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Relationship between Conservatism and Earnings Smoothing after the Adoption of IFRS in Brazilian Companies

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Resumo

Objective: Motivated by research that showed the increase in earnings smoothing levels may be due to the managers conservative behavior, this study aims to analyze the relationship between conservatism and earnings smoothing after mandatory IFRS implementation.
Method: Descriptive, documentary, and quantitative research was carried out. A balanced sample of 92 publicly Brazilian companies were analyzed during the period from 2000 to 2018, with the period before (2000 to 2009) and after the mandatory implementation of IFRS (2010 to 2018). The variables used in the research were collected from the Refinitiv Eikon database.
Results: The results showed an increase in the level of accounting conservatism and earnings smoothing of companies in the post-IFRS period and this increase in the level of smoothing was not related to changes in the timely recognition of gains and losses. This conclusion was reached because the level of conservatism of companies increased after the adoption of IFRS but did not affect the negative correlation between accruals and cash flow, a measure of income smoothing.
Contribution: This is the first research in the Brazilian context to demonstrate that after the implementation of IFRS, there was an increase in income smoothing that is not related to changes in conditional conservatism. This fact may indicate a lower quality of accounting information, requiring analysts, investors, and regulators to pay attention to the analysis of accounting reports, after the implementation of IFRS in Brazil.

Keywords: Conservatism. Earnings Smoothing. Adoption of IFRS.

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Introduction

The process of convergence to international accounting standards was necessary to mitigate problems of comparability between financial statements from different countries. In Brazil, the publication of Law No. 11,638/07 was one of the milestones in the process of convergence of Brazilian accounting standards and the IASB - International Accounting Standard Board. This process stimulated new studies, both national and international, which sought to verify the possible impacts of this process on the quality of accounting information.

Several studies have analyzed the impact of adopting the International Financial Reporting Standards (IFRS) on income smoothing, such as Barth et al. (2008) and Christensen et al. (2015). These studies investigated companies that voluntarily adopted IFRS in the European Union (EU) and showed a decrease in income smoothing after IFRS adoption. Both studies interpreted the evidence as consistent with lower earnings management and the consequent increase in the quality of accounting information.

However, Klann and Beuren (2018), when comparing the influence of the convergence process of international accounting standards on income smoothing in Brazilian and English companies, found that after the implementation of IFRS, there was an increase in income smoothing. Likewise, Ahmed et al. (2013) and Capkun et al. (2016) found an increase in income smoothing in companies that adopted IFRS in EU countries. Thus, different studies that investigated income smoothing and the impact of IFRS in different contexts showed controversial results.

Capkun and Collins (2018) suggest explanations for this scenario of controversial results about the subject. The authors state that the inferences about the impacts of IFRS on income smoothing did not consider the changes related to conditional conservatism (timely recognition of gains and losses), caused by the adoption of international standards. Therefore, studies that concluded that the mandatory implementation of IFRS impacted the level of income smoothing may be wrong, as they did not consider that the greater flexibility of IFRS may have influenced the conditional conservatism of managers.

The problem of this research involves the possibility that previous studies are showing wrong results in the Brazilian context. These studies claimed that the adoption of international accounting standards are harmful to the quality of accounting information, when, in fact, the increase in income smoothing may be due to the increase in accounting conservatism, caused by the transitions from a rules-based Brazilian system to an international principles-based system (IFRS). Thus, this research aimed to investigate the relationship between the level of income smoothing and accounting conservatism in Brazil, as a way of verifying whether the income smoothing identified by the previous literature is or is not related to the change in the behavior of managers when recognizing in a timely manner gains and losses.

In Brazil, the IFRS adoption and implementation model, as explained by Silva and Nardi (2017), is one of the most effective, since, in its democratic process, it is formed by the Federal Accounting Council (CFC), Association of Analysts and Professionals of Capital Market Investment (APIMEC Nacional), São Paulo Stock Exchange (B3), Accounting, Actuarial and Financial Research Institute (FIPECAFI), Institute of Independent Auditors in Brazil (IBRACON) and Brazilian Association of Publicly Traded Companies (ABRASCA). That is, financial statement preparers, auditors, analysts, intermediaries, and academia are involved in this process, all working together to produce a single standard of quality information.

Due to this Brazilian configuration, Silva and Nardi (2017) argue about the contribution of IFRS adoption to increase the quality of accounting information, which contradicts the empirical results that showed an increase in income smoothing in this context, suggesting lower accounting quality of financial reports. However, none of the previous studies controlled for changes in the level of accounting conservatism, which may be leading to inconsistent results on the quality of accounting information in a period after IFRS. Thus, it is believed that there is a research gap to be filled, based on the analysis of the relationship between conditional conservatism and income smoothing after the mandatory implementation of IFRS in Brazilian companies.

This study is justified because, according to Capkun and Collins (2018), research that seeks to investigate the impacts of income smoothing pre and post mandatory IFRS implementation should carefully control differences in the timely recognition of gains and losses in organizations, as this can mitigate or amplify the negative correlation between accruals and cash flow. Considering that, in Brazil, the empirical results on the impact of IFRS on the level of conservatism still proved to be ambiguous, the importance of seeking answers in this scenario is evident.

To respond to the research gap, descriptive, documentary, and quantitative research was carried out. The analyzed sample corresponded to 92 publicly traded Brazilian companies in the period from 2000 to 2018. Data analysis was performed using descriptive statistics and a multiple linear regression model using ordinary least squares estimators and robust standard errors. The results showed that, contrary to expectations, the increase in income smoothing in the post-IFRS period is not due to changes in the timely recognition of gains and losses, but to earnings management. This finding, therefore, may be due to economic, cultural and accounting peculiarities of the Brazilian context.

This investigation is innovative because, according to the authors' knowledge, it is the first in the Brazilian context to demonstrate that the literature on the relationship between income smoothing and accounting conservatism in the post-IFRS period does not apply to this context. Thus, the results add evidence to the academic literature on the effects of IFRS adoption on the quality of accounting information, by controlling for the effects of conditional conservatism on income smoothing for Brazilian companies.

In a practical way, the study contributes to analysts, investors, and regulators to pay attention to the analysis of accounting reports, since after the implementation of IFRS in Brazil, there was an increase in income smoothing that is not related to changes in conditional conservatism. Such a result may indicate the lower quality of the companies' accounting information if the smoothing results in information that does not represent the economic-financial reality.

In addition, the evidence found has implications for researchers and users of accounting information from different contexts, who should pay attention to the fact that earnings management may not be the only factor that increases earnings smoothing. In certain companies, this increase may be caused by changes in the timely recognition of gains and losses, which is a determinant that must be observed both in the academic and business environments.

2. Research background and hypotheses

After the advent of IFRS, studies were carried out to observe the impacts of adopting international accounting standards on income smoothing. Some authors (Ahmed et al., 2013; Capkun et al., 2016; Klann & Beuren, 2018) found evidence that income smoothing increased after IFRS adoption, while others noticed the opposite (Barth et al., 2008; Christensen et al., 2015).

On the other hand, the implementation of IFRS may have had other effects on financial statements and on managers' decision-making, also impacting the level of conditional conservatism. According to Ball and Shivakumar (2006), conditional conservatism is the timely recognition of losses when compared to the recognition of gains. Organizations tend to recognize bad news more quickly than good news, or they tend to recognize losses more quickly than gains.

Filipin et al. (2012) investigated the level of conditional conservatism in financial statements prepared in accordance with IFRS, in Brazilian companies listed on B3, during the period from 2006 to 2010 and concluded that the statements were more conservative after the implementation of international standards. Likewise, Grecco et al. (2009) showed that after the partial adoption of IFRS, the index of conservatism increased in Brazilian public companies.

However, when analyzing publicly traded Brazilian companies in the period from 2002 to 2015, Sousa et al. (2018) found that the level of conservatism decreased after IFRS adoption. However, Alves and Martinez (2014) and Sousa et al. (2016) and Ávila et al. (2019) highlighted that there were no changes in the levels of conservatism in this period in Brazil. Thus, the national literature presents contradictory results, which may be due to the analysis period and/or the analyzed sample.

Capkun et al. (2016) state that international accounting standards have greater subjectivity, flexibility and are less oriented than national ones. Consequently, these differences can reduce levels of accounting conservatism, due to less timely recognition of losses. The subjectivity of IFRS, according to Capkun and Collins (2018), even worries the IASB, which continued to revise its standards in order to resolve certain divergences that eventually emerged. Also, according to the authors, in addition to the subjectivity of IAS 36 (impairment of assets), IFRS 3 (business combination) and IAS 39 (financial instruments) also had divergent opinions among the IASB's board members.

Capkun and Collins (2018), when analyzing the 2013 European Securities and Markets Authority report, concluded that a considerable number of companies were failing to recognize asset write-offs and goodwill impairment losses, causing a decrease in timely recognition. of losses. Taken together, the aforementioned studies present evidence that IFRS, due to the subjectivity in their accounting recognition processes, may have induced a less conservative behavior on the part of managers. Thus, managers may choose to recognize losses in a less anticipated way than before IFRS, or even to record lower amounts in expense accounts, in case of subjectivity of these accounting estimates.

Given the above, knowing that IFRS can leave subjective gaps in the accounting and measurement of assets and liabilities, which can impact the timely recognition of gains and losses, the first research hypothesis is presented:

H_{1a}: There is a reduction in the timely recognition of losses after the mandatory adoption of IFRS, which reflects in a lower accounting conservatism.

Since, according to Ball and Shivakumar (2006), the timely recognition of losses induces a positive correlation between accruals and operating cash flow (FCO), the reduction of this recognition implies a negative correlation between accruals and FCO, since the accruals noise reduction role (smoothing) will become more negative. In theoretical terms, this means that the decrease in accounting conservatism on the recognition of losses generates a mechanical increase in the negative correlation between accruals and cash flow. Since the correlation between accruals and cash flow measures income smoothing, it is understood that, even in the absence of income smoothing, the decrease in post-IFRS accounting conservatism can generate a mechanical increase in the smoothing indicator. Based on this, the following hypothesis was formulated:

H_{1b}: There is a more negative (less positive) correlation between accruals and FCO under negative operating cash flow conditions (bad news) after mandatory IFRS adoption, which indicates greater income smoothing.

Ball et al. (2015) highlighted that the adoption of IFRS in many countries resulted in radical changes in accounting rules, which changed the properties of numbers reported in financial statements. One of the most widespread changes resulting from the adoption of IFRS was the use of fair value accounting in measuring assets and liabilities.

Christensen and Nikolaev (2013), Ball et al. (2015) and Capkun and Collins (2018) argue that the use of fair value measurement negatively impacted the levels of conservatism in organizations, increasing the recognition of unrealized gains. Thus, in the same way as the recognition of losses, the adoption of IFRS has generated changes that can also impact the conservatism related to the recognition of gains. Due to the insertion of the method of valuation of accounting accounts at fair value, amounts that were previously considered unrealized are now recorded, which means that the conservative behavior when considering unrealized gains before IFRS was replaced by a less conservative behavior, which now counts such numbers. Thus, the hypothesis H_{2a} is presented:

H_{2a}: There is an increase in the timely recognition of gains after the mandatory adoption of IFRS, which reflects in lower accounting conservatism.

Capkun and Collins (2018) highlight that the broader use of fair value measurement, after the mandatory implementation of IFRS, can increase the timely recognition of unrealized gains, as represented in H_{2a}. According to the authors, this increase in timely recognition of earnings impacts on a positive correlation between accruals and FCO under conditions of positive operating cash flow. In theoretical terms, the timely accounting of earnings (less conservatism) implies accruals closer to the values that make up the cash, which makes the accruals more correlated with the cash values. Thus, the greater correlation between accruals and cash (a measure of income smoothing) implies a mechanical relationship between the decrease in conservatism in the recognition of gains and the decrease in income smoothing. Therefore, the research hypothesis H_{2b} is:

H_{2b}: There is a more positive (less negative) correlation between accruals and FCO, in conditions of positive operating cash flow (good news), after the mandatory adoption of IFRS, which indicates less smoothing of results.

In view of the above information and consistent with the arguments of Christensen and Nikolaev (2013), Ball et al. (2015) and Capkun and Collins (2018), the expected decrease in the timely recognition of losses (H_{1a}), along with the anticipated increase in timely recognition of earnings (H_{2a}), implies that timely asymmetric loss recognition (also known as asymmetric timely loss recognition - ATLR) will decrease after IFRS adoption. In this way, the H_{3a} is:

H_{3a}: There is a decrease in the timely asymmetric recognition of losses (ATLR) after the mandatory adoption of IFRS.

According to the findings of Capkun and Collins (2018), the net effect of changes in the timely recognition of gains and losses (H_{1a} and H_{2a}) generates a decrease in ATLR (H_{3a}), which is manifested in an increase in unconditional smoothing of gains in the signal of the FCO (negative contemporaneous covariance between accruals and cash flow) after the mandatory adoption of IFRS. As a result, the increase in income smoothing evidenced in previous studies, after the implementation of IFRS, may not have been driven by earnings management, as evidenced by previous literature, but by the change in ATLR, that is, in companies' conservatism. SThus, H_{3b} is:

H_{3b}: There is greater smoothing of results after the mandatory adoption of IFRS under conditions of positive and negative operating cash flow (good news and bad news).

3. Research method and procedures

The study population corresponded to 486 publicly traded Brazilian companies, in the period from 2000 to 2018, characterizing the period before (2000 to 2009) and after the mandatory implementation of IFRS (2010 to 2018). To delimit the sample, companies that did not contain information for calculating the research variables were excluded, resulting in a final sample of 92 companies that generated 1,748 observations. The variables were collected from the Refinitiv Eikon database.

To test the changes in the timely recognition of gains and losses, as well as changes in the asymmetric timely recognition of losses (ATLR), associated with the mandatory implementation of IFRS, Equation 1 was operationalized, which represents the expanded version of Basu's model (1997).

$$NI_{it}/P_{t-1} = \beta_0 + \beta_1 POST\_IFRS_{it} + \beta_2 RET\_DUM_{it} + \beta_3 POST\_IFRS_{it} \times RET\_DUM_{it} + \beta_4 RET_{it} + \beta_5 RET\_DUM_{it} \times RET_{it} + \beta_6 POST\_IFRS_{it} \times RET_{it} + \beta_7 POST\_IFRS_{it} \times RET\_DUM_{it} \times RET_{it} + \varepsilon_{it}$$

Equation 1

Where *i* and *t* indicate company and year, respectively; NI corresponds to net income before extraordinary items; P_{t-1} is the previous year's share price; RET indicates the stock's annual return; the RET_DUM variable represents a dichotomous variable, where 1 represents the negative return of the shares and 0, the positive return; POST_IFRS assumes 1 for the years following the mandatory IFRS in Brazil (2010 to 2018) and 0 otherwise (2000 to 2009).

Based on Capkun and Collins (2018), timely recognition of losses was expected to decrease after IFRS adoption, which would result in a more negative covariance between accruals and cash flow ($\beta_6 + \beta_7 < 0$) (H_{1a}). In addition, timely recognition of earnings was expected to increase (H_{2a}), which would result in a less negative covariance between accruals and cash flow in the post-IFRS period ($\beta_6 > 0$). Regarding H_{3a}, we expected that these two aforementioned effects would generate a reduction in ATLR after IFRS adoption, which would result in a more negative covariance between accruals and cash flow ($\beta_7 < 0$).

Since Basu's (1997) model does not provide direct evidence on income smoothing, Capkun and Collins (2018) suggest the use of Ball and Shivakumar's (2006) model, according to Equation 2, which uses accruals as a dependent variable, operating cash flow and POST_IFRS as independent variables. Equation 2 tests income smoothing after mandatory IFRS implementation.

$$ACC_{it} = \beta_0 + \beta_1 POST\_IFRS_{it} + \beta_2 CFO_{it} + \beta_3 POST\_IFRS_{it} \times CFO_{it} + \varepsilon_{it}$$

Equation 2

Where ACC_{it} represents net total accrual, obtained by the change in working capital of company *i* in period *t*; FCO_{it} represents the operating cash flow of company *i* in period *t*; both weighted by total assets. According to Capkun and Collins (2018), by ignoring the effects of timely recognition of gains and losses, greater income smoothing results in a more negative covariance between accruals and operating cash flow. If the adoption of IFRS leads to greater (lesser) income smoothing, the coefficient β_3 of Equation 2 will be negative (positive). Equation 2 tests the change in income smoothing before and after IFRS implementation, without controlling for accounting conservatism levels.

By observing the equations in this research, it appears that neither the model of Basu (1997) (Equation 1) nor the model of Ball and Shivakumar (2006) (Equation 2) can verify the changes in the accounting conservatism and in the smoothing of results in an integrated way. Therefore, an expanded version of Ball and Shivakumar's (2006) model was used, adapted by Capkun and Collins (2018) (Equation 3). This model makes it possible to link changes in the timely recognition of gains and losses, as well as the ATLR, to changes in the correlation between accruals and operating cash flows (positive and negative), after the mandatory implementation of IFRS. It is noteworthy that the variable FCO_DUM presented in Equation 3 corresponds to a dichotomous variable, which assumes 1 if the operating cash flow is negative and 0 otherwise.

$$ACC_{it} = \beta_0 + \beta_1 POST\_IFRS_{it} + \beta_2 CFO\_DUM_{it} + \beta_3 POST\_IFRS_{it} \times CFO\_DUM_{it} + \beta_4 CFO_{it} + \beta_5 CFO\_DUM_{it} \times CFO_{it} + \beta_6 POST\_IFRS_{it} \times CFO_{it} + \beta_7 POST\_IFRS_{it} \times CFO\_DUM_{it} \times CFO_{it} + \varepsilon_{it}$$

Equation 3

Through Equation 3, H_{1b} is tested, which assumes greater income smoothing after IFRS adoption, which generates a more negative (less positive) correlation between accruals and negative operating cash flow ($\beta_6 + \beta_7 < 0$). The H_{2b} is also tested, which assumes less smoothing of results, in view of a more positive (less negative) correlation between accruals and positive operating cash flow ($\beta_6 > 0$). Regarding H_{3b}, a greater smoothing of results is expected after the adoption of IFRS, both in positive and negative cash flow conditions ($\beta_7 < 0$).

We winsorized variables and tests that verified the assumptions of regression by ordinary least squares. The heteroscedasticity problem was mitigated using robust standard errors, the multicollinearity was tested by the VIF test (Variance Inflation Factor), present in the analysis tables of the results, as well as the Durbin Watson test, to test the residual self-correlation.

4. Presentation and analysis of results

Table 1 presents the descriptive analysis of the research variables, divided into three panels: Panel A includes observations from the entire investigated period; Panel B covers pre-IFRS information (2000 to 2009); and Panel C demonstrates post-IFRS information (2010 to 2018).

Tabela 1 - Estatística descritiva das variáveis

Variables	Obs.	Mean	Stand. Dev.	Min	Max
PANEL A: All observations					
ACC	1.748	-0,0339	0,0951	-0,4332	0,3072
RET	1.748	0,2540	0,7097	-0,8312	3,2574
RET_DUM	1.748	0,3987	0,4897	0	1
NI/P	1.748	0,0712	0,4812	-3,0430	1,7806
FCO	1.748	0,0802	0,1110	-0,2600	0,4889
FCO_DUM	1.748	0,1762	0,3811	0	1
PANEL B: Pre-IFRS and Post-IFRS					
Pre-IFRS	**Post-IFRS**		**Pós-IFRS**		**Test t Ha: diff != 0**
Mean	**Stand. Dev**	**Mean**	**Stand. Dev**	**Desv. Pad**	
ACC	-0,0391	0,1091	-0,0281	0,0764	0,0161**
RET	0,3788	0,8277	0,1152	0,5157	0,0000***
RET_DUM	0,3456	0,4758	0,4577	0,4985	0,0000***
NI/P	0,1515	0,3955	-0,0178	0,5478	0,0000***
FCO	0,0908	0,1355	0,0685	0,0730	0,0000***
FCO_DUM	0,2010	0,4010	0,1485	0,3558	0,0040***
Observations	920		828		

* Significance at 10% level, ** Significance at 5% level, *** Significance at 1% level.
Caption: Dev. Pad: Standard deviation; Min: minimum; Max: maximum; Obs.: Number of observations; ACC: Total Accruals, working capital variation weighted by total assets; RET: Annual share price return; RET_DUM: Dichotomous variable, 1 is assumed if the stock return is negative and 0 if it is positive; NI/P: Earnings before extraordinary items divided by the lagged share price; FCO: Operating cash flow weighted by total assets; FCO_DUM: Dichotomous variable, 1 is assumed if the operating cash flow is negative and 0 if it is positive; t test, comparison of means of two groups.
Source: Prepared by the authors.

Panel B in Table 1 shows that, compared to the pre-IFRS period, the post-IFRS period is characterized by a reduction in accruals (ACC), observed in the average column of this variable, from -0.391 to -0.281. It is also observed that in the post-IFRS period the companies had lower profitability (NI/P), in addition to an increase in the negative returns of stock prices (RET_DUM). Furthermore, there is a reduction in the proportion of companies with negative operating cash flow (FCO_DUM) post-IFRS. The comparison between the means of the variables showed statistically significant differences.

Table 2 presents the results regarding changes in the post-IFRS level of conservatism. It is noted, through Panel A, that the linear regression model by robust standard errors of Equation 1 is significant, which allows the inference of results. In addition, none of the variables presented multicollinearity problems, which is shown by the results of the VIF test. Furthermore, it appears that the model does not have problems with autocorrelation of residuals, according to the Durbin Watson test.

Based on Panel B, it is possible to observe the combination of regression coefficients to test hypotheses H_{1a}, H_{2a} and H_{3a}. The statistical significance of the sum of the coefficients of this regression was tested using the Joint F test. It is observed that, differently from what was expected in H1a (there is a reduction in the timely recognition of losses after the mandatory adoption of IFRS, which reflects in the lower conservatism), it is verified that the combination of $\beta_6 + \beta_7$ (which deals with the changes in the timely recognition of losses) presented a positive coefficient, indicating that after the implementation of IFRS there was an increase in accounting conservatism. Therefore, H_{1a} is rejected.

H_{2a} is also rejected (there is an increase in the timely recognition of gains after the mandatory adoption of

IFRS, which reflects in the lower conservatism) because the coefficient β_6 is not statistically significant. The negative sign of β_6 indicates that companies had a reduction in the timely recognition of earnings after the mandatory implementation of IFRS.

Regarding H_{3a} (there is a decrease in the timely asymmetric recognition of losses (ATLR) after the mandatory adoption of IFRS), it was expected that with the reduction of the timely recognition of losses (H1a) and with the increase of the recognition of gains (H2a), consequently, there would be a reduction in the timely asymmetric recognition of losses (ATLR), which would indicate less conservatism after the mandatory implementation of IFRS. Since H_{1a} and H_{2a} were rejected, showing a possible increase in accounting conservatism, it is verified, through the β_7 coefficient, that there was an increase in ATLR, indicating an increase in conservatism, which also led to the rejection of H_{3a}.

These results differ from the findings of Capkun and Collins (2018), who found a decrease in accounting conservatism in companies in several countries, after the mandatory

Table 2 – Change in conservatism after mandatory IFRS implementation

PANEL A: Equation 1 Regression				
$NI_{it}/P_{t-1}=\beta_0+\beta_1\ POST\_IFRS_{it}+\beta_2\ RET\_DUM_{it}+\beta_3\ POST\_IFRS_{it}\times RET\_DUM_{it}+\beta_4\ RET_{it}+\beta_5\ RET\_DUM_{it}\times RET_{it}+\beta_6\ POST\_IFRS_{it}\times RET_{it}+\beta_7\ POST\_IFRS_{it}\times RET\_DUM_{it}\times RET_{it}+\varepsilon_{it}$				
Variables	**ACC**			
	Betas	**Coefficient**	**t**	**VIF**
Constant	β_0	0,0819	1,43	-
POST_IFRS	β_1	-0,1109***	-2,80	3,18
RET_DUM	β_2	-0,0977**	-2,34	5,02
POST_IFRS x RET_DUM	β_3	0,1535**	2,26	6,96
RET	β_4	0,0690**	2,21	2,32
RET_DUM x RET	β_5	-0,0419	-0,49	4,35
POST_IFRS x RET	β_6	-0,0560	-0,63	2,87
POST_IFRS x RET_DUM x RET	β_7	0,7557***	3,77	5,21
Fixed Effect – Sector	Sim			
Fixed Effect – Year	Não			
R^2	0,1180			
F – sig. Test	0,0000***			
Durbin Watson	1,9111			
Number of observations	1.748			

PANEL B: Coefficients combination		
Description	**Betas**	**Coefficient**
Timely recognition of pre-IFRS losses	$\beta_{4+}\beta_5$	0,0270*
Timely recognition of post-IFRS losses	$\beta_{4+}\beta_{5+}\beta_{6+}\beta_7$	0,7266***
Change in timely recognition of losses from pre-IFRS to post-IFRS (H_{1a})	$\beta_{6+}\beta_7$	0,6996***
Timely recognition of earnings pre-IFRS	β_4	0,0690**
Timely recognition of earnings post-IFRS	$\beta_{4+}\beta_6$	0,0129*
Change in timely recognition of earnings from pre-IFRS to post-IFRS (H_{2a})	β_6	-0,0560
Timely asymmetric loss recognition (ATLR) pre-IFRS	β_5	-0,0419
Timely asymmetric loss recognition (ATLR) post-IFRS	$\beta_{5+}\beta_7$	0,7137***
Timely asymmetric loss recognition (ATLR) from pre-IFRS to post-IFRS (H_{3a})	β_7	0,7557***

* Significance at 10% level, ** Significance at 5% level, *** Significance at 1% level.

Caption: Panel A displays the regression model estimates, Panel B shows the combination of coefficients; t: t-statistic; VIF: Variance Inflation Factor; NI/P: Earnings before extraordinary items divided by the lagged share price; POST_IFRS: Dichotomous variable, 1 for the post mandatory IFRS period and 0 otherwise; RET_DUM: Dichotomous variable, 1 is assumed if the stock return is negative and 0 if it is positive. RET: Annual share price return.

Source: Prepared by the authors.

implementation of IFRS. According to the authors, this is due to the fact that IFRS have greater flexibility compared to previously used local standards, leaving a gap for companies to recognize more gains and less losses, which is contrary to the principle of conservatism.

Table 3 presents the results of Equation 2, which verified the changes in income smoothing after the mandatory implementation of IFRS.

Tabela 3 - Mudança na suavização dos resultados após implementação obrigatória das IFRS

PANEL A: Equation 2 Regression				
$ACC_{it}=\beta_0+\beta_1 POST\_IFRS_{it}+\beta_2\ CFO_{it}+\beta_3\ POST\_IFRS_{it}\times CFO_{it}+\varepsilon_{it}$				
Variables	ACC			
	Betas	Coefficient	t	VIF
Constant	β_0	-0,0804***	-10,43	-
POST_IFRS	β_1	0,0362***	6,25	1,69
FCO	β_2	0,5128***	14,67	1,38
POST_IFRS x FCO	β_3	-0,2027***	-3,51	1,87
Fixed Effect – Sector	Sim			
Fixed Effect – Year	Não			
R^2	0,3079			
F – sig. Test	0,0000***			
Durbin Watson	1,8340			
Number of observations	1.748			

* Significance at 10% level, ** Significance at 5% level, *** Significance at 1% level.

Caption: t: Statistic t; VIF: Variance Inflation Factor; ACC: Total Accruals, working capital variation weighted by total assets; POST_IFRS: Dichotomous variable, 1 for the period after IFRS becomes mandatory and 0 otherwise; FCO: Operating cash flow weighted by total assets.
Source: Prepared by the authors.

We see in Table 3, through the coefficient β_3, that the covariance between accruals (ACC) and operating cash flow (FCO) post-IFRS is more negative than β_2, which corresponds to the pre-IFRS period. Therefore, ignoring the effects of changes in the timely recognition of gains and losses, it appears that income smoothing increased in the period after IFRS became mandatory. This result is in line with those of Klann and Beuren (2018), who state that after the implementation of IFRS in Brazil, there was an increase in income smoothing.

Lang et al. (2006), Ball and Shivakumar (2006), Barth et al. (2008) and Iatridis (2010) argue that companies with cash flow constraints can use accruals to reduce their results. Therefore, Brazilian companies may have taken advantage of the greater flexibility of accounting standards converging with IFRS to manage accruals in order to smooth results. This finding is also consistent with the studies by Goncharov and Zimmermann (2006) and Paananen and Lin (2009), who showed an increase in earnings management after the adoption of IFRS in Germany.

However, Capkun and Collins (2018) emphasize that these changes in income smoothing can be driven by changes in the timely recognition of gains and losses after IFRS implementation. Therefore, Table 4 shows the results of Equation 3, which refers to changes in income smoothing after IFRS implementation, controlling for positive and negative cash flow conditions (good and bad news).

Table 4 – Smoothing results after IFRS implementation, with FCO control

PANEL A: Regressão Equação 3

$$ACC_{it}=\beta_0+\beta_1\ POST\_IFRS_{it}+\beta_2\ CFO\_DUM_{it}+\beta_3\ POST\_IFRS_{it}\times CFO\_DUM_{it}+\beta_4\ CFO_{it}+\beta_5\ CFO\_DUM_{it}\times CFO_{it}+\beta_6\ POST\_IFRS_{it}\times CFO_{it}+\beta_7\ POST\_IFRS_{it}\times CFO\_DUM_{it}\times CFO_{it}+\varepsilon_{it}$$

Variables	ACC			
	Betas	Coefficient	t	VIF
Constant	β_0	-0,0489	-5,27	-
POST_IFRS	β_1	0,0150*	1,83	3,70
FCO_DUM	β_2	0,0027	0,27	4,15
POST_IFRS x FCO_DUM	β_3	-0,0219	-1,12	4,55
FCO	β_4	0,3139***	5,96	2,87
FCO_DUM x FCO	β_5	0,7841***	7,92	2,81
POST_IFRS x FCO	β_6	-0,1014	-1,32	3,57
POST_IFRS x FCO_DUM x FCO	β_7	-0,5488	-1,47	2,77
Fixed Effect – Sector	Sim			
Fixed Effect – Year	Não			
R^2	0,3619			
F – sig. Test	0,0000***			
Durbin Watson	1,9724			
Number of observations	1.748			

PANEL B: Coefficients combination

Description	Betas	Coefficient
Covariance between pre-IFRS ACC and FCO under negative cash flow conditions	$\beta_{4}+\beta_5$	1,0980***
Covariance between post-IFRS ACC and FCO under negative cash flow conditions	$\beta_{4}+\beta_{5}+\beta_{6}+\beta_7$	0,4477***
Change in covariance between ACC and FCO under negative cash flow conditions from pre-IFRS to post-IFRS (H1b)	$\beta_{6}+\beta_7$	-0,6503*
Covariance between pre-IFRS ACC and FCO under positive cash flow conditions	β_4	0,3139***
Covariance between post-IFRS ACC and FCO under positive cash flow conditions	$\beta_{4}+\beta_6$	0,2124***
Change in covariance between ACC and FCO under positive cash flow conditions from pre-IFRS to post-IFRS (H2b)	β_6	-0,1014
Timely asymmetric loss recognition (ATLR) pre-IFRS	β_5	0,7841***
Timely asymmetric loss recognition (ATLR) post-IFRS	$\beta_{5}+\beta_7$	0,2353***
Change in ATLR (covariance between ACC and FCO under positive versus negative cash flow conditions) from pre-IFRS to post-IFRS (H3b)	β_7	-0,5488

* Significance at 10% level, ** Significance at 5% level, *** Significance at 1% level.

Caption: Panel A displays the regression model estimates, Panel B shows the combination of coefficients. t: t-statistic; VIF: Variance Inflation Factor; ACC: Total Accruals, working capital variation weighted by total assets; POST_IFRS: Dichotomous variable, 1 for post mandatory IFRS and 0 otherwise; FCO_DUM: Dichotomous variable, 1 if the operating cash flow is negative and 0 if it is positive; FCO: Operating cash flow weighted by total assets.

Source: Prepared by the authors.

It is observed in Panel A of Table 4 that the model of Equation 3 has statistical significance, as well as its VIF and Durbin Watson values, which show values close to the expected. Furthermore, it is noted that the explanatory power of Equation 3 (R^2 = 36%) is superior to that of Equation 2 in Table 3 (R^2 = 31%).

Panel B shows the combinations of regression coefficients in order to test hypotheses H_{1b}, H_{2b} and H_{3b}. As in Equation 1, the statistical significance of the sum of the coefficients was tested using the Joint F test. Regarding H_{1b} (there is a more negative correlation between accruals and FCO in conditions of negative operating cash flow (bad news) after the mandatory adoption of IFRS, which indicates greater smoothing of results), it is observed, through the sum of coefficients $\beta_6 + \beta_7$, evidence of a more negative covariance between ACC and FCO under negative operating cash flow conditions (bad news) in the post-IFRS period. However, although the sum of coefficients in the Joint F test was significant, the β_6 and β_7 (Table 4) were not statistically significant. Thus, H_{1b} is rejected.

Regarding H_{2b} (there is a more positive correlation between accruals and FCO, in conditions of positive operating cash flow (good news), after the mandatory adoption of IFRS, which indicates less income smoothing), it appears that the coefficient of β_6 is not significant, which makes it impossible to make inferences about these results. Therefore, H_{2b} is rejected.

As for H_{3b} (there is greater smoothing of results after the mandatory adoption of IFRS in positive and negative operating cash flow conditions (good and bad news), there is no statistical significance of β_7, which again makes it impossible to make inferences. Thus, H_{3b} is rejected.

These results differ from those of Capkun and Collins (2018), who found both a reduction in income smoothing under positive FCO conditions and an increase in smoothing under negative FCO conditions. According to these authors, the increase in income smoothing after IFRS implementation, as evidenced by previous studies, is related to ATLR changes.

According to Ball and Shivakumar (2006), the negative covariance between ACC and FCO is the net effect of income smoothing, however, the timely recognition of gains and losses (conservatism) generates a positive relationship between ACC and FCO. Thus, Capkun and Collins (2018) highlight that the increase in the flexibility of IFRS and a possible lack of guidance for the application of these new standards can lead to less accounting conservatism (decrease in ATLR) on the part of companies, increasing the negative correlation between ACC and FCO, thus influencing the smoothing of results.

5. Results Discussion

The results of this research add important evidence to the ambiguous Brazilian scenario of studies on the impact of IFRS on the conservative behavior of managers. This study demonstrates that after the period of mandatory IFRS adoption, the level of conditional conservatism increased, which is similar to that found by Santana and Klann (2017) and Silva and Nardi (2017), but contradicts Alves and Martinez (2014), Souza et al. (2016), Ávila et al. (2019), Filipin et al. (2012) and Sousa et al. (2018).

When comparing the present research with the previous ones, it is argued about the relevance of the results of this one. Santana and Klann (2017) found an increase in the level of conservatism only for family businesses in the period from 2003 to 2012. Silva and Nardi (2017) analyzed Ibrx100 companies, which generates a sample comparable to that of the present research, however, they only investigated the years 2010 and 2011 as post-IFRS. The results of the present study expand on previous findings mainly by extending the longitudinal analysis period to eight years after IFRS adoption. In addition, to ensure comparability of results in the pre and post-IFRS period, an equivalent period was used as pre- and post-IFRS and the same companies were considered in these periods (balanced sample).

The increase in conservatism of the 92 Brazilian companies investigated after IFRS can be justified by the introduction of new accounting standards with an effect not observed on the balance sheet. The new impairment test standard, as well as the use of fair value as a measurement basis, may be examples of this effect. According to Ball (2006), the use of fair value generates more timely information, and the impairment test gives scope for the immediate recognition of losses in long-term assets. Based on this, one can understand the increase in the conservative behavior of managers, which was maximized by changes in international accounting standards.

Regarding smoothing, the results of this research corroborate the study carried out in the Brazilian scenario by Klann and Beuren (2018), and in the European scenario by Ahmed et al. (2013) and Capkun et al. (2016). It is argued that the greater flexibility allowed by IFRS is the main factor responsible for triggering the increase in earnings smoothing. Also, as highlighted by

Capkun et al. (2016), the IASB has been criticized for increasing flexibility in the application of standards and for the lack of guidance on implementation. These factors, together, make room for greater discretion on the part of managers.

In fact, Capkun et al. (2016) point out that the need for greater guidance on the implementation of the standards led the International Financial Reporting Interpretations Committee (IFRIC) to publish IFRS interpretive documents for financial statement preparers. The committee has also tried to promote greater consistency in the way of measuring accounting profit, through projects on revenue recognition and financial instruments. However, the results of this research demonstrate that, at least in the Brazilian context, the discretion allowed by international standards has still been used to manage earnings and, more specifically, to smooth profits.

Finally, the main discussion of this work is based on the premise that the increase in the level of income smoothing in the post-IFRS period could have been biased in the previous literature. What Capkun and Collins (2018) showed in 28 countries was that the increase in income smoothing was due to a decrease in the level of conservatism of managers, caused by the new international accounting standards. With this finding, Capkun and Collins (2018) cast doubt on the research that until then had investigated earnings smoothing and IFRS adoption without controlling for the level of conditional conservatism of companies.

In Brazil, although there is evidence of an increase in income smoothing after the adoption of IFRS, it does not seem to be related to the level of conservatism, which even showed an increase in the period, differently from what was expected and evidenced by Capkun and Collins (2018). These contradictory results to those of Capkun and Collins (2018) are relevant as they show that previous research carried out in the Brazilian scenario that addressed income smoothing and IFRS adoption are not biased by the levels of conservatism. This demonstrates that managers actually manipulate values in order to present correlated results between reporting periods and not due to a change in their level of conservatism.

The main justification for this divergence of findings is the argument that the transition from Brazilian GAAP to the new accounting standard made room for the information to be recognized in a timelier manner, as is the case of the aforementioned example on the impairment test and fair value. As a result, managers found in the new accounting standards an opportunity to anticipate the recognition of losses and postpone the recognition of gains. Linked to this greater opportunity is also greater flexibility, which allowed greater discretion when recognizing accounting estimates and triggered an increase in income smoothing.

There are some reasons characteristics of the Brazilian context that may explain why the increase in income smoothing cannot be attributed to levels of conservatism, but to the practice of earnings management. First, with the adoption of IFRS, the country moved from a rules-based to a principles-based culture. In cultural terms, Brazil scores 76 on Hofstede's (2011) uncertainty avoidance cultural dimension (ranging from 0 to 100), which means Brazil is a country with a strong tendency to rely on rules.

Bringing culture to the accounting world, this means a preference for accounting based on prescribed legal procedures, which contrasts sharply with the flexibility and exercise of professional judgment proposed by IFRS (Silva et al., 2021). In addition, Brazil had a tax regulatory base directly related to accounting before 2010 (Castro & Santana, 2018), which was drastically changed with the introduction of IFRS. As a result, Brazil created the Transitional Tax Regime and the issuance of Federal Laws 11,941 in 2009 and 12,973 in 2014, which sought to differentiate taxable income adjustments from financial accounting measures (Nakao & Gray, 2018). Previously, the estimated loss with doubtful accounts (PECLD), for example, was subject to a ceiling dictated by tax legislation, which ceased to exist after IFRS (Castro & Santana, 2018).

The adoption of IFRS in a country culturally averse to uncertainty and which had a direct relationship between its accounting and tax regulations resulted in critical difficulties in adopting an accounting system based on principle, completely different in its accounting and tax regulations. This was said by interviewees in the research by Silva et al. (2021) (who investigated perceptions about the implementation of IFRS in Brazil), in responses that mentioned the difficulty with subjective issues involving professional judgment.

Second, Brazil, being economically underdeveloped, has greater information asymmetry generated by less rigorous disclosure regulation, less effective supervision, less independent monitoring by NGOs, media, analysts, and weaker self-regulation (Adamska & Dabrowski, 2021). Greater information asymmetry, in turn, can open room for opportunistic earnings management practices.

Third, as highlighted by Black and Nakao (2017), countries exposed to the legal code law system, such as Brazil, because their capital is mostly financed by private creditors (such as financial institutions), end up communicating information to their stakeholders through private channels. Thus, they end up taking the focus away from public and standardized disclosures to external users. This context, according to the results of Trimble (2018), instigates greater involvement in opportunistic earnings management practices.

In short, the transition process from a rules-based culture to principles-based accounting standards and the difficulties faced by Brazilian organizations in this process (Silva et al., 2021), along with the economic context of greater information asymmetry, which gives space for earnings management practices (Adamska & Dabrowski, 2021) and, also, considering that Brazil's legal system itself ends up taking the focus off public statements (Black & Nakao, 2017) and allows greater practices of accounting manipulation, they end up creating a favorable scenario for earnings management (Trimble, 2018).

It is understood that managers of Brazilian companies have incentives to use the flexibility of international standards to act in favor of their particular interests. This understanding justifies the fact that the increase in income smoothing identified in this research is due to the opportunistic behavior of managers and not to accounting conservatism in the pre and post IFRS period.

These results are especially important for the IASB, IFRIC, CPC (Accounting Pronouncements Committee) and other regulatory bodies of accounting standards. Although there is already a concern in terms of disclosing guidance documents for the preparation and estimation of reliable accounting values to the reality of companies, even so, managers seem to use the essence of IFRS to manage results.

6. Conclusion

This research aimed to analyze the relationship between conditional conservatism and income smoothing after mandatory IFRS implementation in publicly traded Brazilian companies. Therefore, the analyzed sample corresponded to 92 publicly traded Brazilian companies, whose data were obtained through the Refinitiv Eikon database, in the period from 2000 to 2018, with the years 2000 to 2009 being characterized as a period prior to the mandatory implementation of the IFRS and from 2010 to 2018 as post-IFRS period.

Based on the results related to the change in conservatism after IFRS implementation, we noted that, contrary to expectations (H_{1a}, H_{2a} and H_{3a}), there was an increase in the conditional conservatism of Brazilian companies in the post-IFRS period. This result demonstrates that, despite the Brazilian accounting standards having changed with the adoption of IFRS, companies continued to present a conservative posture in terms of timely recognition of gains and losses.

There was also an increase in income smoothing in the post-IFRS period, which may be due, according to Klann and Beuren (2018), to the greater flexibility of IFRS in relation to the standards previously used in the country. Thus, many companies can take advantage of such flexibility to smooth results. However, Capkun and Collins (2018) warn that this increase in income smoothing can often be caused by changes in accounting conservatism.

Based on this, it was observed through the test of the hypotheses (H_{1b}, H_{2b} and H_{3b}), that changes in conditional conservatism did not affect the smoothing of companies' results, as an increase in conservatism was observed after the mandatory implementation of IFRS, and not a decrease, as observed by Capkun and Collins (2018) in companies from other countries. Thus, it is concluded that the increase in income smoothing after the mandatory implementation of IFRS in Brazil was probably not biased by changes in conditional conservatism, which may be due to peculiarities of the Brazilian context in economic, cultural, and accounting terms.

In general, the contribution of this research is focused on empirical evidence that the change in conditional conservatism does not always influence the smoothing of results, but it is a fact that deserves the attention of managers and researchers. It contributes in a practical way for analysts, investors, and regulators to pay attention to the analysis of accounting reports, since after the implementation of IFRS in Brazil, there was an increase in income smoothing that is not related to changes in conditional conservatism. This fact may indicate the lower quality of the accounting information of these companies, if this smoothing results in information that does not represent their economic-financial reality. Finally, it contributes to the expansion of the literature, by controlling the effects of changes in the timely recognition of gains and losses in the smoothing of the results of Brazilian companies.

Some limitations are present in this research. Initially, it should be noted that the analysis was performed only on a sample of 92 Brazilian companies, limiting the results for this sample. Therefore, as recommendations, we suggest that future research consider a wider sample of analysis, involving a longer period of analysis pre and post IFRS, in which possibly more data will be available, or even when encompassing companies from other developing countries.

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