

Tax aggressiveness as a determining factor of conditional conservatism in Brazil^{*,**}

Antonio Lopo Martinez¹

 <https://orcid.org/0000-0001-9624-7646>

Email: antoniolopomartinez@gmail.com

Jorge Luiz de Santana Júnior²

 <https://orcid.org/0000-0001-7423-2566>

Email: santanajr.prof@gmail.com

Thiago Rios Sena³

 <https://orcid.org/0000-0003-0261-7381>

Email: thiagoriossena@gmail.com

¹ Universidade de Coimbra, Faculdade de Direito, Coimbra, Portugal

² Universidade de São Paulo, Faculdade de Economia, Administração, Contabilidade e Atuária, Departamento de Contabilidade e Atuária, São Paulo, SP, Brazil

³ Universidade Federal de Pernambuco, Centro de Ciências Sociais Aplicadas, Departamento de Ciências Contábeis e Atuariais, Recife, PE, Brazil

Received on 09.30.2021 – Desk acceptance on 10.29.2021 – 4th version approved on 05.25.2022

Editor-in-Chief: Fábio Frezatti

Associate Editor: Eliseu Martins

ABSTRACT

This paper investigates whether the degree of tax aggressiveness is associated with conditional conservatism in Brazil. After a thorough literature review on accounting conservatism by Brazilian academia and a discussion about tax aggressiveness and accounting conservatism, a literature gap was found because the relationship between a firm's degree of tax aggressiveness and its conditional conservatism had not been investigated previously. Taxable income has a relationship with accounting income in the Brazilian corporate income tax system. Hence, tax planning can affect financial information properties. This study offers a partial explanation of accounting conservatism based on tax issues that contribute to the conservatism and taxation literature. The results suggest that tax strategies that aim to avoid tax burden are related to conditional conservative accounting. Hence, the practice of conditional conservatism in Brazil appears to be linked with tax-deductible alternatives of reducing earnings, which would explain tax planning's association with the degree of conditional conservatism in financial reporting. This finding is relevant to financial reporting users that can consider our results in their analysis and to management that seeks to understand their decisions about tax planning better. For this research purpose, two Basu models (Basu, 1997) were adopted, adapted with tax-aggressiveness controls. The effective tax rate (ETR) was used as a tax-aggressiveness metric, controlling firms with both high and low ETR. The study period was from 2010 to 2019 for Brazilian firms from B3 S.A. – Brasil, Bolsa, Balcão (B3). The findings demonstrate a significant relationship between tax avoidance and conditional conservatism, that is, more tax-aggressive firms tend to use more conservative accounting.

Keywords: accounting conservatism, tax aggressiveness, tax income, effective tax rate.

Correspondence address

Antonio Lopo Martinez

Universidade de Coimbra, Faculdade de Direito

Pátio da Universidade, 3004-528

Coimbra – Portugal

*Article presented at the XXIV SemeAd, November 2021, and at the XV Congresso ANPCONT, December 2021.

**This study was financed in part by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior – Brasil (CAPES) – Finance Code 001.



1. INTRODUCTION

Conservatism is one of the critical topics in accounting theory and practice that has attracted the attention of many researchers, and in Brazil, this is no different. Four interpretations in the literature justify conservative accounting: (i) contracts (debt, executive contracts) (Watts, 2003); (ii) corporate governance (García Lara et al., 2009a); (iii) accounting laws and regulations (Ball et al., 2000); and (iv) tax rules (Qiang, 2007). The first three have already been widely examined in the accounting literature, including in Brazil (Coelho & Lima, 2013; Degenhart et al., 2018; Santos et al., 2011). However, there is a literature gap regarding the relationship between tax rules and conditional conservatism.

Accounting conservatism is divided into two types: conditional and unconditional. Conditional conservatism is typically associated with contracting incentives, whereas unconditional conservatism is related to taxation and regulation (Qiang, 2007). Nevertheless, this perspective of accounting conservatism consequences is not as isolated as it appears at first glance. For example, unconditional conservatism can also be associated with contract incentives when it limits the application of the conditional form (Beaver & Ryan, 2005). Furthermore, conditional conservatism could be related to taxation if accounting choices that increase conditional conservatism are deductible for tax purposes or if there is an indirect relation between them (García Lara et al., 2009b).

Few studies have addressed the relationship between taxation and accounting conservatism in the Brazilian context. Campos et al. (2010), using the book-to-market ratio (book value of equity over its market value), analyzed the relationship between accounting conservatism and taxation and found that the higher the book-to-market ratio, the lower the income tax provisions. Vale and Nakao (2017) investigated whether tax sensitivity to reported income increases unconditional conservative practices, but there was no association between them. The aforementioned studies are focused on unconditional conservatism. Our research extends the previous literature by studying the following unaddressed research question: is there an association between conditional conservatism and tax aggressiveness in Brazilian public firms?

Our results have three main contributions. First, the accounting literature has been focused on the unconditional form of conservatism when addressing taxation matters; hence, we documented a relationship that has received little attention in the accounting conservatism literature. We find that conditional conservatism can also be empirically related to tax aggressiveness, at least in the Brazilian context.

Second, we show that tax and book income choices may be connected in the Brazilian environment. Even though some conditional conservative practices cannot directly reduce tax costs, our study can evidence that tax planning strategies that aim to reduce tax costs conservatively affect accounting information. This evidence is relevant to managers to the extent that it shows that tax choices may be related to earnings properties. Accounting conservatism impacts contracts (Watts, 2003), cost of equity capital (García Lara et al., 2011), cost of debt capital (Li, 2015), and analysts' forecasts (García Lara et al., 2014). When tax strategies influence earnings quality, they can indirectly affect several stakeholders, their contracts, and decisions. Thus, this research adds to external users, particularly investors, by demonstrating the possible motivations and effects of discretionary choices of managers. In this study are highlighted, when approaching the relationship between accounting conservatism and tax-aggressiveness practices, elements that can influence returns and, consequently, investment decisions (capital allocation).

Third, we corroborate several pieces of research that document, with international or local samples, that Brazil has relevant differences concerning the overall degree of conditional conservatism, its determinants, and its consequences (Ball et al., 2008; Li, 2015; Santos et al. 2011). In contrast to the international evidence that documents a positive association between conditional conservatism and tax costs (García Lara et al., 2009b; Qiang, 2007), we find the opposite result through tax-aggressiveness measures. Hence, Brazilian firms may not separately decide on their tax planning and financial statements despite the tax neutrality view.

Because taxable profit in the Brazilian model depends on accounting profits, it is undeniable that taxable gain and accounting practices are related. One can, with some conviction, argue that taxes motivate firms to adapt reported accounting profits to taxable profits. For example, Watts (2003) argues that as long as a firm is profitable, with taxable income and favorable interest rates, these relationships motivate firms to reduce their recognition of financial assets due to delayed recognition. This situation is similar to entering into average contracts that leads to a firm's net assets being undervalued. The tax incentive for conservative accounting is the missing link in understanding financial accounting and tax accounting studies.

This study examines the association between tax aggressiveness and the conservative accounting of the firms listed on the Brazilian Stock Exchange, which

is intended to be considered for this purpose. Then, a research hypothesis is presented, the research results are

provided and interpreted in the fourth section, and, finally, the final part of this study will be concluded.

2. LITERATURE REVIEW

2.1 Accounting Conservatism in Brazil

In Brazil, research on conditional conservatism may present different results from firms that operate in more developed markets. Ball et al. (2008), analyzing 22 countries, estimated the coefficient of the level of conditional conservatism [β_3 of Basu model (Basu, 1997)] for the Brazilian market at 0.04 – a value below almost all countries in the sample, which included the United States of America (0.28), United Kingdom (0.22), Chile (0.15), and France (0.26). In addition, some studies performed in Brazil found no statistically significant relationship for the conservatism coefficient of Basu model (Santos et al., 2011; Sousa et al., 2016).

Despite the lack of evidence of conditional conservatism measured through stock returns in the Brazilian stock market, many studies have documented that some characteristics of the firms and the regulatory or economic context may drive the level of conservatism.

On the determining the characteristics of the conservatism level, accounting conservatism is positively affected by the audit firm size (Melo et al., 2013), levels of corporate governance (Almeida et al., 2008; Moreira et al., 2010) and firms with few complexity characteristics (Silva et al., 2019). On the other hand, accounting conservatism is negatively affected by firm size (Moreira et al., 2010), the length of service provided by the auditors, and the distance between the date of the opinion and the date of publication of the financial statements (Melo et al., 2013); financially constrained firms tend to adopt less conditional conservatism in their accounting numbers (Demonier et al. 2015).

No influence on accounting conservatism was found based on characteristics such as sustainability (Gloria & Costa, 2018), market-to-book, leverage (Moreira et al., 2010), audit committee, provision of non-audit services, the importance of the client to the audit firm, audit specialization (Melo et al., 2013), sectors (Marques et al., 2017), issuing American Depositary Receipts (Coelho et al., 2010), and variable executive compensation (Degenhart et al., 2018).

Regarding the effect of changes in legislation on accounting conservatism, studies indicate that there

was no alteration in the degree of conservatism in the analyzed statements after adopting International Financial Reporting Standards (IFRS) (Alves & Martinez, 2014; Sousa et al., 2016), and it is not possible to infer that Law n. 11.638, of December 28, 2007, had any effect on the degree of asymmetric recognition of losses and gains (Santos et al., 2011). Still, regarding the impact of regulation on conservatism, the presence of a national regulatory agency, specific legislation, or a standardized chart of accounts does not allow us to infer any effect (Costa et al., 2010). A possible explanation for this scenario is that Brazil has other factors, such as the institutional environment and high shareholding concentration, which may explain the level of conservatism (Costa et al., 2010, p. 1).

When it comes to ownership structure, the concentration of votes contributes to decreasing the degree of conservatism, whereas the shareholders' agreement contributes to increasing it (Sarlo et al., 2010). Paulo et al. (2008) find that private firms are less likely to recognize losses promptly and are less conservative in their financial statements than public firms are. Furthermore, a decade later, Scalzer et al. (2017) detect that state-owned firms are less conservative than other firms on Stock Exchange and Mercantile & Futures Exchange (BM&FBovespa).

Sampaio et al. (2015) assert that there were significant signs of adoption of unconditional conservatism by the market-to-book ratio in the period after the crisis, indicating that such decisions of recognition of expected losses are not conditioned to specific bad news or to a moment that characterizes the beginning of the crisis' peak. On the other hand, Duarte et al. (2019) declare that firms anticipate future losses in periods of local economic crisis by increasing the level of conservatism. However, considering that the research was performed during the year of the global crisis, these results distort Basu model (Sarlo et al., 2010).

The differences in the level of Brazilian conditional conservatism may be associated with institutional characteristics. Ball et al. (2000) extended Basu's findings to seven countries to verify institutional differences that influence conservatism. The authors found that in "common law" countries, the levels of conservatism are higher concerning those of code law because this law

plays a more significant role in solving the problems of asymmetric information and reducing the agency costs arising from the monitoring of managers. Additionally, other studies such as García Lara et al. (2008) and Brown et al. (2006) verified that conditional and unconditional conservatism could be influenced by the institutional differences associated with the country where the firms are located.

Because it is a trend in the measurement of the numbers disclosed to users through financial information, conditional conservatism can be driven by user demands and the alignment of interests between these users and firm management, in addition to differences between countries. Ball and Shivakumar (2005) argue that private firms present fewer conservative financial statements because they do not have the market demand for conservatism that publicly traded firms have. Investor demand for more conservative information is associated with conservatism in improving the efficiency of managerial compensation contracts that have their compensation tied to earnings to mitigate the agency problem (Watts, 2003). Another explanation is that investors have incentives to prefer more conservative earnings because, in this way, they would be less affected by taxation, which would increase firm value (Zhong & Li, 2017).

From accounting practice, it can be said that firms that adopt tax strategies oriented to decrease tax income may behave conservatively to reduce their tax costs. The tax incentive to practice conservative accounting is desirable, particularly when we see a growing suspicion that large firms are paying fewer taxes. Besides, some studies have shown that the practice of tax aggressiveness has been recurring (Martinez, 2017).

2.2 Accounting Conservatism and Tax Aggressiveness

There is some evidence of an association between tax aggressiveness and financial reporting practices in the Brazilian context. For example, Ramos and Martinez (2018) find that tax aggressiveness is positively associated with restatements of financial reporting showing that tax practices influence financial reporting, increasing its likelihood of misstatements. This result is consistent with Rodrigues and Martinez (2018), who find that tax-aggressive firms delay financial statements. Furthermore, there is evidence that tax aggressiveness is related to less relevance of accounting information for investors (Santos et al., 2019).

In the same direction, Rezende and Nakao (2012) argue that saving taxes affects accounting choices and shows that tax income is negatively associated with earnings management. Moreover, tax aggressiveness' influence on financial reporting can impact auditors' and creditors' assessment of the risk of financial statements. Tax aggressiveness is also related to higher audit fees in Brazilian public firms (Martinez et al., 2014). This relationship is weaker in firms with more corporate governance mechanisms. At the same time, Martinez and Silva (2017) show that the greater the tax aggressiveness, the higher the risk assessment of creditors. The aforementioned evidence of Brazilian public firms implies that tax planning affects accounting choices and financial information. These choices can be related to conservative practices because tax aggressiveness involves underestimating tax income.

Firms have different incentives to measure earnings conservatively, and one of the primary sources of accounting conservatism is the political costs associated with reported profits. Watts and Zimmerman (1986) state that as long as income is positively related to political costs, firms are incentivized to make accounting choices that lead to lower corporate income. This argument is similar to taxation matters: corporate taxes can result in conservative accounting choices because there are incentives for it, and these incentives derive from the link between tax and book income.

Because tax and book income are associated, corporate tax planning may include decisions that affect both of them. Therefore, managers of profitable firms seek to reduce the present value of taxes by delaying the recognition of revenues and accelerating the recognition of expenses. These practices tend to increase accounting conservatism (Watts, 2003). Hence, as long as tax planning involves some degree of tax aggressiveness (i.e., income-decreasing choices for tax reasons), taxation can drive accounting conservatism practices.

International evidence documents that taxation is related to accounting conservatism in several ways. Kim and Jung (2007) evidence that tax burden is positively associated with conservative practices and that this relation depends on book-tax conformity. Heltzer (2009) shows that both tax and book income are conservative. Jiménez-Angueira et al. (2021) evidence that tax planning associated with unrecognized tax benefits (UTBs) increases the firm value when related to higher accounting conservatism. Furthermore, Bornemann (2018) documents that future tax cuts drive accounting conservatism, and this is more pronounced

in countries with higher book-tax conformity (i.e., there is an association between book and tax income).

Hellman (2008) argues for a strong link between accounting and taxation in code-law countries. Tang (2015), using a cross-country sample, measures book-tax conformity and shows that Brazil (one of the code-law countries in the sample) has a strong association between tax and book income (0.60) in comparison to other countries (e.g., United States of America = 0.38, United Kingdom = 0.49, and Canada = 0.17). A similar result is presented in Blaylock et al. (2015), and this evidence suggests, therefore, that tax planning is strongly related to the reported book income in the Brazilian context.

The taxation on profits can be an essential motivator that increases accounting conservatism, and the decreased timelines in recognizing losses can reduce tax costs in the short term. Firms that foresee tax burden reductions in the future use accounting conservatism to postpone the gains subject to taxation to later periods of the reduced tax burden (Martinez & Cerize, 2020). Thus, tax aggressiveness may represent an essential incentive to conditional conservatism (Martinez et al., 2020). Thus, we establish our research hypothesis:

H: there is a positive association between tax aggressiveness and conditional conservatism

3. METHODOLOGY

To select the firms that comprised the sample for the tests of this study, we used the Brazilian publicly traded firms listed on B3 S.A. – Brasil, Bolsa, Balcão (B3), covering the period from 2010 to 2019. The initial period was chosen because, during 2010 and 2011, several CPC (Comitê de Pronunciamentos Contábeis) pronouncements were revised; thus, as of 2011, these revisions would already be reflected in the financial statements. Therefore, the final period chosen was the most current one in which the firms' financial statements were available before the coronavirus disease 2019 (COVID-19) pandemic. This disease affected the entire planet and brought some issues to the global

economy. Because this situation may have caused varying impacts between different firms, we choose not to include the year 2020 in the time frame.

All data were collected from the Economática® database. We follow Martinez and Silva (2018), excluding financial firms with pre-tax losses and those that did not have the necessary data to compute the variables used in the analyses. Table 1 shows the process of formation and composition of the sample. Model 1 was used to test the research hypothesis under the Basu model. Model 2 was used as a robustness test to validate the results under Basu's serial dependence model; the results comprise a larger sample due to a smaller amount of missing data.

Table 1
Number of firms in the study

Description	Sample model 1	Sample model 2
Nr. of firms collected from Economática	638	725
(-) Closed firms	228	276
(-) Banks	27	28
(-) Insurance firms	5	6
(-) Stock Market firm	1	1
(-) Firms that closed the balance sheet on dates other than December 31	4	0
(-) Missing data	136	49
Nr. of firms used in the sample	237	365

Source: *Elaborated by the authors.*

Basu model is used to test the relationship between tax aggressiveness and conservatism, traditionally applied for measuring the level of conditional conservatism with an adaptation to verify the moderating effect of the tax-aggressiveness level. Basu model is broadly used to measure conditional conservatism, and its utility to test determinant factors of conservatism is analytically demonstrated (Ball et al., 2013).

$$EARN_{i,t} = \beta_0 + \beta_1 RET_{i,t} + \beta_2 NEG_{i,t} + \beta_3 RET_{i,t} \times NEG_{i,t} + \varepsilon \quad 1$$

The variable EARN is the income before extraordinary items divided by the market value of the equity of firm *i* in year *t*. RET is the stock return of the last nine months of year *t* and the first three months of the following year. Finally, NEG is a categorical variable that assumes a value of 1 when RET is negative and 0 otherwise. When the β_3 parameter is positive, negative stock returns (proxy for bad news) are absorbed more quickly by earnings. In this

case, firms are, on average, conservative in estimating accounting information.

According to Basu (1997), conservatism consists of the asymmetry between the recognition of positive economic information (“good news”) and negative information (“bad news”). Thus, the Basu model uses a categorical variable to capture the asymmetry between accounting earnings and news, where the information is measured through stock returns between financial statements disclosure as follows:

Basu model was adapted to determine whether tax aggressiveness is associated with conditional conservatism. Thus, the adjusted model tests the effect of tax aggressiveness in the estimation of the β_3 parameter, then testing its moderating effect on the model as follows:

$$EARN_{i,t} = \beta_0 + \beta_1 RET_{i,t} + \beta_2 NEG_{i,t} + \beta_3 RET_{i,t} \times NEG_{i,t} + \beta_4 AGGR_{i,t} + \beta_5 RET_{i,t} \times NEG_{i,t} \times AGGR_{i,t} + \beta_6 Controls_{i,t} + \varepsilon \quad 2$$

The AGGR variable comprises our two tax-aggressiveness measures: the effective tax rate (ETR), which is the most widely used metric to indicate the degree of tax aggressiveness, multiplied by -1 to facilitate the results’ interpretation. Another relevant metric is the long-run ETR. This metric is attractive compared to the standard GAAP ETR disclosed in the firm’s financial statements. This dynamic metric of tax aggressiveness is timely for documenting variation in tax aggressiveness, without the need to focus solely on a limited, static, single-period set of transactions (Chiachio & Martinez, 2019). We also include a set of control variables comprising size, market-to-book ratio, and leverage, following previous literature (Coelho et al., 2019; Demonier et al., 2015; Paulo et al., 2013). We consider control for industry fixed effect; however, this variable is perfectly collinear with the firm fixed effect. Therefore, we adopt the firm fixed effect rather than industry because it can control several unobservable variables that the industry controls would not capture (e.g., governance structure). Nevertheless, we ran a model with industry controls (not presented), and the results are the same.

A continuous variable measures the tax aggressiveness because the mentioned literature suggests a linear moderating effect (i.e., the higher the tax aggressiveness, the higher the accounting conservatism), then we use the model structure described as Case 4 in Baron and Kenny (1986). In addition, however, we conduct an additional analysis using dummies of tax aggressiveness to identify possible step moderating effects. Further notes about moderating effect types are discussed in Baron and Kenny (1986).

We use a second model, which is highly present in Brazilian research (Coelho & Lima, 2007; Queiroz et al., 2020; Santiago et al., 2015), to test the robustness of the results. Basu (1997) unfolds his conclusions about conditional conservatism by stating that recognized losses are more likely to be reversed than recognized gains if a lower degree of verifiability is required to recognize losses in relation to gains from the conservative perspective. Based on this process, Basu (1997) proposes a serial dependence model as follows:

$$\Delta NI_{i,t} = \beta_0 + \beta_1 D\Delta NI_{i,t-1} + \beta_2 \Delta NI_{i,t-1} + \beta_3 D\Delta NI_{i,t-1} \times \Delta NI_{i,t-1} + \varepsilon \quad 3$$

NI is calculated as net income divided by total assets at the beginning of year, ΔNI is the change in earnings from year *t*-1 to year *t*, standardized by total assets at end of year *t*-1, $D\Delta NI$ is a categorical variable that assumes a value of 1 when ΔNI is negative and 0 otherwise. When

β_3 is negative, there is a greater tendency to reverse negative earnings news over positive earnings news (conditional conservatism). This model was adopted to include the effect of tax aggressiveness as shown in equation 4:

$$\Delta NI_{i,t} = \beta_0 + \beta_1 D\Delta NI_{i,t-1} + \beta_2 \Delta NI_{i,t-1} + \beta_3 D\Delta NI_{i,t-1} \times \Delta NI_{i,t-1} + \beta_4 AGGR_{i,t} + \beta_5 D\Delta NI_{i,t-1} \times \Delta NI_{i,t-1} \times AGGR_{i,t} + \varepsilon$$

in which AGGR comprises the ETR measure of tax aggressiveness. In this model, when β_5 is negative, there is evidence that the tendency to reverse negative earnings news is positively associated with tax aggressiveness. In this case, the research hypothesis is corroborated.

Table 2 summarizes the information presented in this subsection, pointing out the name and initials used for each variable used, the calculation method, and the authors who have already used this metric in previous studies.

Table 2
Characteristics of main variables

Variable	Initials	Calculation method	Author
Earnings	EARN	Income before extraordinary items standardized by the market value of equity	Basu (1997)
Stock returns	RET	Stock return of the last nine months of year t and the first three months of the following year	Basu (1997)
Dummy for negative stock returns	NEG	Categorical variable that assumes a value of 1 when Ret is negative and 0 otherwise	Basu (1997)
Net income variation	ΔNI	Change in earnings from year t-1 to year t, standardized by total assets at end of year t-1	Ball and Shivakumar (2005), Basu (1997)
Dummy for negative net income variation	$D\Delta NI$	Categorical variable that assumes value 1 when ΔNI is negative and 0 otherwise	Ball and Shivakumar (2005), Basu (1997)
Tax aggressiveness	AGGR	(Total tax expense on profit/profit before tax) $\times (-1)$	Chiachio and Martinez (2019)
Tax aggressiveness	AGGR	Average ETR in the previous five years multiplied by -1	Chiachio and Martinez (2019)
Size	SIZE	Natural logarithm of the market value of equity	Khan and Watts (2009)
Market-to-book	MTB	Market value of equity divided by the book value of equity	Khan and Watts (2009)
Leverage	LEV	Debt divided by market value of equity	Khan and Watts (2009)

Source: Elaborated by the authors.

4. ANALYSIS AND DISCUSSION OF RESULTS

4.1 Analysis of Results

First, the statistics of the variables used to analyze the relationship between conservatism and tax aggressiveness should be presented. Then, Table 3 shows the descriptive analysis of the variables used in the primary regression model.

Table 3
Descriptive statistics of the model variables

Variable	Min.	1st Quartil	Median	Mean	3rd Quartil	Max.	Std-Dev
Sample model 1							
EARN	-67.7311	0.0129	0.0599	-0.2389	0.1137	15.4012	2.8331
RET	-0.9282	-0.2181	0.0141	0.0925	0.3008	6.6667	0.5462
NEG	0.0000	0.0000	0.0000	0.4865	1.0000	1.0000	0.5000
AGGR	-322.0488	-0.3299	-0.2476	-0.7384	-0.1323	0.0000	9.1692
Sample model 2							
ΔNI	-401.7430	-0.0260	0.0020	6.7350	0.0240	17,444.0000	344.0550
$D\Delta NI$	0.0000	0.0000	0.0000	0.4318	1.0000	1.0000	0.4954
AGGR	-97.6607	-0.3302	-0.2430	-0.4330	-0.1046	0.0000	2.7732

Table 3

Cont.

Variable	Min.	1st Quartil	Median	Mean	3rd Quartil	Max.	Std-Dev
Controls							
SIZE	14.1300	20.0400	21.7200	21.3500	22.7800	26.7300	2.1672
MTB	-47.9499	0.7877	1.5106	2.4401	2.9320	129.2460	5.3800
LEV	0.0000	0.1448	0.4548	2.1043	1.0798	267.1186	11.0431

Source: Elaborated by the authors.

The mean and median of EARN and Δ NI (dependent variables of both models) are quite different because of outliers' influence, as can be noticed in the minimums and maximums. This observation also helps to explain the higher standard deviation of some variables (MTB and LEV). The mean of AGGR differs substantially between samples due to the influence of outliers in each sample. This difference is perceptible, noticing that the median is not affected by outliers.

The tax-aggressiveness measure is negative because it was multiplied by -1. The mean of ETR, which measures tax aggressiveness, is higher than the Brazilian statutory tax rate (34%), but the median is lower. This indicates that most firms have an ETR smaller than the statutory tax rate, but few firms with very high ETR values are increasing the mean. Furthermore, descriptive statistics show that most

firms have good news in both sample models. The mean of stock returns dummy (NEG) shows that 48.72% (51.28%) of the stock returns was negative (positive). The mean of earnings variation dummy (D Δ NI) indicates that 43.18% (56.82%) of the earnings variation was negative (positive).

Figure 1 is presented to compare conditional conservatism between the different degrees of tax aggressiveness. First, it is worth noting the asymmetric behavior of the curves that represent the relation between earnings and stock returns. We identified the most (red lines) and least (blue lines) tax-aggressive firms and plotted their respective asymmetric curves. The earnings-news asymmetry is visually more pronounced in tax-aggressive firms. The higher the asymmetry between lines of the same color, the more sensitive earnings are to bad news over good news, indicating a higher degree of conservatism.

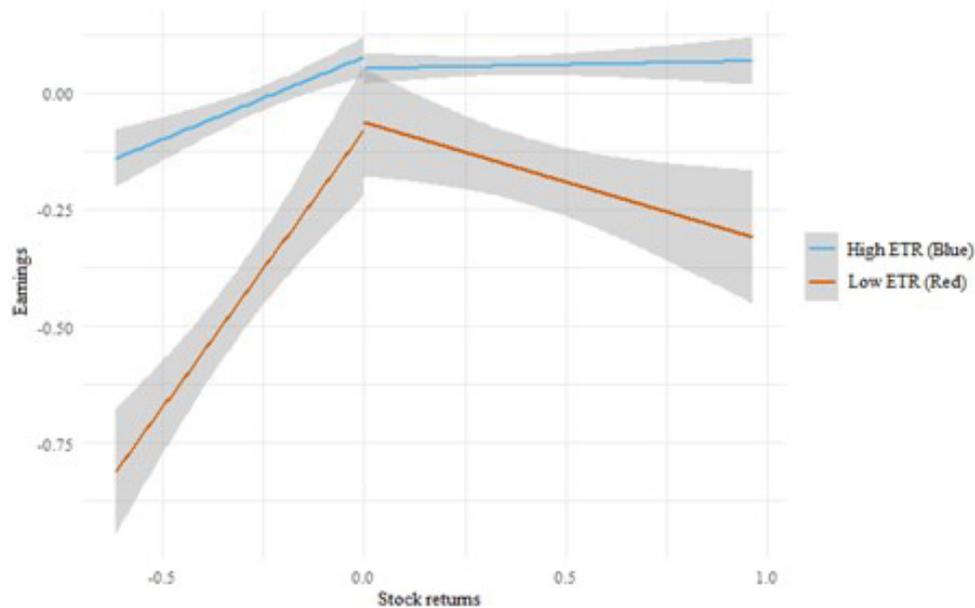


Figure 1 Earnings versus stock returns by levels of tax aggressiveness in Brazil

Note: Figure adapted from Basu (1997), controlling for both high and low effective tax rate (ETRs), shows the asymmetric relationship between earnings and stock returns (a proxy for good or bad news).

Source: Elaborated by the authors.

Equation 2 was used to test the effects of tax aggressiveness on conditional conservatism. We estimated the regression parameters controlling for time and firm-fixed effects,

testing for homoscedasticity, no-serial-autocorrelation, and cross-sectional independence assumption to examine whether the conventional standard errors could be used to

make accurate inferences. The normality test indicates that the residuals have no normal distribution. However, based on the central limit theorem, a bigger sample distribution (more

than 30) tends to be normal regardless of the population distribution, and it is more evident as the sample count increases. The diagnostics tests are presented in Table 4.

Table 4

Testing the assumptions of linear regression

Test	Null hypothesis	p-value		
		model 1 (ETR)	model 1 (ETRLONG)	model 2 (ETR)
Studentized Breusch-Pagan	Homoscedasticity	0.0317**	0.0000***	0.0000***
Breusch-Godfrey/Wooldridge	No-serial-autocorrelation	0.0000***	0.0004***	0.0000***
Pesaran CD	Cross-sectional independence	0.0000***	0.0000***	0.8439
Shapiro test	Normality	0.0000***	0.0000***	0.0000***

***, **, * = significant at 1, 5, and 10% level, respectively.

Source: Elaborated by the authors.

We also test for multicollinearity in the variables of each model through the variance inflator factor (VIF), and the results is presented in Table 5.

Table 5

Variance inflator factor (VIF)

Variables	VIF		
	Model 1 (ETR)	Model 1 (ETRLONG)	Model 2 (ETR)
RET	3.74448	3.64912	–
NEG	2.79673	2.75306	–
RET*NEG	4.48507	5.61034	–
AGGR	1.73194	1.66619	–
RET*NEG*AGGR	2.92766	3.95424	–
SIZE	1.25754	1.31842	–
MTB	1.02975	1.06368	–
LEV	1.10171	1.16403	–
Δ NI	–	–	3.39120
D Δ NI	–	–	1.76570
Δ NI*D Δ NI	–	–	3.39642
AGGR	–	–	1.39846
Δ NI*D Δ NI*AGGR	–	–	1.68351

Source: Elaborated by the authors.

As can be seen in Table 5, except for RET*NEG in the second column, none of the factors are above 5, indicating that multicollinearity is not a problem for the inference test. RET*NEG is above 5, but interaction terms tend to present high VIF and a multicollinearity illusion that does not imply any problem regarding the inferences (Disatnik & Silva, 2016).

We corrected standard errors to address the assumption violations presented in Table 4. We also conducted a

winsorization to deal with highly influential outliers that could significantly affect statistical results. Descriptive analyses of the variables before and after winsorization are presented in Appendix A. The estimated parameters are shown in Table 6. In addition, the ETR and ETR long run were used as tax-aggressiveness metrics, alerting to the fact that the long-run variable required more observations for its estimation and reducing the number of observations in the analysis.

Table 6
Basu model with tax aggressiveness

Variables	AGGR = ETR × (-1)				AGGR = ETRLONG × (-1)			
	Coef.	p-value	Coef.	p-value	Coef.	p-value	Coef.	p-value
RET	-0.0185	0.7262	-0.0182	0.6901	0.0715	0.0009***	0.0454	0.0159**
NEG	-0.0089	0.7741	-0.0194	0.3358	0.0237	0.2698	0.0291	0.1475
RET × NEG	0.3423	0.0089***	0.0804	0.3377	0.0469	0.5294	-0.0592	0.4278
AGGR	-0.2779	0.0022***	-0.3067	0.0028***	-0.2199	0.0045***	-0.1939	0.0285**
RET × NEG × AGGR	0.5219	0.0035***	0.3128	0.0102**	0.0443	0.8726	-0.0404	0.8253
SIZE	–	–	0.1855	0.0000***	–	–	0.1727834	0.0000***
MTB	–	–	0.0014	0.1918	–	–	0.0013452	0.4961
LEV	–	–	-0.0051	0.0542*	–	–	-0.011003	0.0091***
R ²	0.0426		0.1590		0.0094		0.1222	
F-Statistic (p-value)	0.0000		0.0000		0.1152		0.0000	
Joint F test ($\beta_3 + \beta_5 = 0$)	0.1738		0.0348		0.9910		0.7436	
Joint F test ($\beta_1 + \beta_3 + \beta_5 = 0$)	0.1431		0.0263		0.9263		0.8937	
Fixed effect (Firm)	Yes		Yes		Yes		Yes	
Fixed effect (Period)	Yes		Yes		Yes		Yes	
Obs.	1443				1175			

Note: With the exception of the NEG variable, all other variables were winsorized at 5% to deal with the effect of outliers. The standard errors are robust to heteroskedasticity, serial autocorrelation and cross-sectional dependence.

***, **, * = significant at 1, 5, and 10% level, respectively.

Source: Elaborated by the authors.

In the analysis of the results presented in Table 6, the variable RET*NEG evidences the accounting conservatism when it comes to bad news – considering the positive and significant coefficient. This result illustrates the differential timeliness of bad *versus* good news. However, the result does not show the same pattern when the dynamic variable long-term aggressiveness is used. Furthermore, after controlling for size, market-to-book ratio, and leverage, the RET*NEG parameter is not significant.

When we evaluate the variable RET*NEG*AGGR, we notice that its coefficient is positive, indicating that tax-aggressive firms present higher differential timeliness of bad *versus* good news. This finding confirms our research hypothesis that tax aggressiveness is positively associated with conditional conservatism. The results at the long-term ETR level were not significant, conflicting with our research hypothesis. The contemporaneous dimension of conditional conservatism may explain the conflicting result when analyzing the tax aggressiveness in a long-run perspective.

We also conducted a joint F test with the moderating effects in the model. We test whether the sum of the coefficients of the interaction terms are equal to 0, which is our null hypothesis. Without controlling for SIZE, MTB, and LEV, joint F test indicates that conditional conservatism is not present in the overall sample ($\beta_3 + \beta_5$; $p > 0.05$). However, after controlling for the aforementioned variables, conditional conservatism is present across all

levels of tax aggressiveness ($\beta_3 + \beta_5$; $p < 0.05$). Similarly, the second joint F test indicates that conditional conservatism increases with tax aggressiveness only after controlling for SIZE, MTB, and LEV ($\beta_1 + \beta_3 + \beta_5$; $p < 0.05$). All joint F tests are not significant for the long-term measure of tax aggressiveness, agreeing with the results of the isolated interaction terms. Thus, the tax-aggressiveness profile was analyzed in more detail and how it related to the degree of conservatism estimated by the Basu model.

In Table 7, dummies were presented to control for different levels of tax aggressiveness, focusing in particular on those firms that have a more pronounced level of tax aggressiveness, respectively, below the first quartile in the ETR distribution, below the median ETR (0.2476), and with an ETR of 34%.

The variables of interest to verify how tax aggressiveness influences the relationship are the interaction variables RET × NEG × AGGR_Dum. From an appreciation of the statistics, these variables in the three cases examined proved to be significant. The interpretation is that in the group of tax-aggressive firms, timelier recognition of bad news over good news is more pronounced than in the group of non-tax-aggressive firms. These results well documented what was already evident in Figure 1. When we face firms with a higher tax-aggressiveness profile, the degree of conditional conservatism is significantly increased.

Table 7
Basu model with dummy variables for tax aggressiveness

Variables	(Dummy = 1 for ETR < 1 st Quar)				(Dummy = 1 for ETR < Median)				(Dummy = 1 for ETR < 34%)			
	Coef.	SD	t	p-value	Coef.	SD	t	p-value	Coef.	SD	t	p-value
RET	-0.0311	0.0538	-0.5777	0.5636	-0.0283	0.0562	-0.5039	0.6144	-0.0272	0.0568	-0.4798	0.6315
DM	-0.0101	0.0298	-0.3391	0.7346	-0.0139	0.0339	-0.4099	0.6819	-0.0083	0.0290	-0.2874	0.7739
RET × NEG	0.1043	0.0946	1.1033	0.2701	0.0525	0.0955	0.5496	0.5827	-0.1454	0.1473	-0.9869	0.3239
ETR	-0.2030	0.0684	-2.9674	0.0031***	-0.0513	0.0293	-1.7507	0.0803*	-0.0418	0.0331	-1.2611	0.2075
RET × NEG × AGGR_DUM	0.2489	0.1416	1.7581	0.0790*	0.2876	0.0991	2.9020	0.0038***	0.4893	0.1846	2.6499	0.0082***
R ²		0.0544				0.0196				0.0292		
F-Statistic (p-value)		0.0000				0.0002				0.0000		
Fixed (Firm)		Yes				Yes				Yes		
Fixed effect (Period)		Yes				Yes				Yes		
Obs.		1,443				1,443				1,443		

Note: The standard errors are robust to heteroskedasticity, serial autocorrelation and cross-sectional dependence. SD = standard deviation.

***, **, * = significant at 1, 5, and 10% level, respectively.

Source: Elaborated by the authors.

The analyzed models corroborate the hypothesis that there will be a tendency toward a higher conditional conservatism, typically defined by goodwill impairment loss, impairment loss of long-term assets, and inventory recorded at a lower cost for tax-aggressive firms. The results are highly revealing and identify a possible determinant

of a firm's degree of accounting conservatism, namely its degree of tax aggressiveness.

We tested the robustness of the results through the Basu serial dependence model and found the following outcome, as shown in Table 8.

Table 8
Basu serial dependence model with tax aggressiveness

Variables	AGGR = ETR × (-1)			
	Coef.	SD	t	p-value
ΔNI	-0.2280	0.0681	-3.3498	0.0008***
DΔNI	-0.0065	0.0033	-1.9596	0.0502*
ΔNI × DΔNI	-0.1454	0.1184	-1.2277	0.2197
AGGR	0.0046	0.0124	0.3697	0.7117***
ΔNI × DΔNI × AGGR	-0.5300	0.1770	-1.9104	0.0562*
R ²	0.0728			
F-statistic (p-value)	0.0000			
Fixed effect (firm)	Yes			
Fixed effect (period)	Yes			
Obs.	2,573			

Note: With the exception of the DΔNI variable, all other variables were winsorized at 5% to deal with the effect of outliers. The standard errors are robust to heteroskedasticity and serial autocorrelation.

SD = standard deviation.

***, **, * = significant at 1, 5, and 10% level, respectively.

Source: Elaborated by the authors.

Table 8 presents the equation 4 estimation. The serial dependence model captures the tendency of reversion when previous earnings variation indicates a negative earnings news. Hence, the coefficient associated with $\Delta NI \times D\Delta NI$, when negative, suggests that negative earnings tend to revert in the subsequent periods. In our sample, this coefficient is not statistically significant, implying that there is no conditional conservatism in the overall sample after controlling for tax aggressiveness.

We interact tax aggressiveness with $\Delta NI \times D\Delta NI$ to test the moderating effect of tax aggressiveness on conditional conservatism. Thus, the coefficient associated with $\Delta NI \times D\Delta NI \times AGGR$ tests our research hypothesis. This coefficient is negative and statistically significant, confirming our hypothesis that tax aggressiveness is positively associated with conditional conservatism. The negative coefficient implies that the greater the tax aggressiveness, the higher the tendency of reversion of negative earnings news over positive earnings news.

4.2 Discussion

Prior literature has documented an association between tax costs and an unconditional form of conservatism rather than a conditional one (Kim & Jung, 2007; Qiang, 2007). It is argued that most accounting choices that yield conditional conservatism in financial statements are not deductible for tax purposes (e.g., assets write-off). Nevertheless, we show there is a positive association between conditional conservatism and tax aggressiveness in the Brazilian context, which can be associated with two main explanations.

First, the well-known accounting choices that lead to conditional conservatism (e.g., impairment losses) are not the only ways to enable conditional conservatism. Moreover, international research demonstrates that the overall degree of timely loss recognition in Brazil is low (Ball et al., 2008). If the practice of conditional conservatism in Brazil comes from tax-deductible alternatives of reducing earnings, tax planning could affect the degree of conditional conservatism in financial reporting (Qiang, 2007).

5. CONCLUSION

Conservatism is defined as choosing accounting policies that result in the understatement of the book value of net assets relative to their market value (Beaver & Ryan, 2005). Conservatism attempts to choose between accepted accounting methods for slower revenues recognition and earlier expenses recognition, decreasing the book value

Second, conditional conservatism is a consequence of news recognition through the accounting system (Basu, 1997). Hence, firms could respond to news similarly in the accounting system and tax planning. Hanlon and Slemrod (2009) document that the market can perceive corporate tax aggressiveness as bad news. Conditional conservative firms would recognize this bad news in a timely manner, which would explain our results. This finding is consistent with Heltzer (2009), who shows that tax income is conservative as well as book income, and Jiménez-Angueira et al. (2021), who find tax planning that comes from UTBs affects firms' value through its effect on conservative practices.

Previous literature has documented some consequences of tax aggressiveness on financial reporting in the Brazilian context (Ramos & Martinez, 2018; Rodrigues & Martinez, 2018; Santos et al., 2019). Most of this evidence suggests that tax-aggressive practices are associated with poor financial reporting quality. Ramos and Martinez (2018) find that tax aggressiveness increases the likelihood of restatements. Rodrigues and Martinez (2018) show that more tax-aggressive firms take longer to report earnings. However, our evidence extends this literature by showing a different perspective. Considering conditional conservatism as indicative of high quality financial reporting (Iatridis, 2011), we evidence a benefit of tax aggressiveness practice for accounting information. On the other hand, considering conditional conservatism as a property that decreases earnings usefulness for valuation matters (Ruch & Taylor, 2015), our results are consistent with Santos et al. (2019), who demonstrate that tax-aggressive firms provide less value-relevant information.

Nevertheless, our second measure of tax aggressiveness (long-run ETR) did not confirm our research hypothesis. Long-run ETR captures tax aggressiveness in a long-run perspective, whereas conditional conservatism results from earnings responses to contemporaneous news (Basu, 1997; Beaver & Ryan, 2005). Hence, this finding indicates that the relationship between conditional conservatism and tax aggressiveness is present only on a contemporaneous basis.

of assets and increasing the book value of liabilities. It is undeniable that conservatism has always been a favorite topic of discussion in international accounting academia, and in Brazil, it has been no different.

In this article, we have reviewed accounting conservatism, emphasizing various worthy studies that

have examined accounting conservatism in Brazil, both in terms of its determinants and effects. The literature has grown significantly, and substantial contributions have been documented. However, a gap was found in discussing accounting conservatism and its interface with tax-aggressiveness profile. Hence, this research contributes to this specific unexplored point, establishing a relationship between conservatism accounting choice and tax avoidance practices.

The research findings show a positive relationship between tax aggressiveness and conditional conservatism, confirming the established hypothesis. This result implies that tax planning is related to financial statements and that decisions about tax income are not disconnected from book income, as would be expected in a neutrality view. Our results challenge the neutrality perspective established in Law n. 11.638, of December 28, 2007, and extend the literature about tax-aggressiveness consequences and the determinants of conditional conservatism in the Brazilian context. They are also relevant to financial reporting users that seek to assess tax planning's impact on financial reporting properties and improve their ability

to compare earnings from different firms and better evaluate firms' performance.

This investigation presented as a limitation the difficulty of access to the database and the restrictions of the Basu model, which allow conditional conservatism to be measured. New metrics of tax aggressiveness could be used in addition to ETR, possibly giving more robustness to the results, particularly measures that contemplate different types of ETR metrics, as adopted in the study of Chiachio and Martinez (2019).

Future research should advance the analysis of the relationship between taxation and accounting conservatism. It is recommended that the nature of conditional conservatism and tax be appreciated in further detail. Accounting practice indicates that Brazilian firms prefer goodwill amortization, impairment loss of long-lived assets, and inventory recorded lower in cost and market. The eccentric tax treatment of provisions and contingent liabilities may also be a conservative justification. It is necessary to explore the incentives that may prompt a tax motivation to reduce financial earnings, despite the presumably adverse effects in the financial market.

REFERENCES

- Almeida, J. C. G. de, Scalzer, R. S., & Costa, F. M. da (2008). Níveis diferenciados de governança corporativa e grau de conservadorismo: estudo empírico em companhias abertas listadas na Bovespa. *Revista de Contabilidade e Organizações*, 2(2), 118-131. <https://doi.org/10.11606/rco.v2i2.34709>
- Alves, J. S., & Martinez, A. L. (2014). Efeitos da adoção das IFRS no conservadorismo contábil das sociedades de grande porte. *Advances in Scientific and Applied Accounting*, 7(2), 224-243. <http://dx.doi.org/10.14392/asaa.2014070203>
- Ball, R., & Shivakumar, L. (2005). Earnings quality in UK private firms: Comparative loss recognition timeliness. *Journal of Accounting and Economics*, 39(1), 83-128. <https://doi.org/10.1016/j.jacceco.2004.04.001>
- Ball, R., Kothari, S. P., & Nikolaev, V. V. (2013). Econometrics of the Basu asymmetric timeliness coefficient and accounting conservatism. *Journal of Accounting Research*, 51(5), 1071-1097. <https://doi.org/10.1111/1475-679X.12026>
- Ball, R., Kothari, S. P., & Robin, A. (2000). The effect of international institutional factors on properties of accounting earnings. *Journal of Accounting and Economics*, 29(1), 1-51. [https://doi.org/10.1016/S0165-4101\(00\)00012-4](https://doi.org/10.1016/S0165-4101(00)00012-4)
- Ball, R., Robin, A., & Sadka, G. (2008). Is financial reporting shaped by equity markets or by debt markets? An international study of timeliness and conservatism. *Review of Accounting Studies*, 13(2-3), 168-205. <http://dx.doi.org/10.1007/s11142-007-9064-x>
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173.
- Basu, S. (1997). The conservatism principle and the asymmetric timeliness of earnings. *Journal of Accounting and Economics, Properties of Accounting Earnings*, 24(1), 3-37. [https://doi.org/10.1016/S0165-4101\(97\)00014-1](https://doi.org/10.1016/S0165-4101(97)00014-1)
- Beaver, W. H., & Ryan, S. G. (2005). Conditional and unconditional conservatism: Concepts and modeling. *Review of Accounting Studies*, 10(2), 269-309. <http://dx.doi.org/10.1007/s11142-005-1532-6>
- Blaylock, B., Gaertner, F., & Shevlin, T. (2015). The association between book-tax conformity and earnings management. *Review of Accounting Studies*, 20(1), 141-172. <https://doi.org/10.1007/s11142-014-9291-x>
- Bornemann, T. (2018). Tax avoidance and accounting conservatism. *WU International Taxation Research Paper Series 4*. <https://dx.doi.org/10.2139/ssrn.3114054>
- Brown, W. D., He, H., & Teitel, K. (2006). Conditional conservatism and the value relevance of accounting earnings: An international study. *European Accounting Review*, 15(4), 605-626. <https://doi.org/10.1080/09638180601102198>
- Campos, G. M., Sarlo, A., Neto, & Almeida, J. E. F. (2010). A influência da tributação no grau de conservadorismo das empresas. *Sociedade, Contabilidade e Gestão*, 5(2), 39-51. https://doi.org/10.21446/scg_ufrj.v5i2.13201

- Chiachio, V. F. O., & Martinez, A. L. (2019). Efeitos do modelo de Fleuriet e índices de liquidez na agressividade tributária. *Revista de Administração Contemporânea*, 23(2), 160-181. <https://doi.org/10.1590/1982-7849rac2019180234>
- Coelho, A. C. D., & Lima, I. S. (2013). Segmentos de governança Bovespa: diferenças nos graus de conservadorismo condicional na divulgação de resultados contábeis. *ASAA-Advances in Scientific and Applied Accounting*, 1(1), 17-32.
- Coelho, A. C. D., Cia, J. N. de S., & Lima, I. S. (2010). Conservadorismo condicional na divulgação de lucros em companhias abertas brasileiras: diferenças entre emissoras e não emissoras de ADR'S e sistemas contábeis. *Revista de Administração Mackenzie*, 11(1). <https://doi.org/10.1590/S1678-69712010000100006>
- Coelho, A. C., & Lima, I. S. (2007). Information quality and conservatism in accounting earnings published in Brazil. *Revista Contabilidade & Finanças*, 18(45), 38-49. <https://doi.org/10.1590/S1519-70772007000400004>
- Coelho, W. E., Nascimento, E. M., & Valadares, J. P. D. A. (2019). O impacto das restrições financeiras na prática do conservadorismo contábil: um estudo de 2012 a 2016. *Revista Mineira de Contabilidade*, 20(1), 19-33. <https://doi.org/10.21714/2446-9114RMC2019v20n1t02>
- Costa, R. A. D., Costa, F. M. D., Baptista, É. C. S., & Antunes, G. A. (2010). O impacto da regulação no conservadorismo das empresas brasileiras listadas na BM&FBOVESPA. *Journal of Accounting, Management and Governance*, 12(3).
- Degenhart, L., Beckhauser, S. P. R., & Klann, R. C. (2018). Remuneração de executivos e conservadorismo condicional de empresas brasileiras. *Revista Contabilidade, Gestão e Governança*, 21(2), 160-177. https://doi.org/10.51341/1984-3925_2018v21n2a1
- Demonier, G. B., Almeida, J. E. F. de, & Bortolon, P. M. (2015). O impacto das restrições financeiras na prática do conservadorismo contábil. *Revista Brasileira de Gestão de Negócios-RBGN*, 17(57), 1264-1278. <https://doi.org/10.21714/2446-9114RMC2019v20n1t02>
- Disatnik, D., & Sivan, L. (2016). The multicollinearity illusion in moderated regression analysis. *Marketing Letters*, 27(2), 403-408. <https://doi.org/10.1007/s11002-014-9339-5>
- Duarte, J. M. S., Almeida Lima, L. V. de, Paulo, E., & Mota, R. H. G. (2019). Efeitos do conservadorismo condicional decorrente da crise econômica sobre o investimento das companhias abertas brasileiras. *Revista Catarinense da Ciência Contábil*, 18, 1-14. <https://doi.org/10.16930/2237-766220192774>
- García Lara, J. M., García Osma, B., & Penalva, F. (2009a). Accounting conservatism and corporate governance. *Review of Accounting Studies*, 14(1), 161-201. <https://doi.org/10.1007/s11142-007-9060-1>
- García Lara, J. M., García Osma, B., & Penalva, F. (2009b). The economic determinants of conditional conservatism. *Journal of Business Finance & Accounting*, 36(3-4), 336-372. <https://doi.org/10.1111/j.1468-5957.2008.02122.x>
- García Lara, J. M., García Osma, B., & Penalva, F. (2011). Conditional conservatism and cost of capital. *Review of Accounting Studies*, 16(2), 247-271. <http://dx.doi.org/10.1007/s11142-010-9133-4>
- García Lara, J. M., García Osma, B., & Penalva, F. (2014). Information consequences of accounting conservatism. *European Accounting Review*, 23(2), 173-198. <https://doi.org/10.1080/09638180.2014.882263>
- García Lara, J. M., Torres, J. A. R., & Veira, P. J. V. (2008). Conservatism of earnings reported under International Accounting Standards: A comparative study. *Spanish Journal of Finance and Accounting/Revista Española de Financiación y Contabilidad*, 37(138), 197-210. <https://doi.org/10.1080/02102412.2008.10779642>
- Gloria, H. S., & Costa, F. M. da (2018). A relação entre conservadorismo contábil e sustentabilidade: uma análise das companhias listadas na BM&FBOVESPA. *ConTexto*, 18(38).
- Hanlon, M., & Slemrod, J. (2009). What does tax aggressiveness signal? Evidence from stock price reactions to news about tax shelter involvement. *Journal of Public Economics*, 93(1-2), 126-141. <http://dx.doi.org/10.2139/ssrn.975252>
- Hellman, N. (2008). Accounting conservatism under IFRS. *Accounting in Europe*, 5(2), 71-100. <https://doi.org/10.1080/17449480802510492>
- Heltzer, W. (2009). Conservatism and book-tax differences. *Journal of Accounting, Auditing & Finance*, 24(3), 469-504. <https://doi.org/10.1177/0148558X0902400307>
- Iatridis, G. E. (2011). Accounting disclosures, accounting quality and conditional and unconditional conservatism. *International Review of Financial Analysis*, 20(2), 88-102. <https://doi.org/10.1016/j.irfa.2011.02.013>
- Jiménez-Angueira, C. E., Nwaeze, E., & Park, S. J. (2021). The effect of conservative financial reporting and tax aggressiveness on the market valuation of unrecognized tax benefits. *Asian Review of Accounting*, 29(2), 150-172. <https://doi.org/10.1108/ARA-07-2020-0111>
- Khan, M., & Watts, R. L. (2009). Estimation and empirical properties of a firm-year measure of accounting conservatism. *Journal of Accounting and Economics*, 48(2-3), 132-150. <https://doi.org/10.1016/j.jacceco.2009.08.002>
- Kim, B., & Jung, K. (2007). *The influence of tax costs on accounting conservatism* [Working Paper]. KAIST College of Business.
- Law 11.638, of December 28, 2007. (2007, December 28). Altera e revoga dispositivos da Lei nº 6.404, de 15 de dezembro de 1976, e da Lei nº 6.385, de 7 de dezembro de 1976, e estende às sociedades de grande porte disposições relativas à elaboração e divulgação de demonstrações financeiras. http://www.planalto.gov.br/ccivil_03/_ato2007-2010/2007/lei/111638.htm
- Li, X. (2015). Accounting conservatism and the cost of capital: An international analysis. *Journal of Business Finance & Accounting*, 42(5-6), 555-582. <https://doi.org/10.1111/jbfa.12121>

- Marques, L., Gonçalves, M., & Klann, R. C. (2017). Conservadorismo contábil: uma comparação entre setores. *Revista Contabilidade e Controladoria*, 9(3), 129-142. <http://dx.doi.org/10.5380/rcc.v9i3.51123>
- Martinez, A. L. (2017). Agressividade tributária: um survey da literatura. *Revista de Educação e Pesquisa em Contabilidade*, 11[número especial], 106-124. <https://doi.org/10.17524/repec.v11i0.1724>
- Martinez, A. L., & Cerize, N. M. F. (2020). A Influência da estrutura de controle na agressividade tributária corporativa. *Enfoque Reflexão Contábil*, 39(2), 153-163. <https://doi.org/10.4025/enfoque.v39i2.43978>
- Martinez, A. L., & da Silva, R. F. (2017). Agressividade fiscal e o custo de capital de terceiros no Brasil. *Revista de Gestão, Finanças e Contabilidade*, 7(1), 240-251. <https://doi.org/10.18028/rgfc.v7i1.2904>
- Martinez, A. L., & Silva, R. (2018). Restrição financeira e agressividade fiscal nas empresas brasileiras de capital aberto. *Advances in Scientific and Applied Accounting*, 11(3), 448-463. <http://orcid.org/0000-0003-3746-8945>
- Martinez, A. L., Lessa, R. C., & Moraes, A. J. (2014). Remuneração dos auditores perante a agressividade tributária e governança corporativa no Brasil. *Revista Contabilidade e Controladoria*, 6(3), 8-18. <http://dx.doi.org/10.5380/rcc.v6i3.34593>
- Martinez, A. L., Telles, H. S., & Chiachio, V. (2020). Corporate electoral donations and tax aggressiveness. *RAUSP Management Journal*, 55(3), 325-333. <https://doi.org/10.1108/RAUSP-01-2019-0012>
- Melo, I. I. S. L. de; Cavalcante, P. R. N., & Paulo, E. (2013). Relação entre qualidade da auditoria e conservadorismo contábil nas empresas brasileiras. *Revista de Educação e Pesquisa em Contabilidade (REPeC)*, 7(3), 305-327. <https://doi.org/10.17524/repec.v7i3.984>
- Moreira, R. de L., Colauto, R. D., & Amaral, H. F. (2010). Conservadorismo condicional: estudo a partir de variáveis econômicas. *Revista Contabilidade & Finanças*, 21(54), 64-84. <https://doi.org/10.1590/S1519-70772010000300006>
- Paulo, E., Antunes, M. T. P., & Formigoni, H. (2008). Conservadorismo contábil nas companhias abertas e fechadas brasileiras. *Revista de Administração de Empresas*, 48(3), 46-60. <https://doi.org/10.1590/S0034-75902008000300005>
- Paulo, I. I. S. L. M., Cavalcante, P. R. N., & Paulo, E. (2013). Relação entre qualidade da auditoria e conservadorismo contábil nas empresas brasileiras. *Revista de Educação e Pesquisa em Contabilidade (REPeC)*, 7(3), 305-327. <https://doi.org/10.17524/repec.v7i3.984>
- Qiang, X. (2007). The effects of contracting, litigation, regulation, and tax costs on conditional and unconditional conservatism: Cross-sectional evidence at the firm level. *The Accounting Review*, 82(3), 759-796. <http://dx.doi.org/10.2139/ssrn.927090>
- Queiroz, J. M., Rodrigues, A., da Silva Macedo, M. A., & Szuster, N. (2020). Análise dos efeitos dos instrumentos financeiros no conservadorismo contábil em bancos brasileiros. *Revista Contemporânea de Contabilidade*, 17(44), 3-16. <https://doi.org/10.5007/2175-8069.2020v17n44p3>
- Ramos, M. C., & Martinez, A. L. (2018). Agressividade tributária e o refazimento das demonstrações financeiras nas empresas brasileiras listadas na B3. *Pensar Contábil*, 20(72), 4-15.
- Rezende, G. P., & Nakao, S. H. (2012). Gerenciamento de resultados e a relação com o lucro tributável das empresas brasileiras de capital aberto. *Revista Universo Contábil*, 8(1), 6-21. <http://dx.doi.org/10.4270/ruc.20128>
- Rodrigues, M. A., & Martinez, A. L. (2018). Demora na publicação das demonstrações contábeis e a agressividade fiscal. *Pensar Contábil*, 20(71), 14-23.
- Ruch, G. W., & Taylor, G. (2015). Accounting conservatism: A review of the literature. *Journal of Accounting Literature*, 34, 17-38. <https://doi.org/10.1016/j.acclit.2015.02.001>
- Sampaio, T. C. Q., Coelho, A. C., & Holanda, A. P. (2015). Adoção de conservadorismo nos lucros em períodos de crise financeira: evidências no Brasil. *Enfoque: Reflexão Contábil*, 34(1), 71-86. <https://doi.org/10.4025/enfoque.v34i1.24922>
- Santiago, J. S., Cavalcante, P. R. N., & Paulo, E. (2015). Análise da persistência e conservadorismo no processo de convergência internacional nas empresas de capital aberto do setor de construção no Brasil. *Revista Universo Contábil*, 11(2), 174-195. <https://dx.doi.org/10.4270/ruc.2015217>
- Santos, D. C. D., Guimarães, G. O. M., & Macedo, M. A. D. S. (2019). Gerenciamento tributário e qualidade da informação contábil: análise do impacto da agressividade tributária na capacidade informacional do lucro para o mercado brasileiro de capitais. *Pensar Contábil*, 21(74), 3-10.
- Santos, L. P. G. dos, Lima, G. A. S. F. de, Freitas, S. C. de, & Lima, I. S. (2011). Efeito da Lei 11.638/07 sobre o conservadorismo condicional das empresas listadas BM&FBOVESPA. *Revista Contabilidade & Finanças*, 22(56), 174-188. <https://doi.org/10.1590/S1519-70772011000200004>
- Sarlo, A. Neto, Rodrigues, A., & Almeida, J. E. F. de (2010). Concentração de votos e acordo de acionistas: influências sobre o conservadorismo. *Revista Contabilidade & Finanças*, 21(54), 6-22. <https://doi.org/10.1590/S1519-70772010000300002>
- Scalzer, R. S., Beiruth, A. X., & Reina, D. (2017). Empresas estatais e conservadorismo contábil: uma análise das empresas da BM&F Bovespa. *REAd. Revista Eletrônica de Administração* (Porto Alegre), 23(2), 333-350. <https://doi.org/10.1590/1413.2311.076.62934>
- Silva, A. D., Ganz, A. S., Rohenkohl, L. B., & Klann, R. C. (2019). Conservadorismo contábil em empresas complexas. *Revista Contabilidade & Finanças*, 30(79), 42-57. <https://doi.org/10.1590/1808-057x201806530>
- Sousa, E. F. de, Sousa, A. de, & Demonier, G. B. (2016). Adoção das IFRS no Brasil: efeitos no conservadorismo contábil. *Revista de Educação e Pesquisa em Contabilidade*, 10(2), 136-147. <https://doi.org/10.17524/repec.v10i2.1290>

- Tang, T. Y. (2015). Does book-tax conformity deter opportunistic book and tax reporting? An international analysis. *European Accounting Review*, 24(3), 441-469. <https://doi.org/10.1080/09638180.2014.932297>
- Vale, J. P. S. D., & Nakao, S. H. (2017). Conservadorismo incondicional nas companhias abertas brasileiras e o contexto da neutralidade tributária. *Revista Contabilidade & Finanças*, 28(74), 197-212. <https://doi.org/10.1590/1808-057x201702450>
- Watts, R. L. (2003). Conservatism in accounting part I: Explanations and implications. *Accounting Horizons*, 17(3), 207-221. <http://dx.doi.org/10.2308/acch.2003.17.3.207>
- Watts, R. L., & Zimmerman, J. L. (1986). *Positive accounting theory*. Prentice-Hall.
- Zhong, Y., & Li, W. (2017). Accounting conservatism: A literature review. *Australian Accounting Review*, 27(2), 195-213. <https://doi.org/10.1111/auar.12107>

APPENDIX

Descriptive analysis of the winsorized variables

Variable	Min.	1st quartile	Median	Mean	3rd quartile	Max.	SD
Sample model 1							
EARN	-2.5016	0.0129	0.0599	-0.0545	0.1137	0.2502	0.4937
RET	-0.6148	-0.2181	0.0141	0.0613	0.3008	0.9657	0.3963
AGGR	-0.8677	-0.3299	-0.2476	-0.2677	-0.1323	-0.0033	0.2034
Sample model 2							
ΔNI	-0.2311	-0.0261	0.0020	-0.0067	0.0240	0.1481	0.0783
AGGR	-0.7347	-0.3302	-0.2430	-0.2460	-0.1046	0.0000	0.1854

Note: All main continuous variables were winsorized at 5% to mitigate outliers' influence.
SD = standard deviation.

Source: Elaborated by the authors.