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Tax Aggressiveness as a Determining Factor of Accounting Conservatism in Brazil

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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); ii) corporate governance; iii) accounting laws and regulations; and iv) tax rules. The first three are already widely examined in the accounting literature, including in Brazil.

Traditionally, conservative accounting is defined by the parable that you do not anticipate any profits in advance. But you predict and record all losses in advance. It is possible to define conservatism as the choice and continued accounting practices that lead to less than net reporting of corporate assets. In the balance sheet, it attempts to understate assets or report liabilities more realistically. Therefore conservatism is defined as choosing accounting policies in a state of ambiguity that results in the least amount of assets and revenues and the most negligible positive effect on equity. Conservatism attempts to choose between accepted accounting methods for slower revenue recognition and earlier cost recognition, and lower asset valuation or debt overvaluation.

Since taxable profit in the Brazilian model depends on accounting profits, it is undeniable that accounting practices influence taxable gain. 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 company is profitable, with taxable income and favorable interest rates, these relationships motivate companies to reduce their recognition of financial assets due to delayed recognition. This situation is similar to entering into average contracts makes the company's net assets undervalued. The tax incentive for conservative accounting is the missing link in understanding financial accounting and tax accounting studies.

The increase in accounting conservatism may be due to the growing need for firms to reduce the cost of taxation. Therefore, this paper investigates whether the degree of tax aggressiveness is a determinant of accounting conservatism in Brazil. Furthermore, this study examines that maybe the conservative accounting of the companies listed in the Brazilian Stock Exchange is partly explained by tax aggressiveness purposes. To test methodologically, the Basu model was adopted, adapted with tax aggressiveness controls. In addition, the effective tax rate was used as a tax aggressiveness metric, controlling firms with high effective tax rates and low effective tax rates. The study period was from 2010 to 2019 for Brazilian firms from B3. The findings show a significant relationship between tax avoidance and conditional accounting conservatism. That is, more tax-aggressive firms tend to use more conservative accounting.

In the following parts, after a conceptual discussion of accounting conservatism, differentiating conditional and unconditional conservativeness, and a thorough literature review on accounting conservatism by Brazilian academia. A literature gap was found since the relationship between a company's degree of tax aggressiveness and its accounting conservatism behavior was not previously investigated. The relevance of the research is presented as the taxable income has a dependent relationship with the accounting income in the Brazilian corporate income tax system. One way to reduce the corporate tax base is to adopt conservative accounting choices. The study offers a possible partial explanation to accounting conservatism based on tax issues.

2. Literature review

2.1 Accounting conservatism

Accounting conservatism is traditionally defined as a tendency, in accounting measurement, never to anticipate gains but to anticipate all losses (Bliss, 1924). Although in this sense, not expecting gains means recognizing them only after the existence of the legal right or its verifiability, conservatism does not guarantee that the recognized revenues will be received, but rather, that the amount realized is verifiable (Watts, 2003). In this sense, Watts and Zimmerman (1986) define conservatism as reporting the lowest possible value among alternative options for measuring assets and the highest potential value among alternative options for measuring liabilities. In the empirical literature, conservatism is also defined as the tendency to require a higher degree of verifiability to recognize good news as a profit than to recognize bad news as a loss (Basu, 1997).

From these definitions, the literature divides conservatism into two main types: (1) unconditional conservatism and (2) conditional conservatism. The first difference between these two forms of conservatism is that the application of conditional conservatism depends on new economic events, while the application of unconditional conservatism does not (Ruch & Taylor, 2015). That is, while the former is associated with practices that record assets at lower values and liabilities at higher values since their insertion (ex-ante), failing to recognize an expected gain; the latter is associated with practices that allow revaluing assets and liabilities (ex-post) and therefore respond more intensely to adverse economic circumstances than to favorable financial circumstances (Beaver & Ryan, 2005). Box 1 exemplifies practices of the two forms of conservatism:

Box 1- Examples of accounting conservatism

Types of Conservatism	Some examples
Conditional Conservatism	*Goodwill* impairment loss
	Impairment loss of long-lived asset
	Inventory recorded at the lower of cost and market
	Contingent gain and loss asymmetry
Unconditional Conservatism	Accelerated depreciation methods
	R&D Expenses
	Advertising Expenses
	LIFO Inventory
	Reserves accumulated above expected future costs (for example, allowance for doubtful accounts, guarantee provision)

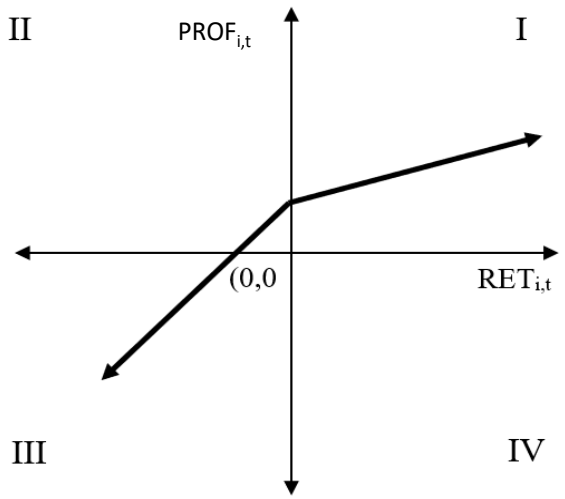
Source: Adapted from Ruchand and Taylor (2015)

According to Ruchand and Taylor (2015), it is crucial to distinguish conditional conservatism from unconditional conservatism for three reasons. First, the different types of conservatism have other effects on financial information. For example, applying an unconditionally conservative accounting policy generally produces a relatively consistent impact on earnings from period to period. On the other hand, conditional conservatism has a more transient effect on earnings due to market fluctuations over time due to economic news. Secondly, the application of one type of conservatism can affect the application of the other. For example, Beaver and Ryan (2005) found that the unconditional type creates an

"accounting slack" that can preempt the conditional application. Finally, the conditions that increase the forms of conservatism differ. For example, Qiang (2007) found conditional conservatism increases when contract and litigation costs are high, while unconditional increases when litigation, regulatory, and tax costs are high.

Most research, however, has focused on conditional conservatism. According to Beaver and Ryan (2005), the increased interest in this type of conservatism may be associated with the notion that conditional conservatism carries more information about uncertain events and, therefore, better explains aspects of hiring and *valuation*. Empirical research on conditional conservatism started from Basu's (1997) model, which uses stock returns to *proxy* for the good or bad news. Basu found that earnings are more sensitive to unexpected negative returns than incredible positive returns, as measured by the slope coefficient and R^2 from a 'reverse' regression of earnings on returns. With this, in the sample used by the author, earnings sensitivity to negative returns was evidenced to be six times greater than earnings sensitivity to positive returns.

Figure 1 - Relationship between earnings and returns



Note: Figure taken from the work of Basu (1997) where the author demonstrates the asymmetric relationship between earnings and stock returns (a proxy for good or bad news). Where quadrant I contain the observations with positive returns and earnings. Quadrant II contains statements with negative returns and positive earnings. Quadrant III contains the observations with negative returns and earnings. Quadrant IV contains the statements with positive returns and negative earnings.
Source: Basu (1997)

2.2 Accounting conservatism in Brazil

In Brazil, research on conditional conservatism may present different results from the context of companies that operate in more developed markets. Ball, Robin, and Sadka (2008), analyzing 22 countries, estimated the coefficient of the level of conditional conservatism (β3 of Basu's (1997) model) for the Brazilian market at 0.04. A value below almost all countries in the sample, which included the USA (0.28), UK (0.22), Chile (0.15), France (0.26), among others. In addition, research done in Brazil found no statistically significant relationship for

the conservatism coefficient of Basu's (1997) model (De Sousa, De Sousa, & Demonier, 2016; Dos Santos et al., 2011).

Despite the lack of evidence of conditional conservatism measured through stock returns in the Brazilian stock market, many studies document that some characteristics of the companies and the regulatory or economic context may direct the level of conservatism assumed by companies. Most research on conditional conservatism in Brazilian companies has dealt with identifying the determinants of the level of conservatism. However, there is a lack of researches focused on the role of taxation in conditional conservatism. Chart 2 presents a deep analysis of the leading academic research on conservatism in Brazil.

Chart 2 - Studies on conservatism developed in Brazil

Authors	Topic	Findings
Determinants of conservatism		
Paulo, Antunes & Formigoni (2008)	Investors demand	Private companies are less likely to recognize losses promptly and are less conservative in their financial statements than public companies.
De Sousa, De Sousa & Demonier (2016)	Normative change	There was no change in the degree of conservatism in the analyzed statements after adopting IFRS.
De Melo, Cavalcante & Paulo (2013)	Auditing	Accounting conservatism is positively affected by the size of the audit firm and negatively affected by the length of service provided by the auditors, and by the distance between the date of the opinion and the date of publication of the financial statements. It was also observed that variables such as audit committee, provision of non-audit services, the importance of the client to the audit firm, and audit specialization do not affect accounting conservatism.
Demonier, De Almeida & Bortolon (2015)	Financial Restrictions	Financially constrained firms adopt less conditional conservatism in their accounting numbers.
Dos Santos et al. (2011)	Normative change	For the sample analyzed, it is impossible to infer whether law 11.638/07 had any effect on the degree of asymmetric recognition of losses and gains.
Da Costa et al. (2010)	Regulation	The results obtained by the two conservatism models adapted to the three regulation dummies do not allow us to infer any impact.
Scalzer, Beiruth & Reina (2017)	Ownership Structure	State-owned companies are less conservative than other companies on the BM&F Bovespa. In contrast, companies with shares traded on the BM&F Bovespa do not recognize good news more quickly than bad news.
Moreira, Colauto & Amaral (2010)	Corporate Governance; Size; Market-to-book and Leverage	Smaller companies and companies classified in differentiated levels of corporate governance are more conservators. No evidence was found that market-to-book or leverage effect conditional conservatism.
De Almeida, Scalzer & Da Costa (2008)	Corporate Governance	The degree of conservatism used by companies that have differentiated levels of corporate governance (companies listed at Nível 1, Nível 2, or Novo Mercado) is higher than the degree used by the other companies listed on Bovespa, which do not have securities listed at such levels.

Marques, Gonçalves & Klann (2017)	Sector	It is not possible to accept the hypothesis that there are significant differences between the levels of conservatism of the different sectors.
Sarlo Neto, Rodrigues e Almeida (2010)	Ownership Structure	The concentration of votes contributes to decreasing the degree of conservatism, while, on the other hand, the shareholders' agreement contributes to increasing it. Alternatively, the results considering the year of the global crisis distort the operation of Basu's (1997) model.
Coelho, De Sales Cia & Lima (2010)	US market share	Conditional conservatism differs between the groups of companies issuing and not issuing ADRs (American Depositary Receipts).
Silva et al. (2019)	Complexity	Accounting conservatism varies with information asymmetry caused by complex environments. It can show a positive relationship in companies with few complexity characteristics or a negative relationship if the company has complexity in several attributes simultaneously.
Gloria & Da Costa (2018)	Sustainability	There is conservatism in Brazil, but it is impossible to state that the companies considered sustainable are more conservative than the others.
Sampaio, Coelho & Holanda (2015)	Financial Crisis	The research hypothesis of adoption of conservatism could not be accepted; however, 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 peak of the crisis.
Degenhart, Beckhauser & Klann (2018)	Executive compensation	Conditional conservatism measured by timely loss recognition as a proxy for good and bad news was affected by fixed and variable executive compensation.
Alves & Martinez (2014)	IFRS Adoption	There was no evidence of a change in the level of conservatism existing among the large companies that published their statements in the period studied.
Conservatism consequences		
Duarte et al. (2019)	Investment	Companies anticipate future losses in periods of local economic crisis by increasing the level of conservatism. However, this conservative behavior could not mitigate the effects of the problem, which negatively influenced the level of capital investments made by Brazilian companies. Additionally, it was observed that the most conservative companies significantly reduce their investments in crisis periods.
Brito e Martins (2013)	Cost of capital	No evidence was obtained of a statistically significant relation between conservatism measures and the interest rates of credit operations, confirming the research hypothesis.
Canton et al. (2019)	Cash Adjustment	The main results point out that the accounting conservatism is beneficial to the speed of cash adjustment, making the companies return more quickly to the ideal cash flow.

Source: Academic research in Conservatism on Brazil

The differences presented regarding the level of Brazilian conditional conservatism may be associated with the debt market (Ball, Robin, Sadka, 2008). Brazil is a country with a low overall credit supply when compared to developed economy countries. According to World Bank data, in 2018, Brazil had a private sector credit-to-GDP ratio of 61.8%, with the global average being 129.24%. According to Brito and Martins (2013), the Brazilian credit market is underdeveloped due to the low supply of long-term credit, in addition to high interest rates.

Ball, Kothari, & Robin (2000) extended Basu's (1997) findings to seven countries to verify institutional differences that influence the level of conservatism of companies. The authors found that in *common law* countries, the levels of conservatism are higher concerning those of Roman law (code law) because it 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, Torres, and Veira (2008) and Brown, He, and Teitel (2006) verified that conditional and unconditional conservatism could be influenced by the institutional differences associated with the market country where the companies 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 company management, in addition to differences between countries. Ball & Shivakumar (2006) argue that private companies present less conservative financial statements because they do not have the market demand for publicly traded companies' conservatism. 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 and increase the value of the company (Zhong & Li, 2017).

Auditors may also demand higher levels of conservatism as they are responsible, in part, for the reliability and verifiability of financial information (DeFond, Lim & Zang, 2015). Basu(1997) documents that conservatism increases during periods when litigation against auditors increases. Additionally, various research highlights that audit firms classified as *Big-Four* (the four largest audit firms) can influence conservatism levels in developed and emerging markets. However, this influence is mediated by corporate governance requirements and mechanisms that differ across companies and countries.

Another demand for more conservative financial reporting may arise from creditors. According to Jensen & Meckling (1976), the separation between ownership and management (origin of the agency problem) creates incentives for managers to transfer wealth from creditors to investors due to the informational advantage that the latter has over the former. In this way, debt holders are also affected by the agency problem and seek mechanisms to align their interests and alleviate the information asymmetry problem through the guarantees present in debt contracts linked to financial information (Zhong & Li, 2017). Conditional conservatism, therefore, as it plays an essential role in the variations of the market value of companies, especially in periods when companies intend to raise funds, acts as a mechanism to facilitate access to this type of capital, allowing companies to incur lower adjustment costs if they need to adjust their capital structure by issuing shares.

2.3 Accounting conservatism and tax aggressiveness

Companies have different incentives to measure the accounting result conservatively. It has been evidenced that managers' decisions to increase the level of conservatism of accounting information are associated with a search for decreasing the costs of not meeting the needs of users who demand more outstanding timeliness in recognizing losses. Companies with higher levels of accounting conservatism face lower costs when raising funds with creditors and with investors (García Lara, García Osma & Penalva, 2011; Li, 2015). In addition, an increased level of accounting conservatism is associated with lower litigation risks and audit costs.

In tax perspective is vital in Brazil, Campos, Sarlo Neto & Almeida (2010), studying firm, concluded that the higher the provision for income tax and social contribution, the more conservative the firms tended to be. In this way, they argued that conservatism would be more prominent the higher the tax paid, i.e., one would adopt a conservative attitude to avoid paying additional or extra taxes. In this context, these prestigious authors recommended for future research identifying which tax aspects are directly related to the degree of conservatism of companies.

From accounting practice, it can be said that companies try to behave conservatively and use accounting conservatively to save on their tax costs. The tax incentive to practice conservative accounting is desirable, especially when we see a growing suspicion that large companies are paying fewer taxes. However, some studies have shown that the practice of tax aggressiveness has been recurring (Martinez, 2017). All of this raises the question of whether tax aggressiveness is a factor that affects conservative accounting. Is it or is it not? This article seeks empirical evidence on whether income tax is a factor in performance Accounting is conservative or not? In other words, tax incentives and conservatism are examined in this article. To test the tax incentive of conservatism, one of the most important steps is to select the appropriate criteria and models to measure conservatism.

The taxation on profits can be an essential motivator for the increase in accounting conservatism. The timeliness in recognizing losses can reduce the tax cost in the short term. Companies 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).

Accounting conservatism, however, may result from previously determined or standardized accounting policies, which do not depend on the financial information of the period (unconditional); or it may occur due to financial information, in this case, is characterized by asymmetry in the accounting recognition of positive and negative information (conditional). This differentiation has been relevant considering that one type of conservatism may differ from the demands for the other type (Beaver & Ryan, 2005). Furthermore, the level of unconditional conservatism may limit the application of conditional conservatism.

In the context where disclosed accounting information results from different incentives to how accounting results are measured, Shackelford & Shevlin (2001) argue that tax planning can influence accounting information by creating an incentive to understate results measurement. Qiang, X. (2007) evidence that companies that apply unconditional conservatism reduce their tax costs. However, this evidence was not found in the Brazilian stock market (Vale & Nakao, 2017). Conditional conservatism, on the other hand, can also be a strategy to reduce tax costs. Thus, tax aggressiveness may represent an essential incentive to conditional conservatism (Martinez, Telles & Chiachio, 2020).

The accounting literature shows that many companies tend to minimize their taxes with different solutions; Conservatism is one of the policies that companies can use to reduce their pre-tax profit. However, as long as the company is profitable and has a taxable income, it has an incentive to defer its earnings, thus reducing the present value of taxes paid. These firms can reduce their taxes by using more conservatism; therefore, it is expected that there is a positive and significant relationship between effective tax rates and conservative accounting. One of the factors that influence conservative incentives is the cost of taxation, which is examined in this study. Therefore, there should be a positive and significant relationship between tax accounting and conservative accounting. In addition, there is a positive and meaningful relationship between diagnostic tax and conservative accounting.

3. Methodology

To select the companies that comprised the sample for the tests of this study, we used the Brazilian publicly traded companies listed on B3, covering the period from 2010 to 2019. The initial period was chosen because, during 2010 and 2011, several CPC pronouncements were revised; thus, as of 2011, these revisions would already be reflected in the financial statements. The final period chosen was because it was the most current one in which the companies' financial statements were available.

Following the same procedures adopted by Martinez & Silva (2018), financial companies with pre-tax losses and those that did not have the necessary data to compute the variables used in the analyses were eliminated. Table 1 shows the process of formation and composition of the sample.

Table 1. Number of Companies in the Study

Nº of firms collected from Economática	638
(-) Closed firms	228
(-) Banks	27
(-) Insurance firms	5
(-) Stock Market firm	1
(-) Firms that closed the balance sheet on dates other than December 31	4
(-) Missing data	136
Nº of firms used in the sample	237

Basu's (1997) model will be used to test the relationship between tax aggressiveness and conservatism, which measures the level of conditional conservatism with an adaptation to verify the moderating effect of tax aggressiveness. According to Basu (1997), conservatism consists of the asymmetry between the recognition of positive economic information (*good news*) and negative information (*bad news*). Thus, Basu's model uses a categorical variable to capture the asymmetry in the relationship between accounting earnings and economic data, where the information is measured through stock returns between financial statements disclosure as follows:

$$EARN_{i,t} = \beta_0 + \beta_1 Ret_{i,t} + \beta_2 Neg_{i,t} + \beta_3 Ret_{i,t} \times Neg_{i,t} + \varepsilon \qquad \text{Eq. (1)}$$

The variable EARN is the income before extraordinary items divided by the market value of equity of firm i in year t. Ret is similar to 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 value 1 when Ret is negative and 0 otherwise. When the β_3 parameter is positive, negative stock returns (a proxy for measuring negative economic information) are absorbed more quickly by the accounting result. Thus, the sample companies are, on average, conservative in estimating accounting information.

Basu's (1997) model was adapted to test the effect of tax aggressiveness on conditional conservatism. Thus, the whole model should test the effect of tax aggressiveness in the estimation of the β_3 parameter, thus testing its moderating effect on the model as follows:

$$EARN_{i,t} = \beta_0 + \beta_1 Ret_{i,t} + \beta_2 Neg_{i,t} + \beta_3 Ret_{i,t} \times Neg_{i,t} + \beta_4 ETR_{i,t} + \beta_5 Ret_{i,t} \times Neg_{i,t} \times ETR_{i,t} + \varepsilon$$

Eq. (2)

Where the effective tax rate (ETR) is calculated as Total Tax Expense on Profit / Profit before Tax (ETR), which is the most widely used metric to indicate the degree of aggressiveness. Thus, a low ETR means that a company does tax planning more aggressively than companies with a higher ETR. Another relevant metric is the long-run ETR (long-run effective tax rate). This metric is attractive compared to the standard GAAP effective tax rate disclosed in the company's financial statements. This dynamic measure of tax aggressiveness is timely for researchers interested in documenting variation in tax aggressiveness activity, without the need to focus solely on a limited, static, single-period set of transactions. (Chiachio & Martinez, 2019).

4. Analysis and discussion of results

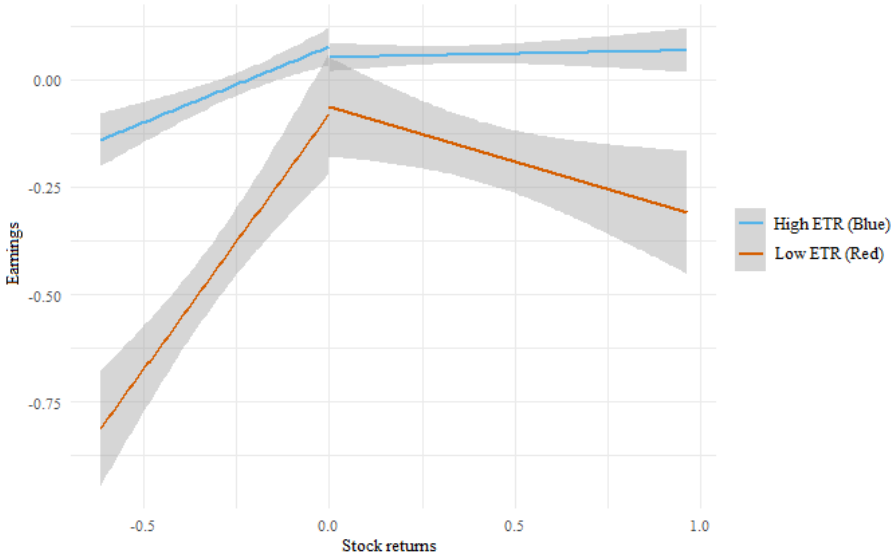
First, the statistics of the variables used to analyze the relationship between conservatism and tax aggressiveness should be presented. Then, Table **2** shows the descriptive analysis of the variables used in the primary regression model divided into two groups.

Table 2: Descriptive Statistics of the Model Variables

Variables	Min	1º Quar.	Median	Average	3º Quar.	Max	Std-Dev
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
ETR	0.0000	0.1323	0.2476	0.7384	0.3299	322.0488	9.1692

In Figure 2, it is worth noting the asymmetric behavior of the curves that represent the relation between earnings and returns. One can notice that when classified by quartiles of ETR, identifying the most tax aggressive companies (low ETR, red). The difference in accounting treatment is striking less tax aggressive companies (high ETR, blue). The most tax aggressive companies present a visually greater conservatism than those companies. The higher the asymmetry, the more sensitive earnings are to company stock returns, indicating a higher degree of conservatism, especially in negative return scenarios. The drop in earnings is more pronounced and significant.

Figure 2: Earnings versus Returns by Levels of ETR in Brazil



Note: Figure adapted from Basu (1997) controlling for High ETR and Low ETR where we can see the asymmetric relationship between earnings and stock returns (a proxy for good or bad news).
Source: 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 and tested for homoscedasticity, no-serial-autocorrelation, and cross-sectional independence assumption to examine if the conventional standard errors could be used to make accurate inferences. The diagnostics tests are presented in Table 3.

Table 3: Testing the assumptions of linear regression

Test	Null hypothesis	p-value (1)	p-value (2)
studentized Breusch-Pagan	Homoscedasticity	0.0317**	0.0000***
Breusch-Godfrey/Wooldridge	No-serial-autocorrelation	0.0000***	0.0004***
Pesaran CD	Cross-sectional independence	0.0000***	0.0000***

Note: ***, **, *. Significant at 1%, 5%, and 10% level, respectively. (1) model with tax agressiveness measured by ETR variable. (2) model with agressiveness measured by ETRLONG variable

We corrected standard errors to address the assumption violations presented in table 3. We also conducted a winsorization to deal with very influential outliers that could create a disproportionate effect on statistical results. Boxplots of the variables before and after winsorization are presented in Appendix A. The estimated parameters are shown in table 4. In addition, the ETR and ETR Long run aggressiveness metrics were used, alerting that the long-run variable needed more observations for its estimation and reduced the number of statements in the analysis.

Table 4: Basu Model with Tax Aggressiveness

Variables	AGGR = ETR				AGGR = ETRLONG			
	Coef.	Std-Dev	t	p-value	Coef.	Std-Dev	t	p-value
Ret	-0.0185	0.0528	-0.3503	0.7262	0.0715	0.0215	3.3229	0.0009 ***
Neg	-0.0089	0.0309	-0.2871	0.7741	0.0237	0.0215	1.1042	0.2698
Ret × Neg	0.3423	0.1306	2.6207	0.0089 ***	0.0469	0.0745	0.6291	0.5294
AGGR	0.2779	0.0906	3.0685	0.0022 ***	0.2199	0.0772	2.8475	0.0045 ***
Ret × Neg × AGGR	-0.5219	0.1782	-2.9286	0.0035 ***	-0.0443	0.2758	-0.1605	0.8726
R^2	0.0426				0.0094			
F-Statistic (p-value)	0.0000				0.1152			
Fixed Effect (Firm)	yes				yes			
Fixed Effect (Period)	yes				yes			
Obs.	1443				1175			

Note: ***, **, *. Significant at 1%, 5%, and 10% level, respectively. 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.

In the analysis of the table results, the variable Ret*Neg evidences the accounting conservatism when it comes to bad news—considering the positive and significant coefficient. However, when the dynamic variable long-term aggressiveness is used, the result does not show the same pattern. Probably the aggressiveness response appears more as a response to contemporaneous negative returns, having a concomitant effect on conservatism.

Where the added variable ETR measures the effect of aggressiveness on conservatism through the parameter β_5. As the variable ETR measures tax aggressiveness in the opposite direction, that is, the higher the value of ETR, the lower is tax aggressiveness, it is expected that the estimated value for the coefficient β_5 is expected to be negative and statistically significant, given the research hypothesis.

When we evaluate the variable Ret*Neg*AGGR, we notice that in the most tax aggressive companies, therefore with lower ETR we will have a much smaller attenuating effect, in other terms in the less tax aggressive companies, with higher ETR, the results point to a smaller conservatism. The results at the long-term ETR level were not significant. It is now time to analyze the tax aggressiveness profile in more detail and how it affects the degree of conservatism estimated by Basu's model.

In the model presented in Table 5, tax aggressiveness dummies were presented to control for different levels of tax aggressiveness, focusing in particular on those companies 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 below an ETR of 34%.

The variables of interest to verify how the level of tax aggressiveness influences the relationship are the interaction variables Ret×Neg×Aggr_Dum. From the appreciation of the statistics, these variables in the three cases examined proved to be significant. The interpretation is that when we face negative news and a more pronounced level of tax aggressiveness, earnings per share are more pronounced; that is, the companies are more conservative. With these results, it is well documented what was already evident in Figure 2. When we are facing companies with a higher tax aggressiveness profile, the degree of conditional conservatism is significantly increased.

Table 5: Basu Model with Dummy variables for Tax Aggressiveness

Variables	(Dummy = 1 for ETR < 1º Quar)				(Dummy = 1 for ETR < Median)				(Dummy = 1 for ETR < 34%)			
	Coef.	Std-Dev	t	p-value	Coef.	Std-Dev	t	p-value	Coef.	Std-dev	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
Neg	-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 (Período)	yes				yes				yes			
Obs.	1443				1443				1443			

Note: ***, **, *. Significant at 1%, 5% and 10% level, respectively. The standard errors are robust to heteroskedasticity, serial autocorrelation and cross-sectional dependence.

The two models analyzed corroborate the central hypothesis of the study that in the context of more tax aggressive companies, there will be a more marked tendency towards the conditional conservatism that is traditionally defined by Goodwill impairment loss, impairment loss of long-lived asset, inventory recorded at the lower of cost and market and contingent gain and loss asymmetry. The results are very revealing and identify a possible determinant of a firm's degree of accounting conservatism, namely its degree of tax aggressiveness.

5. Conclusion

Conservatism is defined by choosing accounting policies that result in the least amount of assets and revenues and the most negligible positive effect on equity. Conservatism attempts to choose between accepted accounting methods for slower revenue recognition and earlier cost recognition, and lower asset valuation or debt overvaluation. Undeniable, 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 significant contributions have been documented. However, a gap was found in discussing the accounting conservatism theme and its interface with its tax aggressiveness profile. So this research tried to contribute to this specific unexplored point, establishing a link between conservativism accounting choice and tax avoidance practices.

The taxation on corporate profits can be an essential motivator for the increase in accounting conservatism. The timeliness in recognizing losses can reduce the tax burden in the short term. Companies that foresee a possible tax burden in the future are willing to use accounting conservatism to postpone the accounting gains, differing the taxation to later periods of the reduced current tax burden.

The research findings show that there is a significant relationship between tax avoidance and conservatism. They may explain the choice of the conservative pattern to avoid the tax burden; therefore, the results of this investigation show a difference between the degree of conservatism depending on the firm's tax aggressiveness profile. It was documented that conservatism is positively and significantly correlated with the degree of firms' tax aggressiveness. In other words, it was established that firms with high effective tax rates are less likely to use conditional conservatism and vice versa. Companies with higher effective tax rates are less inclined to use conservatism.

The results provide insights that firms with higher effective tax rates are less inclined to use conservatism. The choice of a conservative accounting pattern may be in part to avoid the tax burden; therefore, this outcome states evidence that there is a difference between the degree of conservatism depending on the firm's tax aggressiveness profile.

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

Future research should advance the study of the relationship between taxation and accounting conservatism. It is recommended that the nature of conditional conservatism and tax be appreciated in more 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 used as conservative justification. It is necessary to explore the incentives that may prompt a tax motivation to reduce financial earnings, even though the presumably adverse effects in the financial market.

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Appendix A

All continuous variables were winsorized at 5% to mitigate outliers influence. The boxplot of this transformation are presented bellow.