MANAGEMENT OF RESULTS IN LATIN AMERICAN NON-FINANCIAL COMPANIES WITH RECEIVABLE LOSS ALLOWANCE

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ABSTRACT

This study aimed to evaluate whether publicly traded non-financial companies in Latin America use the recognition of the receivable loss allowance (RLA) for losses associated with credit risk for the purpose of earnings management. The empirical tests were based on annual data between 2016 and 2019, covering 333 non-financial companies from 6 countries listed on the MSCI Emerging Markets Index. The results showed evidence that non-financial companies used discretion in recognizing credit losses for the practice of income smoothing. This behavior is more relevant in the observations related to the period of validity of IFRS 9 among companies with a substantial volume of financial assets. Consequently, we confirmed the expectations that the adoption of the expected loss model, instituted by IFRS 9, increases the perspective of the practice of earnings

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Revista Contabilidade Vista & Revista, ISSN 0103-734X, Universidade Federal de Minas Gerais, Belo Horizonte, v. 33, n. 2, p. 1-21, maio/ago. 2022.

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management by non-financial entities. Our empirical evidence contributes to the development of literature on earnings management through specific accruals in this type of entity, and regarding the impact of the adoption of IFRS 9 on the quality of information, and fills a gap in studies on financial instruments in non-financial entities.

Keywords: Earnings management; IFRS 9; Receivable loss allowance; Non-financial companies.

GERENCIAMENTO DE RESULTADOS EM EMPRESAS NÃO FINANCEIRAS LATINO-AMERICANAS COM PROVISÃO PARA PERDAS DE CRÉDITO

RESUMO

Este estudo teve por objetivo avaliar se as empresas não financeiras de capital aberto, na América Latina, fazem uso do reconhecimento da provisão para devedores duvidosos (PDD) para perdas associadas a risco de crédito com a finalidade de gerenciamento de resultados. Os testes empíricos tiveram por base dados anuais, de 2016 a 2019, de 333 empresas não financeiras de 6 países listadas no *MSCI Emerging Markets Index*. Os resultados apresentaram evidências de que as companhias não financeiras utilizaram a discricionariedade no reconhecimento das perdas de crédito para a prática do *income smoothing*. Constatou-se ainda que esse comportamento é mais relevante nas observações relativas ao período de vigência da IFRS 9 entre empresas que possuem volume relevante de ativos financeiros. Isso confirma as expectativas de que a adoção do modelo de perdas esperadas, instituído pela IFRS 9, aumenta a perspectiva da prática do gerenciamento de resultados por entidades não financeiras. Essas evidências empíricas contribuem para o desenvolvimento da literatura sobre gerenciamento de resultados por meio de *accruals* específicos nesse tipo de entidade e sobre o impacto da adoção da IFRS 9 na qualidade da informação, suprindo uma lacuna de estudos sobre instrumentos financeiros em entidades não financeiras.

Palavras-Chave: Gerenciamento de resultados; IFRS 9; Provisão para perdas de crédito; Empresas não financeiras.

1 INTRODUÇÃO

This study aimed to assess whether publicly traded non-financial companies in Latin America make use of the recognition of credit risk losses – the receivable loss allowance – for the purpose of earnings management. Result management has been the subject of extensive national and international literature, in particular those that evaluate the impact of International Financial Reporting Standards (IFRS) on management discretion regarding the calculation of the results of the companies, but no consensus was identified in the results evidenced (Trimble, 2018), especially regarding their scope and the mechanisms used.

Some studies point out that earnings management has intensified since the adoption of IFRS, since discretionary accruals increased in the period after

implementation (Callao &Jarne, 2010). Other studies, however, found that the adoption of IFRS brought greater transparency and increased quality of accounting information measured by discretionary accruals (Houqe, Van Zijl, Dunstan, & Karim, 2012; Cai, Rahman, & Courtenay, 2014).

According to Rathke, Santana, Lourenço, and Dalmácio (2016), in emerging markets, as in Latin American countries, a higher level of earnings management and opportunistic behavior is demonstrated, even after the adoption of the IFRS standard, considering that the specific characteristics of each country influence how IFRS are implemented.

The emergence or alteration of IFRS may be the result of several factors, as financial crises, for example, such as the one that occurred in 2008. According to what the International Accounting Standards Board (IASB) presented in the Project Summary in 2014, the 2008 financial crisis motivated the discussion of the model of losses incurred for credit risk, provided for in the International Accounting Standards (IAS) 39 – Financial Instruments: Recognition and Measurement, resulting in the change to the model of expected losses, with the adoption of IFRS 9 – Financial Instruments, aiming to improve provisioning, in order to prepare companies, especially financial institutions, to project economic and asset scenarios from historical data, thus minimizing losses due to crises (Soreira, Fávero, Serra, &Fouto, 2019).

The main difference between the models of incurred losses (IAS 39) and expected losses (IFRS 9) is that the former focuses on the past (backward-looking), while the latter focuses on the future (foward-looking) (Dantas, Micheletto, Cardoso, & Freire, 2017). The authors also point out that the model of expected losses involves the adoption of more judgment and should result in a higher level of recognition of losses in the balance sheets.

In this sense, studies such as those conducted by Kim and Kross (1998), Shrieves and Dahl (2003), Lobo and Yang (2003), Alali and Jaggi (2010), Dantas, Medeiros, and Lustosa (2013), Norden and Stoian (2014), Beerbaum (2015), Carvalho, Pereira, and Dantas (2018), Silva, Niyama, Rodrigues, and Lourenço (2018), Cunha, Galdi, and Dantas (2019), have focused on verifying the practice of earnings management in financial institutions, using RLA.

This study advances in relation to the aforementioned, as it analyzes non-financial entities, since the impacts of IFRS 9 are not reflected only in financial institutions, but in all sectors that have financial instruments (Bernert, Kuerzi, Tristão, & Lima, 2019). In addition, few studies verify the effects of these relationships in non-financial companies, which is seen as a contribution of this research to the literature.

In fact, earnings management studies in non-financial entities typically use empirical models of total accruals, such as those of Kang and Sivaramakrishnan (1995) and those of Jones Modified, used by Kothari, Leone, and Wasley (2005), Dechow, Hutton, Kim, and Sloan (2012), among others. Those focused on financial institutions are aimed at specific accruals, in particular the provision for losses associated with credit risk. Thus, this research fills a gap in the literature by developing an empirical model to test the practice of earnings management in non-financial entities, through specific accruals related to RLA.

Revista Contabilidade Vista & Revista, ISSN 0103-734X, Universidade Federal de Minas Gerais, Belo Horizonte, v. 33, n. 2, p. 1-21, maio/ago. 2022.

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This study is directed to Latin American capital markets, as they are considered emerging markets, which are often associated with a low level of investor protection, including the greater propensity for manipulation in financial reporting (Takamatsu &Fávero, 2017). Evidence is pointed out by Rathke et al. (2016), who identified that Latin American companies have a higher level of earnings management compared to Anglo-Saxon and European-continental companies.

Due to the emergence/begginnings of research on financial instruments in relation to this type of entity and geographical scope, this work contributes to the standardization of accounting standards and regulators of capital markets to ensure the real impacts that the applicability of IFRS 9 has on the quality of accounting information, since studies indicate that a lower level of earnings management portrays an increase in the quality of accounting information (Formigoni, Antunes, Paulo, & Pereira, 2012; Silva, Weffort, Flores, & Silva, 2014; Cunha, Leite, &Morás, 2019).

To carry out the empirical tests, a panel data model was estimated, using annual data from 333 non-financial companies in Latin America, listed on the MSCI Emerging Markets Index, the country's classification index as emerging, comprising 6 listed countries (Argentina, Brazil, Chile, Colombia, Mexico, and Peru), totaling 1,024 observations (entity-year).

The results of the empirical tests showed an association between the proxy for RLA expenses and the adjusted net income of non-financial entities, demonstrating that they used discretion in the recognition of credit losses in order to smooth their results. The findings also indicate that this behavior is more relevant in the observations related to the period of validity of IFRS 9 and among entities with greater relevance regarding financial assets.

2 LITERATURE REVIEW

2.1 Earnings Management

Earnings management by the management of the entities may result from non-discretionary acts – inherent in the company's activities and, therefore, not managed – as well as from discretionary decisions. Watts and Zimmerman (1986) point out that when managers decide what information to report, they do not always make impartial choices. Sometimes these choices are aimed at achieving economic incentives that maximize the expected usefulness of one of the stakeholders, and they choose alternative methods that can affect the company's results. Following the same rationale, Bushman, Engel and Smith (2006) state that managers can even choose accounting standards to maximize their own expected usefulness, managing results opportunistically and making it difficult to monitor decisions.

The search for understanding the causes and consequences of earnings management has attracted many researchers and professionals in the accounting area (Dechow et al., 2012). Martinez (2008), for example, identified, in the Brazilian market, that accrual-based earnings management is carried out to possibly avoid reporting losses, to maintain performance by smoothing results, in

order to reduce the variation in profit, or even worsen the present result in favor of future results. Paulo and Mota (2019) identified that earnings management strategies, either through discretionary accruals or operational decisions, are impacted by the economic environment. This evidence corroborates the fact that the results of companies are subject to the environment in which they are inserted, their characteristics and the motivations of managers.

It is common for accounting management models to evaluate the occurrence through accruals or operational decisions (Zang, 2012). Accruals can be considered a relevant source of information for accounting users, since they make it possible to identify the strategies of managers and warn about possible reversals of future results (Dechow et al., 2012). Through operational decisions, management is related to investigating real activities, such as the abnormal level of production or operating expenses (Zang, 2012).

In addition to different mechanisms for earnings management, the literature addresses different models for identifying this practice through accruals, ranging from generic models of total accruals to models adopted for specific accruals. According to Martinez (2006), the earnings management model of specific accruals aims to evaluate how some accounts oscillate in comparison to a certain variable selected as a proxy, as well as to estimate the degree of variability to diagnose the presence of income smoothing.

Among the specific variables analyzed in previous studies, particularly in financial institutions, credit losses stand out (Dantas et al, 2017; Silva et al, 2018). Some authors show evidence of the use of credit loss for income smoothing purposes. Fonseca and Gonzalez (2008) investigated the determinants of income smoothing through the use of loan-loss provisions in banks in 40 countries and identified that factors such as investor protection, disclosure of information, regulations, and supervision, structure, and financial development are determinants of income smoothing in these institutions. Ozili and Arun (2018) examined whether the use of loan loss provision differs between global and non-global systemically important banks and have noticed greater income smoothing in global banks that have substantial non-performing loans, higher profits and that engage in forward-looking loan-loss provisioning. Di Fabio, Ramassa, and Quagli (2021) identified that monitoring regulators increases income smoothing through loan loss provision from complex loan portfolios in European banks.

Thus, according to the literature mentioned here, the provision of credit losses/receivable loss allowance account can be commonly used by managers to smooth profits. As a result, the provision of credit loss can be influenced by earnings management both by the model of incurred losses and expected losses (Cunha, Galdi, &Dantas, 2019). From this, it is natural to expect that non-financial entities can also use the discretion implied in the recognition of the provision for losses associated with credit risk for the practice of earnings management, which supports the following hypothesis, to be tested empirically:

H_1: Non-financial entities in Latin American capital markets use discretion in recognizing the provision for losses associated with credit risk for the practice of earnings management.

2.2 Incurred losses versus expected losses

Impairment losses associated with credit risk of financial instruments are addressed by two different models: the one of incurred losses, provided for by IAS 39, which is not applicable anymore and was effective until 2017; and the one of expected losses, governed by IFRS 9, effective from 2018.

The model of incurred losses, widely treated in the literature as the backward-looking model, considers the facts and circumstances prior to the date of the statements (Bouvatier & Lepetit, 2012). According to Camfferman (2015), this approach restricts the recognition of losses to situations in which there is objective evidence that "loss events" (emphasis added) have occurred, that is, resulting from past events.

For Dantas et al. (2017), the functionality of the model of incurred loss in times of crisis is debatable, considering that crises directly influence the solvency of instruments subject to credit risk, resulting in the recognition of high amounts of losses, a phenomenon characterized as pro-cyclicality. In this sense, in response to the 2008 financial crisis, IFRS 9 established the expected loss model, also known as forward-looking, which, according to Bourvartier and Lepetit (2012), is built through trend checks.

In accordance with IFRS 9, entities must recognize a provision for expected credit losses on financial assets measured at amortized cost and fair value through other comprehensive income, which Bernert et al (2019) subdivide into: trade receivables, contractual assets, lease receivables, and investments in debt securities and loans granted, measured at amortized cost or fair value through other comprehensive income.

Bernert et al. (2019) state that, with the expected credit loss model, it is no longer considered appropriate to wait for confirmation of the loss event to recognize it, exemplifying that it is no longer appropriate to wait for a customer's non-performance for the credit loss to be recorded. Thus, losses will be accounted for earlier, in larger volumes and resulting in greater volatility compared to the amounts that were recognized in accordance with the previous standard (Bernert et al., 2019).

Research developed by KPMG (2014) also envisages the expectation that the model of expected losses will incur in the recognition of greater provision of credit losses and, as a consequence, these will also be more volatile. Dantas et al. (2017) corroborate, with regard to the increase in losses, finding evidence that estimates of the provision of credit losses based on the model of expected losses result in higher levels of provision than that evidenced based on the incurred losses model. On the other hand, Alves, Bordin, Gonzales, and Santos (2020) did not find statistically significant differences in the constitution of the provision of credit losses, due to the adoption of the expected loss model (because of the mandatory IFRS 9) in Brazilian companies in the electricity sector.

With regard to volatility, it is possible that managers use discretion in both model approaches to smooth their results, providing constant company profits and avoiding the volatility of the earnings, which would signal a greater perception of risk to investors. Silva et al (2018) and Dantas, Borges, and Fernandes (2018), among others, showed some evidence on this.

Regarding the comparison between the two loss models related to their use for earnings management purposes, Camfferman (2015) understands that the

expected loss model opens more space for this practice, precisely because it involves more subjectivity in its measurement. Exactly with this focus, Cinegaglia (2019) verified, in some Brazilian and foreign banks, whether the increase in discretion provided by IFRS 9 impacts greater earnings management through credit loss. Although the study does not find evidence to infer that there is greater earnings management after IFRS 9, it demonstrates that managers rely on profit and opportunities provided by the new standard to manage earnings through the provision of credit loss.

In addition, the surveys of Hashim, Li, and O'Hanlon (2019) and Giner and Mora (2019) highlight a new era in the recognition of receivable loss allowance by the expected loss model, considering that the adoption of IFRS 9 leaves room for management in the estimation of provisions.

In this sense, earnings management is expected to be impacted by the adoption of the new model of credit risk losses in financial instruments, due to the transition from IAS 39 to IFRS 9. Considering that the expected loss model, adopted by IFRS 9, increases the level of judgment and discretion (Dantas et al, 2017; Cunha, Galdi, &Dantas, 2019), which provides more opportunity for earnings management (Camfferman, 2015), the following research hypothesis is formulated:

H2: The non-financial entities of the Latin American capital markets increased the practice of earnings management with the use of the provision for losses associated with credit risk, after the adoption of the model of expected losses.

3 METHODOLOGICAL PROCEDURES

3.1 Population and sample

The study sample corresponds to the non-financial companies listed on the main stock exchanges of Latin American countries classified on the Morgan Stanley Capital International (MSCI) for emerging countries, an index known as the MSCI Emerging Markets Index – calculated in dollars and adjusted for liquidity and market capitalization of assets. The index considers quantitative and qualitative factors for the country's classification as emerging, such as economic performance, sustainable changes in the development of equity markets, capitalization and market liquidity, levels of regulation and accessibility of investors in these markets (MSCI, 2020).

Thus, considering the relevance of the index, among the 24 countries in emerging markets that are part of it, there are 6 Latin American countries, namely: Argentina, Brazil, Chile, Colombia, Mexico, and Peru. The sample is comprised of the population of publicly traded companies and shares traded on stock exchanges, with annual data, between 2016 and 2019, belonging to several sectors of economic activity.

From the initial sample, entities with lack of information in the database for the variables necessary to carry out the research were excluded. After this treatment, the final sample had 1,024 observations.

The accounting data used in this research to compose the variables were collected from the Thomson Reuters database and on the International Monetary

Fund (IMF) website, from 2016 to 2019 – a period that comprises two years before and two years after the implementation of IFRS 9, in order to contemplate the same data period for the models of incurred losses and expected losses, respectively.

3.2 Definition of the model

To test hypotheses **H₁** and **H₂**, the model (3.1) of specific accruals related to the Receivable loss allowance associated with risks, adapted from Martinez (2006), was developed, as it provides an opportunity to develop a model more compatible and appropriate to the problem evaluated.

$$
\begin{aligned}
\Delta RLA_{it} = \alpha_0 &+ \alpha_1 NIad_{it} + \alpha_2 IFRS9_{it} + \alpha_3 FAh_{it} + \alpha_4 NIad_{it} * IFRS9_{it} \\
&+ \alpha_5 NIad_{it} * FAh_{it} + \alpha_6 NIad_{it} * IFRS9_{it} * FAh_{it} \\
&+ \alpha_7 IFRS9_{it} * FAh_{it} + \alpha_8 FA_{it} + \alpha_9 SIZE_{it} + \alpha_{10} RLA_{it-1} \\
&+ \alpha_{11} GDP_t + \varepsilon_{it}
\end{aligned} \tag{3.1}
$$

The linear regression model (3.1) was defined according to the related literature, aiming to capture the possible cause and effect relationship between the variation of the receivable loss allowance account (ΔRLA) and the independent variables, especially the NIad and its interactions with the dummies IFRS9 and FAh, which are variables of interest for the identification of the earnings management practice. In addition, control variables that can contribute to the explanatory power of dependent variable (ΔRLA) of the model in the estimation of the model (3.1) were selected, working as a kind of robustness for the empirical findings. Table 1 presents the descriptions of the variables and the literature related to each variable inserted in the model (3.1).

Table 1
Description of the variables of the model (3.1)

Variables	Description	Sources
ΔRLA_{it}	It is the variation receivable loss allowance for doubtful accounts (*proxy* for expenses with losses associated with credit risk) recognized by entity *i* in period *t*, divided by the total assets at the beginning of the period.	Adapted from Martinez (2006) and Dantas, Borges, and Fernandes (2018)
$NIad_{it}$	It is the adjusted net income of company *i* in period *t*, excluding the variation with RLA, divided by the total assets at the beginning of the period.	Adapted from Martinez (2006) and Dantas, Borges, and Fernandes (2018)
$IFRS9_{it}$	It is a *dummy* variable, which assumes 1 (one) for the periods after the validity of IFRS 9 and 0 (zero) otherwise.	Dantas et al. (2017)
FAh_{it}	It is a *dummy* variable, representing the entities with the highest participation of financial instruments subject to the	–

	record of provision for losses associated with credit risk, in relation to total assets, assuming 1 (one) for companies with participation of financial assets in the equity structure above the median and 0 (zero) otherwise.	
FA_{it}	It is the sum of the financial assets susceptible to the recognition of provision for losses associated with credit risk of company i in period t, divided by the total assets at the beginning of the period.	–
$SIZE_{it}$	It is the natural logarithm of total assets, a variable representative of the size of company i in period t.	–
RLA_{it-1}	It is the accumulated balance of the receivable loss allowance of company i in period t-1, divided by the total assets at the beginning of the period.	Silva et al. (2018)
GDP_t	It is the rate of change in the country's gross domestic product (GDP) in period t.	Dantas et al. (2018) and Silva et al. (2018)

Source: Prepared by the authors.

The use of the variation of the receivable loss allowance as a proxy for net expenses with receivable loss allowance (ΔRLA) is justified due to the unavailability of specific information in the database. Regarding the positive (negative) variation of the receivable loss allowance, the interpretation is that there was an increase (decrease) in the balance of the accumulated provision, reflecting net expenses (reversal gains) with provision for losses associated with credit risk.

To confirm the earnings management perspective through the provision for losses associated with credit risk (**H₁**), the coefficient of the variable Nlad (α_1) is expected to be positive and significant. The expectation is that the higher (lower) the result before the effects of the provision for losses, the higher (lower) the recognition of net expenses with these provisions. Thus, in periods of higher results, companies may be motivated to create, at their discretion, a kind of reserve ("cushion") in the account of receivable loss, to be reversed in periods in which the company's performance is most compromised, resulting in the smoothing (relative stability) of the reported profit (Dantas, Borges, & Fernandes, 2018).

Regarding the IFRS9 variable, studies indicate that the levels of receivable loss allowances should be higher when adopting the expected loss model (Dantas et al., 2017). However, this does not necessarily imply that the volume of expenses recognized in the result – the independent variable of the model (3.1) – will be higher, or consistently higher, since the level of provision depends not only on the credit risk of the portfolio, but also on the stock of financial instruments subject to the provision for losses. That is, it is possible that the credit risk of a company is higher when applying IFRS 9, but that the amount of financial assets has been reduced. Thus, there is no specific signal expectation for the IFRS9 variable. The interaction of this variable with adjusted net income (Nlad * IFRS9) is intended to test whether, after the adoption of the expected loss model, there was an increase in the practice of earnings management with the use of the provision for losses (**H₂**). A derivation to test this hypothesis assesses whether these effects of greater earnings

Revista Contabilidade Vista & Revista, ISSN 0103-734X, Universidade Federal de Minas Gerais, Belo Horizonte, v. 33, n. 2, p. 1-21, maio/ago. 2022.

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management in the expected loss period would be concentrated in entities with the highest participation (above the median) of financial assets subject to a loss provision for credit risk (Nlad * IFRS9 * FAh). Thus, the confirmation of hypothesis **H₂** is conditioned to the coefficients α_4 and/or α_6 are positive, significant, and greater than α_1.

In addition to the variables of interest, control variables were incorporated to capture the effects of the stock of instruments subject to the provision for credit losses (FA), the size of the entities (SIZE), the values accumulated as receivable loss allowance until the previous period (RLA) and the level of economic activity (GDP) of the entity's country of origin on the behavior of the dependent variable (ΔRLA).

In the case of the variable FA, initially, one expects that the higher the proportion of financial assets subject to provisioning for credit losses, the greater the recognition of net expenses corresponding to these losses. In addition to this understanding, for the variable representing the size of companies (SIZE), a positive relationship with the dependent variable is also expected, considering the premise that larger entities have more working capital conditions to maintain a more relevant portfolio of receivables, which should be reflected in more receivable loss allowance.

The accumulated balance of the loss loan of the previous period (RLA) may have an influence on the constitution of new losses, considering the existing risk of the customer portfolio, or even may be related to the discretionary behavior of the managers. According to the expectation and evidence presented by Silva et al. (2018), the accumulated provisions at the beginning of the period are expected to have a positive relationship, considering a possible trend of increased losses when the balance of financial operations involving credit risk increases. On the other hand, considering the assumption that the provisions accumulated up to the previous period contain elements of discretion of the manager, it would be reasonable to assume that the higher the level of accumulated provisioning, the lower the need for new provisions, given the accumulated "cushion". Thus, a negative relationship between the variables would be reasonable.

Finally, the GDP of the company's country of origin represents a macroeconomic variable, representative of the level of economic growth. In this case, a negative relationship with the proxy of net expenses with provision for losses is expected, considering that, in periods of greater (lower) economic growth, the credit risk of the companies' customers decreases (increases), in line with what Dantas et al (2018) and Silva et al (2018) have predicted.

4 RESULTS

In this section, the empirical results of the study are presented and discussed in two stages: (i) descriptive statistics; and (ii) model estimation and hypothesis testing.

4.1 Descriptive statistics

The first stage of the empirical tests consists of measuring the model variables (3.1), whose descriptive statistics are highlighted in Table 2.

Table 2

Descriptive statistics of the continuous variables of the model (3.1)

Variables	Average	Median	Standard deviation	Minimum	Maximum
Panel A: period from 2016 to 2019					
ΔRLA	0.00116	0.00008	0.00547	-0.01333	0.02874
$NIad$	0.04313	0.03900	0.09514	-0.31871	0.39147
FA	0.17179	0.13832	0.13490	0.01041	0.75650
$SIZE$	9.03125	9.01763	0.71712	7.30076	10.49975
RLA	0.00984	0.00357	0.01635	0.00000	0.09481
GDP	0.00929	0.01300	0.02071	-0.03300	0.04100
Panel B: Impairment of accounts receivable					
ΔRLA	0.00123	0.00020	0.00506	-0.01333	0.02874
$NIad$	0.04724	0.04075	0.10319	-0.31871	0.39147
FA	0.18551	0.14854	0.14502	0.01041	0.75650
$SIZE$	9.01764	8.99007	0.72073	7.30076	10.49975
RLA	0.00884	0.00333	0.01458	0.00000	0.09481
GDP	0.00770	0.01300	0.02287	-0.03300	0.04100
Panel C: Expected credit loss					
ΔRLA	0.00110	0.00000	0.00583	-0.01333	0.02874
$NIad$	0.03929	0.03711	0.08686	-0.31871	0.39147
FA	0.15894	0.13403	0.12345	0.01041	0.75650
$SIZE$	9.04399	9.02915	0.71417	7.30076	10.49975
RLA	0.01077	(0.00401)	0.01782	0.00000	0.09481
GDP	0.01078	0.01100	0.01836	-0.02500	0.04000

Notes: ΔRLA is the variation of the provision for doubtful accounts (*proxy* of expenses with losses associated with credit risk); $NIad$ it is the adjusted net income, excluding the variation with RLA; $IFRS9$ is a *dummy* variable, which assumes 1 (one) for the periods after the validity of IFRS 9 and 0 (zero) otherwise; FAh is a *dummy* variable, representative of the entities with the highest participation of financial instruments subject to the registration of provision for losses associated with credit risk, in relation to total assets, assuming 1 (one) for companies with participation of financial assets in the equity structure above the median and 0 (zero) otherwise; FA is the sum of the financial assets susceptible to the recognition of provision for losses associated with credit risk; $SIZE$ is the variable representative of the company's size; RLA it is the accumulated balance of the provision for doubtful accounts; GDP it is the rate of variation in the country's gross domestic product. Descriptive statistics of continuous variables, winsorized at 1%.

Source: Prepared by the authors.

Initially, it is important to emphasize that one of the characteristics observed in the descriptive statistics of the variables is the amplitude of the dispersion verified, even considering the 1% winsorization for the treatment of outliers. This can be explained by factors such as (i) the heterogeneity of the sample, when contemplating companies from several non-financial segments and six different countries; and (ii) the effects of the change in the accounting standards examined in the present study. It is also noteworthy that the minimum and maximum values of the variables, except for GDP, are the same in the period of impairment of accounts receivable and expected credit loss, because the winsorization covered data of the continuous variables of both periods.

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The positive values for the measures of central tendency (average and median) of the variable ΔRLA reveal the predominance of expense recognition (compared to reversals) with provisions for losses associated with credit risk, with an annual average value equivalent to 0.12% of total assets. This predominance is also observed in the period, with the recognition of expenses being lower in the expected credit loss period (compared to the period of impairment of accounts receivable).

For the variable Nlad, the companies in the sample registered a return on assets, before the effects of the provision for losses associated with credit risk, around 4% per year, between 2016 and 2019, highlighting the sharp dispersion among the data. When comparing the periods of impairment of accounts receivable and expected credit loss, there is a lower return on assets when IFRS 9 is in force, a behavior similar to the recognition of expenses.

With regard to the participation of financial assets subject to the provision for losses associated with credit risk (FA), they represent about 17.2% of the total assets of the non-financial companies that make up the sample, ranging from 1.0% to 75.6%. In the comparative periods of IFRS 9, again, similarly to the recognition of expenses (ΔRLA) and the return on assets (Nlad), it is verified that the participation of financial assets in relation to total assets was lower in the period of expected credit loss.

Finally, the statistics of the variable RLA show that the provisions for losses associated with credit risk represent, on average, 0.98% of total assets, infuenced by extreme values, considering that the median is much lower – about one third of the average. When the two periods (the period of impairment of accounts receivable and expected credit loss) are segregated, the accumulated provisions at the beginning of the period are higher during IFRS 9.

4.2 Model estimation and hypothesis testing

Before estimating the model (3.1), tests were carried out to identify the method that best suited the data – random effects, fixed effects or pooled ordinary least squares (POLS). Initially, the Chow test was performed, which allows us to verify whether the panel modeling is suitable for the data (Fávero & Belfiore, 2017), in addition to being intended to ascertain the adequacy of the POLS model in relation to the fixed effect model. The results showed that the fixed effect model would be the most appropriate (F = 1.84 and p-value = 0.0000). Then, in accordance with Gujarati and Porter (2011), the Hausman test was performed, which compares whether the random effect model offers estimates of parameters more consistent than the fixed effect model. With the rejection of the null hypothesis, Chi2 = 188.18(p-value = 0.000), fixed-effect estimators are considered more efficient.

Above all, the basic assumptions were evaluated, which included the statistical treatments of heteroscedasticity, autocorrelation, and normality. The Wooldridge test, aimed at ascertaining the autocorrelation of residues, revealed F = 5.364 (p-value = 0.0214), demonstrating the absence of autocorrelation of residues. To test the homoscedasticity of the residues, the Wald test was used, which demonstrated the absence of heteroscedasticity. Although the statistical tests, through the Shapiro-Francia test, have rejected the null hypothesis of normality, the sample is considered to have a large number of observations, which

justifies normality as asymptotic, supported by the central limit theorem (Wooldrige, 2014). No multicollinearity was detected, considering that the Inflation Factor of Variance (VIF) tests were less than 10.

Thus, considering that the fixed effect model is considered the most appropriate and the assumptions verified have been satisfied, the model (3.1) was estimated, combining the use of data with and without winsorization and with the use or not of the control variables. The results are consolidated in Table 3.

Table 3

Estimation of the model (3.1), to identify earnings management, through the RLA, by Latin American publicly traded companies – 2016 to 2019.

Model:
$$\Delta RLA_{it} = \alpha_0 + \alpha_1 NIad_{it} + \alpha_2 IFRS9_{it} + \alpha_3 FAh_{it} + \alpha_4 NIad_{it} * IFRS9_{it} + \alpha_5 NIad_{it} * FAh_{it}$$
$$+ \alpha_6 NIad_{it} * IFRS9_{it} * FAh_{it} + \alpha_7 IFRS9_{it} * FAh_{it} + \alpha_8 FA_{it}$$
$$+ \alpha_9 SIZE_{it} + \alpha_{10} RLA_{it-1} + \alpha_{11} GDP_t + \varepsilon_{it}$$

Variables	Dependent variable: ΔRLA			
	(1)	(2)	(3)	(4)
C	0.00050	**-0.06067****	0.00035	**-0.03838****
	(0.51)	**(-2.32)**	(0.69)	**(-2.53)**
$NIad$	0.01219	**0.01500***	**0.01053***	**0.01105****
	(1.16)	**(1.72)**	**(1.78)**	**(2.01)**
$IFRS9$	0.00012	-0.00013	0.00008	0.00004
	(0.12)	(-0.14)	(0.15)	(0.08)
FAh	0.00065	0.00058	**0.00136***	0.00065
	(0.43)	(0.46)	**(1.71)**	(0.83)
$NIad * IFRS9$	-0.01225	**-0.01485***	-0.01003	**-0.01222****
	(-1.15)	**(-1.67)**	(-1.55)	**(-2.02)**
$NIad * FAh$	-0.00496	-0.01280	-0.00517	**-0.01038***
	(-0.46)	(-1.42)	(-0.81)	**(-1.74)**
$NIad * IFRS9 * FAh$	**0.05740*****	**0.04819*****	**0.02558*****	**0.02670*****
	(4.11)	**(4.17)**	**(3.14)**	**(3.53)**
$IFRS9 * FAh$	**-0.00285***	-0.00143	**-0.00130***	-0.00068
	(-1.90)	(-1.15)	**(-1.65)**	(-0.92)
FA		0.00260		**0.00729****
		(0.80)		**(2.56)**
$SIZE$		**0.00742****		**0.00447*****
		(2.54)		**(2.64)**
RLA		**-0.59737*****		**-0.24589*****
		(-17.96)		**(-9.90)**
GDP		0.00085		-0.01560
		(0.05)		(-1.60)
N	1.024	1.024	1.024	1.024
$R^2 within$	0.0522	0.3646	0.0367	0.1862
$R^2 between$	0.0011	0.0796	0.0029	0.1563
$R^2 overall$	0.0277	0.0028	0.0216	0.0147
F Statistics	5.39	35.47	3.72	14.14
Prob (F-stat)	0.0000	0.0000	0.0006	0.0000

Notes: Columns (1) and (2) present the results of the estimation of Equation 1 without winsorization of continuous variables. Columns (3) and (4) present the results of the estimation of Equation 1 with winsorization of the continuous variables at 1% at higher and lower levels. Notes: ΔRLA is the variation of the provision for doubtful accounts (*proxy* of expenses with losses associated with credit risk); $NIad$ it is the adjusted net income, excluding the variation with RLA; $IFRS9$ is a *dummy* variable, which assumes 1 (one) for the periods after the validity of IFRS 9 and 0 (zero) otherwise; FAh is a *dummy* variable, representative of the entities with the highest participation of financial instruments subject to the registration of provision for

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losses associated with credit risk, in relation to total assets, assuming 1 (one) for companies with participation of financial assets in the equity structure above the median and 0 (zero) otherwise; *FA* is the sum of the financial assets susceptible to the recognition of provision for losses associated with credit risk; *SIZE* is the variable representative of the company's size; *RLA* it is the accumulated balance of the provision for doubtful accounts; *GDP* it is the rate of variation in the country's gross domestic product. *** Significant at 1%, ** at 5% and * at 10%.

Source: Prepared by the authors.

The results reported in Table 3 show that the relationship between the variation of the RLA (ΔRLA), proxy of net expenses with losses associated with credit risk, and net income before the recognition of these losses (NIad) was positive and statistically relevant in estimates 2, 3 and 4. The results indicate that non-financial companies use discretion in the recognition of the RLA to manage results, taking advantage of moments of higher earnings to create a kind of reserve in the RLA to be used in future periods with lower earnings, promoting its smoothing, in order to communicate relative stability of the reported profit and lower perception of performance risk to investors. These findings support hypothesis **H₁** and do not differ from those found by Leventis, Dimitropoulos, and Anandarajan (2011), Dantas, Borges, and Fernandes (2018), Silva et al (2018), and Ozili and Arun (2018) in relation to financial entities. The findings of this research are also consistent with those of Martinez (2006), who identified a positive and significant relationship between ΔRLA and NIad.

For the dummy variables IFRS9 and FAhm, no relevant relationships were found with the dependent variable, proxy of net expenses with provision for losses associated with risk. In the case of IFRS9, the expectations discussed in section 3.2 are confirmed, in the sense that even with the assumption that the adoption of the expected loss model provided for in IFRS 9 should result in an increase in the level of provision for losses, this will not necessarily be reflected in the net expenses with provision, considering that this depends not only on the recognized risk, but on the stock of financial instruments subject to provisioning itself. Thus, the findings of this research corroborate the evidence of Alves et al (2020), who found no statistically significant evidence that the constitution of the RLA is higher when estimated by the expected loss model (IFRS 9) than when estimated based on the incurred loss model (IAS 39).

Regarding the FAhm variable, in only one of the four estimates, and with little significance, a relationship was found with the dependent variable. The set of results suggests that it is not possible to affirm that there is greater recognition of expenses with provision, in proportional terms, in the case of companies that hold greater participation of financial instruments subject to the provision in their equity structure. What is expected is that in companies where these financial instruments are more relevant there will be a deeper risk assessment. In practical terms, however, the greater adequacy of the valuation model does not necessarily mean greater or lesser provision.

Confirming the hypothesis that non-financial entities use the provision for losses associated with credit risk, the step was to assess whether the adoption of IFRS 9 would have affected this practice. For this purpose, two interaction variables were considered: the first considers the observations related to the period of validity of IFRS 9 (NIad * IFRS9); and the second, in addition to restricting the information to the period of validity of the expected loss model, considers only the

entities with the highest participation of financial assets subject to the provision for losses (Nlad * IFRS9 * FAhm).

Regarding the first of these interaction variables of interest (Nlad * IFRS9), the results show no statistical significance in two estimates and a negative relationship in two others, with not very significant statistical significance. These results demonstrate that there is little evidence that the adoption of IFRS 9 itself has increased the practice of earnings management by non-financial entities in Latin America. The findings of this study are similar to those of Cinegaglia (2019), who also found a negative relationship between the interaction of profit with IFRS9, indicating that the adoption of IFRS 9, in itself, did not increase the practice of smoothing earnings with the use of the provision for losses associated with credit risk.

By isolating the effects of the adoption of IFRS 9 to the cases of entities with a greater participation (above the median) of the financial instruments subject to the provision for losses associated with credit risk (Nlad * IFRS9 * FAhm), the results show that in all estimates tested a positive relationship was found with the proxy of net expenses with provision for losses associated with credit risk. This relationship confirms the practice of earnings management in the period of expected credit loss, by entities with greater participation of financial instruments subject to the provision. The basis for this result is that entities with a greater participation of financial instruments subject to the receivable loss allowance are more likely to use these accruals for the purpose of income smoothing.

The confirmation of hypothesis **H₂** depends not only on the confirmation of the practice of earnings management in the period of validity of the expected loss model but also on the finding that this is more relevant than in the full period. Therefore, in all estimates, both the statistical significance and the coefficients of this interaction (Nlad * IFRS9 * FAh) are positive and higher than the coefficients Nlad. The findings denote that when the effects of the validity of IFRS 9 are isolated among companies that have greater relevance of financial instruments subject to the provision, the practice of earnings management through the RLA exists and is greater than when the entire period and all companies are analyzed.

The combination of these results demonstrates, therefore, that the hypothesis **H₂** that Latin American non-financial entities have increased the practice of earnings management with the use of the provision for losses associated with credit risk after the adoption of the expected loss model is only confirmed when considering exclusively the data of companies with greater participation of financial instruments subject to the provision. The underlying premise that the greater subjectivity implied in the measurement of expected losses in relation to incurred losses, in itself, is not sufficient to determine the practice of earnings management in a more incisive manner, which also depends on the relevance of the portfolios of the receivables. That is, the two factors are important for the practice of earnings management.

To assess whether the results found in relation to the coefficient would not be determined exclusively by the variable FAhm, the relationship between the association of the interaction variable Nlad * FAhm and the net expenses with provision for losses was tested. The results show that there is no evidence of earnings management in this group of entities, which reinforces the findings in relation to the coefficient α_6, that is, only when the validity of IFRS 9 is combined

with the selection of entities with the highest participation of financial instruments the increase in the practice of earnings management is verified. In isolation, none of these variables is able to explain this practice.

Regarding the control variables, the tests demonstrated, as expected, that the greater the participation of financial assets subject to the recognition of losses arising from credit risk (FA), the greater the recognition of the proxy of net expenses with these provisions (ΔRLA), a result similar to the findings of Martinez (2006), and Ozili and Arun (2018), which showed that banks increase their provisions when they expect greater default for the participation in the amount of loans.

For the variable representative of the size of the companies (SIZE), a positive and significant association with credit losses was also found, indicating the influence of the size of the entities on the recognition of losses. These findings are similar to those evidenced by Anandarajan et al (2003), who argued that larger banks should maintain higher provisions due to their higher levels of business activities. Potential explanations for these findings can be specified by issues such as: larger companies have more conditions (working capital) to increase their portfolio of receivables, which should be reflected in more provisions; larger companies may assume operations with higher credit risk, which would cause more provisions; larger companies may adopt stricter accounting criteria for the measurement of credit risk. The objective identification of the factor that effectively justifies this relationship is not within the scope of this study.

In the case of the accumulated balance of the receivable loss allowance (RLA) of the previous period, a negative relationship was identified with the net expenses with the provision for losses (ΔRLA) in the current period. These results contradict the findings of Silva et al (2018) and suggest that the provisions accumulated up to the previous period would already contain some degree of discretionary "cushion" that would reduce the need for new provisions in the current period.

Finally, no relevant relationship was found between the level of economic activity (GDP) and the proxy of net expenses with provision for losses (ΔRLA), unlike the results of Ozili and Arun (2018), who found a negative relationship between these variables, justifying that provisions for losses tend to be higher during recessions and lower during periods of economic growth. A possible justification for not finding the expected negative relationship between these variables – in periods of higher (lower) economic growth, the reduction (increase) of credit risk in operations is expected, given the effects of the level of economic activity on the economic and financial conditions of customers – may be associated with uncontrolled heterogeneity of GDP among the six countries that integrate the study.

5 CONCLUSION

This research aimed to evaluate whether publicly traded non-financial companies in Latin America make use of the recognition of the RLA for the purpose of earnings management. This study was motivated by the gap in the research literature that advances in the development of empirical models to detect earnings management practices through the specific use of the RLA account in

non-financial companies, since these studies are already well consolidated in the context of financial institutions.

In this sense, the development of an empirical model, based on the adaptation of Martinez's (2006) model, has provided the identification of important findings. First, the occurrence of earnings management through the use of RLA was identified, evidencing the non-rejection of the first hypothesis raised in the study. However, by isolating the adjusted net income of the period of expected credit loss of all companies investigated in the study, it was found that there is no increase in earnings management using the RLA, which leads us to reject the second hypothesis of this research.

Another important finding of the research is that when earnings management interacts with the effects of IFRS 9 among companies that have a relevant volume of financial assets, the increase in earnings management is identified when the expected loss model is adopted (IFRS 9). This may indicate that when there is a relevant amount of financial assets, companies are encouraged to use the discretion of the RLA to increase (or decrease) their results in the same direction.

The results of this study contribute to the advancement in the accounting literature of RLA and earnings management, mainly by using an empirical model that can support other research that seeks to identify earnings management through specific accounts in non-financial companies.

As main limitations, we highlight the use of the variation of RLA as a proxy for the net expense for RLA, since the previous findings in financial institutions usually use the expenses with provisions for doubtful accounts as a dependent variable in the investigation of income smoothing through RLA, instead of the variation of the provision RLA. Therefore, for future studies, the use of RLA expenditure instead of variation is suggested, even expanding the research sample to other countries that adopt IFRS 9.

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