companies firstly because evidence related on restatements is limited for Europe. Moreover, studies linking restatements with accounting estimates and earnings management for this context are scarce.

Our results provide evidence about the effect of restatements on earnings management practices and hence on the FRQ. The results of our model identified earnings management practices for a sample of European companies listed on NYSE. Furthermore, the econometric treatments revealed a negative correlation between restatements asked by auditors for accounting estimates issues and discretionary accruals. This result confirms that restatements asked by auditors in one year can potentially decrease the managers' opportunistic behavior in the next period. Therefore, our study contributes to the existing literature on accounting estimates, audit risks, restatements and earnings management, by providing results about the reaction of firms with estimates related restatements.

CONCLUSIONS

Key findings

Here we are at the end of a research trip, which I would dare to say is actually only the beginning of the exploration of this subject for us. We were inspired in our approach by the visible effort of the other researchers in the field, both at the theoretical and empirical level. We have been aware from the beginning that the contribution we could make is dedicated to a limited category of professionals in the field, but the global efforts of researchers can only together add real value to science, which is a cumulative progress, and less individual.

Based on these considerations, and given the continuous debate related to the challenging character of accounting estimates for all the actors involved, we considered that many aspects still need to be elucidated and understood in more depth, especially with respect to the audit of accounting estimates. Indeed, a deeper understanding of the audit risks related on estimates is a topic of interest not only for academia, but also for auditors, managers, investors, decision-making and regulatory bodies and other interested parties.

Our thesis explores the audit risks and challenges for the auditors, in terms of verifying the accounting estimates in general and FV measurements in particular. It comprises five chapters, the first and the second ones introducing accounting estimates and presenting a literature survey and each of the next three provide an empirical essay, which address different topics identified previously.

The **first chapter** is designed in order to introduce the readers the accounting estimates as an important and debatable topic. This is a chapter that we considered important at the beginning, because it gives the necessary background to the readers, so that they understand what accounting estimates are, why they present risks and for whom. In addition, we have also wanted to provide some background on one of the most challenging estimates, namely fair value, since it is a subject that we will discuss later in one of the essays. Besides the background on accounting estimates, the way they operate and their impact on financial reports, we have brought in this chapter some recent insights on the regulations regarding accounting estimates and fair value, as well as the latest changes announced and still under debate. So, from the first chapter, whose aim was to create the necessary background, we have highlighted the challenges of accounting estimates, the topicality of the subject, and the ongoing joint effort of regulators, professionals and practitioners. They all have a common interest in bringing new perspectives to alleviate the challenges of accounting estimates and their audit.

In the **second chapter**, in order to identify the current state of knowledge in the field of auditing accounting estimates, we conducted a quantitative analysis on a sample of articles which we further studied from a qualitative point of view. This allowed us to group them into research directions. These lines of enquiry that we have drawn up around the articles selected from the sample are the ones that have been the basis for our studies in this thesis. Hence, this second essay contributes to the literature, by underlying the key factors that imply a risk for the auditors when verifying how the accounting estimates were made by those in charge. First, the quantitative analysis of the articles selected in our sample revealed an increasing trend manifested among researchers, regarding the interest in this subject. Second, we observed through this analysis some research directions and themes of interest for the academic and professional environment. The estimation uncertainty and complexity, the management bias, the professional skepticism, the use of a third party specialist, the litigation consequences associated with the quality of the audit, were all topics that we have identified and discussed within this chapter. According to previous research, earnings manipulation (management bias), the difficulty to test inputs resulting from judgments and assumptions (information relevance for FV), and estimation uncertainty are the main challenges for the auditors.

Thus, we provided an overview of the current perception on the audit of accounting estimates and related risks. In addition, we linked the factors affecting the quality of audit judgments as: environmental factors, task factors and auditor-specific factors already discussed by Bonner, (2008) and Bratten et al. (2013) and identified the gap where we could bring our contribution. Given the estimation uncertainty risks, the common conclusion of the studies we discussed was the need for more indicators for management bias. Moreover, in their attempt to reduce estimation uncertainty, auditors seek for advice to third party specialists. This emphasis on coping estimation uncertainty and management bias through more professional skepticism, the use of external specialists (for making or verifying estimates) and the management bias indicators are the directions we identified for possible future evidence.

The **third chapter** aim was to determine the degree of convergence between the two audit referential for accounting estimates, the American one- AS 2501, and the international one- ISA 540. It was a study we conducted immediately after the revision initiated by the two regulatory bodies, PCAOB and IAASB. We found, as we expected, a higher degree of convergence between the two referential, and an improvement of ISA 540 revised compared to the old version. Through this study, we were interested in the extent to which the regulatory bodies have addressed the problems identified previously by researchers and professionals in the field. We identified and compared the new approaches of the revised standards in three general directions:

general aspects and fair value treatment, risks of estimates and risk approaches, the use of experts and use of external sources of information. These themes were of interest for us, as we wanted to address the impact of the use of an external specialist on the auditors' risk perception and the management bias indicators within our two others essays. The results of the similarity and dissimilarity coefficients we employed stressed the effort of the regulatory bodies to reduce audit risk and the struggle for the auditors when verifying accounting estimates (including fair value). We observed that the revised standards respond to specific requests made in previous research and focuses auditors on the estimates with greater risk of misstatement and prompts them to devote more attention to addressing potential management bias. These efforts and the effects of a higher degree of convergence represent the prerequisite for higher quality audit missions as claimed by all the actors involved. As mentioned at the beginning of this thesis, the regulatory and oversight bodies are constantly monitoring the updated auditing standards for accounting estimates and their implementation. Recently, IFAC issued an implementation tool to assist auditors in implementing ISA 540 Revised (IFAC, 2022) and PCAOB initiated a request for comments on the initial impact of the new requirements for auditing accounting estimates and using the work of specialists (PCAOB, 2022). We concluded that the constant effort of supervision, improvement and convergence between standards, as well as the close collaboration of stakeholders, are the combination of factors needed to overcome the challenges of accounting estimates.

The **fourth chapter** focuses on the influential factors, the fair value estimate provider and the valuation process conducted to estimate the FV (FV measurement and FV disclosure) in relation with the auditor's likelihood to develop additional effort to further investigate the FV estimate and the perceived risk of misstatement. We address a gap in the literature by describing and statistically analysing the auditors reaction related to FV estimation process for a sample of 76 auditors through an experiment previously tested on 160 students. Specifically, we judge if the choices concerning FV estimate provider, and also the type and content of the documents disclosed either by an internal valuator or the external expert, can reduce or multiply the effects of uncertainty, complexity and management bias. These issues are reflected by the level of risk of misstatement that participants will assess in the magnitude of risk of misstatement that the participants will assess and the additional time and effort required to investigate FV measurement and disclosure.

The results of the experiment revealed for 3 from 4 of our cases the preference for an external valuator. It appears that the auditors discern between FV providers only in the case of the application of the cost approach in the valuation report, preferring the external valuator to the

internal one (management estimation). This is confirmed for the scenario of a high internal control quality. Contrary to our expectations, the tests showed that the auditors believe they would make more effort when verifying cost approach instead of income approach, when FV is a management' estimate.

We brought our contribution by analysing the auditor-specific factors directly related to fair value estimation and that we believe having the potential to enhance the audit quality and minimize the specific risks, for an emergent context. Moreover, we correlated them with other influential factors appearing in the researchers' recent frameworks, as fair value complexity, estimation uncertainty, managerial bias of professional scepticism. We addressed the incomplete understanding of the auditors facing the risk of management bias and bring some insights. Secondly, our study denotes a relatively poor understanding of the valuation process by the auditors and the lack of insufficient expertise in financial areas for the particular case of developing countries, in line with previous research.

The **fifth chapter** arises also from the findings of the literature review which claimed the need for management bias indicators. We are interested in the way in which accounting estimates facilitate opportunistic behavior and how auditors try to mitigate this problem. Therefore, with the model we proposed we wanted to detect the existence of management bias and whether the auditors' reaction to ask for financial restatements could discourage earnings management in the following period. The econometric tests were performed on a sample of 1152 observations, for 64 European companies listed on NYSE.

We contribute to the international debate on earnings management considering the evidence on accruals anomalies in the U.S. capital market for companies located outside U.S. We have also observed a negative correlation between that can be translated as a decrease of managerial opportunism in the year following the restatements. Furthermore, we offer additional evidence on the interaction between restatements and company size on discretionary accruals.

In this vein, there are many implications of these results for the main relevant players. Given the negative correlation between restatements and management bias evidence, we can state that companies with a tendency to manipulate can be "tamed" by increased auditor attention to accounting estimates and possible restatements to be asked. In addition to auditors and managers (or companies themselves), there are other stakeholders for whom these results may be of interest. By this we mean investors, who could thus pay more attention to the financial results and their ability to reflect the undistorted reality in the years immediately following the financial

restatements required by the auditors. We are aware that our results have shown reduced earnings management only in the years immediately following the estimates issues related restatements. Anyway, for potential investment opportunities, the causes of the restatements are a warning flag also for the actual and future shareholders. In this context, an effort from an important stakeholder, namely the government, is expected, in order to create a stable business environment, so as to avoid contributing to even more manipulation by companies' management, especially in the context of accounting estimates that depend so much on external inputs. Naturally, through these results, we also wanted to draw the attention of regulatory bodies, which have a lot to say when it comes to dealing with accounting estimates.

This thesis offered new empirical evidence and insights on a topical issue, but at the same time, a challenging one, namely the audit risks related to accounting estimates and FV measurements. However, given that they require significant judgment in an environment with pressure to keep up with the changing times, the results should not be seen as definitive results, but more as an effort to understand this issue from the auditors' perspective.

Research limitations and future research avenues

As in any scientific endeavour there are also research limitations, which we have been constantly aware of, during the whole research process.

Certainly, our literature review could be redesigned into a meta-analysis to better assess the literature in the field and provide measurable findings regarding the factors affecting the audit of estimates and the appropriate instruments to cope with the associated risks. This literature analysis could be done also for different environments, in order to see specific patterns regarding the accounting estimates related audit risks for different financial markets or different industries. Another limitation is linked to the subjectivism that underpinned the selection of the research directions resulting from the literature review for our three essays. Of course, we had to choose those research directions that could be explored with the means and resources at our disposal.

First, for the study on the convergence degree of audit standards, the main limitation identified is related to the specific topics we selected in order to compare and assess the referential evolution. We did not analyse the convergence of the three standards as a whole. Therefore, a comprehensive examination, considering all aspects set out in the standards for auditing estimates, could have been considered.

Second, for our second empirical research, the experiment seeking answer for the auditors' risk and effort assessment related to the factors having the potential to enhance the audit quality and minimize the specific risks, the first limitation is the limited sample size. We were aware that in the case of the experiment it could be challenging to gather many participants especially for the emerging financial environments. It would be quite insightful to extend this experiment involving more participants in order to increase the statistical relevance. Then, we tested issues on the level 3 in the value hierarchy, and maybe the delimitation between the two valuation approaches (income and cost), both mark to model type of value estimation, was more difficult to observe by the auditors. In the case of an experiment involving more participants, it would be interesting to consider another category of accounting estimates.

Third, for the last empirical essay, an important limitation is the sample size, according to the requirements of discretionary accruals models. However, we kept in mind that our aim was to test the model for the existence of financial restatements, which are specific and quite rare events. Furthermore, we have designed the model focusing only on the restatements related to accounting estimates issues, so that we can answer to our research question and to follow our research interests. All this had an important contribution on limiting the sample we had to work with. Another limitation identified in this study relates to the exploratory nature of the model, so there may be other influencing factors or variables that we did not include or failed to identify. We could have also selected other proxies in order to detect the existence of opportunism, but this may remain as a possible future research direction. We also consider applying in the future the model to sub-samples of countries, or industries, but only if additional data can be obtained to increase the sample to be statistically relevant. As a future research direction we intend to include other measures or characteristics of the financial result, not just earnings management.

REFERENCES

Articles and Books

- Abernathy, J., Hackenbrack, K.E., Joe, J.R., Pevzner, M., and Wu, Y-J. (2015). "Comments of the Auditing Standards Committee of the Auditing Section of the American Accounting Association on PCAOB Staff Consultation Paper", *Auditing accounting estimates and fair value measurements, Current Issues in Auditing*, C1-C11
- Association of Chartered Certified Accountants- ACCA, (2009). Fair Value- An ACCA policy paper, Retrieved March 2021 from: <https://www.accaglobal.com/economy/>
- Association of International Certified Professional Accountants- AICPA, (2019). At a glance. From the Audit & Attest Standards Team; Retrived June 2022 from <https://us.aicpa.org/content/dam/aicpa/research/standards/auditattest/downloadabledocuments/sas-134-at-a-glance.pdf>
- Association of International Certified Professional Accountants- AICPA, (2021). Revenue recognition: 4 top concerns noted by peer reviewers, *Journal of Accountancy*, Retrieved June 2022 from: <https://www.journalofaccountancy.com/issues/2021/nov/revenue-recognition-concerns-peer-reviewers.html>
- Association of International Certified Professional Accountants- AICPA, (2022). 4 key COVID-19 audit risks for 2020 year ends, *Journal of Accountancy*, Retrieved September 2022 from: <https://www.journalofaccountancy.com/issues/2020/aug/key-coronavirus-audit-risks-for-2020-year-ends.html>
- Alexander, D., Bonaci, C. G., & Mustata, R. V. (2012). Fair value measurement in financial reporting. *Procedia Economics and Finance*, 3, pp. 84-90
- Audit Analytics (AA) (2017). Financial restatements, a seventeen year comparison
- Audit Analytics (AA) (2018). Accounting quality+Risk matrix (AQRM). Retrieved from <https://www.auditanalytics.com/doc/aqrmProductManual.pdf>
- Audit Analytics (AA) (2020). An Overview of European Financial Restatements.
- Audit Analytics (AA) (2021). Financial restatements, a twenty-year review
- Barron, O., & Stuerke, P.S. (1998). Dispersion in analysts' earnings forecasts as a measure of uncertainty. *Journal of Accounting, Auditing and Finance*, 13(3), pp. 245-270
- Barth M.E. & Clinch G. (1999). Revalued financial, tangible and intangible assets: associations with share prices and non-market-based value estimates. *Journal of Accounting Research*, 36(Suppl. 1998), pp. 199–232
- Barth, M. E., & Landsman, W. R. (2010). How did Financial Reporting Contribute to the Financial Crisis? *European Accounting Review*, 19(3), pp. 399–423
- Bazerman, M. H., & Tenbrunsel, A. E. (2011). *Blind Spots: Why we fail to do what's right and what to do about it*. Princeton, NJ: Princeton University Press
- Beckmann, K. S., Escobari, D. A., & Ngo, T. (2019). The real earnings management of cross-listing firms. *Global Finance Journal*, 41, pp. 128-145
- Bell, T. B., & Griffin, J. B. (2012). Commentary on auditing high-uncertainty fair value estimates. *Auditing: A Journal of Practice & Theory*, 31(1), pp. 147-155

- Beneish, M.D., Press, E., & Vargus, M.E. (2012). Insider trading and earnings management in distressed firms. *Contemporary Accounting Research*, 29(1), pp. 191–220.
- Bolivar M.P.R. & Galera A.N. (2012). The role of fair value accounting in promoting government accountability. *ABACUS*, 48(3), pp. 348-386
- Bonaci, C., Matis, D. and Strouhal, J. (2009). Financial reporting paradigms for the financial instruments: empirical study on the Czech and Romanian regulations, *Journal of International Trade Law and Policy*, 7(2), pp. 101-22
- Bonner, S. E. (2008). *Judgment and Decision Making in Accounting*, Upper Saddle River, NJ: Pearson Prentice Hall
- Bratten, B., Gaynor, L.M., McDaniel, L., Montague, N.R. & Sierra, G.E. (2013). The audit of fair values and other estimates: the effects of underlying environmental, task, and auditor specific factors. *Auditing: A Journal of Practice and Theory*, 32(1), pp. 7-44
- Brink A.G., Tang F. & Yang L. (2016). The impact of estimate source and social pressure on auditor's fair value estimate choices. *Behavioral Research in Accounting*, 28(2), pp. 29-40
- Brown-Liburd, H., Mason, S., & Shelton, S. (2014). The effect of reliance on third-party specialists under varying levels of internal control effectiveness on the audit of fair value measurements. *Contemporary Accounting Research*, 17(3), pp. 387-428
- Cannon, N. H., & Bedard, J. C. (2017). Auditing challenging fair value measurements: Evidence from the field. *The Accounting Review*, 92(4), pp. 81-114
- Cassell, C., Myers, J., Myers, L., & Seidel, T. (2014). Does auditor tenure impact the effectiveness of auditors' response to fraud risk? Retrieved from <http://bayanbox.ir/view/4954975882569266661/a154-t36sw.pdf>
- Casta, J. F., & Colasse, B. (2001). Le débat autour de l'application du principe de juste valeur en comptabilité: esquisse d'une synthèse. *Juste valeur: enjeux techniques et politiques*, Paris: Economica
- Chan, K., Jegadeesh, N., & Sougiannis, T. (2004). The accrual effect on future earnings. *Review of Quantitative Finance and Accounting*, 22, pp. 97–121
- Chan, K., Chan, L., Jegadeesh, N. & Lakonishok, J. (2006). Earnings quality and stock returns. *Journal of Business*, 79(3), pp. 1041-1082
- Chen, C.-Y., Lin, C.-J., & Lin, Y.-C. (2008). Audit Partner Tenure, Audit Firm Tenure, and Discretionary Accruals: Does Long Auditor Tenure Impair Earnings Quality? *Contemporary Accounting Research*, 25(2), pp. 415–445
- Chen, K. Y., Elder, R. J., Hung, S. (2014). Do post-restatement firms care about financial credibility? Evidence from the pre-and post-sox eras. *Journal of Accounting and Public Policy*, 33, pp. 107-126
- Choi, I. (2001). Unit root tests for panel data. *Journal of International Money and Finance*, 20, pp. 249-227
- Christensen, B. E., Glover, S. M., & Wood, D. A. (2012). Extreme estimation uncertainty in fair value estimates. Implications for audit assurance. *Auditing: A Journal of Practice & Theory*, 31(1), pp. 127-146
- Ciurdas, I. (2020). Measurement of Convergence Degree between International and US Auditing Standards for Accounting Estimates, *Audit Financiar*, 18(160), pp. 812-820

- Coffee Jr, J. C. (2005). A theory of corporate scandals: Why the USA and Europe differ. *Oxford review of economic policy*, 21(2), pp. 198-211
- Coppens, L., & Peek, E. (2005). An analysis of earnings management by European private firms. *Journal of international accounting, auditing and taxation*, 14(1), pp. 1-17
- Crossland C, & Hambrick DC. (2007). How national systems differ in their constraints on corporate executives: a study of CEO effects in three countries. *Strategic Management Journal*, Vol 28, No.8, pp. 767–789
- Cunha, P. R., Fernandes, L. B., & Dal Magro, C. B. (2017). Influencia do refazimento das demonstrações contábeis no gerenciamento de resultados das empresas listadas na BM&FBOVESPA. *RACE: Revista de Administração, Contabilidade e Economia*, 16(1), pp. 95-120
- Deaconu A., (2009), *Valoarea justa. Concept contabil*, Bucuresti: Editura Economica
- Deaconu, A., Buiga, A., (2010). Analysis of the convergence degree between the accounting and the valuation standards concerning fair value, *Journal of Property Investment & Finance*, 28(5), pp. 365 – 384
- Deaconu, A., Hategan, C. D., & Ciurdas, I. (2021a). A model to assess the relationship between management opportunism and auditor reaction. Simulation on financial restatements and on a sample of Brazilian companies listed on NYSE. *Revista Brasileira de Gestão de Negócios*, 23(2), pp. 337-352
- Deaconu, A., Ciurdaş, I., & Bonaci, C. (2021b). Challenges Faced By Auditors When Estimating Fair Values. An Experiment in an Emerging Economy. *Studia Universitatis Babeş-Bolyai*, 66(1), pp. 36-60
- Deaconu, A., Ciurdaş, I., & Bonaci, C. G. (2021c). Fair Value Complexity and the Audit Risk, *Audit Financiar*, 19(161), pp. 191-200
- Dechow, P., Sloan, R. G., & Sweeney, A. P. (1995). Detecting earnings management. *The Accounting Review*, 70(2), pp. 193-225
- Dechow, P.M., & Dichev, I.D. (2002). The quality of accrual and earnings: The role of accrual estimation errors, *The Accounting Review*, 77, pp. 35-59
- Dechow, P., Ge W., & Schrand, C. (2010). Understanding earnings quality: A review of the proxies, their determinants, and their consequences. *Journal of Accounting and Economics*, 50(2-3), pp. 344-401
- DeFond, M. L. (2010). Earnings quality research: Advances, challenges and future research. *Journal of Accounting and Economics*, 50(2-3), pp. 402-409
- DeFond, M. and J. Zhang. (2014). A review of archival auditing research. *Journal of Accounting and Economics*, 58 (2-3), pp. 275-326
- Deloitte (2010), Springing forward: the eight annual fair value pricing survey, Retrieved May, 2019 from: https://www.mfdf.org/images/DirResPDFs/Fair_Value_Survey.pdf
- Deloitte (2017). PCAOB issues proposals to enhance and strengthen requirements for auditing accounting estimates, including fair value, and to address the auditors’ use of the work of specialists. Retrieved September, 2018 from <https://dart.deloitte.com/USDART/resource/af247b55-5032-11e7-883d-d924efc3f5af>
- Dichev, I. D., & Skinner, D. J. (2002). Large-sample evidence on the debt covenant hypothesis, *Journal of Accounting Research*, 40(4), pp.1091-1123

- Doliya P. & Singh J.P. (2016). An interpretive structural modelling approach to analyze the interaction between factors of the fair value measurement audit process. *Journal of Emerging Technologies in Accounting*, 13(2), pp. 37-48
- Eilifsen, A., Hamilton, E. L., & Messier Jr, W. F. (2021). The importance of quantifying uncertainty: Examining the effects of quantitative sensitivity analysis and audit materiality disclosures on investors' judgments and decisions. *Accounting, Organizations and Society*, 90, 101169
- Elshafie, E., & Nyadroh, E. (2014). Are discretionary accruals a good measure of audit quality? *Journal of Management Policy & Practice*, 15(2), pp. 44-59
- Ettredge, M., Scholz, S., Smith, K.O. R., & Sun, L. (2010). How do restatements begin? Evidence of earnings management preceding restated financial reports. *Journal of Business Finance & Accounting*, 37(3-4), pp. 332-355
- Ettredge M.L., Xu Y. & Yi H.S. (2014). Fair value measurement and audit fees: evidence from banking industry. *Auditing: a Journal of Practice and Theory*, 33(3), pp. 33-58
- European Commission, (2018). Request for EFRAG to investigate alternatives to fair values, Retrieved April 2021 from <https://www.efrag.org/Assets/Download?assetUrl=%2Fsites%2Fwebpublishing%2FSiteAssets%2FEC%2520request%252001-06-2018.pdf&AspxAutoDetectCookieSupport=1>
- Filip, A., & Raffournier, B. (2014). Financial crisis and earnings management: The European evidence. *The International Journal of Accounting*, 49(4), pp. 455-478.
- Filip, A., Huang, Z., & Lui, D. (2016). Cross-jurisdictional enforcement difficulty and financial reporting quality. *Annual Congress of the European Accounting Association (EAA)*, Maastricht, Netherlands, 39. Retrieved February 2019 from : <http://eaa2016.eaacongress.org/r/abstracts>
- Filip, A., Hammami, A., Huang, Z., Jeny, A., Magnan, M., & Moldovan, R. (2021). The Value Relevance of Fair Value Levels: Time Trends under IFRS and US GAAP, *Accounting in Europe*, 1-22
- Financial Accounting Standards Board (2018). Accounting Standards Update- Fair Value Measurement (Topic 820), Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement, Retrieved April 2021 from: https://www.fasb.org/jsp/FASB/Document_C/DocumentPage?cid=1176171116516&acceptedDisclaimer=true
- Fontes, A., Rodrigues, L. L., & Craig, R. (2005). Measuring convergence of national accounting standards with international financial reporting standards, *Accounting forum* 29(4), pp. 415-436
- Francis, J. R., & Yu, M. D. (2009). Big 4 office size and audit quality. *The Accounting Review*, 84(5), pp. 1521-1552
- Gaio, C., (2010). The relative importance of firm and country characteristics for earnings quality around the world, *European Accounting Review*, 19(4), pp. 693-738
- Garcia-Blandon, J., Argilés-Bosch, J. M., & Ravenda, D. (2020). Audit firm tenure and audit quality: A cross-European study. *Journal of International Financial Management & Accounting*, 31(1), pp. 35-64

- Gimbar, C., & Mercer, M. (2021). Do Auditors Accurately Predict Litigation and Reputation Consequences of Inaccurate Accounting Estimates? *Contemporary Accounting Research*, 38(1), pp. 276-301
- Glover, S. M., Taylor, M. H., & Wu, Y. J. (2017). Current practices and challenges in auditing fair value measurements and complex estimates: Implications for auditing standards and the academy. *Auditing: A Journal of Practice & Theory*, 36(1), pp. 63-84
- Glover, S. M., Taylor, M. H., Wu, Y. J., & Trotman, K. T. (2019). Mind the gap: Why do experts have differences of opinion regarding the sufficiency of audit evidence supporting complex fair value measurements? *Contemporary Accounting Research*, 36(3), pp. 1417-146
- Goncharov, I., Riedl, E. J., & Sellhorn, T. (2014). Fair value and audit fees. *Review of Accounting Studies*, 19(1), pp. 210-241
- Gore R.A., Herz P.J. (2010). Snowy Ridge Ski Resort: fair value measurement and the impairment of long-term assets, *Issues in Accounting Education*, 25(1), pp. 59-70
- Griffin, J.B., (2014). The effects of uncertainty and disclosure on auditors' fair value materiality decisions. *Journal of Accounting Research*, 52(5), pp. 65-93
- Griffith, E. E. (2015). How do auditors use valuation specialists when auditing fair values. *Unpublished paper, The University of Wisconsin-Madison*
- Griffith, E. E., Hammersley, J. S., & Kadous, K. (2015a). Audits of complex estimates as verification of management numbers: How institutional pressures shape practice. *Contemporary Accounting Research*, 32(3), pp. 833–863
- Griffith, Emily E., Hammersley, Jacqueline S., Kadous, K., & Young, D. (2015b). Auditor mindsets and audits of complex estimates, *Journal of Accounting Research*, 53(1), pp. 49-77
- Griffith, E. E. (2020). Auditors, specialists, and professional jurisdiction in audits of fair values. *Contemporary Accounting Research*, 37(1), pp. 245-276
- Griffith, Emily E., and Hammersley, Jacqueline S. (2021). The Role of Valuation Specialists in Audits of Fair Values and Potential for Change under Amended PCAOB Standards (June 2021). Available at SSRN: <https://ssrn.com/abstract=3933377>
- Hambrick, D. C., Finkelstein, S. (1987). Managerial Discretion: A Bridge between Polar Views of Organizational Outcomes, *Research in Organizational Behavior* Vol.9, pp. 369–406
- Herly, M., Bartholdy, J., & Thinggaard, F. (2020). A re-examination of accruals quality following restatements. *Journal of Business Finance & Accounting*, 47(7-8), pp. 882-909
- International Auditing and Assurance Standards Board- IAASB (2013). Clarified international standards on auditing (ISAs)- findings from the post-implementation review, retrieved December 2019, from <https://www.ifac.org/system/files/publications/files/Implementation-Review-of-the-Clarified-ISAs.pdf>
- International Auditing and Assurance Standards Board- IAASB (2016). Revision of ISA 540, Retrieved September 2021, from <https://www.ifac.org/system/files/publications/files/IAASB-ISA-540-Project-Proposal.pdf>

- International Auditing and Assurance Standards Board- IAASB (2017). *International Standard on Auditing, Proposed international standard on auditing 540 (Revised)*. Retrieved September, 2018 from: <http://www.ifac.org/system/files/publications/files/Proposed-ISA-540-Revised-Auditing-Accounting-Estimates-and-Related-Disclosures.pdf>
- International Auditing and Assurance Standards Board- IAASB (2018). ISA 540 (Revised), Auditing Accounting Estimates and Related Disclosures, Retrieved June, 2020 from [https://www.ifac.org/system/files/publications/files/ISA-540-Revised-and-Conforming-Amendments .pdf](https://www.ifac.org/system/files/publications/files/ISA-540-Revised-and-Conforming-Amendments.pdf)
- International Auditing and Assurance Standards Board- IAASB (2018b). *International Accounting Standards, 500*. Retrieved August , 2018 from <https://www.iaasb.org/clarity-center/clarified-standards>
- International Auditing and Assurance Standards Board (IAASB) (2018). *International Accounting Standards, 500*. Retrieved August, 2018 from <https://www.iaasb.org/clarity-center/clarified-standards>
- International Auditing and Assurance Standards Board- IAASB (November, 2019). Audit Client Briefing - Considerations for Management When Determining Accounting Estimates and Related Disclosures, <https://www.ifac.org/system/files/publications/files/ISA-540-Revised-Audit-Client-Briefing-Final-Branding.pdf>
- International Accounting Standards Board- IASB (2011). IFRS 13 Fair Value Measurement, <https://www.ifrs.org/issued-standards/list-of-standards/ifrs-13-fair-value-measurement/#standard>
- International Accounting Standards Board-IASB (2018). *Conceptual framework for financial reporting*. London: IASB
- International Accounting Standards Board- IASB (2018a). IAS 8 — Accounting Policies, Changes in Accounting Estimates and Errors, <https://www.iasplus.com/en/standards/ias/ias8>
- International Accounting Standards Board (IASB) (2018b). Post-implementation Review of IFRS 13 Fair Value Measurement, Retrieved January, 2021 from: <https://www.ifrs.org/projects/2018/pir-of-ifrs-13-fair-value-measurement/>
- International Accounting Standards Board- IASB (2021). Definition of Accounting Estimates, Amendments to IAS 8, Retrieved February, 2021 from <https://www.efrag.org/Assets/Download?assetUrl=%2Fsites%2Fwebpublishing%2FProject%20Documents%2F337%2FDefinition%20of%20Accounting%20Estimates%20-%20Published%20Amendments%2.pdf&AspxAutoDetectCookieSupport=1>
- International Federation of Accountants (IFAC) (2015). *International Standard on Auditing (ISA) 700 (Revised), Forming an Opinion and Reporting on Financial Statements*. Retrieved March 2019 from: <https://www.ifac.org/publications-resources/international-standard-auditing-isa-700-revised-forming-opinion-and-reporting>
- International Federation of Accounts- IFAC (2019). International standards: 2019 global status report, Retrieved July , 2022 from: <https://www.ifac.org/system/files/publications/files/IFAC-International-standards-2019-global-status-report.pdf>

- International Federation of Accounts- IFAC (2022). Auditing accounting estimates: ISA 540 (revised). Implementation tool, Retrieved September, 2022 from: <https://www.ifac.org/system/files/publications/files/IFAC-Implementation-Tool-Auditing-Accounting-Estimates-ISA-540.pdf>
- International Forum of Independent Audit Regulators- IFIAR (2016). Report on 2015 survey of inspection findings, Retrieved January, 2021 from: https://www.ifiar.org/activities/annual-inspection-findings-survey/index.php?wpdmdl=2059&ind=0S3Iv7FobA6VHre9nfUDdERympNOZ_VmNSDpVHAST0njxB2tUVC3eV7Hhyzql5NTVG25BTJnXQkGju1jaLmw1_7n3dxtHPTgaS Io2FFAr2DgYKnGwcHYQvxUxeUAR3o&#zoom=100,
- International Forum of Independent Audit Regulators- IFIAR (2017). Survey of Inspection Findings 2016, Retrieved July, 2021 from: <https://www.fsa.go.jp/cpaaob/sonota/kokusai/20170308-1/2016surveyreport.pdf> ,
- International Forum of Independent Audit Regulators- IFIAR (2018). Report on 2017 Survey of Inspection Findings Retrieved July, 2021 from: <https://www.ifiar.org/?wpdmdl=7970>,
- International Forum of Independent Audit Regulators- IFIAR, (2019). Report on 2018 Survey of Inspection Findings, Retrieved July, 2021 from: <https://www.ifiar.org/?wpdmdl=9603>,
- International Forum of Independent Audit Regulators- IFIAR (2021). Survey of Inspection Findings 2020, Retrieved July, 2021 from: <https://www.ifiar.org/?wpdmdl=12436>,
- International Forum of Independent Audit Regulators- IFIAR, (2022). Survey of Inspection Findings 2021, Retrieved September, 2022 from: <https://www.ifiar.org/?wpdmdl=13957>
- International Valuation Standards Council- IVSC (2014). Statement of protocols for co-operation on International Financial Reporting Standards and International Valuation Standards between the International Valuation Standards Council and the IFRS foundation, Retrieved February, 2021 from: <https://www.ifrs.org/content/dam/ifrs/around-the-world/memoranda/ivsc-protocol.pdf>
- Joe, J.R., Vandervelda, S.D. and Wu, Y. (2017). Use of high quantification evidence in fair value audits: do auditors stay in their comfort zone?, *The Accounting Review*, 92(5), pp. 89-116
- Jones, J. (1991). Earnings management during import relief investigations. *Journal of Accounting Research*, 29, pp. 193–228
- King A.M. (2006). Auditing evaluation reports. *Valuation Strategies*, 9(6), pp. 18-25
- Kothari, S., Sabino, S., & Zach, S. (2005). Implications of survival and data trimming for tests of market efficiency. *Journal of Accounting and Economics*, 39, pp. 129–161
- KMPG (2020). Fair value measurement handbook – IFRS Standards and US GAAP, Retrieved May, 2021 from <https://assets.kpmg/content/dam/kpmg/xx/pdf/2020/12/fair-value-ga-202.pdf>
- Van Landuyt, B. W. (2021). Does emphasizing management bias decrease auditors' sensitivity to measurement imprecision? *Accounting, Organizations and Society*, No. 88, 101189

- Larcker, D., & Richardson, S. (2004). Fees paid to audit firms, accrual choices, and corporate governance. *Journal of Accounting Research*, 42(3), pp. 625-658
- Laux, C., & Leuz, C. (2009). Fair value accounting: making sense of the recent debate. *Accounting, Organizations and Society*, 34(6-7), pp. 826-834
- Laux, C., & Leuz, C. (2010). Did fair-value accounting contribute to the financial crisis? *Journal of economic perspectives*, 24(1), pp. 93-118
- Lazzem, S., & Jilani, F. (2018). The impact of leverage on accrual-based earnings management: The case of listed French firms. *Research in International Business and Finance*, 44, pp. 350-358
- Lee, G., & Masulis, R. W. (2009). Seasoned equity offerings: Quality of accounting information and expected flotation costs. *Journal of Financial Economics*, 92, pp. 443-469
- Li, Y, Niu J., Zhang, R., & Largay, J. (2011). Earnings management and the accrual anomaly: Evidence from China. *Journal of International Financial Management and Accounting*, Vol. 22, pp. 205-245
- Lipshitz, R., & Strauss, O. (1997). Coping with uncertainty: A naturalistic decision-making analysis. *Organizational behavior and human decision processes*, 69(2), pp. 149-163.
- Lo, A. K. (2015). Accounting credibility and liquidity constraints: Evidence from reactions of small banks to monetary tightening, *The Accounting Review*, 90(3), pp. 1079-1113
- Loewenstein, G., Cain, D. M & Sah, S. (2011). The Limits of Transparency: Pitfalls and Potential of Disclosing Conflicts of Interest. *American Economic Review*, No. 101 pp. 423-28
- Lugovsky D., Kuter M. (2020). *Accounting Policies, Accounting Estimates and Its Role in the Preparation of Fair Financial Statements in Digital Economy*. In: Antipova T. (eds) *Integrated Science in Digital Age. ICIS 2019. Lecture Notes in Networks and Systems*, vol 78. Springer, Cham. https://doi.org/10.1007/978-3-030-22493-6_15
- Maijor, S. J., & Vanstraelen, A. (2006). Earnings management within Europe: the effects of member state audit environment, audit firm quality and international capital markets. *Accounting and business research*, 36(1), 33-52
- Marra, A. (2016). The Pros and Cons of Fair Value Accounting in a Globalized Economy. *Journal of Accounting, Auditing & Finance*, 31(4), 582-591. doi:10.1177/0148558x16667316
- Martin, R.D., Rich J.S. & Wilks T J. (2006). Auditing fair value measurement: a synthesis of relevant research. *Accounting Horizons*, 20(3), pp. 287-30
- Menelaides S.L., Graham L.E. & Fischbach G. (2003). The auditor's approach to fair value. *Journal of Accountancy*, 195(6), pp. 73-76
- Michas, P. N. (2011). The importance of audit profession development in emerging market countries. *The Accounting Review*, 86(5), pp. 1731-176
- Muller, K.A. & Riedl, E.J. (2002). External monitoring of property appraisal estimates and information asymmetry. *Journal of Accounting Research*, 40(3), pp. 865-881

- Mureşan, D., & Pop Silaghi, M. I. (2014). Empirical evidence on cross-country differences in explaining accruals anomaly. *Romanian Journal of Economics*, 48(2), pp. 121-132
- Myers, J. N., Myers L. A., & Omer, T. C. (2003). Exploring the term of the auditor-client relationship and the quality of earnings: A case for mandatory auditor rotation?. *The Accounting Review*, 78(3), pp. 779-799
- Neter, J., Kutner, M. H., Nachtsheim, C. J., & Wasserman, W. (2004). *Applied linear statistical model- 4th Edition*, New York: McGraw Hill
- Oyewo, B., Emebinah, E., & Savage, R. (2020). Challenges in auditing fair value measurement and accounting estimates: Some evidence from the field. *Journal of Financial Reporting and Accounting*, 18(1), pp. 51-75
- Palmrose, Z.-V., V. J. Richardson, and S. Scholz (2004). Determinants of market reactions to restatement announcements. *Journal of Accounting and Economics*, 37(1), pp. 59-89
- Penman, S. H. (2007). Financial reporting quality: Is fair value a plus or a minus? *Accounting and Business Research Special Issue: International Accounting Policy Forum*, 33(44)
- Power, M. (2010). Fair Value Accounting, Financial Economics, and the Transformation of Reliability, *Accounting and Business Research*, 40 (3)
- Prather-Kinsey, J., & Waller Shelton, S. (2005). IAS versus US GAAP: Assessing the quality of financial reporting in South Africa, The United Kingdom, and the United States, *Advances in International Accounting*, 18, pp. 153-168
- PricewaterhouseCooper (PWC, 2019). Fair value measurements- global guide, Retrieved May, 2021 from: <https://www.pwc.com/us/en/cfodirect/assets/pdf/accounting-guides/fair-value-measurements-global-guide.pdf>
- Public Company Accounting Oversight Board - PCAOB (2011). Assessing and Responding to Risk in the Current Economic Environment, Staff Audit Practice Alert No. 9. December 6, Retrieved April, 2019, from: https://pcaobus.org/Standards/QandA/12-06-2011_SAPA_9.pdf
- Public Company Accounting Oversight Board- PCAOB (2014). *Auditing Accounting Estimates and Fair Value Measurements*, Staff Consultation Paper, Retrieved August 21, 2018 from: http://pcaobus.org/Standards/Pages/SCP_Accounting_Estimates_Fair_Value.aspx
- Public Company Accounting Oversight Board- PCAOB (2015). Staff consultation paper no. 2015-01, The auditor's use of the work of specialists, Retrieved December 2019, from: https://pcaobus.org/Standards/Documents/SCP-2015-01_The_Auditor's_Use_of_the_Work_of_Specialists.pdf
- Public Company Accounting Oversight Board- PCAOB (2016). Staff Inspection Brief, Preview of Observations from 2016, Inspections of Auditors of Issuers, at 7. Section II.C.2, Retrieved June 2020 from: <https://www.ifiar.org/activities/annual-inspectionfindings-survey>
- Public Company Accounting Oversight Board- PCAOB (2017). Staff inspection brief August, Vol. 2017/3, Washington, DC: PCAOB, Retrieved July 2018, from <https://pcaobus.org/Inspections/Documents/inspection-brief-2017-3-issuer-scope.pdf>

- Public Company Accounting Oversight Board- PCAOB (2018). *Amendments to Auditing Standards for Auditor's Use of the Work of Specialists*. PCAOB Release No. 2018-006. Washington, DC: PCAOB, Retrieved May 2021, from: <https://pcaobus.org/oversight/standards/auditing-standards/details/AS1210>
- Public Company Accounting Oversight Board- PCAOB (2019). Potential Approach to Revisions to PCAOB Quality Control Standards, retrieved March 2022, from: <https://pcaobus.org/Rulemaking/Docket046/2019-003-Quality-Control-Concept-Release.pdf>
- Public Company Accounting Oversight Board- PCAOB (2019). Staff Preview of 2018 Inspection Observations, May, Washington, DC: PCAOB , Retrieved July, 2021 , from: https://pcaob-assets.azureedge.net/pcaob-dev/docs/default-source/inspections/documents/staff-preview-2018-inspection-observations.pdf?sfvrsn=b5f8cb09_0
- Public Company Accounting Oversight Board- PCAOB (2022). Request for comment. Post-implementation review. Interim analysis of estimates and specialists audit requirements, April 12, 2022, Retrieved September, 2022 , from: https://pcaob-assets.azureedge.net/pcaob-dev/docs/default-source/economicandriskanalysis/pir/documents/rfc-interim-analysis-estimates-specialists-audit-requirements.pdf?sfvrsn=b6e49df_4
- RSM (2020). US GAAP vs. IFRS: Fair value measurements – RSM guide, Retrieved May, 2021 from: <https://rsmus.com>
- Rajgopal, S., Srinivasan, S., & Zheng, X. (2021). Measuring audit quality. *Review of Accounting Studies*, 26(2), pp. 559-619
- Reynolds, J. K., & Francis, J. R. (2000). Does size matter? The influence of large clients on office-level auditor reporting decisions. *Journal of accounting and economics*, 30(3), pp. 375-400
- Rowe, S. P. (2019). Auditors' comfort with uncertain estimates: More evidence is not always better. *Accounting, Organizations and Society*, 76, pp. 1-11
- Salzsieder L. (2016). Fair value opinion shopping. *Behavioral Research in Accounting*, 28(1), pp. 57-66
- Seidel, T. A., Simon, C. A., & Stephens, N. M. (2020). Management bias across multiple accounting estimates, *Review of Accounting Studies*, 25(1), pp. 1-53
- Sellers RD, Meckfessel MM, Jadallah J, Chaghervand AM (2020). Variability of accounting restatement in audit quality research. *Working paper*, Kent State University 2020, available at SSRN 3216124
- Securities and Exchange Commission- SEC (2011). Disclosure and corporate governance: financial reporting challenges for 2012. Retrieved September 2, 2018 from: https://www.weil.com/~media/files/pdfs/weil_alert_sec_cg_january_12.pdf
- Securities And Exchange Commission- SEC (2019) Public Company Accounting Oversight Board; Order Granting Approval of Auditing Standard 2501, *Auditing Accounting Estimates, Including Fair Value Measurements*, and Related Amendments to PCAOB Auditing Standards (Release No. 34-86269; File No. PCAOB-2019-02),). Retrieved December 2019 from: <https://www.sec.gov/rules/pcaob/2019/34-86269.pdf>

- Sievers, S., & Sofilkanitsch, C. (2018). Financial restatements: Trends, reasons for occurrence, and consequences - a survey of the literature. *Taxation, Accounting, and Finance (TAF Working paper, No. 35)*. Retrieved January 2019 from: https://wiwi.uni-paderborn.de/fileadmin/cetar/TAF_Working_Paper_Series/TAF_WP_035_SieversSofilkanitsch_2018.pdf
- Smith-Lacroix, J.-H., Durocher, S., & Gendron, Y. (2012). The erosion of jurisdiction: Auditing in a market value accounting regime. *Critical Perspectives on Accounting*, 23(1), pp. 36–53
- Soltani, B. (2014). The anatomy of corporate fraud: A comparative analysis of high profile American and European corporate scandals. *Journal of business ethics*, 120(2), pp. 251-274
- Standarde de Evaluare a Bunurilor [Assets Valuation Standards]- SEV (2018). ANEVAR. Retrieved September 2, 2018 from: http://site2.anevar.ro/sites/default/files/pagefiles/standarde_2018.compressed.pdf
- Stanley, J. D., & DeZoort, F. T. (2007). Audit firm tenure and financial restatements: An analysis of industry specialization and fee effects. *Journal of Accounting and Public Policy*, 26(2), pp. 131-159
- Staubus, G. J. (2000). *The decision-usefulness theory of accounting: A limited history (New works in accounting history)*. New York: Garland Publishing
- Stuber, S. B., & Hogan, C. E. (2021). Do PCAOB Inspections Improve the Accuracy of Accounting Estimates? *Journal of Accounting Research*, 59(1), pp. 331-370
- Tan, C. E. L., & Young S. M. (2015). An analysis of “little r” restatements. *Accounting Horizons*, 29(3), pp. 667-693, <https://doi.org/1.2308/acch-51104>
- Tsipouridou, M., & Spathis, C. (2014). Audit opinion and earnings management: Evidence from Greece, *Accounting Forum*, 38(1), pp. 38-54
- Vander Bauwhede, H., Willekens, M., & Gaeremynck, A. (2003). Audit firm size, public ownership and firms’ discretionary accruals management. *The International Journal of Accounting*, 38, pp. 1-22
- Velte, P. (2022). The impact of external auditors on firms’ financial restatements: a review of archival studies and implications for future research. *Management Review Quarterly*, pp. 1-27
- Véron, N. (2008). Fair Value Accounting Is the Wrong Scapegoat for This Crisis. *Accounting in Europe*, 5(2), pp. 63– 69
- Walliser, É. (2012a). Etre ou ne pas être juste. *Revue française de comptabilité*, 453, pp.45-47
- Walliser, É. (2012b). Être ou ne pas être juste:(2ème partie) vers de nouvelles perspectives? *Revue française de comptabilité*, 454, pp. 32-34
- Wallison, P. J. (2008). Fair value accounting: A critique, *Financial Services Outlook, American Enterprise Institute for Public Policy Research*, July
- Warfield, T. D., Wild, J. J., & Wild, K. L. (1995). Managerial ownership, accounting choices, and informativeness of earnings. *Journal of accounting and economics*, 20(1), pp. 61-91
- Watts, R. L., & Zimmerman, J. L. (1990). Positive accounting theory: A ten year perspective. *Accounting Review*, pp. 131-156

- Wuryani, E. (2012). Company size in response to earnings management and company performance. *Journal of Economics, Business, & Accountancy Ventura*, 15(3), pp. 491-506
- Xie, H. (2001). The mispricing of abnormal accruals. *The Accounting Review*, 76(3), pp. 357-373
- Zack M., McKeen J. & Singh S. (2009). Knowledge management and organizational performance: an exploratory analysis. *Journal of Knowledge Management*, 13(6), pp. 392-409
- Zamri, N., Rahman, R. A., & Isa, N. S. M. (2013). The impact of leverage on real earnings management. *Procedia Economics and Finance*, 7, pp. 86-95
- Zang, A. (2012). Evidence on the trade-off between real activities manipulation and accrual-based earnings management. *The Accounting Review*, 87(2), pp. 675–703

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