Corporate Effective Tax Rate
Brief Literature Review

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Abstract: Given the model of partial dependence between accounting and taxation, the nominal tax rate tells nothing about the tax burden borne by companies`. Therefore, the effective tax rate is, an indicator to be considered by stakeholders when making decisions once it represents the tax burden that the company bears during the period. This paper aims to present a brief literature review on the effective corporate tax rate, emphasizing its determinants, namely the size, the leverage, the capital intensity, the stock intensity, and the return on assets. With this paper, there was detected evidence of a significant relationship between the effective tax rate and the determinants analysed.

Keywords: Nominal Tax Rate; Effective Tax Rate; Corporate Income Tax.

1   Introduction

The corporate income tax (CIT) code predicts a partial dependency model between accounting and taxation, which is perceived as the most suitable to determine the taxable income (TI), given the tax result dependency on accountings' outcomes (Santos, 2017).

Over the years, the CIT shed some of its core features, such as the fact of it is a profit tax. This loss occurs because of the consecutive changes that arise due to the steady increase of the autonomous taxation (AT) relevance and its relative load on the CIT. The reason for the undermining in which corporate tax lies, is because the calculation bases for AT are expenditure and not earnings (Sousa, 2015).

The TI assessment it's one of the foremost stages of the CIT determination process. The direct application of the nominal tax rate to the taxable matter doesn't grant the tax collection, as the legislation foresees the existence of tax benefits. These tax benefits are some of the causes of the differences found between accounting and taxation (Reis & Dias, 2017).

Portugal foresees a model of partial dependency between accounting and taxation, mainly because the purpose and requirements of these two subjects are different. Firstly, accounting operates as a measuring and information device, and it is a supporting feature of TI determination. In turn, taxation, over and above its redistribution feature, has the intent to collect revenue to fulfill the states' needs (Santos, 2017).

The TI results from the algebraic sum of the net income to positive and negative asset changes not reflected in this outcome. Despite efforts to harmonize accounting and tax regulations, the differences remain, and the gap widens with economic dematerialization.

This essay presents a brief literature review of the effective tax rate. At first, we will analyze international trends on tax revenue level and CIT. Henceforth, we will explore ETR behavior along with its determinants, specifically, the size, the leverage, the capital intensity, the stock intensity, and the return on assets. This paper observed that the various determinants evaluated present a significant relationship with the ETR.

2　Trend of Corporate Income Tax in OECD: Brief Analysis

Variation in tax revenues and their evolution depends on tax, economic, political, and social factors that must be employed in order to meet the structural countries' needs (Silva, 2010). The table presented below shows the behavior of tax revenue, as a percentage of the Gross Domestic Product (GDP).

Table 1. Tax Revenue, in % of GDP, for OECD countries

Country	1965	1990	2000	2007	2010	2013	2015	2018	2019	2020p*
Australia	20,6	28,1	30,5	29,5	25,2	27,0	27,7	28,5	27,7	
Austria	33,5	39,3	42,3	40,5	41,0	42,6	43,1	42,3	42,6	42,1
Belgium	30,8	41,4	43,8	42,9	42,9	45,0	44,1	43,9	42,7	43,1
Canada	25,0	35,1	34,7	32,5	31,0	31,1	32,8	33,5	33,8	34,4
Chile		16,9	18,8	22,7	19,6	19,9	20,4	21,1	20,9	19,3
Colombia		11,3	15,7	19,3	18,1	20,0	19,9	19,3	19,7	18,7
Costa Rica		22,4	21,1	23,1	22,1	23,0	22,9	23,2	23,6	22,9
Czech Republic			32,3	34,1	32,2	33,7	33,1	35,0	34,8	34,4
Denmark	29,1	44,4	46,9	46,4	44,8	45,9	46,1	44,2	46,6	46,5
Estonia			31,1	31,0	33,2	31,7	33,3	33,0	33,5	34,5
Finland	30,0	42,9	45,8	41,4	40,6	43,4	43,5	42,4	42,3	41,9
France	33,7	41,2	43,4	42,5	42,1	45,4	45,3	45,9	44,9	45,4
Germany	31,7	34,8	36,4	35,4	35,5	37,0	37,3	38,4	38,6	38,3
Greece	17,1	25,2	33,4	31,8	32,3	35,9	36,6	40,0	39,5	38,8
Hungary			38,5	39,3	36,9	38,5	38,7	36,8	36,5	35,7
Iceland	25,7	30,5	35,9	38,3	32,1	34,3	35,1	36,4	34,8	36,1
Ireland	24,5	32,4	30,8	30,8	27,7	28,7	23,2	22,4	21,9	20,2

Israel			34,8	34,1	30,6	30,6	31,2	30,8	30,2	29,7
Italy	24,6	36,3	40,5	41,6	41,7	43,8	43,0	41,7	42,4	42,9
Japan	17,3	27,7	25,3	27,2	26,2	28,6	30,2	31,6	31,4	
Korea		18,6	20,9	23,7	22,4	23,1	23,7	26,7	27,3	28,0
Latvia			29,1	28,2	28,6	29,2	29,9	31,1	31,2	31,9
Lithuania			30,8	30,1	28,3	26,7	28,7	30,2	30,3	31,2
Luxemburg	26,4	33,5	36,9	36,2	37,6	38,2	36,2	39,5	38,9	38,3
México		12,1	11,5	12,0	12,8	13,3	15,9	16,1	16,3	17,9
Netherlands	30,5	39,7	36,9	35,7	35,7	36,1	37,0	38,8	39,3	39,7
New Zealand	24,5	36,2	32,5	33,9	30,3	30,5	31,5	32,2	31,5	32,2
Norway	29,4	40,2	41,7	42,0	41,8	39,8	38,4	39,4	39,9	38,6
Poland			32,9	34,6	31,3	32,1	32,4	35,1	35,1	36,0
Portugal	15,7	26,5	30,9	31,8	30,4	34,0	34,4	34,7	34,5	34,8
Slovakia			33,6	29,2	28,1	31	32,7	34,2	34,6	34,8
Slovenia			37,7	38,1	37,8	37,2	37,3	37,3	37,2	36,9
Spain	14,3	31,5	33,0	36,4	31,3	33,1	33,8	34,7	34,7	36,6
Sweden	30,9	48,8	50,0	44,9	42,9	42,5	42,6	43,8	42,8	42,6
Switzerland	16,0	23,1	27,0	25,4	25,6	26,0	26,6	26,8	27,4	27,6
Turkey	10,6	14,5	23,5	22,9	24,7	25,2	25,0	24,0	23,1	23,9
United Kingdom	30,1	32,9	32,8	32,9	32,1	31,9	31,8	32,9	32,7	32,8
United States of America	23,6	26,0	28,3	26,7	23,4	25,5	26,2	24,9	25,0	25,5
Mean OCDE	24,8	30,8	32,9	32,9	31,6	32,7	32,9	33,5	33,4	33,5

Source: OCDE (2021), Revenue Statistics 2021: The Initial Impact of COVID-19 on OCDE Tax Revenues.

* Provisional data

Through the analyses of the data presented in table 1, we can verify that the values do not show great oscillation between the period 2013 and 2020, there is, however, a slight upward trend. Still, we can see that Portugal has been getting closer to the average level of tax revenue presented by the OECD. In 1965, Portugal presented about 9.1 percentage points beneath the average value of OECD, and with the provisional values of 2020, Portugal rose 1.3 percentage points (in 2019, with real data, this slight supremacy has already been validated).

In turn, Spain exhibits an unchanged level of taxation between the period 2018 and 2019, with values systematically higher than the OECD averages. In 2020, and with data that considers the initial impact of the COVID-19 pandemic crisis, the increase of 5.48 percentage points when compared to the OECD average stands out. And, when contrasted with the Portuguese case, we can see that the impact of the pandemic on tax revenues was greater in Portugal than in Spain.

It is also important to note that in some particular cases, such as France, which has a level of tax revenue significantly higher than the OECD average for all the surveyed years, and as early as 1965, this country presented tax revenue levels higher than the average levels seen today. On the contrary, the United States of America presents constant and continuously lower values than the average values of the OECD, over the decades.

Although provisional, the data includes the initial impact of the COVID-19 pandemic on tax revenues in OECD countries. Hence, it was possible to verify that the fiscal measures implemented in order to support families and companies, most times, reduce the tax revenue directly, either through deferrals or reductions of tax liabilities, tax credits, and subsidies or through temporary reductions or permanent tax rates (Becker & Elsayyad, 2009; OCDE, 2021).

In table 2 we present the impact of profit tax (PT), value-added tax (VAT), the personal income tax (PIT).

Table 2. Tax Revenue, in % of GDP, for OECD countries

Country	1990	2000	2010	2018	2019
Portugal (PT)	2,3	3,1	2,7	3,1	3,0
Mean OECD (PT)	2,1	3,7	2,7	3,3	3,1
Portugal (PIT)	4,2	5,3	5,4	6,5	6,3
Mean OECD (PIT)	9,0	8,3	7,2	7,9	8,0
Portugal (VAT)	5,2	7,6	7,5	8,7	8,8
Mean OECD (VAT)	5,1	6,3	6,4	6,7	6,7

Source: OCDE (2021), Revenue Statistics 2021: The Initial Impact of COVID-19 on OECD Tax Revenues.

The data shows that, when compared to the OECD average, the progress of the revenue obtained through the different taxes has similar behavior, which indicates that the Portuguese tax structure follows the same order. On the one hand, the item of PT, in Portugal, presents values very similar to the average values of the OECD. And, on the other hand, due to the convergence, over the years, in PIT revenue from Portugal and OECD. It is, however, clear that, on average, the OECD, and reports a significantly higher weight on PIT than on PT and VAT. Regarding the Portuguese case, even though the CIT rate has decreased over the years, other taxes on corporate profits, including AT, have been gaining weight. These are some of the reasons that justify the difference between the effective tax rate and the nominal tax rate found, and it is crucial that we distinguish clearly the two key concepts.

3   Nominal Tax Rate versus Effective Tax Rate

The nominal tax rate (NTR) is legally defined and when applied to the TI allows us to find the tax burden. The nominal tax rate reflects very little about the firms' TI and, although it may be an indicator of the tax model of a certain country, the real tax expense demands a sequence of sums and deductions to the NTR, which derive from the timing and permanent differences between accounting and taxation (Bretschger & Hettich, 2002; Liu & Cao, 2007; Machado, 2020; Ribeiro, 2015).

On the other hand, the effective tax rate (ETR) accounts for the timing and permanent differences between accounting and taxation, thus becoming a reliable indicator of the firms' real tax expense (Lopes, 2018; Nicodème, 2001).

The relationship between NTR and ETR was studied by Reis & Dias (2017), the authors found a positive relationship between the two tax rates, which means that a raise in the NTR induces a rise in the ETR, however, this increase is to a lesser extent (Guenther, 2014).

3.1   Measurements of corporate ETR

Ribeiro (2015) established the ETR as a ratio of a tax amount and a measure of income. This author resorted to two formulas to determine the ETR to ensure higher robustness of the results. On the numerator of both approaches, it is used the total tax expense, as it wasn't possible, due to the selected database to differentiate the current tax from the differed tax. As for the denominator, two approaches were applied.

Firstly, pretax net income. This measure's the most recurrent when it comes to this topic. Reis & Dias (2017) resorted to this expression in their study about the relationship between the NTR and the ETR, as well as Delgado et al. (2012) and Ribeiro (2015) in their investigations regarding the determinant factors of the ETR. Likewise, Costa (2012), Gunther (2014), Hanlon & Heitzman (2010), and Rego (2003) used it in their studies about the ETR.

$$ETR_{i,t} = \frac{Taxation_{i,t}}{PertaxNetIncome_{i,t}}, \tag{1}$$

$ETR_{i,t}$ = Effective tax rate of firm i in the year t;

$Taxation_{i,t}$ = Total tax expense of firm i in the year t;

$PertaxNetIncome_{i,t}$ = Pretax net income of firm i in the year t;

Secondly, on the denominator, Ribeiro (2015) opted to use operational cash-flow. This approach eliminates the differences between the accounting processes used by companies` of different sizes. Likewise, other studies resorted to expression (2) for identical reasons, but also because this is a pretax approach that allows the investigator to analyze the companies' tax preferences on the ETR (Derashid & Zhang, 2003; Hanlon & Heitzman, 2010; Machado, 2020; Plesko, 2003).

$$ETR_{i,t} = \frac{Taxation_{i,t}}{CashFlowOperations_{i,t}}, \tag{2}$$

$CashFlowOperations_{i,t}$ = Cash flow from operations of firm i in the year t;

Additional researchers, as Bessa (2016), Dias (2016) and Plesko (2003), opted to use a denominator composed of earnings before interest and taxes (EBIT). The EBIT allows us to analyze the operational performance of the firm, because it has into consideration costs and income that depend on internal policies regarding financing options, that could bias the comparison between corporations (Machado, 2020).

$$ETR_{i,t} = \frac{Taxation_{i,t}}{EBIT_{i,t}}, \tag{3}$$

$EBIT_{i,t}$ = Earnings before interest and taxes of firm *i* in the year *t*;

Notice that the tax expense used in the previous expression divides into current and deferred tax. The current tax represents the amount that is expected to pay now, and the deferred tax is a consequence of the timing and permanent differences between accounting and taxation.

Whichever the hypothesis of your investigation is, it is of utmost importance that the choice of both the numerator and the denominator is made carefully and according to the parameters that you wish to explore (Hanlon & Heitzman, 2010).

Portuguese and international accounting standards, NCRF 25 and IAS 12, describe ETR as the ratio between the tax expense and the accounting profit, the latter equals to the pretax net income, represented by (1) (Bessa, 2016; Machado, 2020).

3.2   The Determinant Factors of ETR

Certain corporation characteristics influence the behavior of the ETR and can help explain its variations. Regarding the firms determining characteristics, there is no consensus among the various authors when it comes to the way and the factors that affect the ETR, as will be presented below.

3.2.1 Size

Size is a widely studied characteristic, both by itself, as well as blended with other variables, but the results are divergent. The variation of outcomes may be due to differences between the empirical procedures employed, from the size of the sample to the period studied, or even due to the selected expression used to measure ETR (Machado, 2020).

The math expression used to determine the firm's size is consensual. Several investigations, particularly Delgado et al. (2012), Kraft (2014), Liu & Cao (2007), Machado (2020), Reis & Dias (2017), and Stamatopoulos et al. (2019) resort to the logarithm of the total assets. The selected expression is established on Commission Recommendation 2003/361/EC, which defines firm size as the balance sheet total, the total income, and the number of employees (Costa, 2012). Thereby:

$$SIZE_{i,t} = \ln[TotalAssets_{i,t}], \tag{4}$$

$SIZE_{i,t}$ = Size of firm *i* in the year t;

$TotalAssets_{i,t}$ = The total assets of firm *i* in the year t.

Political cost theory suggests that larger and more profitable companies are exposed to more political and social pressure and, as a result, are put through more audits. Over and

above, these firms are more prone to public pressure, which compels them to act in a more socially acceptable manner, adjusting their actions and behaviors to the surrounding environment. On the other hand, political cost theory underpins the idea that larger firms are capable of achieving tax benefits that offset any type of public scrutiny (Machado, 2020; Rego, 2003).

The research carried out by Delgado et al. (2012) suggests a non-linear relationship between size and the ETR. Thus, up to a certain size, this relationship is positive, and from there on, larger firms undergo less tax pressure, attaining lower ETR, which is consistent with the political cost theory.

3.2.2 Structure of Capital

When it comes to capital structure behavior, measured by the firm's debt level. Scientific research found a reverse relationship between ETR and this variable. At the tax level, firms financing preferences may bring adverse outcomes. On the one hand, the financing interest rates are qualified as tax expenses, deductible, which means they are able to reduce the financing value. On the other hand, dividends paid to shareholders are not tax deductible in the majority of countries (Kraft, 2014; Liu & Cao, 2007; Machado, 2020; Plesko, 2003).

To determine the leverage, represented by LEV, Delgado et al. (2012, 2014), Derashid & Zhang (2003), Liu & Cao (2007) e Machado (2020) chose the ratio between total liability and total assets:

$$LEV_{i,t} = \frac{TotalLiability_{i,t}}{TotalAssets_{i,t}}, \tag{5}$$

$LEV_{i,t}$= Leverage of the firm *i* in the year t;

$TotalLiability_{i,t}$= Total liability of firm *i* in the year t;

Delgado et al. (2012) suggest the existence of a non-linear relationship between ETR and LEV. This means that companies with higher tax levels have a positive relationship with ETR, as there are funding stimuli, and because interest rates are deductible, decreasing the taxable amount. Costa (2012) verified this point of view, advocating that companies that present a higher level of debt attain lower ETR, therefore, anticipating a negative relationship between LEV and the ETR.

The LEV proxy gives us information about the company's capital structure. Two theories emerged to explain the relationship between ETR and LEV. The first theory foresees a positive relationship, in which companies that have higher ETRs, are more likely to resort to borrowed capital. The other perspective predicts a reverse relationship between the variables, arguing that greater tax benefits lead to inferior average ETRs (Bessa, 2016; Machado, 2020).

3.2.3 Capital Intensity

Companies have financial resources and the ability to select the best way to apply them. The volume of capital investment presents a reverse relationship with the ETR, due to the fact that tax benefits are tax deductible, but also because of the payment of dividends, which don't constitute a negative component of the tax result (Costa, 2012).

The settled tax amount, the payment deadline, and the uncertainty, as well as tax deductions and incentives, affect the determination of the present tax value, and, therefore, boost the investment decision (Hanlon & Heitzman, 2010).

According to Costa (2012), Delgado et al. (2014), Liu & Cao (2007), and Machado (2020), in order to determine the capital intensity or CAPINT, we take into consideration:

$$CAPINT_{i,t} = \frac{TotalLiability_{i,t}}{TotalAssets_{i,t}}, \tag{6}$$

$CAPINT_{i,t}$= Capital intensity level of the firm *i* in the year t;

$TotalAssets_{i,t}$= Total assets of firm *i* in the year t;

Thus, firms' CAPINT influences ETR, which means companies that present higher ratios of assets, report higher tax savings, because they can deduct depreciation expenses as a negative component of the tax result. So, we can predict a perverse relationship between ETR and CAPINT (Bessa, 2016; Machado 2020).

In Portugal, we can also observe this inverted relationship by the employment of tax benefits provided by the Investment Tax Code. The previously mentioned Code operates as an instrument to encourage competitiveness, which favors sustainable growth and job creation, reinforcing firms' capital structure. The present tax benefits work by collection deduction, offering a direct saving. The Special Taxation Regime for Groups of Companies (RETGS), provided by Portugal's tax code, allows the broadcast of tax benefits intra-group (Ribeiro, 2019).

3.2.4 Inventory Intensity

Inventory intensity, or INVINT, is researched by Costa (2012), Delgado et al. (2012), Derashid e Zhang (2003), Machado (2020) e Stamatopoulos et al. (2019). They noted the existence of a non-linear relationship between ETR and INVINT, as companies with more stock show higher ETRs, however, it wasn't found a solid explanation for this fact.

INVINT is given by the following arithmetic expression applied by Costa (2012), Delgado et al. (2012), Derashid e Zhang (2003), Machado (2020) e Stamatopoulos et al. (2019) in their studies:

$$INVINT_{i,t} = \frac{Inventorys_{i,t}}{TotalAssets_{i,t}}, \tag{7}$$

$INVINT_{i,t}$= Inventory intensity level of the firm *i* in the year t;

$Inventory_{i,t}$= Inventories of the firm *i* in the year t;

3.2.5 *Return on Assets*

Return on assets was included in Bessa (2016), Costa (2012), Delgado et al. (2012), Liu e Cao (2007), Machado (2020) e Plesko (2003) studies, and it is a determining factor of ETR. It is expected that this variable relates positively with ETR, in other words, companies that attain huge profits are prone to higher ETR, in accordance with political cost theory.

Return on assets, or ROA, applied by Bessa (2016), Derashid & Zhang (2003), Kraft (2014), Lanis & Richardson (2013), Liu e Cao (2007), Machado (2020) e Stamatopoulos et al. (2019) is computed as:

$$ROA_{i,t} = \frac{NetIncome_{i,t}}{TotalAssets_{i,t}},\qquad\qquad(8)$$

$ROA_{i,t}$ = Return on assets of firm *i* in the year t;

$NetIncome_{i,t}$ = Net income of firm *i* in the year t;

3.3 Summary of the Finding of Some Empirical Studies

The investigation carried out by Delgado et al. (2012) searched the determinants of ETR in US-listed companies between the years 1992 and 2009. The evidence indicates a non-linear relationship between size and ETR, which means that smaller firms are put through a greater tax burden. After a certain size, however, companies can lessen the ETR weight through tax planning strategies. Additionally, CAPINT and LEV also have a non-linear relationship with the dependent variable, which implies that firms can reduce their tax burden after a certain level of LEV is achieved.

The study developed by Costa (2012) has a sample composed of firms from several Portuguese districts and various sectors of activity, between the years 2006 and 2010. Costa (2012) realized that some ETRs' characteristics are statistically significant, such as LEV, CAPINT, and INVINT, that show an opposite relationship with the ETR. Yet for the ROA case, this relationship is linear, and increases in ROA, cause increases in the ETR. In essence, these findings corroborate the hypothesis formulated by the author and are consistent with the outcomes of international research.

Reis & Dias (2017) explored the relationship between ETR and NTR of firms that have their place in 5 countries (Denmark, Finland, Luxembourg, Slovenia, and the United Kingdom), for the period between 2012 and 2014. The investigation found a positive relationship between ETR and NTR, thereby, on average, raises on NTR lead to raises on ETR. Furthermore, the higher the NTR of a given country is, the more firms work to decrease tax expenditure, via tax planning strategies.

Machado (2020), as well, assessed what are the determinants of ETR, but the sample, in this case, is composed of approximately 7 000 non-financial companies, from Portugal and Spain, from the period of 2016 to 2018. The investigation carried out by Machado (2020) confirmed the hypothesis about the linear relationship between ETR and SIZE, which means that bigger firms are subject to more regulations and audits, and, as a result, have a greater

tax burden. As for the LEV indicator, it presents a negative relationship with the ETR, just like CAPINT. ROA shows a linear relationship.

Because they couldn't find convergence in the literature, Delgado et al. (2012) conducted an investigation aimed at the variable SIZE. With this investigation, the authors succeeded to explain the non-linear relationship between SIZE and ETR. From then on, they became a reference, and many investigations use their conclusions as a pilar.

Ramalhosa (2015) considered the relationship between the ETR and its characteristics (SIZE, LEV, CAPINT, and INVINT), with the purpose of signalling activities related to tax avoidance. The sample aggregated 4 314 companies between the years 2010 to 2012. From this investigation, the author was able to find a negative connection between LEV and ETR. Financing decisions have a loan on the firms' tax burden as the financial charges are tax deductible. Thus, more in-debt companies aren't so likely to resort to tax avoidance techniques to reduce their ETR.

The investigation carried out by Sousa (2015) assessed the behaviour of the AT wight on firms' tax revenue, from the year 2009 to 2013. The sample is composed of companies from Aveiro's district, a Portuguese city. This investigation was able to assess that about 80% of sample companies' bear AT, which highlights the weight of this type of tax expense on the CIT. Furthermore, firms that run into tax loss and whose tax expense is null, have to bear the AT burden. When it comes to the influence of the AT on the ETR, the investigation gauged that the ETR when it's calculated with the AT burden is significantly higher than the ETR if the AT didn't exist. To sum up, the relative weight of the AT in the total tax expense is substantial.

4 Conclusion

The literature review carried out on the ETR and its determinants, noted a positive relationship between NTR and ETR, that is to say, raises in the NTR cause increases in the ETR. So, the higher the ETR of a given country is, the more entities strive to reduce the amount of payable tax, through tax planning techniques.

The ETR is a common measure to determine firms' tax load and evaluate the efficiency of tax planning techniques. Thus, it is important to realize in which ways some firms' characteristics impact the payable tax amount bared in a given country.

Political cost theory suggests that larger and more profitable companies are exposed to greater public and social pressure and, therefore, are subject to more audits. Such a fact forces them to act in a socially responsible manner, adjusting their actions and behavior to their social environment, expecting that they will bear a greater tax expense. However, political power theory also holds that larger companies are able to achieve tax support, thus being able to offset any public scrutiny. However, there are studies that suggest a non-linear relationship between company size and ETR.

Financing decisions also have an impact on the firms' ETR, because, as a general rule, financial charges are deductible. Thence, more indebted companies don't have much need to resort to tax avoidance activities to reduce their ETR.

Beyond this, firms with a higher proportion of assets have greater tax savings, due to the prospect to deduce depreciation expenses. As a consequence, a negative relationship was noted between ETR and CAPINT. The INVINT, on the other hand, presents a linear relationship with the ETR, since companies with a higher proportion of inventory, have higher ETR, although there is no concrete explanation for this relationship. We encountered a positive relationship between ETR and profitability. However, there are studies that show that companies with greater ROA are able to subscribe to tax consultancy programs, which makes their structure more efficient, minimizing tax burdens.

Lastly, the Portuguese case contemplates AT. The research analyzed showed that the existence of this component induces an increase in firms' ETR.

As future investigation ideas, we propose the study of more determining factors of ETR, and the relationship between ETR and NTR in the different sectors of activity, as well as the geographic location, for listed and unlisted companies.

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