The Effect of Corporate Diversification on Tax Aggressiveness in Brazilian Companies

ABSTRACT

Objective: To verify whether firms that operate in several different business sectors are more tax aggressive in comparison to firms that operate in a single or a few segments.

Method: The study analyzes a sample of firms listed in the Brazilian stock exchange B3 in the period from 2010 to 2017. To verify the existence of a relationship between diversification and tax aggressiveness, a data panel regression model with fixed effect of company and year was used and additionally the logit model. To measure tax aggressiveness, it was used ETR (effective rate of taxation) and ETR long (long-run effective tax rates).

Originality/relevance: This type of research is unprecedented in Brazil, being a point not yet explored in the literature, in view of its peculiarities of a developing country. Relevant to define the effect of diversification on tax aggressiveness.

Results: It was observed that the more companies are diversified, the lower the probability of having low tax aggressiveness, or that more diversified companies are more likely to be more aggressive, compared to companies with only one segment. Therefore, the results indicate that among companies with segments, the more segments, the more aggressive the company.

Theoretical/Methodological contributions: A better understanding of the phenomenon of tax aggressiveness, causes and determinants, having implications for financial statement users, in particular tax regulators.

Keywords: Tax aggressiveness; Corporate diversification; Single-segment.

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1 INTRODUCTION

Many studies on tax aggressiveness seek to demonstrate tax savings related to this approach. The number of studies has increased as a reflex of the need and interest of managers. According to Bird & Karolyi (2017), these studies search for new sources of data, improvements in measures to prevent abusive tax planning, and increasing tax savings. For Hanlon and Heitzman (2010), research on tax aggressiveness is essential in a context where government raises the tax burden and closes the tax gaps.

Tax aggressiveness is also related to the companies' features, such as whether a company operates in only one business, or it is a diversified company, operating in a variety of different business (Zheng, 2017). Diversified operations involve global and economic situations that can affect returns, share gains, and the firm's tax liabilities. Lang and Stulz (1994), Berger and Ofek (1995), and Servaes (1996) reinforce the concept of diversified companies as those that report operations in more than one business segment, adding that this feature affects the firm's value. It is important to stress that, in terms of transparency, data presented per segment must convey the segmentation of the company's activities, that is, each unit that composes its operations.

According to Ettredge et al. (2006), the variation of segments can encourage and conceal differences regarding the costs of ownership, reporting gains as dispersed in different lines of business. It is convenient for diversified companies to adopt tax aggressive practices, such as transfer pricing among different segments and regions, where it is possible to observe the determinants of tax evasion (Zheng, 2017). Thus, a different tax burden in each region motivates the transfer pricing between divisions of the same group (Grunow, Beuren, & Hein, 2010).

 Given the scenario and considering that this is a point being developed in Brazilian literature, this research's question is: what is the relationship between corporate diversification and tax aggressiveness in the Brazilian context? This study aims to identify whether tax aggressiveness is related to the level of corporate diversification in Brazilian publicly traded companies.

The relatively recent changes in Brazilian tax law (particularly regarding the conformity between accounting and taxable income), represent an excellent platform to explore these issues, nationally and internationally (Martinez, 2017). It is expected that more diversified Brazilian companies are more tax aggressive when compared to less diversified ones.

The research works on a sample formed with companies listed in the Brazilian stock exchange B3 in the period from 2010 to 2017 since in 2010 the Accounting Pronouncement Committee (CPC 22) made it mandatory for firms to disclose information by the segment they operate. Financial companies were excluded due to the different taxation and accounting methods. Initially, the effect of corporate diversification on tax aggressiveness was measured, adjusted to Brazilian context and estimating a regression of aggressiveness in the characteristics of the company, according to Zheng's (2017).

This research is particularly important since its results provide data to understand corporate diversification and its characteristics in the perspective of tax aggressiveness. Also, the study offers subsidies to help investors to evaluate the effect of diversification regarding

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information disclosure, due to the mandatory disclosure imposed by CPC 22 mentioned before. Finally, this research contributes to the national literature since there are still few studies connecting diversification and tax aggressiveness in Brazil.

2 THEORETICAL FRAMEWORK

This section presents a review of the most important concepts and contributions of the literature related to tax aggressiveness and corporate diversification, seeking to support the concepts adopted in this research.

2.1 Tax Aggressiveness

The growing interest in tax aggressiveness and planning is related to needs from the field, as the organizations need guidance in their decision-making processes and they are subject to pressure from the tax authorities (Guenther, Matsunga, & Williams, 2017).

As taxes do not represent the only cost of a company's operation, it is recommended to observe all the opportunities involved in the business. For Calijuri (2009), tax planning should observe more than tax reduction, seeking to contribute to the firm's profit maximization and growing value.

According to Vello and Martinez (2014), the issue of taxation and tax planning involve factors that help to reduce explicit taxes, as long as they are applied within the practices of corporate governance. Scholes et al. (2015) corroborate, stating that efficient tax planning triggers a set of actions promoting the reduction of explicit taxes, preventing other costs or taxes with marginal effects that are superior to the reductions achieved, thus generating greater tax efficiency.

For Torres (2001), the tax aggressiveness aims for legitimate tax economy, based on preventive techniques. In addition to being useful to reduce costs, it is essential for the strategic decisions of any corporation (Klassen, Lisowsky, & Mescall, 2016).

For Hanlon and Heitzman (2010), activities and actions toward tax reduction help to determine tax aggressiveness. According to Chen et al. (2010), a peculiarity of tax aggressiveness is the reduction of taxable profit through the use of tax planning. However, according to Lopo Martinez, Ribeiro, and Funchal (2019), tax planning and aggressiveness are used by legal means to reduce the tax burden of companies, aiming to increase their market value.

Tax planning is related to several areas of economic and financial studies. In Brazil, evidence of this relationship can be observed in several studies. Martinez and Silva (2017) investigated the impact of tax aggressiveness on the cost of third-party capital of Brazilian companies, to observe the risk borrowers assumed from the tax planning perspective. The authors found that less tax-aggressive companies assume a higher cost of debt. Also, Martinez et al. (2014) identify that companies with a higher level of tax aggressiveness tend to better remunerate independent auditors.

The results of some international research related to tax aggressiveness and corporate behavior is shown in Table 1:

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Table 1
Examples of Tax Aggressiveness Research

Title	Results	Author
Tax aggressiveness and accounting fraud	The study identifies that tax aggressive firms are less capable of manipulating financial statements	Lennox et al. (2013)
Tax aggressiveness and corporate transparency	The results suggest that aggressive tax planning increases the lack of transparency in the company's information environment	Balakrishnan et al. (2018)
The effect of the board of director's composition on corporate tax aggressiveness	The results of the study indicate that a higher proportion of external members in the firm's board of directors reduces the probability of tax aggressiveness	Lanis et al. (2011)
Corporate social responsibility and tax aggressiveness: An empirical analysis	Socially responsible firms tend to be less tax aggressive.	Lanis et al. (2012)

Tax aggressiveness seems to be an essential element to explain corporate decisions. In other words, based in Table 1, it is possible to see several situations the degree of tax aggressiveness plays a vital role to explain corporate behavior and actions.

2.2 Corporate Diversification

Several studies on corporate diversification, tax aggressiveness, and tax planning, indicate the need to investigate the implications of corporate diversification on tax aggressiveness in Brazil. In this sense, it is important to clarify the attributes related to diversified and single-segment companies. These characteristics include corporate governance, ownership structure, company characteristics, and investment decisions.

Ownership structure can be considered a relevant factor that influences tax obligations, and most diversified companies have a more complex organizational structure (Erickson and Wang, 2007). It is possible to see the connection among the peculiarities of the company and tax evasion through previous studies. Aggarwal and Samwic (2003) show the agency conflict between shareholders and managers, where managers diversify their companies to capture private benefits. The authors conclude that diversification is positively related to managerial incentives. May (1995) corroborate this result, explaining that managers work for companies' diversification aiming to obtain better careers and salaries.

According to the research by Denis et al. (1997), diversification is negatively related to managerial behavior and equity participation, which suggest that diversified companies have less-sophisticated corporate governance. For Zheng (2017), diversified companies engage in lower levels of aggressiveness when compared to single-segment companies. Also, these companies are less aggressive when they have less-sophisticated corporate governance. For Troberg, Kinnunen, and Seppänen (2010), diversified companies, because of operating in a variety of segments, activities, sectors, and countries, need to disclose their information in a segregated way for a better understanding of their results.

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Regarding the influence of ownership characteristics and structure, some studies show how this factor affects corporate tax aggressiveness. Shackelford and Shevlin (2001) emphasize the relevance of these determinants. The research by Motta and Martinez (2015) examined state-controlled companies in Brazil and the effects of this characteristic regarding tax aggressiveness. The authors observed that mixed-economy companies are less tax aggressive in comparison to other listed companies.

Funchal and Nicoli (2013) related the impact of corporate diversification with the equity structure of companies, concluding that diversification should not be used to increase financing capacity. However, Zheng (2017) points out that diversified companies have different ownership structures than single-segment companies. The author argues that this structure demands external and internal monitoring, which affects tax aggressiveness practices.

Zheng (2017) lists some monitoring measurement for internal and external control, such as institutional ownership, the concentration of institutional ownership, the number of institutional investors, and the number of financial analysts. Seeking to demonstrate whether less-sophisticated corporate governance induces diversification, the research by Hoechle et al. (2012) concluded that companies are less likely to diversity when their CEOs (Chief Executive Officers) own a higher percentage of shares, and when there are more independent board members.

When taking into account the differences between the characteristics of less and more diversified companies, tax aggressiveness and the level of tax planning may change. For Hanlon and Heitzman (2010), organizational aspects such as the firm's size and spending on research and development are items to consider analyzing. Bishop et al. (2009) identify the link between tax burden, economic sectors and the size of Brazilian companies, confirming that there is a variation of the tax burden in comparison to the firm's size.

Zheng's (2017) research provides evidence that diversified firms engage in less tax planning compared to single-segment companies, i.e., they tend to be less aggressive. However, it is reasonable to infer that, among companies operating in more than one segment, the more segments, the greater the opportunity for tax planning and allocation of revenues (expenses) in segments of lower (higher) taxation. Consequently, more diversification would imply more opportunities to reduce the effective tax rate.

Based on the literature presented in this section, considering the study by Zheng (2017), and observing the additional possibilities of tax planning among companies operating in more than one segment, the research hypothesis of this work relates tax aggressiveness and corporate diversification:

H1: more diversified companies are more tax aggressive.

3 METHODOLOGY

This is a study with quantitative characteristics, analyzing data and variables through statistical procedures (Creswell, 2010). The variables were defined based on the literature, particularly adapting the methodology adopted by Zhen (2017) to the reality in Brazil.

Firstly, we conducted multiple linear regression, using panel data. We also applied to the explanatory variable the linear probability *logit* regression model with binary response, as described by Wooldridge (2016), to confirm the results.

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The sample initially comprised all companies listed in the Brazilian stock exchange B3, between 2010 and 2017, totaling 657 companies. Excluding financial companies, due to the particularities regarding their taxation and accounting, the sample was reduced to 535 companies per year analyzed, which turns into 4,280 observations. Because of the applicability of the dependent variable ETR LONG and the control variables ROA and LEV, the research considered the period between 2008 and 2017, which allowed the appropriate calculations. Thus, the number of observations varies for each of the measurements of tax aggressiveness used, also due to the exclusion of companies/year where the information is missing, or there is no observation. The data collection was carried out in the database of Economática® for the period from 2010 to 2017.

The information to identify the number of operating segments was obtained from the B3 website, collected from the annual statements of each company through content analysis based on the criteria established in CPC 22. The primary information observed in the operationalization of the content analysis on the annual statements were: i) if the company discloses a specific note that indicates operations by segments, as required by the CPC 22; and ii) the number of segments disclosed.

Based on the requirements outlined in CPC 22 – in order to allow a better understanding of the economic, financial, geographic location, products, services, eternal users (CPC, 2009) – companies need to detail and publicize the business segments they operate. With the analysis of the information disclosed (individually), it was possible to identify that the companies analyzed were operating in up to seven segments in the period.

The data collected was organized and treated as a single database, analyzed as a fixed-effect panel. The companies that failed to disclose information for one year were excluded from the analysis for that year, and the observation was disregarded. In order to identify the relationship between diversification in Brazilian companies and tax aggressiveness, a multiple linear regression model was developed with fixed effect panel data of company–year, as proposed:

$$\text{Tax aggressiveness}_{it} = \beta_0 + \beta_1 D_{it} + \beta_2 D^* M_{it} + \beta \sum_{3}^{5} Controls_{it} + \varepsilon_{it}$$

Table 2 presents a description of the variables in the proposed model.

3.1 Measurement of Tax Aggressiveness

In this study, two measurements of tax aggressiveness were used as the dependent variable, the ETR (effective tax rate) and the ETR LONG (long-run effective tax rate) to provide robustness to the findings. The premise to identify aggression was to consider that the lower the ETR and the level of ETR LONG, the higher the tax aggressiveness, that is, the larger the number in the measurement adopted, the less aggressive the company (Martinez & Ramalho, 2014), According to Motta and Martinez (2015), the ETR measures the percentage of taxes on the companies' income and, therefore, the more aggressive the firms, the lower the ETR.

3.1.1 Effective tax rate – ETR

Scholes et al. (2015) define the effective tax rate (ETR) as the total tax paid divided by the pre-tax income (PTI), disregarding the implicit taxes. For Dunbar et al. (2010), the calculation of this measure must consider the sum of the expenses on the Brazilian taxes

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(income tax – IRPJ and social contribution on net income – CSLL), dividing the result by PTI.

Table 2

Classification of Variables

Code	Description	Measurement/Determination	Source	Author
		Dependent variables Tax aggressiveness $_{it}$		
ETR	*Effective Tax Rate*	Measurement formed by the total expense with the firm's income tax (IRPJ) and the Brazilian social contribution on net income (CSLL) in year *t*; divided by pre-tax income (PTI)	Economática	Dunbar et al. (2010)
ETR LONG	Long-run effective tax rate	Cash effective tax rate, established by the sum of the expenses with IRPJ and CSLL, divided by the sum of PTI. The variable captures the influence of the tax in the long-run (every 3 years) $Desp.IRPJ\&CSLL_t + Desp.IRPJ\&CSLL_{t-1} + Desp.IRPJ\&CSLL_{t-2} / PTI_t + PTI_{t-1} + PTI_{t-2}$	Economática	Hanlon and Heitzman (2010) Silva (2017)
		Independent variables of interest $\beta_1 D_{it} + \beta_2 D*M_{it}$		
D_{it}	Diversified firm	*Dummy* variable, assuming '1' for firms' that are listed in more than one segment in the sample (analyzed period), '0' for firms listed in only one segment	B3	Zheng (2017)
$D*M_{it}$	Diversified and multiple segments	Interaction variable, to control the number of relevant segments. It assumes values 2, 3, and so on (which varies according to the number of segments the firms' disclosed)	B3	Innovative proposal of the research
		Control variables		
SIZE	Firm's size	Firm's natural log of total assets	Economática	Lanis and Richardson (2011) Francis et al. (2014)
ROA	Return on assets	Operating income$_t$ divided by the previous year's assets	Economática	Armstrong et al. (2012)
LEV	Leverage	Measures leverage (using long term debt divided by the previous year's assets)	Economática	Armstrong et al. (2012)
EBIT/SALES	EBIT/Net operating income	Relationship between EBIT and sales	Economática	Lin et al. (2014)
CAPX/SALES	CAPX/Net operating income	Relationship between investment expenditure in the non-current assets and sales	Economática	Campa and Kedia (2002)
ε_{it}		Represents the error of the period "t"		
i		Number of firms		
t		Period		

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Therefore, the ETR is calculated by dividing the sum of IRPJ and CSLL by the PTI, a measure used to evaluate the real tax burden that a company pays.

Martinez and Dalfior (2016) show that the ETR is the effective rate used to examine the tax burden concretely and, if the percentage of taxes levied is higher than 34%, the companies are considered less tax aggressive in taxation. For Cabello (2012) the amount of tax paid by the company is considered a proxy for measuring the ETR and comparing it with the tax rate.

Therefore, in this study, the ETR is used to measure tax aggressiveness of diversified and single-segment companies.

3.1.2 Long-run effective tax rate – ETR LONG

Conceptually according to Hanlon and Heitzman (2010), the ETR LONG is the tax effectively paid in cash, and its calculation can be affected by tax deferral strategies. The ETR LONG is also used to measure the effect of taxes on companies in the long term, through an effective rate in three years.

According to Zheng (2017), it is a cash effective tax rate, measured by the total income taxes paid on a cash basis, divided by PTI. This concept is shared by Martinez and Silva (2017).

3.2 Measurement of Corporate Diversification

Zheng (2017) states that corporate diversification provides a wide field to identify the determinants of tax planning. This study examines the determinants of diversification influencing tax aggressiveness, particularly in the Brazilian context.

The effect of corporate diversification on tax aggressiveness will be measured by a *dummy* (D_{it}) variable that indicates whether the company is diversified or single-segment (D=1 for more than one segment and D=0 for only single-segment). The interaction variable ($D*M_{it}$) arises when the company is listed in more than one segment in (D_{it}) and aims to identify if the increase in the number of segments affects the tax aggressiveness, as well as seeking to capture the number of relevant segments the diversified companies operate.

3.3 Control Variables

The control variables in this study are measurements of the firm's value that influence tax aggressiveness, such as the firm's size (SIZE) (quite often in these kind of studies). For Lanis and Richardson (2011), firm's size influences the policy of tax aggressiveness, and larger companies have more capability to be more aggressive. Francis et al. (2014) argue that large companies can make more investments that can lead to higher tax aggressiveness. Therefore, the use of the firm's size as a control variable is well supported in previous studies.

The return on assets (ROA) is suggested for economic control of the return on investments in assets, as well as to measure the firm's tax aggressiveness (Armstrong et al., 2012). This is another variable we use as a control in this study.

The variable leverage (LEV) is used to measure the company's leverage. Francis et al. (2014), identified that the more leveraged, the less predisposed is the company to engage in tax planning activities, due to the advantages of debt financing. Armstrong et al. (2011), define leverage as the ratio of long-term debt divided by the assets of the previous year.

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The relationship between EBIT and total company sales is also included as a variable because it is essential for control, as observed in the study by Lins et al. (2014).

Finally, Campa and Kedia (2002) argue that, on average, diversified companies have higher CAPX/SALES and EBIT/SALES. Therefore, investment expenses in non-current assets can be considered an important control variable, and is also used in this study.

4 RESULTS

The data analyzed were collected from the database of Economática® and the Brazilian stock exchange B3 (*Brasil, Bolsa, Balcão*), in the period from 2010 to 2017.

When considering the information by sector presented in the software 'economatica,' (see Table 3), and after collecting the number of segments of each company/year on the stock exchange B3's website, it is observed that the companies disclosed to be operating in up to seven business segments in the analyzed period. The largest number of companies informed to be single-segment firms, followed by firms that operate in up to two segments from 2010 to 2017. It is important to highlight that the sector "other" (activities not mentioned in the other sectors) represents 31.31% of the sample.

Table 3
Description of Firms per Segments Disclosed

Sector – Economatica	1 segment	2 segments	3 segments	4 segments	5 segments	6 segments	7 segments	Total	%
Agriculture and fishing	40	6		2				48	1.12%
Chemicals	51	26	4	4	9	2		96	2.24%
Commerce	96	41	23	37	1	2		200	4.67%
Construction	216	30	18	16				280	6.54%
Electrical and electronics	37	8	3					48	1.12%
Electricity	518	27	11	39	31	6		632	14.77%
Food and beverage	89	29	19	11	8	2	2	160	3.74%
Industrial machinery	17	15	16					48	1.12%
Motor vehicles and parts	46	52	12	9	1			120	2.80%
Mining	26	21	3		6			56	1.31%
Non-metallic minerals	1	8	8	7				24	0.56%
Oil and gas	49	4	4		7	10	6	80	1.87%
Others	1043	114	77	51	25	24	2	1336	31.21%
Pulp and paper	30	10	16	8				64	1.50%
Software and data	51	2	3					56	1.31%
Steel and metallurgy	103	13	9	29	13	1		168	3.93%
Telecommunications	120							120	2.80%
Textiles	136	32	16	4	4			192	4.49%
Transportation services	467	24	18	33	4	3	3	552	12.90%
Total	3136	462	260	250	109	50	13	4280	100.00%
Proportion per segment	73.27%	10.79%	6.07%	5.84%	2.55%	1.17%	0.30%	100.00%	

4.1 Descriptive Statistics

This section introduces the descriptive statistics of the variables used in the research.

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Table 4
Descriptive Statistics of the Variables

Variables	Observations	Mean	Standard deviation	Minimum	Maximum
ETR	4537	0.1822	0.1522	0	0.4087
ETR LONG	3494	0.1765	0.1433	0	0.3759
Dummy	2965	0.3858	0.4868	0	1
SIZE	4539	2.6032	0.1596	0.2798	0.7998
ROA	3635	-0.0005	0.1110	-0.2509	0.1379
LEV	3636	0.3899	0.2611	0.0256	0.8568
EBIT_SALES	3253	0.1438	0.1997	-0.1754	0.5300
CAPEX_SALES	3015	0.1349	0.1516	0.0000	0.4736

Note: ETR and ETR LONG are the measures of tax aggressiveness used in the research; SIZE (Firm's size): established by the Ln of total assets of the current year; ROA (return on assets): established by the operating profit divided by the previous year's total assets; LEV (leverage): established by the long-term debt divided by the previous year's assets; EBIT/SALES: measured by the division of the EBIT by the sales of the current year; CAPEX/SALES: the investment in the non-current asset divided by the sales in the current year.

Table 4 presents the descriptive statistics of the tax aggressiveness variables and the control variables used in the proposed model. All variables were winsorized at the level of 1% on each tail of the distribution to minimize the effect of outliers. As the variable SIZE, presented a high standard deviation, the log was used on this variable. In the majority of the cases, the variables present positive means, and the average values were 18.22% for ETR and 17.66% for ETR LONG. It is noteworthy that 38.6% of companies/year operate in more than one segment.

4.2 Correlation Analysis

The next step was the analysis of the correlation among the variables (see the correlation matrix in Table 5).

Table 5
Correlation among Variables

Variables	ETR	ETR LONG	*Dummy*	Dm	SIZE	ROA	LEV	EBIT	CAPEX
ETR	1								
ETR LONG	0.6649	1							
Dummy	0.0897*	0.1063	1						
Dm	0.1016	0.1026	0.8975	1					
SIZE	0.3170	0.3235	0.3234	0.3183	1				
ROA	0.4465*	0.4468*	0.0803*	0.0825*	0.4266	1			
LEV	0.0238**	0.0025***	-0.0226	0.016**	0.1257	-0.1351	1		
EBIT/SALES	0.2086*	0.1886*	-0.1100	-0.0747*	0.1161	0.5921	0.1020	1	
CAPEX/SALES	0.029**	0.0430**	-0.0606*	-0.0009	0.1806	0.0095***	0.2514	0.1381	1

Note: Correlation coefficient and p-value. Significance of 10% (*), 5% (**) and 1% (***).

It is possible to observe the existence of a significant correlation between some variables. There is a positive correlation of the Leverage with the ETR and Dm, where greater leverage and higher ETR indicate that the firm is less likely to engage in tax aggressiveness practices, corroborating the study by Francis et al. (2014). The result of the correlation

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indicates that regarding the variation in the number of segments the companies report to operate (Dm), the higher the number of different segments, the higher the leverage.

Analyzing the ROA variable shows a positive correlation with the tax aggressiveness *proxies* ETR and ETR LONG. Therefore, the higher the ROA, the lower the firm's tax aggressiveness.

4.3 Analysis of Regressions

The regressions and results regarding the relationship between tax aggressiveness and corporate diversification are presented in the discussion and tables below.

Table 6 shows the regression in fixed effect panel data (companies/year), with 2,393 observations, verifying the relationship among the variables through the tax aggressiveness proxy ETR.

Table 6

Regression of the Dependent Variable ETR

ETR	Coeff.	Std. Err.	t	P>t	[95% Conf.	Interval]
Dummy (D_{it})	0.0453	0.0253	1.79	0.074	-0.0043	0.0950
Dm – ($D*M_{it}$)	-0.0246	0.0072	-3.41	0.001	-0.0388	-0.0104
SIZE	0.2110	0.1025	2.06	0.040	0.0098	0.4122
ROA	0.2424	0.0590	4.10	0.000	0.1265	0.3583
LEV	0.0240	0.0195	1.23	0.220	-0.0144	0.0624
EBIT_SALES	0.0480	0.0279	1.72	0.086	-0.0067	0.1027
CAPEX_SALES	0.0273	0.0279	0.98	0.327	-0.0273	0.0821

The statistics show that when there is more than one segment (D_{it}), the ETR tends to be higher and decreases as the number of segments increases ($D*M_{it}$). Thus, the higher the number of segments, the lower the proxy ETR, indicating a high comparative tax aggressiveness in companies operating in several different segments.

Also, the control variables SIZE, ROA, and EBIT showed a positive and significant relationship with tax aggressiveness.

Table 7

Regression of the Dependent Variable ETR Long

ETR LONG	Coeff.	Std. Err.	t	P>t	[95% Conf.	Interval]
Dummy (D_{it})	0.0505	0.0213	2.36	0.018	0.0086	0.0924
Dm – ($D*M_{it}$)	-0.0250	0.0061	-4.10	0.000	-0.0370	-0.0130
SIZE	0.2341	0.0869	2.69	0.007	0.0635	0.4046
ROA	0.0811	0.0495	1.64	0.102	-0.0160	0.1784
LEV	0.0130	0.0168	0.77	0.439	-0.0200	0.0461
EBIT_SALES	0.0124	0.0231	0.54	0.593	-0.0330	0.0578
CAPEX_SALES	0.0734	0.0241	3.04	0.002	0.0260	0.1208

Table 7 shows the regression in fixed effect panel data (companies/year), with 2,346 observations, verifying the relationship of corporate diversification with tax aggressiveness using the proxy ETR LONG.

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The *dummy* coefficient (D_{it}) is 0.05 and is statistically significant at the 5% level (95% confidence). The positive coefficient allows inferring that, on average, companies that operate in more than one segment, present the proxy ETR LONG higher than the single-segment companies. Therefore, for the ETR LONG, companies operating in more segments are less aggressive, which is similar to the result documented in Table 6 for the proxy ETR.

As for the *Dummy* ($D*M_{it}$), the result is negative and significant, indicating that as the number of segments increase, the company tends to be more tax aggressive, according to the hypothesis anticipated in this research.

4.4 Robustness Testing

In order to identify and confirm the results obtained in the multiple linear regression model previously proposed, the next step was the use of a *logit* regression, substituting the dependent variables of tax aggressiveness by discrete measurements. Thus, a *dummy* was assumed as a dependent variable, classifying the companies as more or less aggressive, the more aggressive being those in the lowest quartile (25%) close to zero (this group was assigned with "1", and the other companies with "0"). The less aggressive firms were ranked in the highest quartile (75%) close to one (this group was also assigned with "1", and the other companies with "0").

Table 8 shows the results of the regressions of most tax aggressive companies.

Table 8
Regression of the Dependent Variable ETR

ETR	Coeff.	Std. Err.	z	P>z	[95% Conf.	Interval]
Less tax aggressive firms – Quartile 75%						
Dummy (D_{it})	0.9509	0.6364	1.49	0.135	-0.2963	2.1983
Dm - ($D*M_{it}$)	-0.3846	0.1909	-2.01	0.044	-0.7588	-0.0105
SIZE	4.7884	2.8260	1.69	0.090	-0.7506	103.27
ROA	0.2379	153.62	0.15	0.877	-2.7730	3.2488
LEV	0.2832	0.4726	0.60	0.549	-0.6431	120.96
EBIT_SALES	0.6102	0.7106	0.86	0.390	-0.7825	2.0029
CAPEX_SALES	0.7639	0.6733	1.13	0.257	-0.5557	2.0836

ETR	Coeff.	Std. Err.	z	P>z	[95% Conf.	Interval]
More tax aggressive firms – Quartile 25%						
Dummy (D_{it})	-0.4264	0.7173	-0.59	0.552	-1.8324	0.9796
Dm - ($D*M_{it}$)	0.4065	0.1967	2.07	0.039	0.0209	0.7921
SIZE	3.6956	3.2475	1.14	0.255	-2.6694	1.0060
ROA	-5.6227	1.4418	-3.9	0.000	-8.4487	-2.7967
LEV	0.1551	0.5671	0.27	0.784	-0.9563	1.2666
EBIT_SALES	-1.6472	0.6913	-2.38	0.017	-3.0022	-0.2922
CAPEX_SALES	0.5383	0.8015	0.67	0.502	-1.0326	210.93

Table 8 shows the fixed effect logit regression, in panel data (company/year) with 1,493 observations in the model of the less tax aggressive companies. As for the model of the more tax aggressive firms, it counts 1,183 observations, demonstrating the relationship of the diversification of segments with the probability of the company to be tax aggressive, based on the proxy ETR. Table 9 presents the fixed effect logit regression in panel data

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(company/year), with 1,391 observations in the model of the less tax aggressive, and 968 observations in the model of the more tax aggressive firms. This result demonstrates the relationship of the diversification of segments with the probability of the company to be tax aggressive, based on the proxy ETR LONG.

Table 9
Regression of the Dependent Variable – ETR LONG

Less tax aggressive firms – Quartile 75%						
ETR LONG	Coeff.	Std. Err.	z	P>z	[95% Conf.	Interval]
Dummy (D_{it})	1.2125	0.7109	1.71	0.088	-0.1807	2.6059
Dm - ($D*M_{it}$)	-0.5175	0.2034	-2.54	0.011	-0.9162	-0.1187
SIZE	4.7058	2.9445	1.6	0.110	-1.0653	1.0477
ROA	-1.9484	1.5733	-1.24	0.216	-5.0320	1.1351
LEV	0.0739	0.5012	0.15	0.883	-0.9084	1.0562
EBIT_SALES	0.0347	0.7563	0.05	0.963	-1.4477	1.5171
CAPEX_SALES	1.9495	0.6802	2.87	0.004	0.6162	3.2828

More tax aggressive firms – Quartile 25%						
ETR LONG	Coeff.	Std. Err.	z	P>z	[95% Conf.	Interval]
Dummy (Dit)	-0.3391	0.8304	-0.41	0.683	-1.9667	128.84
Dm - (D*Mit)	0.5483	0.2162	2.54	0.011	0.1244	0.9721
SIZE	-624.13	3.4180	-1.83	0.068	-1.2940	0.4580
ROA	-4.2506	1.4495	-2.93	0.003	-7.0917	-1.4095
LEV	-0.3925	0.6371	-0.62	0.538	-1.6413	0.8562
EBIT_SALES	-0.5021	0.7005	-0.72	0.473	-1.8751	0.8708
CAPEX_SALES	-1.1646	0.8639	-1.35	0.178	-2.8579	0.5286

5. DISCUSSION OF RESULTS

From the analysis of Table 3, it is observed that more than 73% of observations point to single-segment companies. This situation leads to questioning the data disclosed by the firms. Souza et al. (2016) state that regarding CPC 22, the disclosure levels vary significantly among Brazilian companies, since the requirements are excessively flexible, and disclosure depends on essential management incentives.

Regarding the main results, shown in Tables 8 and 9, regarding the *Dummy* variable (D_{it}), the findings confirm those documented by Zheng (2017). Diversified companies (two or more segments) are less tax aggressive than those operating in a single-segment. On the other hand, the negative coefficient of *Dummy* ($D*M_{it}$) indicates that, on average, the ETR of companies that operate in a more significant number of segments tend to be smaller (which indicates more tax aggressiveness). Among companies with two or more segments, the more segments, the more tax aggressiveness. In this situation, the result confirms the hypothesis of this research, which states that increasing the number of segments companies operate, the higher the firm's tax aggressiveness.

Reinforcing these results, Table 8 indicates, with 95% confidence, that the more diversified companies are, the lower the probability of them presenting low tax aggressiveness. In other words, when companies operate in two or more segments, the ones with more segments are more likely to be tax aggressive. From Table 9, it is possible to conclude that, with 95% confidence, in the group of diversified companies, the higher the

number of segments a company operates, the lower the likelihood of this company having low tax aggressiveness, i.e., operating in more segments increases the likelihood of more tax aggressiveness. Also, diversified companies operating in more segments are more likely to be less tax aggressive than single-segment firms.

The results show what has already been documented in the international literature through the work by Zheng (2017), confirming that, in the context of Brazil, companies operating in only one segment are more tax aggressive than diversified firms. However, the literature goes on to show that among companies operating in two or more segments, increasing the number of segments increases the likelihood of tax aggressiveness.

6. CONCLUSION

This study examined the relationship between tax aggressiveness and diversification of Brazilian companies listed in the B3 stock exchange regarding business segments. The data collected refer to the period from 2010 to 2017, and the study adapted the methodology used by Zheng (2017) to the Brazilian reality.

Corporate diversification offers the opportunity to examine two major issues: (1) whether there is a cross-cutting difference in terms of tax aggressiveness among diversified and single-segment companies; and (2) whether intensification of corporate diversification leads to changes in tax aggressiveness.

We adopted the regression analysis, applying firstly multiple linear regression model in panel data. In a second moment, a *logit* model with binary response for the explanatory variable. Two measurements of tax aggressiveness were applied, which are quite common in the literature, ETR, and ETR LONG.

The number of segments of Brazilian companies was identified through individual analysis of the financial statements disclosed in B3. Most companies declared to operate in one or two business segments in the analyzed period. Also, a large part of the companies informed to be part of the segment "other," which gather sectors that are not specified in any other segment. The second with most companies is "electricity."

The results of fixed effect multiple linear regression in panel data for the two measurements of tax aggressiveness show that, when there are two or more segments, the ETR tends to be higher, confirming the findings of Zheng (2017), which compared single-segment with diversified companies, pointing out that the former are more tax aggressive.

The next step, advancing in the literature, was to understand the relationship between tax aggressiveness and corporate diversification among companies that disclosed to operate in two or more segments. It was observed that, in this case, the more segments a company declares to operate in, the less is its ETR, which characterize more tax aggressiveness. In addition, it was possible to identify a positive and significant relationship in the variable firm's size, confirming the variation of the tax burden in comparison to the size of the company, as found in the study by Bishop et al. (2009).

The results of the regressions of the proxy ETR and ETR LONG by the *logit* model indicate that the more companies are diversified, the lower the probability of having low tax aggressiveness when compared to companies operating in a smaller number of segments, or

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that more diversified companies tend to be more aggressive compared to companies operating in only two segments.

Results are confirmed in both regression models used in this study, and it is possible to affirm that, due to a greater opportunity for revenue and cost allocations, according to the marginal tax rate of these segments, companies with greater segment variability tend to be more aggressively.

One possible limitation of the research is the level of disclosure of information on segments and the relative non-compliance with CPC 22 standards. As documented in the study, more than 73% of the company/year observations indicated single-segment companies. If the companies are not reporting their segments promptly, we would have a measurement error regarding the analysis of the companies, which would lead to a bias in the results that compare single segment with diversified companies. In the methodologic perspective, the metric used to reflect the segment increasing is also not immune to some measurement bias as a collateral effect.

For future research, we recommend the analysis of segments by specific sectors, in order to verify the influence of corporate diversification in the level of tax planning of these companies within an industrial sector. Additionally, new studies may be carried out to identify whether corporate governance influences the level of tax planning of more diversified companies.

REFERENCES

Aggarwal, R. K., & Samwick, A. A. (2003). Why do managers diversify their firms? Agency reconsidered. *The Journal of Finance*, *58*(1), 71-118. https://doi.org/10.1111/1540-6261.00519

Armstrong, C. S., Blouin, J. L., & Larcker, D. F. (2012). The incentives for tax planning. *Journal of Accounting and Economics*, *53*(1-2), 391-411. https://doi.org/10.1016/j.jacceco.2011.04.001

Balakrishnan, K., Blouin, J., & Guay, W. (2018). Tax Aggressiveness and Corporate Transparency. *The Accounting Review*. https://doi.org/10.2308/accr-52130

Berger, P. G., & Ofek, E. (1995). Diversification's effect on firm value. *Journal of financial economics*, *37*(1), 39-65. https://doi.org/10.1016/0304-405X(94)00798-6

Bird, A., & Karolyi, S. A. (2016). Governance and taxes: Evidence from regression discontinuity. *The Accounting Review*, *92*(1), 29-50. https://doi.org/10.2308/accr-51520.

Cabello, O. G. (2012). *Análise dos efeitos das práticas de tributação do lucro na Effective Tax Rate (ETR) das companhias abertas brasileiras: uma abordagem da teoria das escolhas contábeis*, tese de doutorado, Universidade de São Paulo.

Calijuri, M. S. S. (2009). *Avaliação da gestão tributária a partir de uma perspectiva multidisciplinar,* tese de doutorado, Universidade de São Paulo.

Campa, J. M., & Kedia, S. (2002). Explaining the diversification discount. *The journal of finance*, *57*(4), 1731-1762. https://doi.org/10.1111/1540-6261.00476

Chen, S., Chen, X., Cheng, Q., & Shevlin, T. (2010). Are family firms more tax aggressive than non-family firms? *Journal of Financial Economics*, *95*(1), 41-61. https://doi.org/10.1016/j.jfineco.2009.02.003

Creswell, J. W. (2010). Projeto de pesquisa métodos qualitativo, quantitativo e misto. In *Projeto de pesquisa métodos qualitativo, quantitativo e misto*.

Journal of Accouting, Management and Governance. Brasilia, V.23 N.1, p. 38-55, Jan-Apr. 2020

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Denis, D. J., Denis, D. K., & Sarin, A. (1997). Agency problems, equity ownership, and corporate diversification. *The Journal of Finance*, *52*(1), 135-160. https://doi.org/10.1111/j.1540-6261.1997.tb03811.x

Dunbar, A., Higgins, D., Phillips, J., & Plesko, G. (2010). What do measures of tax aggressiveness measure. In *Proceedings of the National Tax Association Annual Conference on Taxation* (pp. 18-26).

Erickson, M. M., & Wang, S. W. (2007). Tax benefits as a source of merger premiums in acquisitions of private corporations. *The Accounting Review*, *82*(2), 359-387. https://doi.org/10.2308/accr.2007.82.2.359

Ettredge, M. L., Kwon, S. Y., Smith, D. B., & Stone, M. S. (2006). The effect of SFAS No. 131 on the cross-segment variability of profits reported by multiple segment firms. *Review of Accounting Studies*, *11*(1), 91-117. https://doi.org/10.1007/s11142-006-6397-9

Francis, B. B., Hasan, I., Wu, Q., & Yan, M. (2014). Are female CFOs less tax aggressive? Evidence from tax aggressiveness. *The Journal of the American Taxation Association*, *36*(2), 171-202. https://doi.org/10.2308/atax-50819

Junior, J. N., & Funchal, B. (2013). O efeito da diversificação corporativa na estrutura de capital das firmas brasileiras. *Revista Contabilidade & Finanças*, *24*(62), 154-161. http://dx.doi.org/10.1590/S1519-70772013000200006.

Grunow, A., Beuren, I. M., & Hein, N. (2010). Métodos de preço de transferência interna utilizados nas maiores empresas do Brasil/Pricing methods of internal transference used by the biggest brazilian companies. *Revista Economia & Gestão*, *10*(24), 74-102. https://doi.org/10.5752/P.1984-6606.2010v10n24p74

Guenther, D. A., Matsunaga, S. R., & Williams, B. M. (2016). Is tax avoidance related to firm risk? *The Accounting Review*, *92*(1), 115-136. https://doi.org/10.2308/accr-51408

Hanlon, M., & Heitzman, S. (2010). A review of tax research. *Journal of accounting and Economics*, *50*(2-3), 127-178. https://doi.org/10.1016/j.jacceco.2010.09.002

Hoechle, D., Schmid, M., Walter, I., & Yermack, D. (2012). How much of the diversification discount can be explained by poor corporate governance? *Journal of Financial Economics*, *103*(1), 41-60. https://doi.org/10.1016/j.jfineco.2011.03.025

Klassen, K. J., Lisowsky, P., & Mescall, D. (2015). The role of auditors, non-auditors, and internal tax departments in corporate tax aggressiveness. *The Accounting Review*, *91*(1), 179-205. https://doi.org/10.2308/accr-51137

Lanis, R., & Richardson, G. (2011). The effect of board of director composition on corporate tax aggressiveness. *Journal of Accounting and Public Policy*, *30*(1), 50-70. https://doi.org/10.1016/j.jaccpubpol.2010.09.003

Lanis, R., & Richardson, G. (2012). Corporate social responsibility and tax aggressiveness: An empirical analysis. *Journal of Accounting and Public Policy*, *31*(1), 86-108. https://doi.org/10.1016/j.jaccpubpol.2011.10.006

Lang, L. H., & Stulz, R. M. (1994). Tobin's q, corporate diversification, and firm performance. *Journal of political economy*, *102*(6), 1248-1280. https://doi.org/10.1016/j.jaccpubpol.2011.10.006

Lennox, C., Lisowsky P., & Pittman, J. Tax aggressiveness and accounting fraud. *Journal of Accounting Research*, v. 51, n. 4, p. 739-778, 2013. https://doi.org/10.1111/joar.12002

Lin, S., Tong, N., & Tucker, A. L. (2014). Corporate tax aggression and debt. *Journal of Banking & Finance*, *40*, 227-241. https://doi.org/10.1016/j.jbankfin.2013.11.035

Lopo Martinez, A., Ribeiro, A. C., & Funchal,B. (2019) Sarbanes Oxley Act and Taxation: A study of the effects on the tax aggressiveness of Brazilian firms. Contabilidade Vista & Revista, 30 (1), 27-42. https://doi.org/10.22561/cvr.v30i1.4525

Journal of Accouting, Management and Governance. Brasilia, V.23 N.1, p. 38-55, Jan-Apr. 2020

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Martinez, A. L. (2017). Tax aggressiveness: a literature survey. *Revista de Educação e Pesquisa em Contabilidade*, *11*. https://doi.org/10.17524/repec.v11i0.1724

Martinez, A. L., & 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. DOI: http://dx.doi.org/10.29386/rgfc.v7i1.2904

Martinez, A. L., & Dalfior, M. D. (2016). Agressividade Fiscal entre Companhias Controladoras e Controladas. *Revista da Receita Federal: estudos tributários e aduaneiros*, *2*(1), 344-362.

Martinez, A. L., Lessa, R. C., & de Jesus Moraes, A. (2014). Remuneração dos auditores perante a agressividade tributária e governança corporativa no Brasil. *Revista Contabilidade e Controladoria*, *6*(3). http://dx.doi.org/10.5380/rcc.v6i3.34593

Martinez, A. L., & Ramalho, G. C. (2014). Family Firms and Tax Aggressiveness in Brazil. International Business Research, 7(3), 129–136. https://doi.org/10.5539/ibr.v7n3p129

May, D. O. (1995). Do managerial motives influence firm risk reduction strategies?. *The journal of finance*, *50*(4), 1291-1308. https://doi.org/10.1111/j.1540-6261.1995.tb04059.x

Motta, F., & Martinez, A. (2015). Agressividade fiscal em sociedades de economia mista. *Anais da Enanpad, Belo Horizonte, MG, Brasil*, *39*.

Scholes, M. S., Wolfson, M.A. ,Erickson, M.M., Hanlon, M. L., Maydew E. L. & Shevlin, T. *Taxes and business strategy: a planning approach*, Fifth edition, Boston : Pearson, 2015, 510 p.

Servaes, H. (1996). The value of diversification during the conglomerate merger wave. *The Journal of Finance*, *51*(4), 1201-1225. http://dx.doi.org/10.1111/j.1540-6261.1996.tb04067.x

Shackelford, D. A., & Shevlin, T. (2001). Empirical tax research in accounting. *Journal of accounting and economics*, *31*(1-3), 321-387. https://doi.org/10.1016/S0165-4101(01)00022-2

Silva, J. M. D. (2017). *A influência do ciclo de vida organizacional sobre o nível de planejamento tributário*, Tese doutorado. Universidade de São Paulo.

Souza, J. A., Sarlo Neto, A., Mendonça, D. J., & Benedicto, G. C. (2016). Factors influencing the disclosure of information about operating segments in Brazil: analysis encompassing the first five years of CPC 22 Application. Revista Capital Científico - Eletrônica, 14(4), 109-125.

Tôrres, H. T. (2001). *Direito tributário internacional: planejamento tributário e operações transnacionais*. Revista dos Tribunais.

Troberg, P., Kinnunen, J., & Seppänen, H. J. (2010). What drives cross-segment diversity in returns and risks? Evidence from Japanese and US firms. *The International Journal of Accounting*, *45*(1), 44-76. https://doi.org/10.1016/j.intacc.2010.01.003.

Vello, A., & Martinez, A. L. (2014). Planejamento tributário eficiente: uma análise de sua relação com o risco de mercado. *Revista Contemporânea de Contabilidade*, *11*(23), 117-140. http://dx.doi.org/10.5007/2175-8069.2014v11n23p117.

Wooldridge, Jeffrey M. Introdução à econometria: uma abordagem moderna (6a ed., P.Silva e L.Koeppl, Trad.). São Paulo: Cengage Learning. 2016.

Zheng, S. (2017). Can corporate diversification induce more tax avoidance? *Journal of Multinational Financial Management*, *41*, 47-60. https://doi.org/10.1016/j.mulfin.2017.05.008.

Journal of Accouting, Management and Governance. Brasilia, V.23 N.1, p. 38-55, Jan-Apr. 2020

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O Efeito da Diversificação Corporativa sobre a Agressividade Tributária nas Empresas Brasileiras

RESUMO

Objetivo: esta pesquisa objetivou verificar se as empresas diversificadas em seus negócios são mais agressivas tributariamente quando confrontadas com as empresas de segmento único ou com menor número de segmentos.

Método: utilizou-se uma amostra de empresas listadas na [B]³ no período de 2010 a 2017. Para verificar a existência de uma relação entre diversificação e agressividade fiscal, foi utilizado o modelo de regressão linear múltipla com dados em painel de efeito fixo de empresa e ano e, adicionalmente, usou-se o modelo logit com resposta binária para a variável explicada. Foram aplicadas duas métricas para mensurar a agressividade tributária: o ETR (taxa efetiva de tributação) e o ETR LONG (taxa efetiva de tributação de longo prazo).

Originalidade/relevância: esse tipo de pesquisa é inédito no Brasil, por ser um ponto ainda não explorado pela literatura às peculiaridades de um país em desenvolvimento, e é relevante para que se defina o efeito da diversificação na agressividade tributária.

Resultados: observou-se que, quanto mais as empresas são diversificadas, menor será a probabilidade de se ter baixa agressividade tributária, e que empresas mais diversificadas têm maior probabilidade de serem mais agressivas, se comparadas às empresas com apenas um segmento. As análises indicam que, entre as empresas com segmentos, quanto mais segmentos elas possuam, mais agressivas serão.

Contribuições teóricas/metodológicas: o estudo contribui para a melhor compreensão do fenômeno da agressividade fiscal e de suas causas e determinantes, com implicações para os usuários da informação, em particular para os reguladores tributários, e para a gestão, que identifica possível vantagem fiscal da diversificação corporativa.

Palavras-chave: Agressividade fiscal, Diversificação corporativa, Segmento único.

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