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Auditor's Perception Regarding the Audit of Complex Estimates

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ABSTRACT

This article aims to analyze auditors' perceptions regarding the audit of complex accounting estimates. Using a qualitative approach, twelve auditors were interviewed and the data were analyzed using the content analysis method. The study shows that the greatest difficulty for the auditor lies in obtaining evidence to corroborate and confirm unobservable assumptions underlying a complex estimate. Furthermore, according to interviewees, the most likely cause of error in complex estimates is the lack of involvement of more experienced professionals. The results also suggest that Big4 auditors are more likely to conduct a more thorough risk assessment, and to use tests of controls in their response to risk. The study is original and contributes to the users of auditor's work. In addition, the study uses a model that can be replicated in other types of audit research in Brazil to better understand the audit process.

KEYWORDS:

Audit, Complex Estimates, Auditor, Professional Judgment.

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RESUMO

O artigo busca analisar a percepção dos auditores acerca da auditoria de estimativas contábeis complexas. Usando uma abordagem qualitativa, doze auditores foram entrevistados, e os dados averiguados pela técnica de análise de conteúdo. O estudo mostra que a maior dificuldade do auditor está em obter evidências para corroborar e confirmar premissas não observáveis que embasem uma estimativa complexa. Além disso, segundo os entrevistados, a causa mais provável para um erro em estimativas complexas é a ausência do envolvimento de profissionais mais experientes na execução do trabalho. Os resultados também sugerem que auditores de *Big4* estão mais propensos a realizar avaliação de risco mais minuciosa, além de utilizar testes de controles na resposta ao risco. O estudo é original e contribui para usuários do trabalho do auditor, além de usar um modelo que pode ser replicado em outros tipos de pesquisa de auditoria no país, a fim de se entender melhor o processo de auditoria.

PALAVRAS-CHAVES:

Auditoria, Estimativas Complexas, Auditor, Julgamento Profissional.

1. INTRODUCTION

Currently, almost all line items in the financial statements are subject to some type of judgment in their measurement. (International Accounting Standards Board, 2018).

In recent years (Comissão de Valores Mobiliários, 2022a, 2022b, 2022d), the Brazilian Securities and Exchange Commission (CVM) has included several accounting estimates as a matter of concern for its technical staff, such as impairment of goodwill and analysis of recoverability of deferred taxes.

The audit of complex estimates plays a key role in today's securities market, where strategic decisions often depend on sophisticated projections and valuations. Therefore, the main objective of this article is to analyze auditor perception in the audit of complex estimates and evaluate how this perception may affect the quality and reliability of the audits.

There is consensus that the increasing complexity in accounting estimates requires a more careful and specialized approach by auditors. This research was driven specifically by the need to understand this issue in more detail by directly assessing how professionals from the area have faced the challenges associated with the audit of complex estimates.

Through a qualitative approach, twelve audit professionals from eight different audit firms were interviewed using a semi-structured questionnaire. A large number of audit studies in Brazil use structured surveys to obtain data (Cunha et al., 2010 and Oliveira et al., 2021, for example), but there are a few studies with interviewees (see, for example, Mendes et al., 2022, Nascimento et al., 2019 and Souza, Oliveira & Colares, 2013) that provide more detail on the audit process itself. This article seeks to fill this gap in the country's literature by providing data that could be valuable for future research or even to better understand how auditors act in scenarios involving complex estimates.

The results of this article, obtained by collecting data from the auditors themselves, point to aspects that justify the difference in the quality of Big4 auditors when compared to non-Big4 auditors. This can be mainly due to the process of understanding and assessing the risks and defining the strategy to respond to these risks. In addition, it was found that: (i) obtaining reliable data to validate estimates with a higher degree of judgment and (ii) assessing whether the

evidence obtained is sufficient to conclude that the estimate is reasonable are the main challenges faced by auditors in performing their work. The auditors therefore warn that the experience of the professionals involved is also a key factor to ensure a higher quality of the work performed.

In summary, this research aims to fill a significant gap in the understanding of the audit of complex estimates, providing valuable insights for academics, audit professionals, and industry regulators.

Complex estimates are defined as those that involve substantial use of unobservable variables based on market perspectives.

2. THEORETICAL BACKGROUND

Due to the inherent nature of complex estimates, which typically involve the participation of specialists in certain areas and present difficulty in obtaining an estimated number that can be considered ideal (Griffith, 2020), there is a possibility that management will use its judgment to manage results according to the incentives at a given point in time, and this mechanism may compromise the quality of the financial statements (Beatty & Weber, 2006; Francis et al., 1996; Ramanna & Watts, 2012).

Against this background of conflict between the preparers of accounting information and the users of such information, auditors act as 'monitors' to ensure that companies' accounting information is appropriately prepared and disclosed. (Watts & Zimmerman, 1986).

As stated by Ibracon – Institute of Independent Auditors of Brazil (2018) and Campos (2019), in recent years auditors have included accounting estimates as one of the key matters in their audit reports, evidencing the importance of this topic when performing their work in general. In today's market, given the periods of economic slowdown and low growth in Brazil in recent years (Instituto Brasileiro de Geografia e Estatística, 2022), auditors play a critical role in ensuring the reasonableness and relevance of the financial statements (International Auditing and Assurance Standards Board, 2008).

One of the main inputs used in the literature to measure audit quality is the fact of a company being audited by one of the Big4 firms, namely Deloitte, PWC, EY and KPMG (DeFond & Zhang, 2014). Thus, this article also aims to clarify the main differences in the procedures performed by professionals in both the Big4 group and outside it.

In recent years, in its inspections in audit firms, the U.S. regulator PCAOB – Public Company Accounting Oversight Board has found constant deficiencies in the audit of accounting estimates. (Public Company Accounting Oversight Board, 2017, 2022a, 2022b). In one of the PCAOB's inspection reports, it is noted that, in order to test estimates, the auditor must act with professional skepticism and delegate to more experienced professionals, given the high degree of unobservable variables and complexity present in accounting estimates.

To help auditors improve the procedures performed on accounting estimates and reduce the issues raised in inspections, both the PCAOB and the IAASB (International Auditing and Assurance Standards Board) have revised their specific standards related to conducting audit of estimate. The revised ISA – International Standard on Auditing 540 (International Auditing and Assurance Standards Board, 2018a) provides for the audit of accounting estimates. The document mentions that the degree of estimation uncertainty naturally has an impact on the assessment of the risks of material misstatements and procedures to be performed to address these risks. For example, the more risk there is in an estimate, the more extensive and persuasive the documentation must be to support the auditor's conclusion.

The standard also highlights the importance of understanding the entity's environment and the internal controls associated with the accounting record of an estimate (International Auditing and Assurance Standards Board, 2018a). In other words, the auditor needs to obtain a general understanding of the processes such as how Management performed this calculation, what assumptions were used, assessment of the competence and authority of the professionals involved, consistency between what was designed and what was actually performed, among other procedures applicable in each case. All of this is done so that the auditor can determine at which stage of the process something might go wrong and, at the points that are most prone to error, the auditor needs to put in more effort and working time to address the risks identified.

Finally, the International Auditing and Assurance Standards Board (2018a) document outlines three approaches that the auditor should follow when planning the audit response to address the risks of material misstatements associated with accounting estimates: "a. Obtaining audit evidence from events occurring up to the date of the auditor's report; b. Testing how management made the accounting estimate; c. Developing an auditor's point estimate or range.".

Among the changes observed in the aforementioned amendment to ISA 540, the International Auditing and Assurance Standards Board (2018b) highlights: (i) introducing the concept of inherent risk factors associated with the complexity and subjectivity of the estimates; (ii) improving the risk assessment process, including an understanding of the entity and its environment; (iii) emphasizing the importance of internal controls; (iv) improving aspects of assessment and consideration of corroborative and contradictory evidence; and (v) improving the standard's application materials, including more detail.

As a result, according to the mentioned document, the revised ISA 540 provides more detail on how to act in certain circumstances and to clarify and detail other procedures considered important when conducting the audit. It should be noted that it is part of the set of ISAs, which include the international auditing standards issued by the IAASB, to converge and unify local auditing practices of each country, thus improving the quality of audits.

ISA 540 is applied in Brazil and in virtually all the economically most important countries, except the United States, where the PCAOB is responsible for preparing US auditing standards, although these do not differ significantly from ISAs (Meuwissen et al., 2009). It is important to emphasize that Brazil does not have a specific body for the direct supervision and inspection of auditors similar to the PCAOB in the United States (Niyama et al., 2011), although the CVM has this jurisdiction in the country (Comissão de Valores Mobiliários, 2022e).

The scientific literature on auditing of complex estimates is relatively new. Although audit work conducted in other countries use agency conflict (Watts & Zimmerman, 1986) as a theoretical basis to support the work of auditors to ensure a higher quality of companies' accounting information (DeFond & Zhang, 2014), few works have been conducted in Brazil (see, for example, Cunha & Araújo, 2019 and Cunha et al., 2010) to understand how the audit process works and what procedures auditors perform to attest to the reasonableness of the financial statements.

Cunha and Araújo (2019) conducted an exploratory study to evaluate the use of taxonomy as a tool to mitigate auditor subjectivism in audit processes, although the focus of the article has been the applicability to audits of the Federal Court of Auditors. Cunha et al. (2010), by means of a questionnaire sent to twenty-three auditors which sought to understand the main procedures performed in third sector companies in Santa Catarina, although they did not address the issue of the performance of these procedures.

Brazilian articles using interviews on this topic are also scarce and not all of them address the audit of financial statements. Mendes et al. (2022), in a field study, interviewed professionals from three companies in the municipality of Maracanau – CE and identified a tendency for companies to implement internal controls and internal audit activities as a way to prevent intentional or unintentional errors. Souza, Oliveira & Colares (2013) interviewed two auditors of the Audit Court of Minas Gerais and four public managers of a City Hall in order to assess the perception of the impact of audit on the transparency of public accounts.

Nascimento et al. (2019) interviewed six independent auditors of the Big4 to obtain the professionals' perception of the new audit report. According to this article, for auditors, the key audit matters would be related to areas that involve greater judgment and participation of the auditor and how the information presented could provide more information to the user of the statement about the auditor's work.

Thus, this article is original and contributes to the literature by presenting how auditors perceive complex estimates. Articles published mainly in the United States have also conducted research on the relationship of auditors with accounting estimates.

Hermanson et al. (2017) conducted a survey to understand auditors' perception of fair value estimates. The main results obtained are due to the greater difficulty in auditing fair values of level three, compared to those of level one, in addition to less confidence in an opinion on financial statements that have significant fair values. The study indicates that this greater lack of confidence is associated with the auditors' difficulty in concluding whether there was sufficient appropriate evidence to provide a basis for their opinion.

Due to the inherent uncertainty of the assumptions and everything that involves a fair value estimate, auditors must have critical thinking as one of their main skills, so that they can better identify when the audit evidence obtained is reliable and consistent, or not, in order to support their conclusion on the estimate (Griffith et al., 2015b). In an experiment conducted with senior professionals, these authors applied a task (immediately before the experiment) to some of the participants, who would be encouraged to activate the so-called "deliberative mentality". This shows how important the psychological part of the professionals is to the audit profession, as only knowing the technical part may not be sufficient to perform a quality audit. In this sense, Ahn et al., (2020) examined whether there was an association between highly experienced auditors and the quality of a fair value audit, as the authors' hypothesis was that the experience and knowledge in fair value were obtained in practice and would be related to the auditor´s types of clients. Thus, if a partner serves clients with more fair value estimates of level three, the quality of the audit provided to a given client tends to be associated with this past experience.

Outside the North American environment, a survey with more than two hundred and seventy auditors was conducted in Nigeria by Oyewo et al. (2020) to assess what professionals perceived as a challenge for auditors when performing a fair value analysis. The three most challenging items highlighted by the study were: (a) the possibility and opportunity for management to manage the results in estimates with unobservable assumptions; (b) the fair value assumptions of level three are difficult to analyze, without external data or information to be corroborated; and (c) assessments of fair value of level three increase the risk of the work.

Returning to the US studies, Glover et al. (2017) also conducted a survey with audit partners to find out which of the approaches provided in the auditing standards were most frequently used. One of the points identified, in estimates with greater risks of material misstatements, was the tendency of auditors to use more than one approach to perform substantive tests, as well as to focus on developing an independent estimate, to the detriment of other alternatives offered by auditing standards.

A simple change in the auditors' strategy for evaluating estimates can also affect their conclusions. According to Backof et al. (2018), the fact of considering "how" instead of "why" indicates that an assumption was determined by management, which can increase the degree of skepticism with which the auditor would evaluate the reasonableness of the information. The result of this experiment reinforces the aspect brought by regulators that the assessment, by external auditors, of the processes and internal controls associated with complex estimates, is of paramount importance to the quality of the audit.

Improving audit quality by changing the way the auditor thinks and plans the audit was also the subject of Bucaro's study (2019). Using a technique called system-thinking, taught to some of the participants of an experiment, an improvement in the use of professional judgment and fewer automatic decisions was observed on the part of professionals who had been trained to be more system-thinkers. For Bucaro (2019), auditors must have greater cognitive preparation so that they can act with more skepticism and in a more critical manner. This study is important because it shows that audit firms can focus on different types of training (other than just technical courses) for their employees to increase audit quality.

Confirmation bias by auditors is also something that can compromise the smooth running of audits, according to a study conducted by Austin et al., (2020). According to these authors, auditors who focus more evenly on all documentation obtained tend to use both confirmatory and contradictory evidence when evaluating an estimate, instead of considering only the confirmatory evidence, informed by the clients' management, which is usually the characteristic of auditors with this bias. Such evidence supports the concern of regulatory bodies about the importance of auditors considering all available evidence when performing an audit of estimates.

Griffith et al. (2015a), through interviews with twenty-four managers and partners, sought to understand how work was conducted in complex estimates. One of the main points obtained in the interviews refers to the fact that auditors prefer to test management's assumptions, rather than developing an estimate independently. They also pointed out that there is often no assessment of matters that could contradict what was said by management (i.e., they focus on confirmatory rather than contradictory evidence). This procedure is justified when some topics mentioned by the interviewees and listed in the article are detailed, such as, for example, the fact that the auditor may not choose the best way to carry out his tests because he does not have a solid understanding of the client and its operations. This fact is related to one of the objectives of the International Auditing and Assurance Standards Board (2018b) with ISA 540, which emphasizes the importance of obtaining a better understanding of the company's processes and environment, so that the auditor can perform a better-quality service.

3. METHODOLOGY

To analyze the auditor's perception regarding the audit of complex estimates, semi-structured interviews were conducted with twelve professionals—six managers and six partners—from eight different audit firms, all of them Big4, in addition to four other firms, defined below. The questionnaire had fourteen open-ended and comprehensive questions designed for the auditor to speak freely on a given topic. Based on the responses, new questions were made in order to better understand or detail some specific procedure.

The number of twelve interviews proved to be reasonable because it was sufficient to reach a level of saturation, as other interviews would not bring new information, in addition to that already present in the interviews conducted (Dai et al., 2019; Fontanella et al., 2008). Furthermore, this number is fifty percent higher than the average number of interviews observed in Brazilian research of the accounting area in recent years (Lima, Silva & Leal, 2021).

In addition to the four firms belonging to the Big4, responsible for sixty-three percent of companies listed on B3 S.A. – Brasil, Bolsa, Balcão (Comissão de Valores Mobiliários, 2022c), four other firms affiliated with international audit groups were analyzed, namely: BDO, Grant Thornton, Baker Tilly and Mazars. Regarding the interviewees, managers and partners were chosen because they are the professionals with the most experience in the area, because they are involved in all stages of the audit of estimates and because they have already served a wide range of clients, in addition to being a recurring practice in other audit surveys which also uses interviews or questionnaires. (Abdullatif, 2016; Glover et al., 2019; Griffith et al., 2015a; Segal, 2019; Toy et al., 2019).

The research participants, all with extensive and reported experience auditing complex estimates, were contacted and invited to participate via LinkedIn message or text messages. Auditors were asked not to base their responses on a specific client, but rather on broader experiences, a technique similar to that used by Griffith et al. (2015a), so that there is no response bias. Finally, the interviews also seek to analyze the experience of auditors in companies not regulated by certain bodies (such as BACEN, SUSEP and Aneel), taking into account specificities carried out by these same bodies for the accounting of companies.

The interviews were conducted remotely using the Google Meet tool, in October, November, and December 2022, as this was an appropriate method for the purpose of the research to understand how the audit of complex estimates is conducted.

The interview questions were developed based on the literature as well as the specific research objectives, in line with the research script suggested by King (2004). The questions were designed and planned to be open-ended and comprehensive, in such a way as not to limit the response of the interviewees, as is done in similar surveys with auditors (Bauer & Estep, 2019; Griffith et al., 2015a). Before actually starting the data collection work, as a way of better developing the questions to be asked, a pre-test interview was conducted with an audit manager, who was not part of the research and has experience in audits of complex estimates in publicly traded companies, in order to obtain feedback, refine and improve the interview and questionnaire. According to Lima et al. (2021), pre-testing can ensure that the information collected is better used.

Each participant was informed at the beginning of the interview about the nature of the research—that each report would be confidential and that the names of the authors would not be disclosed under any circumstances, as was done in the study by Louw and Maroun (2017). Participants were informed that the interview would be recorded, to later be transcribed into text, ensuring that it would not be disclosed under any circumstances, so as not to inhibit responses. The start and end time of the recording were announced by the interviewer, so that the interviewee was fully aware.

The interview transcriptions were carried out by professionals from a company specializing in audio-to-text conversion. When completed, they were sent to one of the authors of this article, who performed a text check. This review was based on ensuring that there were no inconsistencies or errors that could change the meaning of the content. Some more technical terms used by the auditors, words in English, or some moments marked as inaudible were highlighted by the professionals who carried out the transcription, and were corrected or transcribed directly,

after listening to the audio corresponding to the recordings. Considering all the interviews, no unintelligible words or passages were identified, as the interviews were conducted in a quiet environment and with good recording tools, which helps the quality of the transcription.

The text obtained from the transcriptions was sent to the research participants, who provided an "agreed to" regarding the content, in order to ensure the reliability of the information described therein, as well as acceptance of participation.

The technique used for text interpretation is content analysis, with an exploratory and interpretative nature (Louw & Maroun, 2017), using NVivo software to aid data analysis. Excerpts from the interviews were included in the work, to increase reliability and reader interpretation, as suggested by Lima, Silva & Leal (2021), but not excessively, as described in Dai et al. (2019), since the researcher's analysis must prevail.

In the texts transcribed by professionals, language vices, stuttering, repetitions, or pronunciation errors were, for the most part, eliminated. However, slang, excessive colloquial language, or grammatical errors may be noted. For these cases, the excerpts were adapted and edited to ensure better understanding and fluidity of the text by readers. It is worth noting that such edits to the transcripts were made by one of the authors of this article, without changing or biasing the content of what the auditors said, given that they were replaced by more formal words or expressions and are part of the context of the interview. This transcription technique, called denaturalized, is cited by researchers as the most suitable for content analysis work (Nascimento & Steinbruch, 2019).

Additionally, it was found that the interview does not violate the accountants' code of ethics, as access to their working papers was not requested, nor was specific and confidential information requested from clients, therefore the work was not submitted for approval to the ethics committees. Participants were informed how the results were included in the work, in addition to ensuring total confidentiality and anonymity (Orb et al., 2000).

According to Bardin (2016), content analysis can be defined as "a set of communication analysis techniques aimed at obtaining, through systematic and objective procedures for describing the content of messages, indicators (quantitative or not) that allow the inference of knowledge related to the conditions of production/reception (inferred variables) of these messages".

By obtaining data from professionals from several audit firms, including those that are not part of the Big4, it is possible to assess whether there are differences between them regarding the tools available to conduct the audit and also to analyze whether there are differences between the procedures and concerns of auditors from Big4 and non-Big4, as well as to verify whether the recent introduction of the new revised ISA 540 pronouncements changed the way auditors performed their work.

In this way, through interviews, it is possible to better explore the audit process, which is practically impossible to obtain through other methods, such as archival, given that the audit papers are confidential, and with restricted access, and available only to people who are part of the engagement team. According to Glover et al. (2019), obtaining information from partners and professionals from different firms provides a broader view of the aspects associated with audit of complex accounting estimates.

4. RESULTS AND DISCUSSIONS

Tables 1 and 2 below were drawn up based on the characterization of the interviewees:

Table 1
Characterization of the interviewees

Alias	Firm	Position	Date of interview	Time of interview (in minutes)	Auditor Qualification (CNAI)	Audit time in years
Auditor 1	*Big4* – A	Manager	10/26/2022	71	QTG	7
Auditor 2	Non-Big – H	Partner	10/25/2022	89	QTG/CVM	15
Auditor 3	Non-Big – H	Manager	10/27/2022	103	QTG/CVM	11
Auditor 4	*Big4* – A	Partner	10/28/2022	54	QTG/CVM	12
Auditor 5	*Big4* – B	Partner	10/28/2022	74	QTG/CVM	21
Auditor 6	Non-Big – E	Manager	10/31/2022	97	QTG/CVM	13
Auditor 7	Non-Big – F	Manager	11/25/2022	80	QTG/CVM	9
Auditor 8	*Big4* – C	Manager	11/10/2022	72	QTG/CVM	12
Auditor 9	*Big4* – B	Manager	11/11/2022	85	QTG/CVM	11
Auditor 10	Non-Big – E	Partner	11/14/2022	76	QTG	18
Auditor 11	Non-Big – G	Partner	11/17/2022	84	QTG, CVM, BCB, SUSEP	17
Auditor 12	*Big4* – D	Partner	12/19/2022	81	CNAI QTG, CVM	13
			Average interview time	**81**	**Average experience**	**13**

Source: prepared by the authors (2022).

Table 2
Summary of interviewees by company and position

Firm	Managers interviewed	Partners interviewed
Big4 – A	1	1
Big4 – B	1	1
Big4 – C	1	–
Big4 – D	–	1
Total Big4	**3**	**3**
Non-Big4 – E	1	1
Non-Big4 – F	1	–
Non-Big4 – G	–	1
Non-Big4 – H	1	1
Total Non-Big	**3**	**3**

Source: prepared by the authors (2022).

Tables 1 and 2 show a balance in the division of interviews between Big4 and non-Big4 firms, as well as in the division between audit managers and partners.

4.1. Major difficulties

Participants were asked what they considered to be the major difficulties or the procedures that more demanded effort by the auditor in conducting an audit of a complex estimate. Table 3 summarizes their responses. It should be noted that some auditors indicated more than one difficulty and, for this reason, the sum in the "total" column exceeds the number of twelve participants.

Table 3
Major difficulties pointed out by auditors

Major difficulties	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	Total
Subjectivity of assumptions and level of client documentation		X	X			X	X	X	X		X		7
Assessment of sufficiency level for completion	X	X			X	X				X	X		6
Planning and assessment of risks for design of procedures	X			X				X				X	4

Source: prepared by the authors (2022).

The two most frequently cited points are related to the issue of unobservable assumptions and the difficulty in obtaining documentation to support those assumptions, cited by seven auditors, and the assessment of a sufficiency level for completion of the work, cited by six auditors.

Auditor 3 said that "the most difficult thing to overcome are these discussions of optimistic projections and judgments, in which we challenge what is proposed by the client". On the other hand, auditor 7 explored the difficulty of subjectivity of assumptions: "The most difficult thing is that sometimes the assumptions used by management do not have an internal or external source that you can consult, either because of history or because of some external metric that is not so easy to compare to the market. And it ends up becoming very subjective what management understands by that assumption."

Only four professionals mentioned the issue of risk assessment and procedure design, mainly because this is the main stage that guides the rest of the work. Auditor 4 reported that the major difficulty is "in the risk assessment phase, the point at which auditors must determine where the risk lies and develop their procedures. I think it is very important for the auditor to understand that this is where the main intelligence of the test lies, because an inefficient risk assessment can have an impact on the efficiency of the test". And this issue was reinforced by auditor 12: "At the risk assessment, we must identify the risk that exists individually in each assumption of the estimate and then define the procedure for responding to the risk. I understand that doing a good risk assessment is the main step."

It is also worth highlighting the fact that four of the six professionals cited the part of conclusion of the assessment as a difficulty, and because they are partners, they end up being more directly involved in this part of the work. Auditors 5 and 11 even pointed out the pressure they were under from the client's management at this stage of the work.

4.2. The most likely reason for auditors not detecting errors in estimates

Participants were asked what was the most likely reason for the auditor not finding an error in a complex accounting estimate. Table 4 below shows the main causes:

Table 4
Most likely cause for non-detection of error by the auditor

Most likely cause for non-detection of error	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	Total
Error in test planning and design	X							X	X				3
Lack of involvement of more experienced members or industry experts		X	X	X	X		X			X		X	7
Failure to perform procedures to validate the assumptions						X					X		2

Source: prepared by the authors (2022).

Of the twelve participants, seven cited the non-involvement of experienced members or industry experts. This is mainly due to the fact that managers and partners have little involvement in the audit of complex estimates. The auditors' accumulated experience in a given segment can help them to be more critical or better able to validate whether the projections and data prepared by the client are reasonable.

For Auditor 10, "looking at it from the beginning, in order to do a perfect analysis, the team has to have the knowledge, qualifications, training and affinity for that segment." Auditor 7 even says that if the audit team does not feel comfortable, the ideal option would be to consult the technical areas of the audit firm. Failure to do so may lead to a situation where the engagement partner will not make the best decision: "when you are not completely sure about a topic, you should share the risk with the technical and support areas of the audit firm. Sometimes this is not done due to lack of time or tight deadlines to complete the work.". Auditor 5 shares this view and explains that the lack of careful review by experienced members can lead to errors in the estimate: "For me, it is the lack of review and oversight. In other words, the manager and partner did not look at the work properly."

This reinforces the importance of the audit team having qualifications and experience in the audited client itself or in audits of companies in the same segment, so that the level of skepticism used can help the auditor have more reason to exercise its judgment and determine whether a complex estimate is reasonable or not.

4.3. Main differences in procedures between Big4 and non-Big4 companies

Two main differences were found between the responses given by Big4 professionals and non-Big4 professionals in terms of treatment and understanding of certain issues:

(i) Importance of internal controls for risk mitigation:

Of the six Big4 auditors, four cited the importance of internal control, while only one non-Big4 auditor stressed the importance of internal controls in mitigating the risk of complex estimates. Auditor 1, from a Big4, pointed out the importance of internal control in risk mitigation and that this should be a primary concern of company management itself, regardless of whether the auditor is going to test it or not. Auditors 4, 9 and 12, from a Big4, as well as auditor 6, from a non-Big4, mentioned the importance of testing controls over bases or inputs that can be used in developing the complex estimate. Auditor 4 said: "We need to test system controls over the generation of a report and how it feeds into the related estimate." Auditor 9 warned: "The control approach is important in testing the estimates to ensure that the internal controls used

to determine the values are adequate. If there is a possibility of manipulation in an item that has a significant impact on the estimate, it is very difficult to confirm this by substantive testing."

As a result, Big4 auditors were more likely to warn about the importance of internal control testing than those who do not work for the Big4. The other participants only mentioned that they usually carry out the minimum required by the audit standards when it comes to internal control, and choose to develop substantive procedures directly, since internal control testing alone is not sufficient to address the risks of material misstatements in accordance with item 18 of the ISA 330 – *The Auditor's Responses to Assessed Risks*.

(ii) Greater emphasis on the risk assessment process:

When asked which stage is the most difficult and requires the most effort on the part of the auditor, four professionals from the Big4 pointed to the risk assessment and test design stage, primarily because this is the point at which the auditor bases virtually all of the work to address the risk up to completion of the work. If the auditor fails to determine exactly what the risk of material misstatement is, the auditor may fail to test assumptions or information relevant to the calculation of the estimate. No non-Big4 auditor cited this as the major difficulty.

Thus, there is a tendency for this risk analysis to be more thorough in Big 4 firms when compared to non-Big 4 firms. Auditors 1, 4 and 12, for example, stated that risk analysis is carried out at the assumption level, as not all inputs in an estimate necessarily have the same level of risk. Auditor 9 mentioned the importance of assessing potential opportunities and pressures from management to bias the calculation, while auditor 8 warned that the client's expertise in preparing the information should also be taken into account as a risk factor, because if management does not have the ability to prepare the estimate themselves, then the degree of complexity can increase the level of risk.

Auditors from non-Big4 firms, on the other hand, even though they assessed qualitative aspects, cited quantitative factors as key to defining risk. Auditor 7 even said that his audit firm has internal guidelines that, by default, estimates carry at least a moderate risk of material misstatements. However, in theory, the level of risk should be determined after the risk assessment is carried out in the planning stage of the work. Fifty percent of Big4 auditors cited that the probable cause for an error could derive from an error in the planning and design of risk mitigation tests, while none of the non-Big4 auditors mentioned this issue.

4.4. Amendment to ISA 540

The auditors were asked about the amendment to ISA 540 compared to the previous version and the tone of the answers was similar among virtually all the participants, that the revised standard only clarified points that were already present in other standards. For auditor 8, perhaps some points of the standard could still be improved, mainly due to the fact that the conclusions are still mainly based on the auditor's judgment: "I would not say there has been a change. This still leaves much of the responsibility to the auditor's judgment." Auditor 4 also pointed out that some paragraphs of the new standard were already provided for in other regulations: "Perhaps today it's a little more structured, but I understand that it is more a clarification of issues already present in other standards."

Therefore, overall, the revised standard may not have had significant impacts on the way the auditor performs audit procedures when dealing with complex estimates.

5. CONCLUSION

The purpose of this article is to understand how auditors perceive complex estimates. To this end, interviews were conducted with twelve auditors working in eight different audit firms to discuss various aspects.

The main difficulty highlighted by auditors relates to unobservable assumptions as these require greater effort on the part of the auditor, particularly in cases where sources of external information are scarce, preventing any comparison with market benchmarks. Two other adverse points were mentioned: (i) conclusion: the auditor has difficulty in concluding whether the evidence obtained is sufficient to support his conclusion; and (ii) risk identification and assessment: four auditors indicated that the main challenge is to assess and determine exactly what the risk is of material misstatement and also to determine the procedure to address that risk.

The lack of greater participation and involvement of experienced professionals and specialists from the client segment is the reason most often cited by auditors as a likely cause of non-detection of error in complex estimates, which relates to the judgments that need to be applied throughout the work—from the stage of understanding, assessing and defining risks, through the design and execution of tests to the completion of the work. In a scenario in which the client has in-depth knowledge of the business and the projections, an auditor must have a great deal of skepticism and accumulated technical knowledge of similar situations, thus establishing a foundation and basis for criticizing and evaluating the reasonableness of the assumptions presented.

In terms of key differences between Big4 and non-Big4 auditors, two main differences stand out. The first relates to the importance given to internal controls as part of the risk response. In Brazil, there is no legislation that requires testing of internal controls, as is the case in the U.S. environment (Securities and Exchange Commission, 2022), and therefore testing of controls is at the option of the auditor. In the sample of twelve interviewees, a greater proportion of Big4 professionals warned about the importance of understanding and testing internal controls in the audit of complex estimates.

The second observation indicates that Big4 auditors appear to place greater value and importance, in terms of relevant difficulty and as likely error of non-detection, on risk assessment and the design of procedures to address the risk of material misstatement associated with complex estimate than non-Big4 auditors. Better understanding and precision in determining where the risk of material misstatement actually lies in a complex estimate may make the auditor more assertive and more able to consider and ensure the reasonableness of the complex estimate.

It should be noted that, as mentioned by the professionals interviewed, the design and execution of the tests, the strategies adopted, the level of documentation obtained, and the conclusions reached still depend greatly on the degree of judgment of the auditor in charge. In addition, the relatively recent amendment to auditing standards associated with accounting estimates, coupled with the low regulatory monitoring of audits in Brazil, end up making it difficult to analyze whether the procedures performed by the auditors can be directly associated with an improvement in the quality of the audit service, and consequently, the quality of the financial statements.

As qualitative research addresses different aspects of an auditor's daily life, this naturally provides an opportunity for future research in the area. An important point is the auditor's level of experience with a client and the extent to which the participation of more experienced members can affect the quality of the audit. There have been little research done on the impact of auditor effort on audit quality (Caramanis & Lennox, 2008; Xiao et al., 2020), even less because of the lack of data for this purpose—even so, none of these studies have sought to measure the extent to which the level of participation of experienced members also affects audit quality.

As this study used qualitative research and interviews were conducted with twelve auditors, it is not possible to guarantee that the opinions and experiences told by the interviewees reflect the average views of all auditors in Brazil. On the other hand, with the participation of professionals from eight different audit firms, we sought to mitigate biased opinions that would represent a smaller group of audit firms. In addition, because the interviews were recorded, some auditors may have omitted certain facts, although this limitation may have been partially mitigated by the written assurance given to all interviewees that their identities would be kept completely confidential.

The results and data in this article make an important contribution to the academic literature on audit in Brazil. Auditors are professionals who are guided by codes of ethics and are committed to confidentiality and independence in their work. It would be therefore unlikely to conduct a study obtaining copies of working papers or practical reporting of how the audit was conducted in a particular case. However, with the methodology applied in this article, in which no clients' names or specific situations were asked, in addition to ensuring the confidentiality of interviewees' identities and asking open-ended questions, this article presents relevant information about how the audit of complex estimates actually occurs, a topic that is so important to regulators and accounting users. Thus, by interviewing professionals from eight different firms, including non-Big4 firms, there is a better perception of the reasons why the quality of audit in these large firms may be higher when compared to other smaller firms.

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Not applicable.

AUTHOR'S CONTRIBUTION

TF: conceptualization, data collection, methodological development and writing; **BS:** coordination, reading and identification of the theoretical background and overview.

CONFLICTS OF INTEREST

The authors declare that there is no conflict of interest.