

ETHICAL ATTITUDE TOWARDS TAX EVASION AND ITS SOCIODEMOGRAPHIC DETERMINANTS IN BRAZIL

André Fonseca
Assistente de Investigação, ISEG- Lisbon School of Economics & Management,
Universidade de Lisboa,
Rua do Quelhas, 6, 1249-078 Lisboa, tel: +351 21 3925800, Portugal,

Tiago Rodrigo Diogo
Prof. Auxiliar Convidado, ISEG- Lisbon School of Economics & Management, Universidade
de Lisboa,
Rua do Quelhas, 6, 1249-078 Lisboa, tel: +351 21 3925800, Portugal,

António Samagaio
Prof. Auxiliar, ISEG- Lisbon School of Economics & Management, Universidade de Lisboa,
Rua do Quelhas, 6, 1249-078 Lisboa, tel: +351 21 3925800, Portugal,
ADVANCE – Centro de Investigação Avançada em Gestão do ISEG

Área Temática: Sector Público

Palavras-Chave: Tax Ethics, Tax Evasion, Tax Morals, Tax Compliance

Agradecimentos: Os autores agradecem o apoio financeiro da Fundação para a Ciência e a Tecnologia (FCT Portugal) no âmbito do projecto de financiamento com a referência UIDB/04521/2020.

ETHICAL ATTITUDE TOWARDS TAX EVASION AND ITS SOCIODEMOGRAPHIC DETERMINANTS IN BRAZIL

Abstract: The objective of this paper is to assess the attitudes of Brazilians towards the ethics of tax evasion and on a second level to analyze the influence of several socio-demographic variables on tax ethics. The results obtained indicate the existence of a high level of tax ethics among Brazilian taxpayers. It was possible to conclude that women and individuals between 30-44 years old presenting the highest levels of ethics, respectively. The study also concluded that non-self-employed people possess the highest levels of tax ethics. On the other hand, it was not possible to ascertain differences between religious and non-religious people concerning their level of tax ethics.

Keywords: Tax Ethics, Tax Evasion, Tax Morals, Tax Compliance

1. Introduction

The problem of tax evasion is as old as the taxes themselves. Individuals, in general, do not like to pay taxes, so they will do everything they can to reduce them. In the Brazilian scenario, for example, it is widespread in the population the sense that the tax burden is high, in comparison with the government's return to society in terms of public schooling, healthcare, as well as the existence of cases of government corruption, coupled with the desire to increase personal profits, which in turn encourages tax evasive behavior (Gryzybovsky & Hahn, 2006). Nonetheless, not even in more developed nations, in terms of government services, is the norm fully enforced (McGee *et al.*, 2008).

Lawmakers and social scientists have recognized that tax evasion is a behavioral problem that threatens the government's ability to raise revenue, which is a problem that transcends cultural and political boundaries (Weigel *et al.*, 1987). In addition to the problem of reducing government revenues, hampering their ability to settle their growing financial commitments, tax evasion also raises concerns about standards of conduct, as it can be argued that evasive behavior will have a disparaging effect on them (Groenland & Veldhoven, 1982). Despite growing concerns about tax evasion, as indicated by McGee, (2012), there are still few studies that examine non-compliance with tax obligations. According to the author, most studies that analyze tax evasion were conducted from an economic or public finance perspective, with few articles discussing the issue based on an ethical point of view (McGee,2012). In addition to this lack of studies on the scope of tax ethics, the studies already elaborated focus mostly on the North American, European and Australian population. Thus, the importance of this

research work becomes even more logical, as it analyzes a country that has not been studied enough in terms of the ethics of tax evasion.

The main objective of this paper is to assess the attitudes of resident taxpayers in Brazil towards the ethics of tax evasion. For that purpose, a survey was applied, based on the tax ethics literature and previous studies, mainly McGee (2006; 2012; 2014). On a second level, this paper analyzes the influence of several socio-demographic variables on tax ethics by identifying the factors that influence tax compliance, through an application of a set of hypothesis tests, designed to investigate the existence of possible relationships between the variables under study and the tax attitudes and behavior of taxpayers.

2. Literature review

2.1 Tax evasion and tax avoidance

Taxpayers in general seek to reduce their tax burden. Some of these taxpayers use lawful but unethical and harmful to the state means, and practice tax planning and tax avoidance, while others opt for tax evasion, which besides being unethical and harmful to the state, is also illegitimate and criminal (Diogo, 2018). Tax planning, tax avoidance and tax evasion are social phenomena that coexist with the figure of the tax, regardless of the degree of economic or cultural development of the society in general (Huck, 1997). In all instances, the purpose of the taxpayer is to realize tax benefits through either a reduction in the amount of taxes to be paid, deferment of tax payments (cash flow advantage), or eliminating the tax liability. What sets them apart is the methodology used to achieve the tax benefits (Van Brederode, 2020).

Pereira (2018) presents the concept of tax planning, a legal way to minimize taxes using strategies given by tax authorities, such as tax benefits and tax exemptions. Tax avoidance constitutes the delay, the reduction or the mischaracterization of the taxable event that gives rise to the payment of a tax, without, however, violating the law (Cowell, 1985). Tax avoidance consists of the practice of lawful acts or businesses which, however, are qualified by the tax law as not being in line with the substance of economic reality that underlies them, therefore considered abusive. Therefore, all situations framed in the concept of tax avoidance are considered *extra legem* (Kirchler *et al.*, 2003; Webley, 2004; Sandmo, 2005; Slemrod, 2007; Kirchler & Wahl, 2010; Pereira, 2018).

Tax evasion is both an illegal and intentional activity, aimed at reducing tax obligations, by either underreporting income, sales and wealth, or not presenting the appropriate tax returns to their realities (Alm & Torgler, 2011). Slemrod (2007) describes it as a situation in which a person, committing fraud, pays less taxes than is obliged to. For Benk *et al.* (2015), tax evasion has existed since governments began to collect taxes, regardless of the different motivating

factors. When looking at the topic of tax evasion, it is possible to find authors like Andreoni & Feinstein (1998), who claim that this is a topic that can be approached from several perspectives: it can be seen as a public finance problem, coercive, legal, organizational or ethical, or a combination of all of them. Torgler (2008) discusses tax evasion from the perspective of public finances, but also addresses some psychological and philosophical aspects of the question. Tax evasion can also be approached from an ethical point of view. In this line, McGee (1999; 2006; 2012; 2014) carried out several studies, verifying ethical aspects related to withholding taxpayers from different countries, religions, ages and genders. Contrary to tax avoidance, all situations framed in the concept of tax evasion are considered *contra legem* (Kirchler *et al.*, 2003; Webley, 2004; Sandmo, 2005; Slemrod, 2007; Kirchler & Wahl, 2010; Pereira, 2018).

All things considered, the demarcation lines between tax evasion and tax avoidance, and between tax planning and tax avoidance are blurred (Freedman, 2004). The main distinction between the first pair resides on the fact that tax evasion is illegal and constitutes a criminal offense, whereas tax avoidance takes place within the boundaries of the law and merely constitutes an administrative offense. Nonetheless, this is not utterly true, as with the rise of domestic anti-avoidance rules, tax avoidance is increasingly being held to be against the law (Van Brederode, 2020). The distinction between the latter pair seems to be the unlawful character of avoidance versus the lawfulness of tax planning. These distinctions, however, do not help in determining the demarcation line with any clarity or certainty (Van Brederode, 2020).

2.2 Tax morals

A review of the tax compliance literature shows that a significant number of studies have examined the relationship between tax morale and tax behavior (Devos, 2014). One of the pioneering studies, in the field of tax morals, is the one published by Schwartz & Orleans` (1967), whose objective was to study, from a social point of view, the effect of the threat of sanctions compared to the awareness of individuals for tax compliance.

Strümpel (1970) and Schmolders (1969) state that tax morality is understood as the intrinsic willingness of taxpayers to pay taxes. Later, Orviska & Hudson (2003) argue that the concept of tax morals consists of a civic duty, whose taxpayers are motivated by a feeling of social responsibility and loyalty to the society in which they operate. Ultimately, tax morale is described by Alm & Torgler (2006), as the moral principles or values that individuals show concerning the fulfillment of their tax obligations.

In studies carried out on tax compliance, tax morale has not always been considered a relevant variable, as it was understood to be part of the taxpayers' preferences (Feld & Frey, 2004). However, Torgler & Schneider (2009) argue that the practice of illegal behavior increases when taxpayers have low levels of tax morality, inducing the shadow economy problematic. Thus, tax morale becomes a relevant study variable.

Tax morality is not inseparable from the cultural aspect inherent to each country. Countries possess their own culture, their values, their norms, which together influence taxpayers' behavior in tax compliance (Frey 1997). Another factor intrinsic to tax morals is the relationship of trust in governments and religion (institutional confidence). Studies developed by Torgler (2003) and Torgler & Murphy (2004), point out that the greater the trust in the governments and the levels of religiousness of the taxpayers, the greater the tax morale and, consequently, the greater the tax compliance. In sum, tax morals encompass three factors: moral rules and feelings, social equity and the relationship between the Government and taxpayers.

2.3 Tax ethics

Tax Ethics is the science that studies the tax, legislative and administrative morality of the exercise of public power and the behavior of taxpayers concerning taxes. The taxpayers' tax ethics should also be considered in the study of tax compliance, as it aligns taxpayers' beliefs and standards with their tax obligations (Van Brederode, 2020).

Schwartz & Orleans (1967) were pioneers in the analysis of the relationship between tax ethics and tax compliance when they studied the effect between sanctions for non-compliance and the appeal to conscience by taxpayers. With this study, it was concluded that the greater the economic power of the taxpayer, the greater the propensity to commit sanctions. Similarly, the appeal to conscience had further influence on tax compliance than the imposition of sanctions. Song & Yarbrough (1978) investigated the effect of taxpayer ethics on voluntary tax compliance. The results reveal that taxpayers who possess a high level of tax ethics believe that other taxpayers also comply with tax law, whereas taxpayers with a low level of tax ethics are more prone to non-compliance and believe that the remaining taxpayers would also breach tax law. McGee (1998) describes three major views on the ethics of tax evasion: i) tax evasion is never ethical - individuals must pay whatever the State demands. This view is justified in a democracy by the theory of consent, as part of the notion that the government role is played by specialists (McGee, 2006). This view is particularly linked to religious morality (Crowe, 1944; Cohn, 1998; Tamari, 1998; McGee, 2006); ii) tax evasion is never unethical - there is never or rarely a duty to pay taxes, as the government would always be expropriating the wealth of

individuals and it is not the duty of the population to give anything to a corrupt government (McGee & Ho, 2006). This view is disseminated in the economic literature, which assumes that taxpayers see the payment of taxes as coercion. Nonetheless, the problem with this approach is that it differs from the observed tax behavior (Bordignon, 1993). McGee (2006) labels this vision as an anarchist view, as the government would be a mere thief who confiscates society's wealth without its consent, arguing that there is no social contract signed between the parties, establishing the legitimacy of said taxes; iii) tax evasion is sometimes ethical in certain circumstances and unethical in others - For McGee (2006), this view is the most widespread. However, there is no clear line regarding when evasion would be ethical or not.

There are countless determinants associated with non-tax compliance (Jackson & Millirion, 2002; Fischer *et al.*, 1992; Richardson, 2006). These authors report in their studies that tax compliance can be influenced by demographic, economic, sociological and psychological factors. Next, it will be presented in more detail several determinants associated with non-tax compliance, subdivided into several categories, which seem to be the most appropriate factors to explain the phenomenon of tax evasion, namely: demographic, education, occupation and religion.

2.3.1 Gender and tax ethics

Gender is perhaps the most widely studied demographic variable. It is an interesting variable from the perspectives of economics, law, philosophy, political science, psychology, sociology, anthropology, religion, history, and culture to name a few (McGee, 2012). An early study from Tittle (1980), suggests that female contributors present a higher level of tax compliance, *i.e.*, females present a greater predisposition to comply with laws. Other studies also found that women are more compliant when it comes to tax matters (Aitken & Bonneville, 1980; Mason & Calvin, 1978). Torgler (2003) and Martinez-Vazquez & Torgler (2009) affirm that female taxpayers are less prone to evade taxes. This is mainly due to differences in the ethical standards revealed by the female and male genders (Chung & Trivedi, 2003). Croson & Gneezy (2009) conclude that female taxpayers are more risk averse. Kastlunger *et al.* (2010) note that the differences in tax behavior between genders are essentially due to issues related to social traits, self-image and biological differences of the sexes. Collymore (2020) also finds females to be more opposed to tax evasion than males.

On the other hand, Hasseldine and Hite (2003) found no evidence of significant differences between men and women regarding their levels of tax ethics. Several scholars have predicted that as more women enter the work force and assume male positions, the differences between

men and women will diminish when it comes to ethical decision making (Grasmick *et al.*, 1984; Jackson & Milliron, 1986). Therefore, we defined the following hypothesis:

H1: Taxpayer gender positively affects their ethical attitude towards tax evasion.

2.3.2 Age, family status and ethics

According to McGee (2012), age is a demographic variable frequently examined in social science studies. Tittle (1980) concludes that taxpayers over the age of 30 possess higher levels of tax ethics than younger taxpayers. As age increases, taxpayers become more aware of the risk of sanctions and social exposure (Braithwaite, 2002). Andreoni *et al.* (1998) find in their research that older taxpayers and heads of households are more compliant, reasoning that the result obtained is explained by the fear of sanctions and social awareness. In line with this viewpoint, Richardson & Sawyer (2001) refer that the majority of the studies examining the age variable conclude that older people are more tax compliant. Torgler and Valev (2006) complement this point of view with the notion that older people seem to be on average more tax compliant and less likely to get involved in criminal activities. Contrarily, Clotfelter (1983) finds evidence that both younger and older taxpayers have the highest degree of compliance, by opposition to the middle-aged population. Porcano (1998) did not find a consistent relationship between age and tax evasion, suggesting that this demographic variable does not significantly influence tax evasion. Paz *et al* (2017) find that older taxpayers are more willing to engage in evasive behavior than younger taxpayers. The hypotheses under study are the following:

H2: Age positively affects taxpayers' ethical attitude toward tax evasion.

H3: Marital status positively affects taxpayers' ethical attitude toward tax evasion.

H4: Taxpayers' disposable income positively affects their ethical attitude towards tax evasion.

H5: Taxpayers with children have higher levels of ethical attitude toward tax evasion.

2.3.3 Education and tax ethics

Studies show that taxpayers with higher levels of education tend to be more compliant with tax duties than taxpayers with lower education, as they have a greater knowledge of the functioning and purpose of the tax system (Lewis, 1982), with Jackson & Milliron (1986) sharing the same conclusions as Lewis (1982). Supporting this idea, Kasipillai *et al.* (2003) found statistical evidence suggesting a positive relationship between the level of education and tax compliance.

Divergently, McGee (1998) characterizes education as an irregular variable, as taxpayers with a higher level of education tend to be more understandable with tax compliance; but, on the other hand, they are also the taxpayers with the highest income and, consequently, with the highest tax burden, the reason why they may avoid taxes because they do not think the tax burden to which they are subject is fair. Due to their greater knowledge, educated taxpayers, also have more opportunities to find loopholes in the law to find opportunities for tax non-compliance (Torgler & Schneider 2009). Chan *et al.* (2000) warn that a higher level of schooling may translate into greater preparation for tax management. This factor may justify that greater schooling levels will not always have a positive impact on tax compliance. The hypothesis established for this determinant is the following:

H6: Education positively affects taxpayers' ethical attitude towards tax evasion.

2.3.4 Occupation and tax ethics

Occupation is also presented as a justifying factor for tax compliance, with the variable being distinguished between the self-employed, employed and unemployed. Jackson & Milliron (1986); Andreoni *et al.* (1998) and Torgler (2003) state that the unemployed and the self-employed are more prone to tax evasion. As for the employed, since taxes are paid by the employer, the opportunities for tax non-compliance are reduced. Other authors also reached similar conclusions, confirming that self-employed workers are more likely to commit tax evasion. (Aitken & Bonneville, 1980; Groenland & Veldhoven, 1983; Houston & Tran, 2001). The hypotheses under analysis are:

H7: Business professionals have higher levels of ethical attitude towards tax evasion.

H8: Non-self employed have higher levels of ethical attitude towards tax evasion.

2.3.5 Religion and tax ethics

One of the historical reasons found in tax literature to justify why people pay taxes is a sense of moral and religious obligation (Benk *et al.*, 2015). Torgler (2006) finds religion to be a determining factor in the taxpayer's motivation to pay taxes, concluding that the higher the taxpayers' religious beliefs, the higher the level of tax compliance. In the same vein, Torgler & Murphy (2004) find that in countries where there is a larger religious population, tax non-compliance is smaller Stack and Kposowa (2006) pinpoint the importance of religion in determining cultural attitudes on the unacceptability of tax evasion. Thus, these authors conclude that the more devoted the taxpayer, the greater his tax ethics. The hypothesis under analysis is:

H9: Religion positively affects the taxpayers' ethical attitude towards tax evasion.

3. Research design

3.1 Survey

The studies that address tax evasion and tax attitudes become complex to analyze since it is a sensitive topic to obtain reliable data. Taxpayers tend not to respond in a completely honest manner (Alm, 2012). Although this limitation exists, Kirchler & Wahl (2010) state that the questionnaire survey is one of the most used and most effective methods to analyze the level of tax compliance. The questionnaire also permits to gather objective results since information is collected without the intervention of the researcher (Lopes & Brites, 2016).

In the present case, the questionnaire consists of closed-answer questions, considering that this type of question enables the coding of the answers and facilitates the analysis of the data obtained. (Saunders *et al*, 2009) and (Sekaran & Bougie, 2010). The questionnaire was disseminated through an online link in the platform Qualtrics distributed via e-mail and social media (Facebook and LinkedIn) and there was no place for incomplete answers since the questionnaire did not allow progress without answering all the questions.

The questionnaire was divided into 5 parts. The first part of the questionnaire addresses the shadow economy through the term “cash in hand” - income paid in cash and not declared for tax purposes. The questions presented follow the suggestions of Onu (2017), as measuring the attitudes of respondents towards this tax issue is a challenge, as respondents do not always act according to the answers reported, a limitation also mentioned by Alm (2012). The second section covers tax morals. Torgler & Murphy (2004) refer the relationship between government and citizens as one of the key elements for understanding tax morality. On the other hand, the inclusion of tax morality as an analysis variable is justified by the fact that it is considered a key determinant of the shadow economy (Torgler, 2011 and Daude, Gutierrez & Melguizo, 2013). The third section focuses on institutional confidence, which was measured by the degree of confidence in the following institutions: police, courts, government, political parties, federal senate and Brazilian IRS. The dimension of tax ethics was part of the fourth section of the questionnaire. In this part, a series of arguments that justify or not tax evasion are presented in 21 statements, where participants are asked “Tax evasion is ethical if ...”, using a 5 point Likert scale, ranging between 1 = strongly disagree and 5 = strongly agree. Finally, eight variables (socio-demographic and religious) are identified and used abundantly in the literature: gender, age, marital status, religion, level of education, tax education, type of employment relationship and degree of comfort with income.

3.2 Sample

The target population for this research work is made up of singular taxpayers' resident in Brazil, which in 2020 amounted to 32 million people, according to the *Receita Federal* and *Ministério da Economia*. Regarding the sample, 227 responses were collected.

In the application of the questionnaire, electronically, a non-casual sample was used, also known as a convenience sample. In this type of sample, the elements are chosen according to the degree of availability shown. This method has the advantage of being quick, easy and cheap (Hill & Hill, 2008). However, considering the sample used, any extrapolation to the population will be considered abusive and inappropriate.

In terms of characterization of the sample, about 48.9% are male and 51.1% female. As for age, respondents are between 18 and 72 years old, with an average age of 35 years. At the age group level, the Clotfelter approach (1983) was followed, including only one new age group - up to 29 years old. About 44.9% of respondents are aged up to 29 years; 34.8% are aged between 30 and 44 years old and 20.3% are older than 45 years old. Regarding marital status, the largest group of respondents is made up of single, divorced or widowed people, 60.8%. The rest, are married or in a stable relationship, corresponding to 39.2% of the sample.

Regarding the level of education, the majority have attended university (97.4%) while the remainder (2.6%) of respondents did not. Despite the level of education being considered an important factor to study ethics on tax compliance, the sample was not representative. Therefore, the schooling level was left out of the statistical analysis. In professional terms, (83.7%) are employed or retired, (8.8%) are unemployed and (7.5%) are studying or in another situation. Concerning the present or past professional situation, most respondents work/worked for others (79.7%), while (20.3%) are self-employed. An important point, in the characterization of the sample, concerns the household income. Nevertheless, considering the reluctance of many respondents to answer questions of this nature, the question about household income was replaced by another question about the degree of comfort provided, according to the European Values Survey (EVS). In these terms, almost half of the respondents (47.6%) answered that the household income allows them to live comfortably. The rest replied that their income allows them to live (43.2%), (7.5%) stated that it is difficult to live with their income level and (1.8%) responded that is very difficult to live with their income level. Concerning questions of a religious nature, our sample is mostly - 118 respondents (52.%) - made up of people with a current positive feeling of belonging to a religion. Of the

remaining respondents, 109 say they have not had a feeling of belonging to a religion in the past.

Appendix A presents the list of sociodemographic variables and its subgroups.

4. Results

4.1 Descriptive statistic

This chapter aims to analyze and discuss the results. It integrates a descriptive analysis of the administered questionnaire (composed by a set of indicators, organized by sections linked to the variables under study). The next step is to concatenate the indicators to create synthetic indices, or dimensions, which arise from the literature review. The reliability of the dimensions is determined based on the alpha of Cronbach, a measure suggested by several authors (George & Mallery, 2003; Hill & Hill, 2008; and Stephenson, 2010).

4.1.1 Shadow Economy

For the analysis of the shadow economy problematic, the indicators in section A of the questionnaire were measured, which are presented in Table B.1 (see Appendix B), with the respective descriptive statistics. Both indicators present a mean above the center of the scale (3), which indicates a high level of discomfort of respondents regarding the theme of the shadow economy. The "Shadow Economy" index was then created through the arithmetic mean of the indicators (A1) and (A2), obtaining a Cronbach alpha of 0.79, considered to be a moderate level of reliability (George & Mallery, 2003 and Stephenson, 2010). The results show that the "Shadow Economy" dimension has a higher average than the center of the scale, which once again reveals the discomfort of taxpayers regarding the payment and receipt through cash to evade taxes. In comparative terms, "Shadow Economy" will be evaluated according to several control variables, with the results obtained presented in Tables 1 to 3.

Table 1 – T-Test Shadow Economy

Control Variable		Descriptive Statistics			T Test	P value
Designation	Subgroups	Freq.	Mean	SD	$\sigma_x \neq \sigma_y$	
Gender	Male	111	3,64	1,30	-1,429	0,155
	Female	116	3,87	1,08		
Professional Area	Others	129	3,62	1,21	2,047**	0,042**
	Economics/Finance	98	3,94	1,15		
Tax Education	Yes	81	3,75	1,19	-0,023	0,982
	No	146	3,75	1,20		
Conjuality	Yes	89	3,94	1,11	1,904*	0,058*
	No	138	3,64	1,23		
Children	No	151	3,68	1,21	-1,448	0,150

	Yes	76	3,91	1,16		
Employment Relationship	Self-Employed	45	3,51	1,24	-1,495	0,140
	Employed	182	3,82	1,18		
Belonging to a Religion	Yes	118	3,71	1,17	-0,627	0,531
	No	109	3,81	1,22		
Degree of comfort with household income	Non comfortable	119	3,60	1,23	2,074**	0,039**
	Comfortable	108	3,93	1,13		

*p<0,10; ** p<0,05; *** p<0,01

Table 2 – Scheffé Test for Age – Shadow Economy

Subgroups (years old)	Descriptive Statistics			ANOVA Test		Scheffé Test	
	Freq.	Mean	SD	F	Bartlett	Up to 29	30-44
Up to 29	102	3,62	1,22	1,355	0,697	-	-
30-44	79	3,83	1,20			0,497	-
≥45	46	3,93	1,10			0,327	0,892

*p<0,10; ** p<0,05; *** p<0,01

Table 3 Scheffé Test for Level of Religiosity – Shadow Economy

Subgroups	Descriptive Statistics			ANOVA Test		Scheffé Test	
	Freq.	Mean	SD	F	Bartlett	Not religious	Very religious
Not religious	78	3,60	1,38	1,32	6,44**	-	-
Very religious	30	3,70	1,13			0,921	-
Some religious	119	3,87	1,07			0,280	0,775

*p<0,10; ** p<0,05; *** p<0,01

According to the results obtained, it is possible to note that the dimension is higher among females, those who live in conjugality, those who have children, those who are not self-employed, those who do not currently belong to a religion, those who are over 45 years old, those who live comfortably, those whose professional area is related to the economic/financial field and those who identify themselves as being somewhat religious. Statistically, significant differences are found in the professional area, in conjugality and in the degree of comfort with the household income. It should also be noted that in the Scheffé test by the degree of religiosity, the hypothesis of equality of variances is rejected for a level of significance of 0.05.

4.1.2 Tax Morals

The second section of the questionnaire concerns tax morale. For its measurement, the indicators in section B of the questionnaire were measured, which are presented in Table B.2 (See appendix B), with the respective descriptive statistics. For the indicator - Tax Morals - the proposed sub-indicators present a lower mean than the center of the scale, meaning that, on average, respondents disapprove of the undue claim for tax benefits (B1), as well as the

intentional tax evasion (B2), as well as the non-payment of the public transportation ticket (B3). The "Tax Morals" dimension was not created, as the Cronbach alpha was too low, compromising the reliability of the dimension (Marôco & Garcia-Marques (2006) and Stephenson (2010).

4.1.3 Institutional Confidence

"Institutional Confidence" was measured through the degree of trust in the following institutions: police, courts, government, political parties, federal senate and Brazilian IRS. The results are shown in Table B.3 (see Appendix B), allowing to conclude that respondents have a lower degree of confidence in institutions of a political nature when compared to non-political institutions. The institution with the highest level of confidence by respondents is the Brazilian IRS. The "Institutional Confidence" dimension was then created, measured based on the arithmetic mean of the indicators presented in Table B.3 (see Appendix B). The Cronbach alpha obtained was 0.77, showing a moderate level of reliability. Based on the results obtained, it can be concluded that the "Institutional Confidence" dimension presents an average below the center of the scale, revealing a feeling of distrust on the part of respondents towards national institutions. In comparative terms, "Institutional Confidence" was evaluated according to the various control groups, whose results are presented in Tables 4 to V6.

Table 4- T-Test – Institutional Confidence

Variable		Descriptive Statistics			T-Test	P-Value
Designation	Subgroups	N	Mean	SD	$\sigma_x \neq \sigma_y$	$\sigma_x \neq \sigma_y$
Gender	Male	111	2,37	0,70	2,055	0,041**
	Female	116	2,17	0,80		
Professional Area	Others	129	2,23	0,81	-0,864	0,389
	Economics/Finance	98	2,32	0,69		
Tax Education	Yes	81	2,41	0,73	2,116	0,036**
	No	146	2,19	0,77		
Conjugality	Yes	89	2,26	0,71	-0,083	0,934
	No	138	2,27	0,79		
Children	No	151	2,34	0,79	2,279	0,024**
	Yes	76	2,11	0,68		
Employment Relationship	Self-Employed	45	2,14	0,77	-1,203	0,233
	Employed	182	2,30	0,76		
Belonging to a Religion	Yes	118	2,27	0,77	-0,006	0,995
	No	109	2,27	0,75		
Degree of comfort with household income	Non comfortable	119	2,30	0,82	0,738	0,461
	Comfortable	108	2,23	0,69		

*p<0,10; ** p<0,05; *** p<0,01

Table 5 – Scheffé Test for Age – Institutional Confidence

Subgroups	Descriptive Statistics	ANOVA Test	Scheffé Test
-----------	------------------------	------------	--------------

(years old)	Freq.	Mean	SD	F	Bartlett	Up to 29	30-44
Up to 29	102	2,36	0,82	1,79	2,6152	-	-
30-44	79	2,15	0,70			0,170	-
≥45	46	2,26	0,72			0,752	0,724

*p<0,10: ** p<0,05: *** p<0,01

Table 6- Scheffé Test for Level of Religiosity – Institutional Confidence

Subgroups	Descriptive Statistics			ANOVA Test		Scheffé Test	
	Freq.	Mean	SD	F	Bartlett	Not religious	Very religious
Not religious	78	2,25	0,73	0,16	0,4622	-	-
Very religious	30	2,34	0,75			0,864	-
Some religious	119	2,26	0,79			0,996	0,882

*p<0,10: ** p<0,05: *** p<0,01

Through the analysis of Tables 4 to 6, it can be concluded that "Institutional Confidence" is similar between those who currently belong or not to a religion. Regarding the other control groups, "Institutional Confidence" is higher among men, among those who are tax educated, who do not live in conjugality, who are up to 29 years old, who do not live comfortably, who are very religious and who work on the economic/financial area. There are statistically significant differences between gender, tax education and whether the taxpayer is a parent or not.

4.1.4 Tax Ethics

For the analysis of Tax Ethics, the indicators in section D of the questionnaire were measured, which are presented in Table B.4 (see Appendix B), with the respective descriptive statistics. All the indicators, minus the one related with a Jew paying taxes while living in Nazi Germany (D15), present values below the center of the scale, meaning that, on average, the respondents strongly disagree or at least disagree with the arguments justifying tax evasion. Therefore, the participants present a high level of ethics towards tax evasion.

The "Tax Ethics" index was then created through the arithmetic mean of the indicators (D1-D21), obtaining a Cronbach alpha of 0.94, considered to be a very high level of reliability (George & Mallery, 2003 and Stephenson, 2010). The results show that the "Tax Ethics" dimension presents a lower average than the center of the scale, which once again reveals that taxpayers, on average, present a high level of ethics towards tax evasion (Tables 7 to 9).

Table 7- T-Test – Tax Ethics

Variable		Descriptive Statistics			T-Test	P-Value
Designation	Subgroups	N	Mean	SD	$\sigma_x \neq \sigma_y$	$\sigma_x \neq \sigma_y$
Gender	Male	111	2,28	0,94	3,162	0,002***
	Female	116	1,92	0,78		

Professional Area	Others	129	2,08	0,88	-0,270	0,788
	Economics/Finance	98	2,11	0,88		
Tax Education	Yes	81	1,97	0,81	-1,633	0,104
	No	146	2,16	0,91		
Conjugality	Yes	89	1,97	0,85	-1,825	0,069*
	No	138	2,18	0,88		
Children	No	151	2,19	0,88	2,390	0,018**
	Yes	76	1,90	0,86		
Employment Relationship	Self-Employed	45	2,33	0,88	2,003	0,05**
	Employed	182	2,04	0,87		
Belonging to a Religion	Yes	118	2,07	0,93	-0,506	0,614
	No	109	2,13	0,83		
Degree of comfort with household income	Non comfortable	119	2,11	0,91	0,259	0,796
	Comfortable	108	2,08	0,85		

p<0,10; ** p<0,05; *** p<0,01

Table 8- Scheffé Test for Age -Tax Ethics

Subgroups (years old)	Descriptive Statistics			ANOVA Test		Scheffé Test	
	Freq.	Mean	SD	F	Bartlett	Up to 29	30-44
Up to 29	102	2,25	0,88	2,90*	0,11	-	-
30-44	79	1,20	0,85			0,162	-
≥45	46	1,93	0,89			0,122	0,913

*p<0,10; ** p<0,05; *** p<0,01

Table 9 – Scheffé Test for Level of Religiosity – Tax Ethics

Subgroups	Descriptive Statistics			ANOVA Test		Scheffé Test	
	Freq.	Mean	SD	F	Bartlett	Not religious	Very religious
Not religious	78	2,23	0,81	1,92	3,59	-	-
Very religious	30	1,89	0,74			0,190	-
Some religious	119	2,06	0,94			0,383	0,648

*p<0,10; ** p<0,05; *** p<0,01

According to the results obtained, it is possible to note the considerable difference in the level of tax ethics between men and women, with women possessing a higher level of ethics regarding tax evasion. Concerning the other control groups, the ones who are more ethical are the following: those who possess tax education, who live in conjugality, who are not self-employed, who currently belong to a religion, who are very religious, those who are between 30 and 44 years old, who live comfortably, who are not linked to the economic/financial area and who have children. There are statistically significant differences regarding gender, employment relationship, conjugality, whether they have children or not and age.

4.2 Robustness Analysis

With the analysis and discussion of the various sections of the questionnaire and the creation of the respective dimensions, the PCA was carried out for each set of indicators capable of

maximizing the Cronbach alpha. This procedure aimed to prove the unidimensionality of the dimension and the results are presented in Table C.1 (see Appendix C).

It is possible to conclude that the PCA has statistically significant suitability for all dimensions. However, the results indicate that unidimensionality does not apply to the dimension "Tax Ethics" and the new dimensions proposed by the PCA are presented below. Note that the indicators belonging to section B do not constitute any dimension. For the initial dimension called "Tax Ethics", the PCA identified three dimensions, presented on the Table 10.

Table 10 – Tax Ethics - PCA

Item	Component		
	Illegitimacy of Governments	Moral reasons for not paying taxes	Paying Taxes is a duty
D15	,826	-,038	-,055
D17	,798	,027	,042
D10	,784	,023	,182
D5	,772	-,052	,126
D20	,762	,157	,064
D11	,748	,020	,347
D3	,728	,275	,285
D13	,718	,208	,349
D8	,642	,370	,136
D12	,602	,300	,419
D4	,602	,305	,289
D18	,561	,371	,050
D2	,049	,862	,139
D1	-,018	,840	,197
D7	,081	,733	,333
D21	,212	,664	,416
D19	,279	,594	,356
D16	,409	,478	,451
D14	,138	,338	,795
D9	,185	,358	,790
D6	,179	,271	,763

With the interpretation of the indicators associated with components 1, 2 and 3, the components are now designated with the following nomenclatures: component 1 of "Illegitimacy of Governments", component 2 of "Moral reasons for not paying taxes" and component 3 of "Paying Taxes is a duty". The respective Cronbach alphas are 0.931, 0.876 and 0.867, whose reliability is moderate to high. The results are presented in Table 11.

Table 11 – Tax Ethics – New Dimensions

Indicator	Freq.	Min.	Max.	Mean	SD
Illegitimacy of Governments	227	1,00	5,00	2,38	1,11
Moral reasons for not paying taxes	227	1,00	5,00	1,81	0,94
Paying Taxes is a duty	227	1,00	5,00	1,53	0,90

All the new dimensions, as well as the initial dimension, present an average below the center of the scale, meaning that on average, the respondents strongly disagree or at least disagree with the arguments justifying tax evasion. Nonetheless, it is clear from the new dimensions created that taxpayers disagree more notoriously with the arguments “moral reasons for not paying taxes” and “duty to pay taxes” when compared with the argument of the “illegitimacy of governments”.

Statistical tests were carried out to infer the existence of statistically significant differences among the various control variables. Comparing the new dimensions with the initial one, "Tax Ethics", the statistically significant differences are presented in the Table 12.

Table 12 – Tax Ethics – Mean Differences

Control Variable	Tax Ethics	Illegitimacy of Governments	Moral reasons for not paying taxes	Paying Taxes is a duty
	T-test	T-test	T-test	T-test
Gender	***	**	***	***
Professional Area				
Tax Education			***	**
Conjuality	*	*		
Children	**	***		*
Employment Relationship	**		**	
Belonging to a Religion			*	
Degree of comfort with household income				
Age	*	**		*
Level of Religiosity		**		

* $p < 0,10$; ** $p < 0,05$; *** $p < 0,01$

Regarding component 1, the statistically significant differences are the same as in the initial dimension, except for the employment relationship and the level of religiosity. However, the “Illegitimacy of Governments” component loses some statistical significance in the gender group when compared to the initial dimension. For the component “Moral reasons for not paying taxes”, the statistically significant differences in common with the initial dimension are those related to gender and employment relationship. When compared with the initial dimension, Component 2, presents statistical differences in tax education and whether one belongs to a religion. The statistically significant differences in common between component 3 and the initial dimension are related to gender, whether one has children and age.

4.3 Clusters Analysis

Through the analysis of Table 13, it is possible to verify that cluster 2 is the one that most agrees with the argument of “Illegitimacy of Governments”, thus disagreeing with the other 2

arguments. Regarding the "Moral Reasons for not paying taxes" argument, the cluster with the highest level of agreement is cluster 1. Finally, cluster 3 is the one with the highest level of agreement with the "Paying taxes is a duty" argument.

Table 13 – Clusters Description

	Illegitimacy of Governments		Moral reasons for not paying taxes		Paying Taxes is a duty	
	Mean	SD	Mean	SD	Mean	SD
Cluster 1	-,0259	,907	1,994	,724	-,976	,516
Cluster 2	,977	,596	-,395	,545	-,367	,606
Cluster 3	,229	,966	,641	,939	1,869	,816
Cluster 4	-,788	,428	-,478	,361	-,118	,415

Scale of the original variables: 1=completely agree; 5=completely agree

Clusters 1 and 3 have opposite sociodemographic characteristics than clusters 2 and 4, as shown in Table 14. Clusters 2 and 4 has the highest representation of women, older individuals, taxpayers with higher education level

Table 14 – Clusters Distribution

Item	Cluster 1	Cluster 2	Cluster 3	Cluster 4
Male	9,9%	33,3%	23,4%	33,3%
Female	12,9%	31,9%	6,9	48,3%
Tax Educated	8,6%	35,8%	8,6%	46,9%
Not Tax Educated	13,0%	30,8%	18,5%	37,7%
Up to 29 years old	9,8%	40,2%	15,7%	34,3%
30-44 years old	12,7%	24,1%	19,0%	44,3%
More than 44 years old	13,0%	30,4%	6,5	50,0

4.4 Regression model

A multiple linear regression model was performed, with the 3 components of the PCA analysis as dependent variables; Illegitimacy of Governments (Model 1); Moral Reasons for not paying taxes (Model 2); and Paying taxes is a duty (Model 3). The Independent variables used were the following: Gender, Tax Education, Conjuality, Income, Children, Age, Degree of Religiosity, Clusters, Professional Area, Employment Relationship, Shadow Economy, Institutional Confidence and the Tax Ethics components extracted from the PCA analysis (see Table D.1, Appendix D).

Through the analysis of the Durbin-Watson statistics presented in Table 15, it is possible to note that the residuals of the 3 models are not correlated since they are all very close to 2. By analyzing the Adjusted R Square values presented in Table 15, it is possible to conclude that the degree of variation of the 3 Tax Ethics components is strongly explained by the independent variables. By analyzing the VIF values (see Appendix D), it is possible to conclude that the models do not present multicollinearity, since all VIF values are below 4. It is also possible to conclude, by analyzing the F statistics presented in Table 16, that the model is, at a global level, for the 3 cases, statistically significant.

Through the analysis of Table D.1 (Appendix D), it is possible to note that the only independent variables included in the estimation of Model 1 which possess a positive impact on the “Illegitimacy of Governments” argument as an ethical justification for tax evasion are the following: gender, tax education, employment relationship and the clusters. Contrary to the univariate analysis, only the clusters and Shadow Economy variables showed statistical significance

In model 2, 12 of the 19 independent variables have a positive impact on the “Moral Reasons for not paying taxes” argument. The only exceptions are tax education, conjugality, degree of religiosity, employment relationship, shadow economy, illegitimacy of governments and paying taxes is a duty. In the same vein of the conclusions verified in the tests of differences of means presented previously, gender, employment relationship and belonging to a religion maintain their statistical significance. Cluster 1, cluster 3 and shadow economy also have statistical significance.

In model 3, as in model 2, 12 of the 19 independent variables have a positive impact on the “Paying taxes is a duty” argument for tax evasion. In this model, only cluster 1 and 3 present statistical significance, contrary to what was observed in the tests of differences of means presented previously.

Table 15 – Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of Estimate	Durbin-Watson
1	,783	,613	,579	,649	2,225
2	,843	,711	,686	,560	2,110
3	,836	,698	,672	,572	1,973

Table 16 – ANOVA – Multiple Linear Regression Model

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	138,524	18	7,696	18,299	,000
	Residual	87,476	208	,421		

	Total	226,00	226			
2	Regression	160,659	18	8,926	28,413	,000
	Residual	65,341	208	,314		
	Total	226,00	226			
3	Regression	157,828	18	8,768	26,753	,000
	Residual	68,172	208	,328		
	Total	226,00	226			

5. Conclusions

The main objective of this paper is to assess the attitudes of Brazilians towards the ethics of tax evasion and on a second level to analyze the influence of several socio-demographic variables on tax ethics. For that purpose, a questionnaire was applied, based on the tax ethics literature and previous studies. The sample obtained, consisting of 227 responses, is not considered representative of the target population - the individual taxpayers living in Brazil.

To achieve the objective of this work, empirical work was carried out in three phases. The first phase consisted of a descriptive analysis of the questionnaire. The descriptive analysis allowed the verification of the high degree of discomfort of taxpayers regarding the payment and receipt through cash to evade taxes and their disapproval of the undue claim for tax benefits. The descriptive analysis also revealed a feeling of distrust on the part of respondents towards national institutions and that the Brazilian taxpayers tend to present a high level of ethics towards tax evasion. This research work also contributed on the finding of the arguments that are more valued by taxpayers when trying to justify tax evasion, namely: an unfair tax system; if part of the tax revenue is used to finance a war that the taxpayer disapproves; if the taxpayer does not possess the means to pay the taxes due; and if the government discriminates the taxpayer in any way (race, religion, ethnicity). Subsequently, the dimensions associated with the research work and its analysis were created: Shadow Economy, Institutional Confidence and Tax Ethics.

The second phase consisted, after the presentation of the dimensions, of inferring about the differences in means (t-test and Scheffé test) using the various control variables suggested by Devos (2014): gender; age, professional area; tax education; conjugality; employment relationship; belonging to a religion; degree of religiosity; degree of comfort with household income and whether or not someone had children.

Concerning the "Tax Ethics" dimension, it was possible to conclude that gender is a determinant factor for the taxpayer's level of ethics, becoming clear that women have higher levels of tax ethics, which is in line with past studies, such as the studies conducted by Torgler (2003), Martinez-Vazquez & Torgler (2009) and Tittle (1980).

With this work, it was also possible to conclude that age is a determinant factor for the taxpayers' level of ethics, being possible to verify that the individuals between 30-44 years old

present higher values of tax ethics, which is in line with the studies conducted by Titte (1980), Braithwaite (2002), Andreoni (1998) and Richardson & Sawyer (2001).

Occupation is also a determinant factor for the tax ethics level, with the variable being distinguished between the self-employed, employed, and unemployed. Employed people are found to possess higher levels of tax ethics, which presents the same conclusions as previous studies done by Jackson & Milliron (1986); Andreoni *et al.* (1998) and Torgler (2003).

Contrary to most of the literature, the religiosity level was not a determinant factor for the tax ethics level, with no evidence found that the ethics towards tax evasion was different between religious and non-religious people.

With the realization of the PCA, it was concluded that it would make more sense to subdivide the dimension "Tax Ethics" by the three components suggested: "Illegitimacy of Governments", "Moral Reasons for not paying taxes" and "Paying taxes is a duty". The creation of these three new variables is one of the contributions of this work.

The third phase of the empirical work consisted in evaluating, through a multiple linear regression model, which variables have explanatory power of the 3 components of the "Tax Ethics" dimension obtained with the PCA analysis. Overall, it was found that the degree of tax ethics is determined by the following variables: belonging to one of the clusters, gender, belonging to a religion and the shadow economy problematic.

Research work involving empirical studies is subject to several constraints, namely, those concerning the quality of the data collected and its respective treatment. After carrying out this research work, it is possible, among a set of limitations, to highlight the following:

- 1) The sample, despite its considerable size (N=227), is not representative of the target population. It would be important to apply the questionnaire to a representative sample of the target population, which must be larger;
- 2) The answers obtained in the questionnaires may, in some cases, be biased from the true perception of the respondent. This is a common problem when research is based on the application of questionnaires (Alm, 2012), as taxpayers may be ashamed or fear reprisals. However, to overcome this limitation, respondents had full privacy when answering the questionnaire;
- 3) Absence of the "Tax Morals" dimension, since its Cronbach alpha was very small, making its insertion in this work unfeasible.
- 4) Concerning the dimensions created, the "Shadow Economy" dimension consists of only two indicators, respecting the maximization of its Cronbach's alpha. It would be advisable to build the identified dimension with new indicators.

This work allowed the identification of a set of topics for future research, of which the following are highlighted:

1) Considering the theme of this work, tax ethics is studied from the point of view of individual taxpayers living in Brazil. It would be relevant to study this interaction from the point of view of other players in the tax system, such as: non-resident Brazilian individual taxpayers, collective taxpayers residing in Brazil, taxpayers previously identified by the Federal Revenue Service as defaulters, among others;

2) As already mentioned, one of the dimensions measured is only constituted by two indicators. It would be important, and interesting, to redefine this same dimension and to include new dimensions, such as Tax Morals, outside the spectrum of this paper, given that its Cronbach alpha was extremely small.

References

- Aitken, Sherie S. and Laura Bonneville, (1980). A General Taxpayer Opinion Survey. IRS, Tax Compliance Research: Findings, Problems, and Prospects. *Journal of Accounting Literature* 5, 125–165, at p. 127.
- Alm, J., Sanchez, I. & De Juan, A. (1995). Economic and noneconomic factors in tax compliance. *Kyklos* 48 (1), 3-16.
- Alm, J.; Torgler, B. Do ethics matter? Tax compliance and morality. *Journal of Business Ethics*, v. 101, p. 635-651, 2011.
- Andreoni, J. B. E.; Feinstein, J. Tax Compliance. *Journal of Economic Literature*, v. 36, n. 2, p. 818-860, 1998.
- Balestrino, A. & Galmarini, U. (2003). Imperfect tax compliance and the optimal provision of public goods. *Bulletin of Economic Research* 55 (1), 37-51.
- Ballas, A. A. and H. Tsoukas: 1998, Consequences of Distrust: The Vicious Circle of Tax Evasion in Greece, *Journal of Accounting, Ethics & Public Policy*, 1(4), 572–596,
- Benk, S., McGee, R.W. and Yüzbası, B. (2015), “How Religions Affect Attitudes Toward Ethics of Tax Evasion? A Comparative and Demographic Analysis”, *Journal for the Study of Religions and Ideologies*, Vol 14, Issue 41, pp. 202-223
- Bordignon, M. (1993), A fairness approach to income tax evasion. *Journal of Public Economics*, 52(3), 345-362.
- Braithwaite, J. (2002). *Restorative Justice and Responsive Regulation*. 1^a ed., Oxford Univ. Press. Oxford.
- Braithwaite, V. (2002). *Dancing with Tax Authorities: Motival Postures and Non-Compliant Actions*. Ashgate Publishing Ltd
- Brautigam, D. (2008), *Taxation and State Building in Developing Countries: Capacity e Consent*, Cambridge University Press, .1-33
- Chan, C. W., Troutman, C. S., & O'Bryan, D. (2000). An expanded model of taxpayer

- compliance: empirical evidence from the United States and Hong Kong. *Journal of International Accounting, Auditing and Taxation*, 9(2), 83–103.
- Chung, J. Trivedi, V. U. (2003), The Effect of Friendly Persuasion e Gender on Tax Compliance Behavior, *Journal of Business Ethics* 47, 133-145.
- Clotfelter, C. T. (1983). Tax Evasion and Tax Rates: An Analysis of Individual Returns. *The Review of Economics and Statistics* 65 (3), 363-73.
- Cohn, G. (1998). The Jewish View on Paying Taxes. *Journal of Accounting, Ethics &*
- Collymore, Aidan (2020), *The Perception of the Ethics of Tax Evasion in the United Kingdom*, University of Portsmouth.
- Cowell, F. (1985). The Economic Analysis of Tax Evasion. *Bulletin of Economic Research* 37 (3), 163-193.
- Croson, R. T. A.; Gneezy, U. (2009), Gender differences in preferences, *Journal of Economic Literature*. 47, 448–474.
- Crowe, M.T. (1944), “*The Moral Obligation of Paying Just Taxes*”, The Catholic university of America. Studies in sacred theology, No. 84.
- da Paz, Bruno; Pinto, Diana; Nunes, Eva; Machado, Tatiana (2017), *Evasão Fiscal: as percepções dos contribuintes em Portugal*; Trabalho de Seminário de Investigação em Administração Pública, Instituto Superior de Ciências Sociais e Políticas
- Daude, C., Gutierrez, H. & Melguizo, A. (2013). What drives tax morale? a focus on emerging economies. *Review of Public Economics* 207 (4), 9-40.
- Devos, K. (2014). *Factors Influencing Individual Taxpayer Compliance Behaviour*. 1ª ed., Springer New York.
- Diogo, Tiago (2018). *A Interação entre os contribuintes singulares e a administração fiscal e o seu impacto no cumprimento fiscal*.
- Feld, L.P. e Frey, B.S. (2004), Illegal, Immoral, Fattening or What?: How Deterrence and Responsive Regulation Shape Tax Morale, in: C. Bajada e F. Schneider (eds.), *Size, Cause e Consequences of the Underground Economy*, Ashgate, Aldershot, 15-37.
- Fischer, C.M., Wartick, M. e Mark, M.M. (1992), Detection probability and taxpayer compliance: A review of the literature, *Journal of Accounting Literature*, Vol. 11, 1-46.
- Franzoni, L. A. (2000). Tax evasion and tax compliance. In Bouckaert, B. & De Geest, G. (1ª ed.), *Encyclopedia of Law and Economics*, Edward Elgar. Cheltenham.
- Freedman, Juditsh. 2004. Defining Taxpayer Responsibility: In Support of a General Anti-Avoidance Principle. *British Tax Review* 4: 331–356.
- Frey, B.S. (1997), *Not just for the money - An economic theory of personal motivation*, Cheltenham-Brookfield 199, Edward Elgar Publishing.
- George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference*, 11.0 atualização (4ª edição).

- Grasmick, H., N. Finley and D. Glaser. (1984). Labor Force Participation, Sex-Role Attitudes, and Female Crime: Evidence from a Survey of Adults. *Social Science Quarterly* 65, 703–718.
- Groenland, E. A., & Van Veldhoven, G. M. (1983). Tax evasion behavior: A psychological framework. *Journal of Economic Psychology*, 3(2), 129-144.
- Grzybovski, D., & Hahn, T. (2006). Educação fiscal: premissa para melhor percepção da questão tributária. *Revista de Administração Pública (RAP)*. Rio de Janeiro, 40(5), 841-864.
- Hasseldine, J. and Hite, P.A. (2003), “Framing, gender and tax compliance”, *Journal of Economic Psychology*, Vol. 24, Issue 4, pp. 517-533.
- Hill, M. M. & Hill, A. (2008). *Investigação por questionário*. 2ª ed., Edições Sílabo. Lisboa.
- Houston, J., Tran, A. (2001). A Survey of Tax Evasion Using the Inland Revenue Department (IRD). *Adv. Taxation*, 3, 69–94.
- Huck, H. M. *Evasão e elisão: rotas nacionais e internacionais do planejamento tributário*. São Paulo: Saraiva, 1997.
- Jackson, B. R. & Milliron. V. C. (1986). Tax compliance research: Findings, problems and prospects. *Journal of Accounting Literature* 5 (1), 125-161.
- Kasipillai, J., Aripin, N. and Amran, N.A. (2003), “The influence of education on tax avoidance and tax evasion”, *Journal of Tax Research*, Vol. 1, No. 2, pp. 134-146.
- Kastlunger, B., Dressler, S.G., Kirchler, E., Mittone, L. e Voracek, M. (2010), Sex differences in tax compliance: Differentiating between demographic sex, gender-role orientation, e prenatal masculinization (2D:4D), *Journal of Economic Psychology*, Vol. 31, 542-552.
- Kirchler, E. & Wahl, I. (2010). Tax compliance inventory TAX-I: Designing an inventory for surveys of tax compliance. *Journal of Economic Psychology* 31 (3), 331-346.
- Kolm, S. (1973). A note on optimum tax evasion. *Journal of Public Economics* 2 (3), 265-270.
- Lewis, A. (1982), The psychology of taxation, *Journal of Economic Psychology*, 3, 177-181.
- Lopes, C. M. da M.; Brites, R. (2016), O conhecimento fiscal, as percepções fiscais e a educação fiscal em Portugal, in: *Revista de Finanças Públicas e Direito Fiscal*, Ano 8, Vol (4). Lisboa: Faculdade de Direito da Universidade de Lisboa (FDUL). Pp. 13-33.
- Marôco, J. (2014). *Análise Estatística com o SPSS Statistics*. 6ª ed., Report Number. Pêro Pinheiro.
- Marôco, J., & Garcia-Marques, T. (2006). Qual a fiabilidade do alfa de Cronbach? Questões antigas e soluções modernas?. *Laboratório de Psicologia* 4 (1), 65-90.
- Martinez-Vazquez, J., Torgler, B. (2009). The Evolution of Tax Morale in Modern Spain. *Journal of Economic Issues*. 43 (1), 1-28.
- McGee, R. W. (2014). *The Ethics of Tax Evasion*. Handbook of Research on Economic Growth and Technological Change in Latin America, 379.

- McGee, R. W. (2016). *The Panama papers: A discussion of some ethical issues*.
- McGee, R. W., Ho, S. S., & Li, A. Y. (2008). A comparative study on perceived ethics of tax evasion: Hong Kong vs the United States. *Journal of Business Ethics*, 77(2), 147-158.
- McGee, R., Gelman, W. (2010). *Opinions on the Ethics of Tax Evasion: a Comparative Study of the USA and Six Latin American Countries*
- McGee, R.W. (1998), *The Ethics of Tax Evasion: Perspectives in Theory and Practice*, New York: Springer.
- McGee, R.W. (1999), Is It Unethical to Evade Taxes in an Evil or Corrupt State? A Look at Jewish, Christian, Muslim, Mormon e Baha'i Perspectives, *Journal of Accounting, Ethics & Public Policy*, 2, 149-181.
- McGee, R.W. (2006), *The Ethics of Tax Evasion: A Survey of International Business Academics*, Springer, New York.
- McGee, R.W. (2012). *The Ethics of Tax Evasion in Theory and Practice*. 1^a ed., Springer. New York.
- McGee, R.W. (2014), *Attitudes on the Ethics of Tax Evasion: A Survey of Philosophy Professors*.
- Onu, D. (2017). *Measuring Tax Compliance Attitudes: What surveys can tell us about tax compliance behaviour*. Em: Hasseldine, J. (eds.). Advances in Taxation, Emerald Group Publishing Limited. Bingley, Reino Unido.
- Pereira, M. (2018). *Fiscalidade*. 6^a Ed., Almedina. Coimbra.
- Porcano, T. (1984). Distributive Justice and Tax Policy. *Accounting Review* 59 (4), 619-636..
- R. W., & Tyler, M. (2006). Tax evasion and ethics: A demographic study of 33 countries. Social Science Research Network (SSRN), 1-20.
- McGee, R. W., Ho, S. S., & Li, A. Y. (2008). A comparative study on perceived ethics of tax evasion: Hong Kong vs the United States. *Journal of Business Ethics*, 77(2), 147-158.
- Richardson, G. (2006). Determinants of tax evasion: a cross-country investigation, in: *Journal of International Accounting Literature, Auditing and Taxation*, 15, pp. 150- 169
- Richardson, M. & Sawyer, A. (2001). Taxonomy of the tax compliance literature: Further findings, problems and prospects. *Australian Tax Forum* 16 (2), 137-284.
- Saunders, M., Lewis, P., Thornhill, A., & Wilson, J. (2009). *Business research methods*. Financial Times, Prentice Hall, London.
- Schmölders, G. (1959). Fiscal psychology: A new branch of public finance. *National Tax Journal* 12 (4), 184-193.
- Schwartz, R. & Orleans, S. (1967). *On legal sanctions*. University of Chicago Law Review 34 (2), 274–300.
- Sekaran, U. & Bougie, R. (2010). *Research Methods for Business: A Skill. Building Approach*. 7^a ed., John Wiley. UK.

- Song, Y. D. & Yarbrough, T. T. (1978). Tax ethics and taxpayer attitudes: A survey. *Public Administration Review* 38 (1), 442-452.
- Stack, S. and Kposowa, A. (2006), "The Effect of Religiosity on Tax Fraud Acceptability: A Cross-National Analysis", *Journal for the Scientific Study of Religion*, Vol. 45, Issue 3, pp. 325-351
- Stephenson, T. (2010). Measuring taxpayers' motivation to hire tax preparers: The development of a four-construct scale. In *Advances in Taxation* (pp. 95-121). Emerald Group Publishing Limited.
- Strümpel, B. 1969. The contribution of survey research to public finance. Em: Peacock, A. T. (eds.). *Quantitative Analysis in Public Finance*, Praeger. New York.
- Tamari, M. (1998). Ethical Issues in Tax Evasion: A Jewish Perspective. *Journal of Accounting, Ethics & Public Policy*, 1, 121-132.
- Tittle, C. (1980), *Sanctions and Social Deviance: the question of Deterrence*. New York. Praeger (eds).
- Torgler, B. (2003). Tax morale and direct democracy. *European Journal of Political Economy* 21 (2), 525-531.
- Torgler, B. (2006). The importance of faith: Tax morale and religiosity, *Journal of Economic Behavior & Organization*, Vol. 61, Issue 1, pp. 81-109.
- Torgler, B. and Valev, N.T. (2006), "Corruption and Age", *Journal of Bioeconomics*, Vol. 8, Issue 2, pp. 133-145
- Torgler, B. e Murphy, K. (2004), Tax Morale in Australia: What Shapes it e Has it Changed over Time?, *Journal of Australian Taxation*, Vol. 7, 298-335.
- Torgler, B. *Tax Compliance and Tax Morale: A Theoretical and Empirical Analysis*. Cheltenham, UK: Edward Elgar, 2007.
- Torgler, B.; Schneider, F. *Shadow Economy, Tax Morale, Governance and Institutional Quality: A Panel Analysis*. 2007.
- Van Brederode, Robert F (2020), *Ethics and Taxation*, 1st edition, Springer, Singapore
- Weigel, R. H., Hessing, D. J., & Elffers, H. (1987). Tax evasion research: A critical appraisal and theoretical model. *Journal of economic psychology*, 8(2), 215-235.

Appendixes

Appendix A - Subgroups
Table A.1 - " Sociodemographic variables and their subgroups"

Sociodemographic variable	Subgroups	Dimension of the subgroups
Gender	Male	111
	Female	116
Professional Area	Others	129
	Economics/Finance	98
Tax Education	Yes	81
	No	146
Conjugalilty	Yes	89
	No	138
Children	No	151
	Yes	76
Employment Relationship	Self-employed	45
	Employed	182
Belonging to a Religion	Yes	118
	No	109
Degree of comfort with household Income	Non comfortably	119
	Allows to live Comfortably	108
Degree of Religiosity	Not religious	78
	Very religious	30
	Some religious	119
Age	Up to 29 years	102
	30-44 years	79
	≥45 years	46

Appendix B – Descriptive Statistics
Table B.1 – Shadow Economy

Item		Freq.	Min.	Max.	Mean	SD	Cronbach Alpha
A1.	I think it is unfair to work, constantly, receiving in cash without paying taxes	227	1	5	3,65	1,34	0,79
A2.	It is unfair to make payments in cash in order not to pay taxes	227	1	5	3,86	1,29	
Shadow Economy		227	1	5	3,76	1,19	

Table B.2 – Tax Morals

Item		Freq.	Min.	Max.	Mean	SD	Cronbach Alpha
B1.	It is justifiable to claim government and/or tax benefits for which we are not entitled	227	1	5	1,58	1,16	0,58
B2.	It is justifiable to evade taxes if we have a chance	227	1	5	1,70	1,11	
B3.	It is justifiable not to pay the ticket for public transport	227	1	5	2,14	1,34	

Table B.3 – Institutional Confidence

Item		Freq.	Min.	Max.	Mean	SD	Cronbach Alpha
C1	Police	227	1	5	2,68	1,20	0,77

C2	Courts	227	1	5	2,71	1,22	
C3	Government	227	1	5	1,87	1,11	
C4	Political Parties	227	1	4	1,50	,86	
C5	Federal Senate	227	1	5	1,91	1,05	
C6	Brazilian Internal Revenue Service (IRS)	227	1	5	2,92	1,26	
Institutional Confidence		227	1	4,17	2,27	,76	

Table B.4 - Tax Ethics

	Item	Freq.	Min.	Max.	Mean	SD	Cronbach Alpha
D1	Even though a large part of tax revenue is spent on fair cause projects	227	1	5	1,77	1,24	0,94
D2	Even though a large part of the tax revenue is spent appropriately	227	1	5	1,78	1,24	
D3	If the tax system is unfair	227	1	5	2,26	1,41	
D4	If a large part of the tax revenue is spent on projects that I morally disapprove of	227	1	5	2,16	1,34	
D5	If part of the tax revenue is to finance a war that I consider unfair	227	1	5	2,44	1,53	
D6	If everyone does that	227	1	5	1,59	1,08	
D7	Even though a large part of the tax revenue is spent on projects that benefit me	227	1	5	1,67	1,09	
D8	If I cannot pay the taxes due	227	1	5	2,56	1,45	
D9	If I was sure I'd never get caught	227	1	5	1,51	,97	
D10	If the government discriminated against me in any way because of my religion, race or ethnicity	227	1	5	2,47	1,52	
D11	If a significant portion of tax revenue ends up in the pockets of corrupt politicians or their families and friends	227	1	5	2,31	1,57	
D12	If tax rates are too high	227	1	5	2,05	1,30	
D13	If a large part of the tax revenue is wasted	227	1	5	2,20	1,39	
D14	If the probability of being caught is low	227	1	5	1,50	,99	
D15	If I was a Jew living in Germany during the Nazi regime during World War II	227	1	5	3,04	1,69	
D16	Because the government does not have the right to charge me so much (even if the tax figures are not too high)	227	1	5	2,22	1,39	
D17	If I lived in a dictatorship	227	1	5	2,57	1,55	
D18	If I lived in a state of emergency due to a health crisis (example: covid-19)	227	1	5	2,37	1,47	
D19	Even if it means that if I pay less, others will pay more	227	1	5	1,61	,99	
D20	If the government conditioned the political opinion of the people (e.g. oppressed press)	227	1	5	2,15	1,35	
D21	Even though a large part of the tax revenue is spent on projects that do not benefit me	227	1	5	1,80	1,22	
Tax Ethics		227	1	5	2,10	,88	

Appendix C – PCA Results

Table C.1 - PCA Results

Dimension	KMO	Bartlett	Explained Variance	Commonalities (Minimum Value)	#Indicators	Unidimensional
Shadow Economy	0,500	124,849***	82,656	0,827	2	Yes
Institutional Confidence	0,737	352,259***	46,842	0,289	6	Yes
Tax Ethics	0,930	3179,377***	65,021	0,455	21	No

* $p < 0,10$; ** $p < 0,05$; *** $p < 0,01$

Appendix D – Regression Analysis

Table D.1 – Regression Analysis Results

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig	Collinearity Statistics	
		B	Std Error	Beta			Tolerance	VIF
1	Constant	-0,546	0,227		-2,403	0,017		
	Gender	0,004	0,098	0,002	0,045	0,964	0,765	1,307
	Tax Education	0,032	0,094	0,015	0,343	0,732	0,910	1,099
	Conjuality	-0,098	0,105	-0,048	-0,932	0,352	0,704	1,421
	Income	-0,034	0,090	-0,017	-0,376	0,708	0,909	1,100
	Kids	-0,081	0,136	-0,038	-0,597	0,551	0,452	2,213
	Up to 29	-0,121	0,161	-0,060	-0,752	0,453	0,289	3,460
	From 30 to 44	-0,217	0,135	-0,104	-1,613	0,108	0,450	2,221
	Some religious	-0,025	0,121	-0,012	-0,202	0,840	0,508	1,968
	Very religious	-0,087	0,131	-0,030	-0,665	0,507	0,937	1,067
	Cluster 1	0,482	0,245	0,154	1,970	0,050**	0,305	3,276
	Cluster 2	1,709	0,110	0,803	15,548	0,000***	0,698	1,433
	Cluster 3	1,064	0,229	0,381	4,656	0,000***	0,278	3,591
	Professional Area	-0,079	0,097	-0,039	-0,809	0,420	0,795	1,258
	Employment Relationship	0,049	0,116	0,019	0,420	0,675	0,872	1,147
	Belonging Religion	-0,018	0,051	-0,017	-0,355	0,723	0,860	1,162
	Shadow Economy	-0,115	0,050	-0,115	-2,293	0,023**	0,744	1,345
Institutional Confidence	-0,005	0,047	-0,005	-0,097	0,923	0,844	1,185	
Moral Reasons for not paying taxes	-0,024	0,080	-0,024	-0,300	0,765	0,289	3,457	

	Paying taxes is a duty	-0,053	0,078	-0,053	-0,680	0,497	0,302	3,308
2	Constant	-0,637	0,194		-3,282	0,001***		
	Gender	0,185	0,084	0,093	2,204	0,029**	0,783	1,277
	Tax Education	-0,126	0,081	-0,061	-1,557	0,121	0,920	1,087
	Conjuality	-0,101	0,091	-0,049	-1,112	0,268	0,705	1,418
	Income	0,031	0,078	0,015	0,395	0,693	0,909	1,100
	Kids	0,169	0,117	0,080	1,446	0,150	0,456	2,195
	Up to 29	0,097	0,139	0,048	0,698	0,486	0,289	3,461
	From 30 to 44	0,095	0,117	0,046	0,817	0,415	0,446	2,241
	Some religious	0,129	0,104	0,064	1,237	0,217	0,512	1,954
	Very religious	-0,024	0,114	-0,008	-0,215	0,830	0,935	1,069
	Cluster 1	2,292	0,142	0,731	16,091	0,000***	0,673	1,487
	Cluster 2	0,051	0,140	0,024	0,363	0,717	0,323	3,097
	Cluster 3	1,069	0,194	0,382	5,514	0,000***	0,289	3,460
	Professional Area	0,080	0,084	0,040	0,948	0,344	0,796	1,256
	Employment Relationship	-0,097	0,100	-0,039	-0,971	0,333	0,875	1,143
	Belonging Religion	0,076	0,044	0,070	1,753	0,081*	0,873	1,146
	Shadow Economy	-0,178	0,042	-0,178	-4,249	0,000***	0,788	1,269
	Institutional Confidence	0,000	0,041	0,000	0,006	0,995	0,844	1,185
Illegitimacy of Governments	-0,018	0,060	-0,018	-0,300	0,765	0,387	2,582	
Paying taxes is a duty	-0,092	0,068	-0,092	-1,365	0,174	0,304	3,286	
3	Constant	-0,469	0,201		-2,338	0,020		
	Gender	-0,023	0,087	-0,011	-0,260	0,795	0,766	1,306
	Tax Education	-0,063	0,083	-0,030	-0,762	0,447	0,912	1,097
	Conjuality	0,015	0,093	0,007	0,159	0,874	0,701	1,426
	Income	-0,016	0,080	-0,008	-0,204	0,839	0,909	1,100
	Kids	0,131	0,120	0,062	1,094	0,275	0,454	2,204
	Up to 29	0,228	0,141	0,114	1,613	0,108	0,292	3,427
	From 30 to 44	0,036	0,120	0,017	0,303	0,762	0,445	2,248
	Some religious	0,108	0,107	0,054	1,014	0,312	0,510	1,959
	Very religious	0,038	0,116	0,013	0,328	0,743	0,936	1,069
	Cluster 1	-0,592	0,214	-0,189	-2,767	0,006*	0,311	3,219
	Cluster 2	-0,164	0,142	-0,077	-1,155	0,250	0,325	3,080
	Cluster 3	2,121	0,153	0,759	13,889	0,000***	0,486	2,057
	Professional Area	0,061	0,086	0,031	0,714	0,476	0,795	1,259

Employment Relationship	0,104	0,102	0,042	1,023	0,307	0,876	1,142
Belonging Religion	0,029	0,045	0,027	0,652	0,515	0,862	1,161
Shadow Economy	-0,042	0,045	-0,042	-0,948	0,344	0,728	1,373
Institutional Confidence	0,020	0,041	0,020	0,484	0,629	0,845	1,183
Illegitimacy of Governments	-0,042	0,061	-0,042	-0,680	0,497	0,388	2,578
Moral reasons for not paying taxes	-0,096	0,071	-0,096	-1,365	0,174	0,292	3,428

* $p < 0,10$; ** $p < 0,05$; *** $p < 0,01$