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EFFECTS OF CPC 47 (IFRS 15) FROM THE PERSPECTIVE OF REVENUE MANAGEMENT IN THE BRAZILIAN STOCK MARKET

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ABSTRACT

This study analyzed the effect of adopting CPC 47 (IFRS 15) for revenue recognition on the quality of accounting information from the perspective of revenue management in the Brazilian stock market. The study sample has a total of 560 observations corresponding to 112 companies from 2016 to 2020. The models by specific discretionary accruals of revenues proposed by Caylor (2010) and Stubben (2010) were considered to measure the management levels. As a method of analysis, we used regression models with panel data and tests at a significance level of 5%. According to the results obtained, it was impossible to confirm that adopting CPC 47 (IFRS 15) affected the quality of accounting information from the increase in revenue management levels, as well as whether the effects on the specific sectors indicated by the literature as more impacted were more significant than the other sectors in the Brazilian capital market. The research is relevant because it advances existing studies by using two different revenue management models to analyze the effects of specific accruals after adopting the standard and, in addition, extends the period and sample of Brazilian companies. Therefore, this research contributes to deepening discussions on the effects of applying accounting standards and assists in the analysis of regulatory bodies, preparers, auditors, and financial information on the effects of the new accounting standard after adoption, especially in the Post-Implementation Review (PIR) process of IFRS15.

Keywords: CPC 47. Revenue Recognition. Quality of Accounting Information. Revenue Management.

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1 INTRODUCTION

In 2014, the International Accounting Standards Board (IASB) issued, together with the Financial Accounting Standards Board (FASB), a new accounting standard for contract revenue with customers, the International Financial Reporting Standards (IFRS) 15. The new standard replaced the previous ones, the International Accounting Standards (IAS) 18 – Revenues, the revenue accounting standard applied to all sectors except civil construction, and IAS 17 – Construction Contracts, specific for application in civil construction companies.

In Brazil, the approval of the Brazilian Accounting Pronouncements Committee (CPC) 47, correlated to IFRS 15, occurred on December 22, 2016, and its application was mandatory as of January 1, 2018, following the determination of the IASB. This accounting standard aims to achieve uniformity of processes related to registering companies' obligations to deliver goods and services to customers for the amount that entities expect to be entitled to in considering goods and services (IASB, 2014; CPC, 47).

It should be noted the importance of CPC 47 in the accounting treatment of operations since revenue is one of the most relevant measures to measure the financial performance of companies and, from it, it is possible to obtain earnings information as a result of business activities in a given period (Wagenhofer, 2014). In this sense, it is understood that applying CPC 47 may generate effects on earnings since the accounting standard is more flexible and determines that revenue must be recognized over time or on a specific date in a segregated manner from the delivery of the performance obligations defined in the contract.

According to Rutledge et al. (2016), the possible impacts caused by the changes brought about by implementing the new regulations are related to the moment of recognizing revenue since they can directly affect the predictive value of revenue and earnings. The authors also state that the new standard can affect earnings quality, as managers can manage earnings more precisely due to this greater flexibility and judgment in accounting choices (Rutledge et al., 2016; Johnson, 2018).

Managers can use this discretion to manage or manipulate earnings and, thus, affect the quality of accounting information (Coelho et al., 2011). Christensen et al. (2022) clarify that manipulation is a type of earnings management intended to deceive and, therefore, not generate reliable information. Healy and Wahlen (1999) argue that when managers change the information disclosed by accounting in the face of some discretionary power, they modify the users' perception of the real economic and financial situation of the entity in question.

Given the flexibility and discretion over recognizing the revenue brought by the standard, there was more research on analyzing the effects of earnings management models by accruals. Tutino et al. (2019) found an increase in the levels of earnings management after adopting IFRS 15 in Italian companies, while Souza et al. (2022) showed an increase in earnings management and a decrease in the earnings quality after adopting IFRS 15 in companies in the Brazilian capital market. On the other hand, Dias et al. (2023) did not identify significant effects after adopting CPC 47 in Brazilian companies.

McNichols and Wilson (1988) argue that there are divergent analyses of earnings management metrics in the literature, attributing this fact to the intensive use of aggregate accrual estimation models to characterize manager discretion. Thus, verifying other studies using alternative theoretical models to measure management practice is possible. They analyze the effects of adopting the new standard from specific revenue accruals, also called revenue management.

Caylor (2010) clarifies that depending on the company's business, there may be an accumulation or deferral in revenue recognition; therefore, this is a timely issue. Braga (2020) analyzed companies belonging to BRICS countries and showed an increase in the practice of revenue management in some countries belonging to the bloc, but did not identify significant

effects on specific sectors, indicated by the literature as possibly most impacted, on Brazilian companies. Morawska (2021) also used the model proposed by Caylor (2010) to measure revenue management and was unable to confirm the effects of IFRS 15 on revenue management levels in Polish companies.

There are also other studies already conducted on the effects of the new revenue recognition regulations on the quality of accounting information from the perspective of quantitative approaches such as value relevance (Trabelsi, 2018; Braga et al., 2022) and earnings quality (Souza et al., 2022). In summary, research reveals increased informational relevance, but reduced earnings quality and also evidence a lack of consensus on the practice of earnings management after adopting this regulation.

There are other studies with more qualitative approaches through documentary and content analysis, interviews, and questionnaires (Hameed et al., 2019; Mattei & Paoloni, 2019; Ergüden, 2020; Napier & Stadler, 2020; Veysey, 2020; Coetsee et al., 2022; Öztürk, 2022; Vieira et al., 2023). In general, the studies contribute to the discussion because they verify the existence of complexities and the possible effects of the judgments made in applying the new revenue recognition model.

Moreover, it should be noted that the new standard can generate accounting impacts in different economic sectors, given that the regulations determine that revenue must be recognized over time or on a specific date and segregated from the delivery of the performance obligations defined in the contract, that is, by the sale price of each product or service. Thus, companies with long-term contracts or sales of bundles and services together should be more impacted (Huefner, 2016).

On the other hand, it is known that some companies did not have such significant impacts as expected, except for some sectors, due to the particularities of the operation, contractual relations, and increased disclosure in explanatory notes. Dalkilic (2014) reinforces this understanding by arguing that the normative is a change in mindset rather than just an accounting change.

According to the KPMG study (2014), the standard introduced new estimates and limits, which may affect the value and/or timing of revenue recognition. Judgments and estimates must be updated, which may eventually lead to more adjustments in the financial statements for changes in estimates in subsequent periods (Cova, 2016). In this sense, it is understood that CPC 47 (IFRS 15) can generate effects on the accounting information disclosed by companies since the model proposed in this new regulation is more dependent on the professional and requires more judgments from the managers and preparers of the financial statements (Dalkilic, 2014).

Therefore, the change in the revenue recognition from the effectiveness of IFRS 15 raises debates about its effects on the financial statements after implementation. However, there are still controversies about the real effects of its adoption by companies because, according to Veysey (2020), IFRS 15 is complex. Still, it does not seem to have caused significant practical effects on the numbers as expected.

Given the new accounting treatment on the revenue recognition established by the international standard IFRS 15 and the accounting standard CPC 47, this research will be based on the following question: *what is the effect of the accounting standard CPC 47 (IFRS 15) on the quality of accounting information from the perspective of revenue management in the Brazilian stock market?*

The general objective of the research was to analyze the effect of adopting the revenue recognition CPC 47 (IFRS 15) on the quality of accounting information from the perspective of revenue management in publicly traded Brazilian companies.

The results of this study can contribute beyond discussions in academia, as they provide regulators, preparers, auditors, and users of accounting information in general with essential data on the relationship between the effects of the new standard and the earnings quality after adopting

the standard. Also, the research can help by providing information on the effects of applying this standard in the IFRS 15 Post-Implementation Review (PIR) process requested by the IASB by comment letters in 2023.

In Brazil, there are many studies on the effects of IFRS from the perspective of aggregate accruals, but few studies with revenue management proxy, that is, specific accruals of accounts receivable and deferred revenue (advance from customers) to analyze the effect of IFRS 15 (CPC 47) by companies on the quality of accounting information. Thus, the research advances concerning the study by Braga (2020) in aspects of the type of sample, as the research was restricted to specific sectors and was limited to the year of adoption, 2018. Therefore, this study extends the analysis by expanding the number of sectors and companies in Brazil and, in addition, includes two years after adoption, 2019 and 2020. It should be noted that this study goes further by including two distinct models to measure the practice of revenue management and, therefore, covers a gap in the Brazilian literature on the subject.

2 THEORETICAL FRAMEWORK

2.1 Revenue from Contracts with Customers in accordance with CPC 47

As of May 2014, the IASB published IFRS 15 – Revenue from Contracts with Customers with FASB Topic 606 with adoption as of January 1, 2018. In Brazil, the Brazilian Accounting Pronouncements Committee issued CPC 47 – Revenue from Client Contract correlated to IFRS 15 in 2016, and it replaced the standards previously in force: CPC 30 - Revenue, CPC 17 - Construction Contracts, ICPC 02 – Construction Contracts of the Real Estate Sector, and ICPC 11 – Receipt in Transfer of Client Assets.

Revenue is one of the main indicators to determine policies and strategies because it is directly linked to earnings formation and an essential indicator for financial analyses conducted by companies. Dalkilic (2014) confirms this understanding by clarifying that revenue is crucial for users of financial statements, as it allows them to evaluate business performance. Therefore, revenue is a metric of great importance for users and analysts as it assists in evaluating companies' future prospects (Cova, 2016).

Cova (2016) clarifies that the new standard is structured in a single source of principles for all entities in all sectors of the economy and, thus, constitutes a significant change to the accounting standards in force until 2017. Following the same direction, Aquino et al. (2019) reinforce that discussions and guidelines on the accounting record of customer revenue present many challenges for regulators, as companies are different and are allocated in several segments, which makes it challenging to structure and apply a single rule for the treatment of all business specificities.

Despite the significant challenges in implementing this accounting standard, it brings many qualitative effects, such as better standardization, transparency, and comparability of practices between entities (Aquino et al., 2019). Therefore, the application of CPC 47 (IFRS 15) is expected to improve the comparability of revenues from contracts with customers and generate more useful information from the new disclosure criteria (IASB, 2014).

KPMG (2014) highlights that the accounting standard provides guidance related to the new treatment and changes in various topics, including guarantees and licenses. Besides, it guides when to capitalize on the costs of obtaining and fulfilling a contract unless such costs are already within the scope of another accounting standard. In this sense, from Table 1, it is possible to verify the main changes to the previous accounting standard, replaced by the current CPC 47.

Table 1
Key differences from previous accounting standard

1 - All guidelines contained in a single accounting standard or norm.
2 - Model based on control (the concept of "risks" and "benefits" for transfer was maintained).
3 - Consideration measured as the amount the company expects to be entitled to receive, rather than fair value.
4 - New guidelines for separation of goods and services under contract.
5 - New guidelines for revenue recognition over time.

Source: Prepared by the authors, adapted from KPMG (2014).

The revenue recognition accounting standard determines the stepwise model for identifying, measuring, and recognizing revenue from contracts with customers. This model determines that the company should only record revenue when it transfers control of goods or services to customers for the amount it expects to be entitled to receive after all steps have been completed (IASB, 2014, KPMG, 2014; CPC, 2016).

IFRS 15 (2014) determines that the accounting treatment of identification, recognition, and measurement of revenue from contracts with customers is structured in five steps where: the 1st is contract identification, 2nd identification of performance obligations, 3rd determination of the transaction price, 4th allocation of the transaction price to the performance obligation and, finally, the 5th step, revenue recognition.

Hence, Rutledge et al. (2016) state that the new accounting treatment of revenues based on this new regulation can affect the earnings quality, as it allows managers to manage earnings more precisely due to this greater flexibility and judgment in the choices and definition of accounting estimates. The authors argue that IFRS 15 increases discretion and that this may impact the quality of accounting information. Caylor (2010) clarifies that revenue recognition is a matter of opportunity. Therefore, it is understood that the normative criteria can be flexible and allow discretionary actions or decisions by managers.

2.2 Revenue Management by Specific Accruals

Estimating the aggregate accrual models may reflect some distortions in the modeling and estimating of the discretionary portion. Hence, McNichols and Wilson (1988) criticize the metrics that use the discretionary components of accruals to test earnings management. To that end, an alternative for estimating aggregate discretionary accruals is analyzing earnings management through specific accruals (McNichols & Wilson, 1988).

The discussion in the studies by McNichols and Wilson (1988) motivated other studies to use modeling for specific accruals. For example, in the analysis of discretion by specific accruals, there is the evaluation of the estimated loss account with doubtful accounts (Macedo & Kelly, 2016) and accounts receivable (Caylor, 2010; Stubben, 2010; McNichols & Stubben, 2018; Braga, 2020), and deferred revenues (Caylor, 2010; Zha Giedt, 2018; Braga, 2020; Morawska, 2021).

Specifically, within the empirical studies that address the models of specific accruals, we highlight the studies on revenue management by Caylor (2010), Stubben (2010), and Zha Giedt (2018). In other words, studies that developed the modeling to evaluate the practice of revenue management as a proxy for the quality of accounting information.

In the study by Caylor (2010), the author clarifies that depending on the type or sector of the company, the accruals of accounts receivable and deferral (short-term deferred revenue) are related to the amount of revenue recognized in the accounting period. From this model, he examines whether there is discretion in the revenue recognition process, that is, specific accruals

using accounts receivable and short-term deferred revenues to avoid three earnings benchmarks: avoid losses, reduced earnings, and negative earnings surprises.

Thus, from a sample from 2007 and eliminating financial companies, the study found no evidence that managers exercise discretion in short-term receivables and deferred income. However, complementary tests revealed managers preferred discretion in deferred revenue before the Sarbanes-Oxley (SOx) Act of 2002. According to the author, this discretion in deferred revenue may be related to lower costs than accounts receivable (Caylor, 2010).

In line with Caylor's (2010) view, Stubben (2010) also argues that revenue is highly representative of earnings and, therefore, is a relevant variable for analyzing management practice. Stubben (2010) also developed a model to measure discretionary revenue. However, estimating based only on the normal variation of annual receivables with the normal variation of annual net revenues for the first three quarters and the normal variation of annual net revenues for the fourth quarter. He used a sample of 70,580 observations from 1988 to 2003.

After analyzing the data, Stubben (2010) concluded that discretionary revenues are relevant variables for evaluating the management and quality of companies' earnings, as the results indicated that revenue models are less biased, better specified, and more powerful than the aggregate accruals models commonly used to measure earnings management, also confirmed by Christensen et al. (2022).

Still regarding the studies already conducted from the revenue management proxy by specific accruals, Zha Giedt (2018) developed a new model based on the models of Caylor (2010) and Stubben (2010), but complementing the analysis with the normal variation of long-term deferred revenues and replacing the operating cash flow variable by cash flow in addition to estimating the revenue variance in two future periods. The author clarifies that although the cash flows from operating activities (CFO) are included in cash flow statements (CFS), using CFO instead of CFS unnecessarily introduces an error in the measurement of the variable since it considers only the operating activities and reinforces that the CFS variation is a more accurate and relevant measure.

2.3 Empirical Studies

Empirical studies on management practice and IFRS are focused on aggregate accrual models (Grecco, 2013; Joia & Nakao, 2014; Marçal & Macedo, 2019) and others relating earnings management to the revenue standard (Baldissera et al., 2018; Tutino et al., 2019; Souza et al., 2022; Dias et al., 2023). From new analytical perspectives, other studies have advanced in measuring management levels using new empirical models of specific revenue accruals to analyze the effects of adopting the new revenue recognition standard.

Some studies identified in the literature use the revenue management proxy to assess the discretion associated with revenue recognition. Braga (2020) investigated whether adopting IFRS 15 influenced the practice of earnings management by specific revenue accruals. The survey also verified whether the influence of IFRS 15 differs in each country and sector. The research methodology described a sample of 1,116 companies in BRICS countries, classified into different sectors: telecommunications, software, engineering, construction, real estate, and automotive. The model Caylor (2010) proposed was used to estimate discretionary revenues from 2016 to 2018. The process was performed through multivariate regressions with panel data with random effects and robust standard error.

The research findings showed that IFRS 15 positively affected the practice of revenue management and, therefore, there was an increase in their management levels. The study also revealed that the effects differ according to country and sector. It was concluded that the country most impacted by the effects of revenue management after adopting the new standard was China, specifically in sectors such as engineering, civil construction, and real estate. However, it did not have significant effects in some countries, such as Brazil.

Morawska (2021) investigated the implementation of IFRS 15 in Polish companies by analyzing the effects from the perspective of revenue management to avoid losses and decreases in earnings. The study used a sample of 80 companies from four specific sectors listed on the stock exchange in Poland from 2016 to 2019. The research was conducted based on the model Caylor (2010) proposed to estimate discretionary revenue and a complementary model that describes this relationship.

The study concluded that companies manage earnings at their discretion through accounts receivable to avoid losses. Still, the research did not confirm that adopting IFRS 15 in Poland affected the management level through discretionary revenues to avoid disclosing losses or reduced earnings.

In the academic literature, other studies address the effects of the new accounting standard for revenue recognition on the quality of accounting information from the perspective of other metrics, such as value relevance (Dani et al., 2017; Trabelsi, 2018; Braga et al., 2022). Furthermore, research that evaluated the earnings quality by analyzing the levels of earnings management after implementation of the standard was identified (Tutino et al., 2019; Souza et al., 2022; Dias et al., 2023).

Some studies indicated gaps in the possible effects of the standard after adopting it, such as Rutledge et al. (2016), who examined the main effects of IFRS 15 and how they could impact companies' earnings. The authors concluded that the effects of revenue recognition regulations could reduce earnings quality because this accounting standard will provide managers with greater opportunities to manage earnings.

Based on the analysis of the studies already conducted on this theme, it was observed that the new accounting standard brings a new discussion on the effects on the quality of information, mainly due to the possible increase in discretion and professional judgment in recognition of revenues. The studies revealed a consensus that the new standard can improve comparability and, consequently, reflect greater relevance. However, it can be a means for opportunistic behaviors of managers to change the earnings of companies.

Although Braga (2020) did not find increased revenue management levels in specific sectors in Brazil from 2016 to 2018, this study extends the analysis, as it extends the period until 2020 and, in addition, includes a new revenue management model proposed by Stubben (2010), which, according to Christensen (2022), is the most specified and least biased revenue management model. Thus, in line with the understanding regarding the increased discretion of the new revenue regulations clarified by Caylor (2010) and Rutledge et al. (2016) and based on this discussion, the first hypothesis is derived:

H_1: *The adoption of CPC 47 (IFRS 15) increased the level of revenue management and, therefore, negatively affected the quality of accounting information in publicly traded Brazilian companies.*

Therefore, the first hypothesis of this research is structured according to the discussions brought in the studies related to the possible effects of the discretion of the new accounting standard for revenue recognition on their management (Caylor, 2010; Stubben, 2010; Rutledge et al., 2016; Zha Giedt, 2018; Braga, 2020) and reinforced with the study by Souza et al. (2022), who found a reduction in the earnings quality and an increase in the level of earnings management with the adoption of IFRS 15 by publicly traded Brazilian companies.

In order to enrich the analysis of the study, the second hypothesis of this research was defined following the clarification of the normative body IASB, informing that the sectors with the most impacts would be telecommunications, information technology, engineering and construction, automotive, and real estate (IASB, 2014). In the same vein, PricewaterhouseCoopers (PWC) reports that some sectors may suffer more impacts than others, such as asset management, automotive, engineering and civil construction; entertainment and media, industrialized products and manufacturing; pharmaceuticals and biotechnology; real estate; retail and consumer; information technology; telecommunications (PWC, 2017).

For Cova (2016), the impact of the new IFRS 15 standard should vary according to the type of company and sector. Still, he clarifies that, for some companies, there may not be significant changes in the time and amount of revenue recognized. Braga (2020) is limited to analyzing the most impacted sectors. Therefore, this study deepens the analysis by considering the sectors most impacted in relation to the other sectors of the companies in the stock market.

Based on this theoretical framework, the second hypothesis originates:

H_2: *The effects of adopting CPC 47 (IFRS 15) on revenue management in the telecommunications, information technology, engineering, construction and real estate, and automotive sectors are greater than the other sectors listed in B3.*

3 METHODOLOGICAL PROCEDURES

The target population of the research is composed of publicly traded companies with their shares traded on B3 from 2016 to 2020. Data were collected in July 2022 directly from the Economática® database in annual periods of 2016, 2017, 2018, 2019, and 2020, referring to the consolidated statements of the companies. It should be noted, however, that after initial analysis of the data collected from Economática®, it was found that it did not present data on gross revenue and advances from customers or short-term deferred revenue.

These data are necessary for applying the theoretical model of this research and, therefore, they were manually collected from the Standardized Financial Statements (DFP) consolidated in July 2022 through the website of the Brazilian Securities and Exchange Commission (CVM), the regulatory body of publicly-traded companies. From the analysis of the consolidated accounting reports and explanatory notes of the DFP, it was identified that deferred revenues or advances from customers are evidenced in current liabilities and subgroup “other obligations.”

Some companies report this information as deferred revenue, advances from customers, or in the more generic “other” accounting classification. Therefore, in the case of reports with “other” terms, the collection occurred by analyzing the explanatory notes to extract only the value information of advances or short-term deferred revenue. It is crucial to clarify that all values collected were confirmed with the information clarified in the explanatory notes in relation to revenue from contracts with customers.

During data collection and analysis, it was considered that the accounting standard for revenue recognition was issued by the IASB in 2014, but its mandatory adoption became effective only in January 2018. Therefore, the two previous years, 2016 and 2017, were considered as a possibility of voluntary adoption of CPC47 (IFRS15) by companies, the year of mandatory adoption from 2018 and two years later, 2019 and 2020. The research covers until 2020 because the data collection was conducted in 2022, and the econometric model requires future variables at t +1.

After thorough reading and analysis of the explanatory notes, no information on voluntary or early adoption by the companies in this study was identified, but rather clarifications on possible impacts or effects of adopting the new standard.

The econometric model used has lagged variables (previous periods) and future variables (later periods) of the time-lapse, so that information from 2015 and 2021 was used. Four hundred-eight companies represent the population, all listed on the B3 with a base date of July 31, 2022. The selection of the total number of companies that constitute the sample was for convenience and not probabilistic. Table 2 shows how the final research sample was composed according to some requirements.

Table 2
Research Sample

Total companies listed on B3	408
(-) Financial companies (Own Regulation - Law No. 6.099/74, art. 7)	(63)
(-) Companies with non-existent or unobservable data in the period	(233)
(=) Total companies in the sample	**112**
No. of fiscal years	5 (2016-2020)
No. of observations for the models	560

Source: Prepared by the authors (2023).

Data analysis was performed by multivariate statistical methods based on regression with panel data at a confidence level of 95% and significance of 5%. Moreover, a short panel (greater number of companies or individuals in relation to the analyzed periods) and a balanced panel (equal number of observations in the periods) were applied to analyze the chronological monitoring of the effect of the new accounting standard with all the data of the companies in the sample.

As for data processing, the information was calculated using Microsoft *Excel* spreadsheets and statistical tests with the support of the *Time-series Library* - GRETL© *software.* After performing the model regressions, it was verified that all normality assumptions and homoscedasticity conditions were met using the Jarque-Bera and Bresuch-Pagan tests, respectively, following the teachings of Corrar et al. (2011).

However, it is noteworthy that, according to Gujarati and Porter (2011), the non-normality of the residuals is not considered a problem, given the sample size and the relaxation of this assumption based on the Central Limit Theorem. Also, Gujarati and Porter (2011) clarified that if heteroscedasticity occurs, there is treatment with White's robust correction.

Additionally, the degree of collinearity was evaluated, that is, the multicollinearity of the variables, using the Variance Inflation Factor (VIF) test. All independent variables must have values below 10, a parameter used by Gujarati and Porter (2011), meaning they have low correlation.

The data analysis verified the possible existence of autocorrelation between the regression residuals. As clarified by Gujarati and Porter (2011), this assumption is that the error term of one observation is not interfered with by the error term of another observation. Thus, when autocorrelation problems were identified in the residuals, robust correction was applied to resolve the inconsistencies. The Wooldridge test is an adequate tool for verifying the existence of the problem of autocorrelation between residuals, according to Drukker (2003).

Regarding the data of the sample used, to avoid problems with outliers, the quantitative variables of the models were "winsorized" at 1%. Thus, the non-missing values of one variable generated a new identical variable, except that the higher and lower values were replaced by the next value, counting into the extremes.

To achieve the objectives proposed in this research, econometric models of specific discretionary revenue accruals were used, as proposed by Caylor (2010) and Stubben (2010). Initially, the study aimed to measure revenue management also using the model developed by Zha Giedt (2018) since it extends the analysis conducted by the models of Caylor (2010) and Stubben (2010), as it includes the normal variation of long-term deferred revenue.

However, the model could not be applied because it was found that most Brazilian companies do not present deferred revenue or long-term advances from customers, meeting the signaling of McNichols and Stubben (2018) when arguing that revenue management models have some limitations regarding the collection of deferred revenue data, given the specificity of the sectors.

Therefore, in this study, the Caylor (2010) model was used, which, unlike the model proposed by Zha Giedt (2018), estimates the variable deferred revenue or short-term advances

from customers. It is crucial to highlight that, during the data collection process, it was observed that a large part of the excluded sample was precisely due to the absence of the deferred revenue variable.

Caylor's (2010) model establishes that discretionary or abnormal revenues originate from two components: I) abnormal variation of gross accounts receivable and II) abnormal variation of short-term deferred revenue. Therefore, the author estimates his model assuming that the variation in gross accounts receivable relates to the variation in gross sales in the current period since accounts receivable are sales accumulated in the current period.

Also, Caylor (2010) reinforces the understanding by clarifying that gross accounts receivable are related to the operating cash flow of the next period since the amounts receivable will be collected in the period following the current year. This implies that changes in gross receivables must be related to current revenues and future cash flow changes from operations. Based on these assumptions, the author estimates the abnormal variations in gross receivables and short-term deferred revenue to measure the revenue management practice presented in Table 3.

Table 3

Theoretical Revenue Management Models

Model	Function	Equation
Caylor (2010)	-Estimates abnormal variations of accounts receivable	$\frac{\Delta GR_{it}}{TA_{it-1}} = \alpha_0 + \alpha_1 * \left(\frac{1}{TA_{it-1}}\right) + \beta_1 * \left(\frac{\Delta REV_{it}}{TA_{it-1}}\right) + \beta_2 * \left(\frac{\Delta CFO_{t+1}}{TA_{it-1}}\right) + \varepsilon_{it}$
Caylor (2010)	-Estimates abnormal variations of short-term deferred revenues	$\frac{\Delta SDR_{it}}{TA_{t-1}} = \alpha_0 + \alpha_1 * \left(\frac{1}{TA_{it-1}}\right) + \beta_1 * \left(\frac{\Delta REV_{t+1}}{TA_{it-1}}\right) + \beta_2 * \left(\frac{\Delta CFO_{it}}{TA_{it-1}}\right) + \varepsilon_{it}$
Stubben (2010)	-Estimates abnormal variations of accounts receivable	$\frac{\Delta GR_{it}}{TA_{t-1}} = \alpha_0 + \beta_1 * \left(\frac{\Delta R1\_3_{it}}{TA_{it-1}}\right) + \beta_2 * \left(\frac{\Delta R4_{it}}{TA_{it-1}}\right) + \varepsilon_{it}$

Source: Prepared by the authors (2023).

Where: ΔGR_{it}: is the annual variation in gross receivables during year t; ΔSDR_{it}: is the annual variation in short-term deferred revenue during year t; $1/TA_{it}$: inverse of total assets; Ta-1 is the start of total assets for the year ("lagged total assets"); ΔREV_{it}: is the variation in sales (gross revenues) during year t; ΔREVit +1: is the variation in sales (gross revenues) during year t; ΔCFO_{it} is the variation in cash flow from operations during year t; ΔCFO_{it+1} is the variation in cash flow from operations during year t + 1; ΔR1_3 is the annual variation in net revenues for the first three quarters, ΔR4 is the annual variation in net revenues for the fourth quarter; ε_{it}: regression residual (abnormal variation). All variables are scaled by the previous year's total assets.

In line with Caylor's (2010) view, Stubben (2010) argues that revenue is highly representative of earnings and is a relevant variable for analyzing management. The author points out that the manager can exercise discretion over revenues precisely because of the flexibility of recognizing revenue. Therefore, this study used the model proposed by Stubben, who intends to show that the annual variation in revenues during the first and third quarters presents a different estimate of the revenue variation during the fourth quarter, as shown in Table 3.

Table 4 shows the research models that seek to confirm the hypotheses proposed in this research. The dependent variable discretionary revenues represented by the variable anRD was used, as they are the abnormal residuals of the regression estimated by Caylor (2010) and Stubben (2010) models. Also, the research models present independent variables of interest and control to analyze the effect after adopting the new standard with discretionary revenues, that is, the practice of revenue management.

The variable of interest is a *dummy*, which seeks to verify the effect of adopting CPC 47 (IFRS 15) on anRD discretionary revenues. It is important to confirm that the anRD variable was treated in the research model in absolute values since the interest of the research lies in evaluating the management practice at levels of intensity and magnitude. Thus, a significant relationship is expected. In other words, the dummy CPC47 variable of interest presents statistical significance.

The β_1 coefficient is expected to present a positive and significant sign in the research models represented by equations 4 and 5, confirming hypothesis 1 of this research.

Table 4
Research Management Models

Model	Function	Equation
4	- Meets H1;	$anRD_{it} = \beta_0 + \beta_1 CPC47_{it} + \beta_2 ROA_{it} + \beta_3 IND_{it} + \beta_4 SIZ_{it} + \beta_5 COVID19_{it} + \varepsilon_{it}$
5	- Meets H2;	$anRD_{it} = \beta_0 + \beta_1 CPC47_{it} + \beta_2 SECTOR_{it} + \beta_3 CPC47_{it} * SECTOR_{it} + \beta_4 ROA_{it} + \beta_5 IND_{it} + \beta_6 SIZ_{it} + \beta_7 COVID19_{it} + \varepsilon_{it}$

Source: Prepared by the authors (2023).
Where: anRDit = is discretionary revenue, represented by one of the residuals estimated by the Caylor (2010) and Stubben (2010) model; $CPC47_{it}$ = is the dummy variable, 1 for periods after CPC 47 and 0 for previous ones; ROA_{it} = is the return on total assets of company i in period t ; IND_{it} = is the level of indebtedness of company i in period t; SIZ_{it} = is the size of the company, of company i in period t; $COVID19_{it}$ is the dummy variable representing "1" for the presence of COVID-19, and "0" otherwise; β_0 = is the constant term of the regression; $\beta_{1,2,3,\,n}$ = are the angular coefficients of the regression; ε_{it}: regression residual.

In addition to the dependent variable anRD (discretionary revenues) and CPC47 dummies and SECTOR, this study inserted in equations 4 and 5, in Table 4, the control variables: performance (ROA) return on assets, indebtedness (IND), size (SIZ), and period of the coronavirus pandemic (COVID19). In the first hypothesis, the dummy variable of interest is justified because we sought to analyze the effect of adopting CPC 47 on discretionary revenue accruals (discretionary revenues).

The motivation to use the control variables is related to studies already conducted on this theme that identified a relationship between management practice and the new accounting standard for revenue recognition, as described in Table 6 (Caylor, 2010; Rad et al., 2016; Zha Giedt, 2018; Tutino et al., 2019; Braga, 2020; Morawska, 2021; Souza et al., 2022; Dias et al., 2023).

Moreover, given the impacts on the markets with the decrease in demand, a consequence of restrictive measures, and social isolation in Brazil, a COVID19 control variable was used in this research to control the effect of the crisis period. More recent studies have shown that COVID-19 negatively impacted the market value of companies and that at a time of economic uncertainty, smoothing positively influences the market value (Santos et al., 2022).

Table 5
Control and Research Interest Variables

Variable	Equation	Signal	Theoretical Framework
RD	Caylor (2010) and Stubben (2010) residuals		Caylor (2010); Braga (2020); Morawska (2021); Stubben (2010).
ROA	Net Income/Total Assets	+	Joia and Nakao (2014); Baldissera et al. (2018); Zha Giedt (2018); Braga (2020); Piosik (2021); Morawska (2021); Souza et al. (2022).
SIZ	Natural Logarithm of Total Assets (Ln)	+	Caylor (2010); Joia and Nakao (2014); Braga (2020); Morawska (2021); Souza et al. (2022).
IND	Current Liabilities/Total Assets	+	Joia and Nakao (2014); Baldissera et al. (2018); Braga (2020); Morawska (2021); Souza et al. (2022).
SECTOR	*Dummy, 1 for the* telecommunications, software, civil construction, engineering and real estate, and automotive sectors as the most impacted and 0 for other sectors	+	IASB (2014); Cova (2015); PWC (2017); Braga (2020).

CPC 47	Dummy, 1 for periods from the mandatory adoption of CPC 47 (2018-2020) and 0 for the others (2016-2017)	+	Braga (2020); Morawska (2021).
COVID19	Dummy, 1 for periods with COVID-19 (2020) and 0 for the others (2016-2019)	+	Šušak (2020); Santos et al. (2022); Oliveira and Modena (2022).

Source: Prepared by the authors (2023).

4 RESULTS

First, it should be noted that all assumptions were tested, and in the case that they were not met, corrective measures were applied as mentioned in the methodology. It is essential to highlight that in the models of this research, the panel diagnosis was performed by the Chow, Hausman, and Breusch-Pagan Lagrange Multiplier tests to evaluate the best choice of Pooled panel approach, fixed or random effects.

After performing the tests, model (1) presented a result that led to the rejection of the null hypothesis and indicated that the best approach was fixed effects. At the same time, in model (2), the result does not reject the null hypothesis at a significance level of 5%; therefore, these are random effects. Model (3) results lead to rejecting the null hypothesis and indicate that the best approach is fixed effects.

Based on panel data with fixed and random effects and robust standard error, the specific discretionary accruals estimated by models (1) and (2) proposed by Caylor (2010) and (3) by Stubben were measured. The results of the regressions of the theoretical models are shown in Table 6.

Table 6

Caylor (2010) and Stubben (2010) Model Regression Results

Variables	Caylor (1)	Caylor (2)	Stubben (3)
Constant	-0.015 (0.007***)	0.000 (0.597)	-0.003 (0.000***)
(1/A $_{it-1}$)	11739 (0.015**)	45.031 (0.848)	
(ΔRev$_{it}$/A $_{it-1}$)	0.065 (0.000***)		
(ΔCFO$_{it+1}$/A $_{it-1}$)	0.036 (0.162)		
(ΔRev$_{it+1}$/A $_{it-1}$)		0.012 (0.000***)	
(ΔCFO$_{it}$/A $_{it-1}$)		0.015 (0.266)	
(ΔR$_{it}$1_3/A $_{it-1}$)			0.019 (0.464)
(ΔR$_{it}$4/A $_{it-1}$)			0.321 (0.000***)
(ΔREV$_{it}$ -DGR$_{it}$ /A$_{it-1}$)			
(IMOB$_{it}$/A$_{it-1}$)			
(ACC$_{it}$ /A$_{it-2}$)			
Model Significance Analysis			
R²	0.382	0.037	0.465
F	8.264	14.555	33.01
P-value (F)	0.000***	0.002***	0.000***
Jarque-Bera	0.000***	0.000***	0.000***
Breusch-Pagan	0.000***	0.041	0.024
Wooldridge	0.079	0.840	0.008
Highest VIF	1.007	1.018	1.161
Durbin-Watson	1.696	1.916	1.645
Panel Diagnostics			
Chow	0.002***	0.467	0.000***
Breusch-Pagan	0.017**	0.041**	0.000***
Hausman	0.000***	0.078	0.001***
Result	**Fixed effects**	**Random Effects**	**Fixed effects**

Source: Prepared by the authors (2023). The values inside the parentheses represent the regression coefficients, and the values outside the parentheses represent the p-value with significance level: *** 1%, ** 5%, * 10%.

Notes. (1) $\Delta GRit/A_{it-1} = \alpha_0 + \alpha_1 1/A_{it-1} + \beta_1 \Delta Revit/A_{it-1} + \beta_2 \Delta CFOit+1/A_{it-1} + \varepsilon_{it}$ (2) $\Delta SDRit/A_{it-1} = \alpha_0 + \alpha_1 1/A_{it-1} + \beta_1 \Delta Rev_{it} +1/A_{it-1} + \beta_2 \Delta CFO_{it}/A_{it-1} + \varepsilon_{it}$ (3) $\Delta GRit = \alpha_0 + \beta_1 \Delta R_{it}1\_3/A_{t-1} + \beta_2 \Delta R_{it}4/A_{it-1} + \varepsilon it$

Generally, Table 6 shows that the models did not present normality and homoscedasticity in the residuals. Still, there are no collinearity problems in the regressions, given that the highest VIF was 1.161 and, therefore, lower than the allowed limit below 10. All models are found to be statistically significant at a level of 5%.

Model (2) of specific discretionary accruals of deferred revenues proposed by Caylor (2010) presented the lowest explanatory power (R^2) with approximately 4%, suggesting a low explanatory power compared to the models of specific accruals of accounts receivable (1) of Caylor (2010) and (3) of Stubben (2010) with 38% and 47%, respectively.

According to Wooldridge (2008), the low explanatory power of the model is not a problem. It can be relaxed since the model has no other variables and, in addition, it has no purpose in making predictions. That means it seeks only to evaluate the level of the relationship between the variables and their statistical significance.

Still, in model (2), the independent variables presented betas with positive signs, and the revenue variable of the next period (ΔRevit+1) presented statistical significance and, thus, in line with the results found by Caylor (2010). On the other hand, in contrast to the evidence of Caylor (2010), there was no significance for the variable cash flow from operations (CFO).

Therefore, with the discretionary accruals extracted from the residuals of the theoretical models, the analysis of the research models is demonstrated to confirm the hypotheses of this study. After performing the tests and the panel diagnosis, all models presented results indicating pooled stacked as the best option. Therefore, from the panel data with *pooled* effects and robust standard error, the research model was analyzed with the dependent variables, that is, the regression residuals of models 4 a and b by Caylor (2010) and 4 c by Stubben (2010), as Table 7 shows.

Table 7

Research Model Regression Results (H1)

Variables	Model 4 (a)	Model 4 (b)	Model 4 (c)
Constant	0.032 (0.000*)	-0.004 (0.373)	0.028 (0.000***)
CPC47$_{it}$	0.000 (0.960)	0.000 (0.764)	-0.000 (0.840)
ROA $_{it}$	0.009 (0.317)	0.001 (0.810)	0.011 (0.063*)
IND $_{it}$	0.002 (0.423)	0.000 (0.631)	0.001 (0.320)
SIZ $_{it}$	-0.001 (0.236)	0.001 (0.004***)	-0.000 (0.463)
COVID19 $_{it}$	0.002 (0.623)	0.000 (0.969)	-0.001 (0.646)
Model Significance Analysis			
R^2	0.006	0.011	0.005
F	0.606	1.839	0.950
P-value (F)	0.695	0.111	0.452
Jarque-Bera	0.000	0.000	0.000
Breusch-Pagan	0.154	0.819	0.564
Wooldridge	0.772	0.638	0.994
Highest VIF	1.221	1.221	1.221
Durbin-Watson	1.570	1.664	1.580
Panel Diagnostics			
Chow	0.128	0.894	0.630
Breusch-Pagan	0.301	0.818	0.564
Hausman	0.455	0.042**	0.303
Result	**Pooled Effects**	**Pooled Effects**	**Pooled Effects**

Source: Prepared by the authors (2023). The values inside the parentheses represent the regression coefficients, and the values outside the parentheses represent the p-value with significance level: *** 1%, ** 5%, * 10%.

Note: models 4 a, b, c refer to the equation $anRD_{it} = \beta_0 + \beta_1 CPC47_{it} + \beta_2 ROA_{it} + \beta_3 IND_{it} + \beta_4 SIZ_{it} + \beta_5 COVID19_{it} + \varepsilon_{it}$ "4a and 4b" are the models with the discretionary revenue dependent variables (anRD) which are the residuals estimated by the regressions of the theoretical models of Caylor (2010) and "4c" of Stubben (2010).

Table 7 shows that the results of the research models do not indicate the significance of the model as a whole at a significance level of 5%, and, in addition, the models presented low explanatory power as identified by R^2. The data analysis of the regression models in Table 7 did not provide sufficient confirmation that the application of CPC 47 (IFRS 15) affected revenue management levels, as there was no statistically significant relationship of the model as a whole at a significance level of 5%.

To validate the second hypothesis (H2), the sector variables and CPC 47xSector were included. After performing the tests and the panel diagnosis, all models presented results indicating *pooled stacked as the best option*, as shown in Table 8. Therefore, from the panel data with pooled effects and robust standard error, the research model was analyzed with the dependent variables: regression residuals of models 5 a and b by Caylor (2010) and 5 c by Stubben (2010).

Table 8

Research Model Regression Results (H2)

Variables	Model 5 (a)	Model 5 (b)	Model 5 (c)
Constant	0.031 (0.000***)	-0.005 (0.208)	0.027 (0.000***)
CPC47$_{it}$	0.001 (0.582)	0.002 (0.342)	0.001 (0.620)
SECTOR$_{it}$	0.004 (0.375)	0.005 (0.062)	0.005 (0.332)
CPC47 $_{it}$ x SECTOR$_{it}$	-0.006 (0.311)	-0.005 (0.143)	-0.007 (0.218)
ROA $_{it}$	0.010 (0.282)	0.003 (0.486)	0.012 (0.048**)
IND $_{it}$	0.002 (0.395)	0.001 (0.373)	0.001 (0.282)
SIZ $_{it}$	-0.001 (0.231)	0.001 (0.004***)	-0.000 (0.450)
COVID19 $_{it}$	0.002 (0.624)	0.000 (0.974)	-0.001 (0.646)
Model Significance Analysis			
R^2	0.009	0.020	0.008
F	0.610	2.651	0.845
P-value (F)	0.747	0.014	0.552
Jarque-Bera	0.000	0.000	0.000
Breusch-Pagan	0.290	0.177	0.551
Wooldridge	0.841	0.692	0.899
Highest VIF	2.821	2.821	2.821
Durbin-Watson	1.560	1.661	1.574
Panel Diagnostics			
Chow	0.122	0.906	0.616
Breusch-Pagan	0.305	0.177	0.552
Hausman	0.433	0.061*	0.318
Result	**Pooled Effects**	**Pooled Effects**	**Pooled Effects**

Source: Prepared by the authors (2023). The values inside the parentheses represent the regression coefficients, and the values outside the parentheses represent the p-value with significance level: *** 1%, ** 5%, * 10%.

Note: models 4, 5, and 6 refer to the equation) $anRD_{it} = \beta_0 + \beta_1 CPC47_{it} + \beta_2 SECTOR_{it} + \beta_3 CPC47xSECTOR_{it} + \beta_4 ROA_{it} + \beta_5 IND_{it} + \beta_6 SIZ_{it} + \beta_7 COVID19_{it} + \varepsilon_{it}$ where "5a and 5b" are the models with the discretionary revenue dependent variables (anRD), which are the residuals estimated by the regressions of the theoretical models of Caylor (2010) and "5c" of Stubben (2010).

Table 8 shows that the results of the research models indicate the non-significance of the model as a whole at a significance level of 5%. Therefore, from these results, it is impossible to make inferences about the effects of CPC 47 (IFRS 15) after adoption. However, the study expands the debate and discussions on the studies already conducted. In this regard, specifically on the results identified in the literature on the effects of the new regulations, it is observed that Braga (2020) showed that adopting IFRS 15 influenced the increase in the level of revenue management in other countries in specific sectors, but without significant effects in Brazil.

In the same direction, Morawska (2021), who also used the Caylor model (2010), found low explanatory power in his research model and, therefore, meeting the R^2 value found in this

study. It should also be noted that in the study by Morawska (2021), the effect of adopting the new regulations was not confirmed. However, Morawska (2021) found a significant relationship between the variable return on assets (ROA) and indebtedness (IND), in line with the findings of Braga (2020). The size variable (SIZ) was not statistically significant to revenue management. This fact may be related to the time-lapse or specific characteristics of the selected companies or the sectors' methodological choices.

Few studies have used revenue management models, as studies are more focused on earnings management by aggregate accruals. For example, Baldissera et al. (2018) used the aggregate *accruals* model to analyze the effect of CPC 17, a standard prior to CPC 47 applied to the civil construction sector and did not obtain statistical significance in the variables return on assets (ROA), indebtedness (IND), and size (SIZ) for earnings management practices by accruals. Still, CPC 17 (accounting standard prior to CPC 47) presented a negative and significant relationship for earnings management practices.

Souza et al. (2022) found that adopting IFRS 15 reduced the informational earnings quality in companies in the technology sector and increased the level of earnings management, especially in companies belonging to the industrialized products sector, as well as Tutino et al. (2019) used the Jones (1991) model of aggregate accruals to analyze the effect of IFRS 15 among companies belonging to two distinct sectors: telecommunications (more impacted by the new standard) and public service (less impacted by the new standard) and their findings show the presence of earnings management in telecommunications companies after adopting the revenue recognition standard.

Historically, studies that used aggregate accruals models do not present a consensus regarding the effects of accounting regulations on earnings management. Joia and Nakao (2014) showed that it was impossible to state that adherence to the international standard would result in a reduced or increased level of earnings management in publicly traded Brazilian companies with the aggregate accruals model. Along the same lines, Grecco (2013) concluded that there were no changes in the level of management after adopting IFRS.

Therefore, it is understood that the relationship between earnings management and accounting standards is still ambiguous, but that somehow affects the quality of accounting information. However, few studies exist on the relationship between revenue management and the new IFRS 15 standard, which is CPC 47 in Brazil.

Regarding the effects of the coronavirus on the quality of accounting information, the study by Oliveira and Modena (2022) stands out, showing that the pandemic exerted a positive and significant influence, therefore increasing the practices of manipulation of earnings. In the results of this research, there was no impact on the COVID19 variable in management practices, contrary to the evidence found in that study.

In this study, it was impossible to confirm the effect of IFRS 15 on revenue management practice. According to Napier and Stadler (2020) and Veysey (2021), the new regulation had no significant effects on earnings and little reduction in revenues after implementing IFRS 15 compared to the previous standard.

From the analysis of these results, it was impossible to infer that the managers of these companies belonging to the most impacted sectors use the discretion in the new accounting standard CPC 47 to manage revenues, that is, manipulate earnings. This lack of specification on the relationship between the adoption of the new standard and the levels of revenue management may be associated with the two-way impact of the normative on the quality of information and management possibilities clarified by Rutledge et al. (2016).

To this end, Boina and Macedo (2018) clarify some studies report the impacts of changes arising from the new IFRS accounting regulations. However, there is still no consensus because some do not show significant effects, and others argue for improvements in the quality of accounting information. The statistical indicators reveal no relationship to specific revenue

accruals (discretionary revenues) and the adoption of the new revenue recognition standard CPC 47 (IFRS 15); therefore, it is impossible to confirm the hypotheses of this research.

Therefore, it is noted that the results found for the validation of hypothesis 1 do not make it possible to infer that adopting the new CPC47 standard (IFRS 15), which allows a greater power of judgment of the manager in recognizing revenues, influenced the increase in management practices in the companies belonging to the sample of this research.

The evidence of this study did not confirm the insights by Rutledge et al. (2016) and is contrary to the findings of Souza et al. (2022) since this research argues that adopting the new accounting regulations for revenue recognition increased management practices. Therefore, hypothesis 1, which establishes the increase in revenue management from adopting the new accounting standard CPC 47 (IFRS 15), cannot be confirmed.

Also, it is noted that the results presented in this study did not make it possible to infer that the increase in management practice is more significant in the telecommunications, information technology, engineering, civil construction and real estate, and automotive sectors and that managers use the discretion in CPC47 (IFRS 15) to manage their earnings. Therefore, hypothesis 2, which states that some sectors were more impacted by adopting this new regulation, cannot be confirmed. Therefore, the results obtained from this analysis do not follow the first and second hypotheses prepared in this study.

5 CONCLUSION

This research aimed to analyze the effect of CPC 47 (IFRS 15) – Revenue from Contracts with Customers from the revenue management perspective in publicly traded Brazilian companies. To achieve the proposed objective and respond to the research problem, 112 Brazilian non-financial companies were analyzed, covering a time frame from 2016 to 2020.

From this, we used econometric revenue management models proposed by Caylor (2010) and Stubben (2010), which estimate discretionary revenues by varying accounts receivable. In the research models, variables of interest and control considered conditions for the discretionary management practice were included: dummy CPC 47, dummy sector, return on assets, indebtedness, size, and dummy COVID-19.

The argument of this study was structured based on the first hypothesis that the effect of CPC 47 (IFRS 15) would negatively affect the quality of accounting information with increased practice of revenue management. However, the statistical analysis conducted in this study did not specify the effect of the adoption of CPC 47 (IFRS 15) on revenue management levels, mainly due to the lack of a statistically significant relationship of the model as a whole.

The second hypothesis of the study predicted that adopting the new standard would have a greater impact on some specific sectors and, therefore, the effect of CPC 47 (IFRS 15) would increase the level of revenue management in these sectors compared to the other sectors of B3. The findings did not confirm the relationship between adopting CPC 47 (IFRS 15) and the sectors most impacted by revenue management. Therefore, hypotheses 1 and 2 were not confirmed.

As a theoretical contribution, the research expands and favors the literature with the application of specific accrual management models, different from existing research that uses aggregate accrual models. Also, in practice, this research may also show users of financial reports that discretionary revenues have no significant relationship with the adoption of the accounting standard for revenue recognition.

This study has some limitations. First, although well specified, empirical revenue management models still have some criticisms in the literature. Secondly, this study uses a sample of 112 companies, but only 27 are classified in sectors most impacted by the literature. Third, the data analysis was performed in a fully balanced panel, requiring the exclusion of observations that did not present the variable proposed in the theoretical model as indicated in the methodology.

As a suggestion for future research, it is proposed: a) Application of other models, such as relevance, persistence, informativeness, and timeliness, already widely known in the literature; b) Application and analysis with other control variables, including the differentiation of sectors; c) Preparation of a case study on the application of the new accounting standard in more impacted sectors; and d) Evaluation of the relationship of audit quality with the implementation of the new regulations.

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Roles	1st author	2nd author
Conceptualization	♦	
Data curation	♦	
Formal analysis		♦
Funding acquisition	Does not have	
Investigation	♦	
Methodology	♦	
Project administration	♦	
Resources	♦	
Software	♦	
Supervision		♦
Validation		♦
Visualization	♦	
Writing – original draft	♦	
Writing – review & editing	♦	

CONFLICT OF INTEREST

The authors assert that there is no conflict of interest related to this submitted work.