CASH MANAGEMENT BY ACCUMULATION CONVERSION AND THE CAMOUFLAGE OF EARNINGS MANAGEMENT

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ABSTRACT

The study aims to evaluate the relationship between cash management by conversion of accruals and earnings management practices by discretionary accruals in Brazilian companies. Studies on this relationship are still incipient in accounting information quality and the literature on earnings management (EM) practices, especially in the Brazilian context, where such relationships have not yet been investigated. The sample refers to 161 non-financial companies in [B]3 from 2011 to 2018. The data involves quarterly information collected in the Refinitiv Eikon® database and analyzed using multiple linear regression. The evidence indicates a negative relationship between cash management by conversion of accruals and EM, mainly in the context of negative discretionary accruals, implying that the involvement of Brazilian companies in receivables factoring activities or trade bill discounts may represent a camouflage tool for EM and not only operations to meet financial needs. Such findings indicate that cash management by conversion of accruals can add noise to the relationship between operating cash flow and sales, limiting the explanatory power of accrual charge models and the possibility of companies camouflaging their EM practices. It sheds light on the possibility that companies use financial management activities to indicate lower levels of EM, not necessarily by reducing discrimination but by an effort to camouflage the distribution used in accounting numbers, which may affect investor decisions and analysts.

Keywords: Camouflage. Cash management. Earnings management. Accruals.

GERENCIAMENTO DE CAIXA POR CONVERSÃO DE ACCRUALS E A CAMUFLAGEM DO GERENCIAMENTO DE RESULTADOS

RESUMO

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O estudo tem como objetivo avaliar a relação entre o gerenciamento de caixa por conversão de accruals (GCCA) e as práticas de gerenciamento de resultados por accruals discricionários em empresas brasileiras. Estudos sobre essa relação ainda são incipientes no campo da qualidade da informação contábil e na literatura sobre as práticas de gerenciamento de resultados (GR), principalmente no contexto brasileiro, em que tais relações ainda não foram investigadas. A amostra refere-se a 161 empresas não financeiras listadas na [B]3 no período de 2011 a 2018. Os dados correspondem a informações trimestrais coletadas na base de dados Refinitiv Eikon® e analisados por meio de regressão linear múltipla. As evidências indicam uma relação negativa entre o GCCA e o GR, principalmente no âmbito dos accruals discricionários negativos, indicando que o envolvimento das empresas brasileiras em atividades de factoring de recebíveis ou desconto de duplicatas pode representar uma ferramenta de camuflagem do GR, e não somente operações para suprir necessidades financeiras. Tais achados indicam que o GCCA pode adicionar ruído na relação entre fluxo de caixa operacional e vendas, limitando o poder de explicação dos modelos de estimação de accruals, além da possibilidade de as empresas camuflarem suas práticas de GR. Lança-se luz sobre a possibilidade de que atividades de gestão financeira podem estar sendo utilizadas para indicar menores níveis de GR, não necessariamente por redução da discricionariedade, mas por tentativas de camuflar a discrição empregada nos números contábeis, o que pode afetar as decisões de investidores e analistas.

Palavras-chave: Camuflagem. Gerenciamento de caixa. Gerenciamento de resultados. Accruals.

1 INTRODUCTION

The quality of accounting information reflects a broad set of dimensions (Burgstahler et al., 2006; Dechow et al., 2010), among which Earnings Management (EM) is included. The interest in investigating why managers manipulate earnings, how they do it, and the consequences of this behavior has made research on financial reporting a significant area for the field of quality accounting information (McNichols, 2000; Walker, 2013). The consolidation of management through discretionary accruals accompanied the structuring of models for estimating discretionary accruals (Jones, 1991; Dechow et al., 1995; Kothari et al., 2005; Pae, 2005), becoming one of the most popular EM methods investigated regarding discretion within the Generally Accepted Accounting Principles (GAAP) (Walker, 2013).

Research in the international context, which investigated EM by accruals, showed changes in the level of Accruals Earnings Management (AEM) after the enactment of the Sarbanes-Oxley Act (SOX) (Lobo & Zhou, 2006; Cohen et al., 2008) or after the process of adopting the International Financial Reporting Standards (IFRS) (Jeanjean & Stolowy, 2008; Barth et al., 2008; Ho et al., 2015). In the Brazilian scenario, while some studies indicate an increase in the level of EM after the adoption of IFRS (Klann, 2011; Grecco, 2013; Viana et al., 2023), some studies report reductions in the level of management by accruals with the implementation of international standards (Cardoso et al., 2015; Cupertino et al., 2017; Silva & Nardi, 2017).

The changes present at the AEM level can be interpreted because of the institutionalization of laws and regulations (Walker, 2013). Different contexts relating to the structure of accounting standards, the legal system, and the characteristics of the capital market can be factors that impact the adoption of EM practices (Leuz et al., 2003). Furthermore, institutional factors, such as the business financing system, the concentration of shareholding control, or the legal and tax system can affect accounting information differently in different countries (Paulo, 2007), as well as the country's level of development (Viana et al., 2023; Viana & Lourenço, 2022).

More precisely, in the context of Brazilian companies, high inflation, stock market volatility, political uncertainty, and lower regulatory quality have contributed to a higher level of EM (Viana & Lourenço, 2022). The parallel between a country ranked among the most significant emerging economies in the world (Eng et al., 2019; Viana & Lourenço, 2022) and, at the same time, the maintenance of a unique institutional scenario characterized by weak legal and regulatory systems, Historically strong state influence and significant gaps between national accounting standards and international standards (Eng et al., 2019), make Brazil a relevant scenario for discussing and deepening aspects that impact the quality of accounting information.

Kama and Melumad (2019) expanded the proposition, widely discussed in the literature, that companies transition between AEM and Real Earnings Management (REM) and that reductions in the use of discretionary accruals management occur in parallel to the increased use of abnormal operational activities (Ipino & Parbonetti, 2017; Bonetti et al., 2016). The authors contextualize that in addition to the transition to REM, companies may also have built a greater propensity to try to camouflage the use of AEM, converting discretionary accruals into cash. This conversion involves accounts receivable financing transactions, which present accounting benefits, such as being used to "disguise" information from financial statements (Dechow & Shakespeare, 2009), adding noise to the relationship between accounts receivable and sales (McNichols, 2000; Melumad & Nissim, 2008; Beneish et al., 2013), as well as reducing the statistical power of discretionary accrual estimation models, used as EM indicators (Kama & Melumad, 2019).

However, with the support that the adoption of international standards among companies operating in emerging markets is associated with the substitution of REM practices for AEM practices, in contrast to the evidence found in developed countries (Viana et al., 2023), the analysis based on the use of practices to "camouflage" this more accentuated use of AEM in the Brazilian context becomes more opportune. Therefore, the use of discounted trade bills or receivables factoring operations, mainly to overcome financial difficulties, could be a factor that impacts the interpretation of cash management by conversion of accruals in the Brazilian scenario. Thus, by expanding the interpretation of cash management by conversion of accruals using as a proxy the residue resulting from isolating the effect of financial difficulties experienced by Brazilian companies, it is expected that the use of cash management can influence the effectiveness of estimations of discretionary accruals as indicators of EM. Therefore, the following problem guides this study: What is the relationship between cash management by conversion of accruals and earnings management practices?

Studies on this relationship are still incipient in the field of quality of accounting information and the literature on EM practices, mainly in the Brazilian context, which, unlike that researched by Kama and Melumad (2019), contemplates different subsidies regarding the credit market as a source of capturing company resources. Furthermore, the high degree of ownership concentration, characteristic of Brazilian companies, tends to influence the quality of accounting information directly. According to Ball and Shivakumar (2005), the greater concentration of shareholding control tends to induce companies to resolve a large part of their information problems internally. Furthermore, Brazil's legal structure gives rise, on the one hand, to a less active stock market, with an orientation towards creditors and lower requirements for public disclosure (Ball et al., 2000), and on the other hand, it demonstrates characteristics that support low legal protection for shareholders and creditors and weak application of the law (Eng et al., 2019), aspects that influence the level of accounting quality.

The development of this study can be justified based on some specific factors. Initially, the study deals with a topic that is still in its infancy in academia by discussing cash management as a method of "camouflaging" EM practices through accruals and being able to complement previous literature on management in accounting aspects. The interest in identifying camouflage in EM practices by discretionary accruals (Kama & Melumad, 2019) began with research that identified that companies that convert accruals into cash (receivables factoring) add noise to the relationship between accounts receivable and sales and reduce the statistical power of discretionary accrual estimation models (McNichols, 2000; Melumad & Nissim, 2008; Beneish et al., 2013). Studies in the academic area present assumptions arising from indicators based on accruals. In this way, evidence about the presence of camouflage tends to complement the discussion of such studies on reductions in the level of AEM, which can be partially attributed to the greater engagement of companies in cash management by conversion of accruals.

In a complementary way, this research expands the scenario of the study by Kama and Melumad (2019), including the possibility that the use of receivables factoring, especially in the Brazilian context, can be used to deal with financial difficulties that the company may be experiencing, rather than using it solely to camouflage EM practices, as companies in financial difficulty tend to carry out a higher level of management through discretionary accruals (for example, Li et al., 2020). Methodologically, this study provides new proxies for cash management by conversion of accruals, based on suggestions for incorporating such measures in future studies on EM, with the main purpose of trying to overcome the deficiencies of current statistical models that could suffer from low statistical power, by ignoring the possibility of camouflaged EM indicators (Kama & Melumad, 2019).

Furthermore, the results of this research contribute to expanding the academic debate on EM, as the use of camouflaging management practices by accruals can impact the perceptions of investors, analysts, and regulators about the quality of accounting information. In the context of investors and analysts, the evidence can direct the analysis of investment decisions to new factors that impact the reliability of the information passed on by companies to their stakeholders. About regulators, attention is drawn to the effectiveness of regulatory mechanisms in mitigating EM practices and, consequently, to the origin

of gaps that lead to discretionary judgments that allow managers to mask the information reported.

2 RESEARCH BACKGROUND AND HYPOTHESIS

The concept that accounting profits are decomposed into operating cash flow and accruals (discretionary and non-discretionary accruals) permeates the discussion that issuing cash flow forecasts reduces the margin for EM. By transmitting information about the composition of profits through cash flow forecasts, management reduces the alternatives for changing cash flow and accruals to achieve a certain profit (Wasley & Wu, 2006). Corporate cases in which incorrect cash flow information was reported raised concerns about managers applying discretion in financial reporting and transactions to increase operating cash flow (Lee, 2012). The identification of managers' discretion in reporting cash flow adds limitations to the use of operating cash flow as a reference to identify EM, as managers' engagement in managing profits and cash flow will create a gap between the measures, with no guarantees of that there is no management of accounting numbers (Lee, 2012).

The existence of alternative criteria for recognizing, measuring, or disclosing accounting information (Santos & Paulo, 2006) within the limits of accounting standards (Martinez, 2013) creates opportunities for managers to choose between management alternatives to report information in the most convenient format (Klann & Beuren, 2018). Management based on discretionary accruals is permeated with flexibility arising from accounting principles and is responsible for providing opportunities for managers to get involved in EM (Fields et al., 2001; Graham et al., 2005).

For McInnis and Collins (2011), cash flow forecasts increase the transparency of accrual manipulations. On the other hand, companies increase the risk of interventions from auditors and regulators when engaging in EM for discretionary accruals. Therefore, costs related to reformulations and regulatory interventions tend to increase in line with the management level by accruals (McInnis & Collins, 2011), creating a tendency for managers to change the practices of managing results to other mechanisms to continue to achieve established benchmarks or goals.

Beneish et al. (2013) state that as management detection methods are improved, the techniques used by managers must also evolve. Simultaneously, techniques applied to mask EM practices have also been developed. Evidence from Kama and Melumad (2019) demonstrates that since the SOX, American companies have started to adopt new methods, specifically receivables factoring, as a strategic aspect to mitigate the effect of management applied on their profits.

In relation to receivables factoring, or accounts receivable financing, Levy (2010) explains that the probability of using such a practice increases with the more evident presence of information asymmetry in the company. Initially, the literature addressed the accounting benefits of using receivables factoring to later discuss the use of this practice as a tool to manage reported information (McNichols, 2000; Dechow & Shakespeare, 2009; Barth & Taylor, 2010; Dechow et al., 2010). Benefits

such as reduced leverage, increased profits, and better efficiency are pertinent to recording such a transaction. However, the collateral benefit of "disguising" information from financial statements points to a parallel field of accounting investigation (Dechow & Shakespeare, 2009).

The study by McNichols (2000) relates the use of accounts receivable financing to lower estimates of discretionary accruals. Companies involved in sales transactions for some of their receivables report a lower level of receivables and a lower estimate of discretionary provisions. The impact on EM is also highlighted by Melumad and Nissim (2008), when they observe that when receivables, used in financing transactions, are removed from the balance sheet, the relationship between accounts receivable and sales becomes distorted and, consequently, the ability to detect EM is reduced. Furthermore, this type of transaction increases receivables turnover and reported cash, measures often used as indicators of earnings quality (Melumad & Nissim, 2008).

Specifically, researchers and practitioners have devoted attention to the impact of factoring on the quality of accounting information. Dechow and Shakespeare (2009) propose that at the end of a period, managers know the number they need to report on receivables and cash on the balance sheet, which cash flows from operations must be reported, and what leverage they need to avoid violating contracts. In this way, managers can manage their balance sheets to achieve financial reporting goals by factoring transactions.

The negative relationship between gains obtained through factoring and the profits reported by the company in the period preceding the operation, found in the study by Dechow et al. (2010), tends to be an indication that managers use the flexibility available in fair value accounting rules to smooth profits, as more significant incentives to recognize gains from factoring occur when the profits reported are low or negative. Factoring provides an interesting setting to study EM, as recording such income involves judgment and discretion on the part of managers (Dechow et al., 2010).

The use of accruals is the primary option for EM (Xu, 2007) because it is under the control of management and does not sacrifice the organization's future performance (Cupertino et al., 2017). However, companies may stop employing EM practices or adopt alternative strategies when they encounter barriers to a particular manipulation mechanism (Ettredge et al., 2010). Concomitantly, third-party influences can also significantly impact the options to manage, whether within the scope of investors or information intermediaries, to form future expectations and risk perceptions of the company or about parties interested in the company's financial strength, such as regulators, politicians, customers or suppliers (Walker, 2013).

In a complementary context, the results found by Brazel et al. (2015) indicate that investors use accruals data for their analyses, and signs of exceptionally high accruals are understood as indicators of fraud in financial reports. Previous research shows that after SOX, the requirement for higher quality audit reports and the high cost of administration with detections became incentives for companies operating in an international context to reduce the use of EM for discretionary accruals or even opt for attempts to avoid EM detection (Lobo & Zhou, 2006; Cohen et al., 2008; Koh et al., 2008).

Firstly, one of the justifications adopted for the reduction in AEM, mainly after the implementation of international accounting standards, is based on the transition between the use of discretionary accruals (AEM) for management practices involving the company's operational activities (REM) (Ipino & Parbonetti, 2017; Bonetti et al., 2016; Oz & Yelkenci, 2018). However, these signs occur, for example, among companies operating in European Union countries and with strict enforcement regimes (Ipino & Parbonetti, 2017) or with robust corporate governance mechanisms (Bonetti et al., 2016).

However, different economic scenarios have a different impact on this discussion. More precisely, the structure found in emerging markets, such as Brazil, leads to the understanding that the full adoption of international standards can encourage a trade-off between EM practices that is different from that evidenced in developed markets. These companies tend to use EM more heavily through discretionary accruals to the detriment of management through real activities (Viana et al., 2023). Analyzing only the Brazilian context, Viana and Lourenço (2022) identified that in periods of higher inflation, stock market volatility, political uncertainty, and lower regulatory quality, the propensity for EM through discretionary accruals increases.

In this sense, converting accruals into cash can be interpreted as influencing the effectiveness of accruals measurements as EM indicators, especially in the Brazilian context, where there is a greater interest in AEM practices. More precisely, Kama and Melumad (2019) propose that the conversion of accruals to cash adds noise to the relationship between accruals and sales and thus decreases the statistical power of discretionary accruals as an indicator of EM. Findings from Kama and Melumad (2019) study indicate that American companies became more likely to engage in cash management following the passage of SOX. This trend was particularly pronounced among companies with strong incentives (or enhanced skills) to perform and hide management. In the context studied by the authors, the post-SOX reduction in standard accruals management measures, identified in previous research, is partially attributable to companies' greater engagement in cash management activities (Kama & Melumad, 2019).

In this context, we support that the use of trade bill discounts causes a decrease in accruals, originating from accounts receivable transactions, and an increase in operational cash flow (Chang et al., 2023; Kama & Melumad, 2019) having, therefore, its accounting operation is based on Technical Procedure CPC 39 on Financial Instruments. More precisely, Brazilian companies that choose to discount invoices anticipate receiving a resource, generally through a financial institution that will allocate interest and fees under this transaction.

Based on the contextualization of the literature on the presence of discretion in reporting cash flow forecasts (DeFond & Hung, 2003; Wasley & Wu, 2006; McInnis & Collins, 2011; Lee, 2012), the benefits of financing accounts receivable received for the underestimation of management practices (McNichols, 2000; Dechow & Shakespeare, 2009; Barth & Taylor, 2010; Dechow et al., 2010) and in the evidence recently evidenced by Kama and Melumad (2019), this research proposes a relationship between companies' involvement in cash management and the reduction in the effectiveness of discretionary accrual

estimation models as indicators of the existence of management in accounting information. This context supports the research hypothesis.

Hypothesis 1: There is a negative relationship between cash management through conversion of accruals, resulting from receivables factoring operations or discounting trade bills, and earnings management indicators through discretionary accruals.

3 METHODOLOGICAL PROCEDURES

The population of this research corresponds to all non-financial companies listed in [B]3 from 2011 to 2018. According to information available in the Refinitiv Eikon® database, there are 439 non-financial companies listed linked to [B]3. The sample design applied specific procedures, given the use of a balanced panel for the analyses. Therefore, details regarding the exclusions carried out are presented in Panel A of Table 1.

Table 1
Composition of the research sample

Panel A: Sample design		
	Companies	**%**
Population	439	100
No information for:		
(-) Total Assets	198	45,1
(-) Immobilized	18	4,1
(-) Accounts Receivables	2	0,4
(-) Net Revenue	13	3,0
(-) Market value	15	3,4
(-) Companies with Negative Shareholders' Equity	32	7,3
Total	**161**	**36,7**
Panel B: Sample by economic sectors of the GICS classification		
	Companies	**%**
Basic Consumption	14	8,7
Discretionary Consumption	37	23,0
Health care	6	3,7
Energy	6	3,7
Real Estate and Rental	13	8,1
Industrial	30	18,6
Materials	21	13,0
Communication Services	5	3,1
Public Utility Services	25	15,5
Information Technology	4	2,5
Total	**161**	**100**

Source: research data.

Initially, we removed companies with insufficient data for the complete analysis period concerning the model or control variables in the order shown in Panel A of Table 1. Initially, we removed companies without total asset values for

the analyzed period, followed by companies that did not have fixed assets, and so on. Finally, due to the use of the company's book value in the residual generation construct used as a proxy for cash management by conversion of accruals (Table 2), companies with negative net equity values were excluded to minimize the impact of these results on the main variable of the study.

After exclusions, the study sample comprised 161 companies. Panel B of Table 1 summarizes the sample according to their economic sectors. The consumer discretionary, industrial, public utility services and materials sectors exercise the most significant representation. The sample was investigated from 2011 to 2018, using a balanced panel with quarterly data and 5,152 observations.

The delimitation of the analysis period is consistent with the adoption of international accounting standards and the need for outdated and future data to calculate the study variables. Therefore, we decided to start the analysis in 2011 and use the lagged variables referring to 2010. Furthermore, by adopting 2018 as the final year of the analysis, the calculations of future variations included values relating to the first quarters of the year 2019.

We winsorize data at the 1% level of continuous variables to minimize the influence of outliers. This technique differs from methods that exclude outliers, as it does not exclude any observations but only makes them less extreme (Barnett & Lewis, 1994). We used the White residual test to evaluate the homoscedasticity of the data. hen observing the presence of heteroscedasticity. We assumed the Central Limit Theorem regarding data normality due to the number of observations.

We segregated the operationalization of data analysis into two main constructs. In the first analysis, we sought to calculate the proxy for cash management by conversion of accruals, isolating the effect of financial characteristics of Brazilian companies. Subsequently, the main analysis of the study was constructed based on the construct of camouflaging EM practices by discretionary accruals.

3.1 Cash management by accruals conversion

The identification of cash management by conversion of accruals goes through values related to the accounting of factoring of receivables (Klapper, 2006; Levy, 2010; Kama & Melumad, 2019), as shown in Table 1. As a result of factoring of receivables is, in most cases, an unobservable procedure, this research indirectly observes the effect of cash management on financial performance based on the future variation in operational cash flow to sales (Kama & Melumad, 2019).

We used the future variation referring to the variable VF_CV_{it} to verify the manifestation of cash management by conversion of accruals. Early recognition of receivables produces an increase in operating cash flow in the current period, followed by a decrease in the subsequent period, without an associated change in sales in either period (Kama & Melumad, 2019). Equation 1 summarizes the variable VF_CV_{it}.

(1)

$$VF\_CV_{it} = \frac{VF\_FCO_{it}}{VF\_V_{it}}$$

Where VF_FCO_{it} is the coefficient of variation of the variables FDP_FCO_{it} and $FMédia\_FCO_{it}$ of the company *i* in period *t*; FDP_FCO_{it} is the standard deviation operating cash flow of company *i* in periods t, *t+1*, and *t+2*; $FMédia\_FCO_{it}$ is the average operating cash flow of company *i* in periods *t*, *t+1* and *t+2*; VF_V_{it} is the coefficient of variation of the variables FDP_V_{it} and $FMédia\_V_{it}$ of the company *i* in period *t*; FDP_V_{it} is the standard deviation sales of the company *i* in periods *t*, *t+1* and *t+2*; and $FMédia\_V_{it}$ is the average sales of the company *i* in periods *t*, *t+1*, and *t+2*.

As independent explanatory variables, we initially adopted variables that cover aspects related to financial difficulties, such as the need for working capital (NCG_{it}), liquidity index (LIQ_{it}), and reporting of negative operating cash flow ($FCON_{it}$). Previous literature indicates that financial difficulties can lead to greater use of EM practices, especially discretionary accruals (Li et al., 2020). Thus, the objective of including such variables in the model seeks to mitigate the effect of the use of receivables factoring operations or bill discounting operations by Brazilian companies to meet their financial needs and, consequently, enable the estimation of an EM camouflage indicator that is not biased by the financial condition of the companies analyzed. We also included variables that align with the study by Kama and Melumad (2019): GA_{it}, AT_{it}, $BM_{it,}$ and VM_{it}. In general, using such variables as control seeks to mitigate the indirect effects of company-level characteristics on the variation in cash flow of the companies investigated.

Table 2
Construct for cash management by accruals conversion

Variable	Description	Operationalization	Reference
Dependent Variable			
Future Variation of Cash to Sales (VF_CV_{it})	Coefficient of variation in operating cash flow in relation to the coefficient of variation in sales.	Equation 1	Kama e Melumad (2019)
Explanatory Independent Variables			
Need for working capital (NCG_{it})	Working capital value scaled by total assets.	$\frac{ACO - PCO}{TA_{t-1}}$	-
Liquidity (LIQ_{it})	Current liquidity index.	$\frac{Current\ Assets}{Current\ Liabilities}$	-
Negative Operating Cash Flow ($FCON_{it}$)	Represents companies with negative operating cash flow.	Categorical variable, equal 1 for companies with negative operating cash flow in the period; 0 otherwise.	-
Earnings (GA_{it})	Average of the three subsequent quarters of the ratio between profit	$Average\ (\frac{GA_t}{TA_{t-1}}, \frac{GA_{t+1}}{TA_t}, \frac{GA_{t+2}}{TA_{t+1}})$	Kama e Melumad (2019)

	before extraordinary items and total assets.		
Total Accruals (AT_{it})	Average of three subsequent quarters of total accruals divided by total assets.	$Average\left(\frac{AT_t}{TA_{t-1}}, \frac{AT_{t+1}}{TA_t}, \frac{AT_{t+2}}{TA_{t+1}}\right)$	
Book to Market (BM_{it})	Average of three subsequent quarters of the Book to Market ratio.	$Average\ (BM_t, BM_{t+1}, BM_{t+2})$, where: $BM_{it} = \frac{Book\ Value}{Market\ Value}$	
Market Value (VM_{it})	Natural logarithm of the market value at the end of the quarter.	NL of market value.	

Legend: ACO = (CR+E); CR: accounts receivable; E: inventory; PCO = (F+OB); F: suppliers; OB: employment and tax obligations; TA: total assets; LN: natural logarithm.
Source: research data.

Equation 2 summarizes the operationalization of cash management by conversion of accruals. We used the residues obtained as a proxy for identifying EM camouflage based on cash management by conversion of accruals and not as additional indicators for EM (Kama & Melumad, 2019).

(2)

$$VF\_CV_{it} = \beta_0 + \beta_1 NCG_{it} + \beta_2 LIQ_{it} + \beta_3 FCON_{it} + \beta_4 GA_{it} + \beta_5 AT_{it} + \beta_6 BM_{it} + \beta_7 VM_{it} + \varepsilon_{it}$$

3.2 Camouflage of earnings management by discretionary accruals

The analyses related to the camouflage of EM by discretionary accruals permeate the construct presented in Table 3. To estimate discretionary accruals, we used the Jones (1991) model, modified by Dechow et al. (1995), and referred to as the Modified Jones model from then on. The modification of the model involves including the accounts receivable variable, based on the assumption that managers manage more revenue from accounts receivable than from cash sales. The model comprises three operationalization stages, generating discretionary accruals by subtracting total accruals from non-discretionary accruals (Dechow et al., 1995).

Table 3
Earnings management camouflage construct

Variable	Description	Operationalization	Reference
Dependent Variable			
Absolute Discretionary Accruals (ADA_{it})	Total discretionary accruals, in absolute value.	$DA_{it} = TA_{it} - NDA_{it}$	Dechow, Sloan e Sweeney (1995)
Positive Discretionary Accruals (ADP_{it})	Positive discretionary accruals.		

Negative Discretionary Accruals (ADN_{it})	Negative discretionary accruals in absolute value.		
Explanatory Independent Variable			
Cash Management Residue by Conversion of Accruals (GC_R_{it})	Proxy for cash management by accruals conversion.	Equation 2	-
Independent Control Variables			
Size (TAM_{it})	Natural logarithm of total assets.	LN of total assets.	Gu, Lee e Rosett (2005); Chen, Huang e Fan (2012)
Big Four (AUD_{it})	Represents companies audited by Big Four auditing firms.	Categorical variable equals 1 for companies audited by Big Four; 0 otherwise.	Cohen, Dey e Lys (2008); Cohen e Zarowin (2010)
Debt (END_{it})	Participation of third-party resources in the company's capital structure.	$\frac{PC + PNC}{Total\ Assets}$	Gu, Lee e Rosett (2005)
Economic Industry (IND)	Main activity of the company.	GICS Sector Code	Gu, Lee e Rosett (2005); Kama e Melumad (2019)

Legend. DA_{it}: discretionary accruals; TA_{it}: total accruals; NDA_{it}: non-discretionary accruals; LN: natural logarithm; PC: current liabilities; PNC: non-current liabilities; GICS: Global Industry Classification Standard.
Source: research data.

In line with Kama and Melumad (2019), positive, negative, and absolute discretionary accruals were used as the dependent variable. According to previous studies, positive (negative) values of discretionary accruals are indicative of the use of earnings management to increase (reduce) profits (Jones, 1991; Dechow et al., 1995). The explanatory independent variable corresponds to the residues obtained from the operationalization of the construct presented in Table 2, summarized in Equation 2.

Regarding the insertion of control variables, it is understood that: (i) several factors correlated to the size of companies (TAM_{it}) tend to impact the propensity to use EM (Gu, Lee and Rosett, 2005; Chen, Huang and Fan , 2012) and cash management, whether due to differences in supplier networks, financing sources or liquidity needs (Lee, 2012); (ii) companies audited by large audit firms (AUD_{it}) have higher quality of accounting information (Dechow et al., 2010), differentiating the level of EM activity (Gu et al., 2005; Cohen et al., 2008; Cohen & Zarowin , 2010); (iii) more indebted companies (END_{it}) are more likely to use accounting methods in order to increase their profitability (Watts & Zimmerman, 1986), boosting the use of EM practices (Gu et al., 2005); and (iv) sectoral differences substantially impact the level of adoption of EM practices (Gu et al., 2005; Kama & Melumad, 2019), whether in relation to the amount of inventory or receivables and financial variables, which can encourage the EM (Gu et al., 2005).

In this research, we used the classification of companies about the industry to estimate the residuals from cash management by conversion of accruals and discretionary accruals (performed by sector and quarter) and fixed effect control in the main regressions.

To meet the objective of this research, we ran the model presented in Equation 3, analyzing alternately in the AD_{it} variable the values of discretionary accruals in absolute (ADA_{it}), positive (ADP_{it}), and negative values (ADN_{it}).

(3)

$$AD_{it} = \beta_0 + \beta_1 GC\_R_{it} + \beta_2 TAM_{it} + \beta_3 AUD_{it} + \beta_4 END_{it} + \sum efeito\_fixo\_setor + \sum efeito\_fixo\_trimestre + \varepsilon_{it}$$

In practical terms, companies' engagement in receivables factoring activities or discounted bills tends to increase the variation between cash and sales, as this index controls changes in operating cash flow driven by changes in sales and not by accounts receivable financing transactions. Furthermore, greater involvement in receivables financing practices tends to reduce reported accruals.

For data analysis, we used descriptive statistics and multiple linear regression, controlling fixed effects of industry and quarter, using STATA software.

3.3 Sensitivity Tests

As a sensitivity test, the relationship between cash management by conversion of accruals and EM was investigated based on the variable VF_CV_{it}, instead of considering the residue from Equation 2. Furthermore, we operationalized the models with and without controlling variables related to the financial situation of the companies (NCG_{it}, LIQ_{it}, and $FCON_{it}$).

4 APRESENTATION AND ANALYSIS OF RESULTS

To summarize the possible relationships when estimating the cash management by conversion of accruals proxy, according to Equation 2, Table 4 presents the results found when operationalizing a regression using the Fama McBeth model (1973).

Table 4
Residuals for cash management by accruals conversion (GCCA)

Panel A: Fama-McBeth Regression (1973)		
	Dependent Variable: VF_CV_{it}	
	Coefficient	**t Statistical**
Constant	2,419**	2,31
NCG_{it}	-0,683	-1,63
LIQ_{it}	-0,036***	-3,13
$FCON_{it}$	0,452**	2,06

GA_{it}	0,120	0,03
AT_{it}	1,540	1,03
BM_{it}	-0,044	-0,70
VM_{it}	-0,088**	-2,08
Model Significance	0,001	
Average R2	6,49	
Number of observations	5.152	

Legend. *p>0,10, **p>0,05, ***p>0,01. VF_CV_{it}: future variation in cash for sales; NCG_{it}: working capital needs; LIQ_{it}: liquidity index; $FCON_{it}$: categorical variable for negative operating cash flow; GA_{it}: average earnings; AT_{it}: average variation in total accruals; BM_{it}: average book-to-market index; VM_{it}: market value.
Source: research data.

As for significant relationships, we observed that, in general, the liquidity index (LIQ_{it}) was negatively and significantly related at the 1% level with the future variation of cash to sales (VF_CV_{it}). Conversely, the categorical variable for negative cash flow ($FCON_{it}$) was positively and significantly related at the 5% level with VF_CV_{it}. Therefore, the results indicate that companies with greater liquidity use less receivables factoring or bill discounting, while those with negative operating cash flow tend to have a higher level of FV_CV_{it}. Thus, it is possible to infer that companies with cash generation difficulties may engage in receivables factoring or bill discounting activities.

Table 5 presents the mean, standard deviation, 25th percentile, median, and 75th percentile of the main variables.

Table 5
Descriptive statistics of the main variables

	NO	Mean	Standard Deviation	Percentile 25th	Median	Percentile 75th
GC_R_{it}	5.152	-0,0309	0,7338	-0,1240	-0,0088	0,0412
ADA_{it}	5.152	0,0529	0,0517	0,0159	0,0377	0,0722
ADP_{it}	1.822	0,0411	0,0458	0,0115	0,0271	0,0540
ADN_{it}	3.330	-0,0594	0,0538	-0,0194	-0,0446	-0,0818
TAM_{it}	5.152	22,0292	1,6796	20,8863	22,0290	23,1947
END_{it}	5.152	0,5552	0,1974	0,4260	0,5592	0,7038

Legend. GC_R_{it}: residue for cash management by CA; ADA_{it}: discretionary accruals in absolute value; ADP_{it}: positive discretionary accruals; ADN_{it}: negative discretionary accruals; TAM_{it}: size; END_{it}: debt; NO: number of observations.
Source: research data.

Concerning the residues corresponding to cash management by conversion of accruals (GC_R_{it}), we identified that they are, on average, negative. However, for companies allocated above the 75th percentile, positive residuals are observed for cash management by accruals conversion. As for EM proxies for discretionary accruals, the values are concentrated close to zero, which aligns with the literature. Most companies in the sample (due to the number of observations in the negative discretionary accruals variable (ADN_{it})) use EM to reduce accounting profits. Such findings do not match the evidence from Kama and Melumad (2019), as in the context investigated by these authors, companies tended to use EM, on average, to increase results.

Table 6 presents the results of the relationship between cash management by conversion of accruals residual coefficient (GC_R_{it}) and earnings management in the context of absolute discretionary accruals (ADA_{it}).

Table 6
Results of the relationship between cash management by conversion of accruals and EM

	Expected Signal	Dependent Variable: ADA_{it}	
		Coefficient	t Statistical
Constant		0,093***	7,88
GC_R_{it}	(-)	-0,001**	-2,48
TAM_{it}	(-)	-0,002***	-4,21
AUD_{it}	(-)	0,003**	2,14
END_{it}	(+)	-0,003	-1,11
Model significance		0,000	
R^2		20,68	
Durbin Watson		1,95	
Maximum VIF (variable/sector/quarter)		1,77 / 5,89 / 1,95	
Fixed Sector Effect		Yes	
Fixed Quarter Effect		Yes	
Number of observations		5.152	
Heteroscedasticity pre-test			
White Test		0,006***	

Legend. *p>0,10, **p>0,05, ***p>0,01. OLS regression with robust standard errors and controlling for industry and quarter fixed effects. ADA_{it}: absolute discretionary accruals; GC_R_{it}: residuals from cash management by CA; TAM_{it}: size; AUD_{it}: categorical variable for audit quality proxy; END_{it}: debt; VIF: Variance Inflator Factor.
Source: research data.

According to Table 6, the cash management residue by accruals conversion (GC_R_{it}) interacts negatively and significantly at the 5% level with the EM by discretionary accruals. In economic terms and through the coefficient of the variable GC_R_{it}, an increase of one standard deviation in cash management by conversion of accruals is associated with a reduction of 2.56% in discretionary accruals in relation to the average ((0.7338344*-0, 0018507)/0.0529508). In other words, companies' involvement in attempts to camouflage EM tends to reduce the EM estimate by 2.56%.

The result regarding the negative relationship between the cash management residue by conversion of accruals (GC_R_{it}) and absolute discretionary accruals (ADAit) corroborates the evidence from Kama and Melumad (2019). It may indicate that involvement in receivables factoring activities (or discounted duplicates) tends to negatively impact management's estimation of discretionary accruals, even if at a reduced percentage. More precisely, companies with a higher level of engagement in cash management by conversion of accruals are identified based on more significant future variations between operating cash flow and sales because of receivables converted into cash through factoring in the current period; and the lower volume of cash related to receivables to be recorded in the following period – both circumstances without an associated change in sales. In this scenario, the usual measurement of

operating cash flow (cash/sales) (Roychowdhury, 2006; Cohen et al., 2008) may be incorrectly driven by not considering such financing activities.

We expanded this analysis by dividing the sample according to cash management by conversion of accruals level. To this end, we separated the variable GC_R_{it} into quintiles to expand the analysis regarding the influence of the degree of involvement in cash management by converting accruals in the EM camouflage by discretionary accruals. Table 7 summarizes these results.

Table 7
Results of the relationship between quintiles of involvement in cash management by conversion of accruals and EM

	Expected Signal	Dependent Variable: ADA_{it}				
		Coefficient (Stat. t)	**Coefficient (Stat. t)**	**Coefficient (Stat. t)**	**Coefficient (Stat. t)**	**Coefficient (Stat. t)**
Constant		0,093*** (7,92)	0,094*** (7,97)	0,092*** (7,85)	0,094*** (7,97)	0,093*** (7,89)
GC_q1_{it}		0,001 (0,66)	-	-	-	-
GC_q2_{it}		-	0,002 (1,51)	-	-	-
GC_q3_{it}		-	-	0,001 (0,78)	-	-
GC_q4_{it}		-	-	-	-0,001 (-0,87)	-
GC_q5_{it}	(-)	-	-	-	-	-0,003** (-2,13)
TAM_{it}	(-)	-0,002*** (-4,22)	-0,002*** (-4,26)	-0,002*** (-4,21)	-0,002*** (-4,25)	-0,002*** (-4,18)
AUD_{it}	(-)	0,003** (2,13)	0,003** (2,11)	0,003** (2,11)	0,003** (2,11)	0,003** (2,13)
END_{it}	(+)	-0,004 (-1,13)	-0,003 (-1,04)	-0,003 (-1,10)	-0,004 (-1,12)	-0,003 (-1,01)
Model significance		0,000	0,000	0,000	0,000	0,000
R^2		20,62	20,64	20,62	20,62	20,67
Durbin Watson		1,95	1,95	1,95	1,95	1,95
Maximum VIF (variable/sector/quarter)		1,77 / 6,01 / 1,96	1,77 / 5,96 / 1,95	1,77 / 6,17 / 1,96	1,78 / 6,04 / 1,95	1,77 / 5,96 / 1,95
Fixed Sector Effect		Yes				
Fixed Quarter Effect		Yes				
Number of observations		5.152				
Heteroscedasticity pre-test						
White Test		0,009***	0,036**	0,000***	0,022**	0,009***

Legend: *p>0,10, **p>0,05, ***p>0,01. OLS regression with robust standard errors and controlling for industry and quarter fixed effects. ADA_{it}: discretionary accruals in absolute value; GC_q1: categorical variable for companies with cash management residue by conversion of accruals in quintile 20; GC_q2: categorical variable for companies with cash management residue by conversion of accruals in quintile 40; GC_q3: categorical variable for companies with cash management residue by conversion of accruals in quintile 60; GC_q4: categorical variable for

companies with cash management residue by conversion of accruals in quintile 80; GC_q5: categorical variable for companies with cash management residue by conversion of accruals in quintile 100; TAM_{it}: size; AUD_{it}: categorical variable for audit quality proxy; END_{it}: debt; VIF: Variance Inflator Factor.
Source: research data.

The results in Table 7 indicate that GC_q5_{it} (represented by companies falling into the quintile ≥ 80 of the cash management residues by accruals conversion) showed a negative and significant relationship at the 5% level with discretionary accruals in absolute value (ADA_{it}). In this sense, the perception that EM camouflage is more evident in companies highly involved in cash management through conversion of accruals stands out. These results indicate that cash management by conversion of accruals may bias the results of EM practices based on some accrual estimation models, minimizing the values of the estimated discretionary accruals.

Next, we analyzed the relationship between cash management by conversion of accruals and the EM used to increase or reduce earnings. To this end, we operationalized the regressions by interspersing positive and negative discretionary accruals. This analysis aims to identify possible distinctions between using camouflage when the objective of EM is different. The sign of discretionary accruals is responsible for differentiating companies that used this EM practice to increase profits (because of positive values) or to reduce them (because of negative values). In both samples, we used positive values of discretionary accruals. The negative residues were analyzed based on their absolute value, based on the interpretation that the more negative the accruals, the greater the EM (to reduce profit).

Table 8 presents the results of the relationship between the cash management residue by accruals conversion (GC_R_{it}) and the negative discretionary accruals in absolute value (ADN_{it}) in Panel A and the positive discretionary accruals (ADP_{it}) in Panel B. Still, aiming to expand the analyzes in the context of negative and positive discretionary accruals, the variable GC_Rit was divided into tertiles to analyze the relationship between a low and high level of cash management by conversion of accruals. We discussed the results of these analyses as complementary to the evidence presented in Table 6.

Table 8
Results of the relationship between cash management by accruals conversion and negative and positive discretionary accruals

Panel A: Cash management by accruals conversion and negative discretionary accruals				
	Expected Signal	**Integral**	**Low**	**High**
		Dependent Variable: ADN_{it}		
		Coef. (Stat. t)	**Coef. (Stat. t)**	**Coef. (Stat. t)**
Constant		0,078*** (5,31)	0,078*** (5,36)	0,079*** (5,36)
GC_R_{it}	(-)	-0,003** (-2,31)	-	-
$Low\_GC\_R_{it}$		-	0,002 (1,36)	-
$High\_GC\_R_{it}$	(-)	-	-	-0,003** (-2,31)
TAM_{it}	(-)	-0,002*** (-3,48)	-0,002*** (-3,53)	-0,002*** (-3,51)

AUD_{it}	(-)	0,004** (1,97)	0,004** (1,97)	0,004* (1,94)
END_{it}	(+)	-0,013*** (-2,84)	-0,013*** (-2,86)	-0,013*** (-2,81)
Model significance		0,000	0,000	0,000
R^2		27,43	27,36	27,42
Durbin Watson		1,90	1,90	1,90
Maximum VIF (variable/sector/quarter)		1,80 / 6,16 / 3,77	1,90 / 6,31 / 3,76	1,80 / 6,27 / 3,77
Fixed Sector Effect		Yes	Yes	Yes
Fixed Quarter Effect		Yes	Yes	Yes
Number of observations		3.330	3.330	3.330
Heteroscedasticity pre-test				
White Test		0,000***	0,000***	0,000***

Panel B: Cash management by accruals conversion and positive discretionary accruals

	Expected Signal	**Integral**	**Low**	**High**
		Dependent Variable: ADP_{it}		
		Coef. (Stat. t)	**Coef. (Stat. t)**	**Coef. (Stat. t)**
Constant		0,123*** (6,64)	0,124*** (6,79)	0,124*** (6,79)
GC_R_{it}	(-)	-0,000 (-0,73)	-	-
$Low\_GC\_R_{it}$			0,000 (0,14)	-
$High\_GC\_R_{it}$	(-)		-	-0,002 (-1,03)
TAM_{it}	(-)	-0,002*** (-3,42)	-0,002*** (-3,92)	-0,002*** (-3,93)
AUD_{it}	(-)	0,000 (0,19)	0,000 (0,19)	0,000 (0,18)
END_{it}	(+)	0,019*** (3,33)	0,018*** (3,55)	0,019*** (3,57)
Model significance		0,000	0,000	0,000
R^2		12,00	11,98	12,02
Durbin Watson		1,98	1,98	1,98
Maximum VIF (variable/sector/quarter)		1,80 / 6,65 / 1,87	1,81 / 6,92 / 1,87	1,80 / 6,78 / 1,87
Fixed Sector Effect		Yes	Yes	Yes
Fixed Quarter Effect		Yes	Yes	Yes
Number of observations		1.822	1.822	1.822
Heteroscedasticity pre-test				
White Test		0,240	0,011**	0,062*

Legend. *p>0,10, **p>0,05, ***p>0,01. OLS regression with and without robust standard errors and controlling for sector and quarter fixed effects. ADN_{it}: negative discretionary accruals, in absolute value; ADP_{it}: positive discretionary accruals; GC_R_{it}: cash management residue by CA; $Low\_GC\_R_{it}$: categorical variable for companies with cash management residue by accruals conversion falling into tertile 1; $High\_GC\_R_{it}$: categorical variable for companies with cash management residue by accruals conversion falling into tertile 3; TAM_{it}: size; AUD_{it}: categorical variable for audit quality proxy; END_{it}: debt; VIF: Variance Inflator Factor.
Source: research data.

The cash management residue by accruals conversion (GC_R_{it}) is negatively and significantly related at the 5% level to negative discretionary accruals (ADN_{it}), both in the general context and within the scope of a high level of cash management by conversion of accruals (tertile 3 of the variable GC_R_{it}). In economic terms, an increase of one standard deviation in GC_R_{it} corresponds to a 3.78% reduction in negative discretionary accruals in relation to the average ((0.7338344*-0.0030601)/-0.0594428).

These results contradict the findings of Kama and Melumad (2019). The authors did not identify the presence of camouflage in the EM regarding practices that aim to reduce results. Furthermore, it is noteworthy that Brazilian companies, unlike North American companies, present evidence that using cash management by converting accruals may be camouflaging their involvement in EM practices to reduce profits. Furthermore, this camouflage may be mainly associated with a high level of engagement in receivables factoring or bill discounting activities.

When isolating companies with positive discretionary accruals (ADP_{it}), the residual from cash management by accruals conversion (GC_R_{it}) showed a negative relationship overall and with a high level of cash management by conversion of accruals (tertile 3 of the GC_R_{it} variable). However, this relationship does not demonstrate statistical significance and, therefore, does not confirm the existence of camouflage in positive discretionary accruals. Again, it should be noted that this evidence contradicts the findings of Kama and Melumad (2019) for the North American context, in which companies demonstrated that they use receivables factoring activities to camouflage the use of EM practices to increase results.

4.1 Sensitivity tests

To confirm the relationships between camouflage and EM practices through discretionary accruals identified in the main analysis, in a first test, the models were repeated using the variable VF_CVit (future cash variation to sales) as a proxy for the cash management by conversion of accruals. In general, the variable VF_CVit was negatively and significantly related at the 1% level to discretionary accruals with and without controls for variables related to financial difficulty. These findings corroborate the camouflage evidence identified in the main analysis when using waste as a proxy for cash management by conversion of accruals. Based on the coefficients of the VF_CVit variable, the non-existence of substantial differences can be interpreted as evidence that the financial characteristics of Brazilian companies do not tend to alter the impact of involvement in cash management practices on the observed level of EM due to discretionary accruals.

Finally, we complemented this evidence with an analysis within the scope of the interaction between the level of indebtedness of Brazilian companies and the cash management by conversion of accruals. The objective is to analyze debt's effect on factoring or bill discounting more robustly. The aim is to analyze whether companies use such strategies solely for cash management purposes or whether part of this is due to the camouflage of discretionary accruals. The results are presented in Table 9.

Table 9
Results of the interaction between cash management by accruals conversion and debt

	Expected Signal	**Dependent Variable: ADA_{it}**	
		Coefficient (t-Statistic)	**Coefficient (t-Statistic)**
Constant		0,082*** (6,81)	0,095*** (8,08)
GC_R_{it}	(-)	-0,001** (-2,02)	-0,001* (1,86)

Low_END_{it}	(-)	0,004*** (3,04)	-
GC_R_{it} * Low_END_{it}	(-)	-0,00009 (-0,06)	-
$High\_END_{it}$	(-)	-	-0,0006 (-0,04)
GC_R_{it} * $High\_END_{it}$	(-)	-	-0,0001 (-0,12)
TAM_{it}	(-)	-0,001*** (-3,69)	-0,002*** (-4,68)
AUD_{it}	(-)	0,0037** (2,14)	0,004** (2,26)
Model significance		0,000	0,000
R^2		20,81	20,66
Durbin Watson		1,95	1,95
Maximum VIF (variable/sector/quarter)		1,74 / 5,89 / 1,95	1,74 / 5,86 / 1,95
Fixed Sector Effect		Yes	Yes
Fixed Quarter Effect		Yes	Yes
Number of observations		5.152	5.152
Heteroscedasticity pre-test			
White Test		0,001***	0,005***

Legend. *p>0,10, **p>0,05, ***p>0,01. OLS regression with robust standard errors and controlling for industry and quarter fixed effects. ADA_{it}: absolute discretionary accruals; GC_R_{it}: residuals from cash management by CA; Low_END_{it}: categorical variable for companies with a low level of debt (tertile 1); $High\_END_{it}$: categorical variable for companies with a high level of debt (tertile 3); TAM_{it}: size; AUD_{it}: categorical variable for audit quality proxy; VIF: Variance Inflator Factor.
Source: research data.

In both interactions, we identified a negative relationship with discretionary accruals. Even in the absence of statistical significance, the sum of the coefficients of the interaction variables with the coefficients of cash management by conversion of accruals (GC_R_{it}) demonstrates the permanence of the negative and significant relationship between cash management by conversion of accruals and EM by discretionary accruals identified in the analysis main. Therefore, these results support, in a complementary way, that Brazilian companies' debt level does not fully explain the use of factoring activities. Furthermore, we confirmed that the evidence regarding a decrease in the accruals reported from the accounting of receivables factoring activities or bill discounting is not entirely dependent on the financial situation of the companies investigated.

5 CONCLUSIONS

This research evaluated the relationship between cash management by conversion of accruals and EM practices by discretionary accruals. Control over variables related to the financial situation of Brazilian companies led to a more robust estimation of the cash management by conversion of accruals level for the context of the Brazilian market, in which fundraising is more focused on financial institutions than the stock market. Although the variable proposed by Kama and Melumad (2019) presented similar results in the Brazilian context, the new proxy developed in this study tends to mitigate the financing characteristics of Brazilian companies that could bias the results.

Regarding the relationship between cash management by conversion of accruals and the value of discretionary accruals, we concluded that involvement in receivables factoring activities or discounted bills can attenuate EM indicators.

In other words, companies could use cash management by conversion of accruals as a tool to camouflage discretionary accruals. Furthermore, we concluded that camouflage attempts are present, mainly in EM indicators, through negative discretionary accruals. Therefore, companies' involvement in accounts receivable financing activities can bias the interpretation regarding using EM practices to reduce earnings. Such practices may be related, more specifically, to smooth earnings, reducing current earnings to increase future earnings (big bath accounting), and tax planning practices, among others. From this, we concluded that companies (managers) may be looking for new tools that contribute to the management of information to be reported to users of accounting information, paying attention to the incentives surrounding such information.

The framing of Brazil as an emerging country highlights unique characteristics that can be interpreted as encouraging more significant involvement in earnings management practices, mainly through discretionary accruals. Thus, the investigation into cash management sheds light on the possibility of its use to induce stakeholders' perception towards a lower level of adoption of AEM practices in reporting accounting information.

Investigations based on financial activities that can be used in parallel with discretionary accruals tend to advance the literature on EM in three main points. Firstly, the results allow us to question the level of pre-existing confidence in specific and consolidated statistical models for estimating discretionary accruals. They also expand previous justifications that explain the lower levels of AEM identified in empirical studies due to the occurrence of a transition to EM due to real activities without considering the impact of cash management on these reductions. Still, in this sense, the results of this research allow us to investigate previous signs that the level of EM adopted by companies has reduced due to, for example, greater scrutiny, standardization, or regulation. In general, monitoring companies' involvement in accounts receivable financing activities can help explain the reduction in management levels due to discretionary accruals noticed in empirical investigations.

Some limitations inherent to the study are discussed to encourage future studies, not to invalidate the results. Analyzing the impact of receivables factoring indirectly through financial performance variables can be considered a limitation. Such indirect measurement may not accurately represent companies' involvement in factoring activities, generating uncertainty about the level to which the evidence found represents attempts by companies to camouflage their management practices and, consequently, whether only activities of this nature can impact the relationships investigated. Furthermore, the model used to estimate cash management by conversion of accruals indirectly predicts that the variation in operating cash flow occurs solely because of variations in sales.

The investigated context can also be interpreted as a limitation of this research. In Brazil, using receivables factoring, or even bill discounting, is quite common for companies. Therefore, even including in the analysis variables related to the companies' financial situation, they may not capture this effect in its entirety, leading to results that point to camouflage in management practices when, in fact, it is just a strategy of financing used by organizations. However, even though the strategy of using receivables factoring or bill discounting is related to the

company's financing and not to the camouflage of EM practices, the evidence found tends to question the pre-existing models for estimating discretionary accruals.

The importance of quality accounting information demands research to strengthen measurement and investigate new tools that may be biasing users' perceptions. In this sense and based on the limitations of this research, some recommendations are presented for future studies, seeking to consolidate an area inherent to the quality of accounting information and interest in variables that may bias it.

Future research could relate cash management proxies by conversion of accruals to different research problems or even consider companies' involvement in receivables factoring activities or discounted bills to assess the level of EM used by companies. Furthermore, it tests the inclusion of such accounts receivable financing activities in other statistical models for estimating discretionary accruals.

Furthermore, future research can monitor the direct involvement of companies in cash management by conversion of accruals. The low level of involvement and, consequently, of disclosures related to the accounting of receivables factoring activities or discounted bills, to date, in the Brazilian context, has driven the need for an indirect analysis of cash management by conversion of accruals (through a ratio metric between operating cash flow and sales). Therefore, studies that can measure camouflage using direct variables can add robustness to the results presented in this study.

Future research could test the existence of cloaking tools in annual reports regarding data frequency. Furthermore, we suggest that new research within the scope of camouflage investigate broader periods and possible impacts of standardization or regulation on the accentuation or mitigation of the use of camouflage accounting tools, as well as the impact of the pandemic period on the levels of use of the camouflage.

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