Inzinerine Ekonomika-Engineering Economics, 2024, 35(1), 102–118

Millennials vs. "Zoomers" Tax Compliance Behaviour in Romania: SEM and GLM with Survey Data

Camelia Surugiu[1], Marius-Razvan Surugiu[2]*, Catalin Gradinaru[3]

[1]*Faculty of Business and Administration, The University of Bucharest*
4-12 Regina Elisabeta Blvd., Bucharest, Romania
E-mail: camelia.surugiu@faa.unibuc.ro

[2]*Institute of National Economy*
13 Calea 13 Septembrie, Bucharest, Romania
*E-mail: mariussurugiu@ince.ro (*corresponding author)*

[3]*Faculty of Business and Administration, The University of Bucharest*
4-12 Regina Elisabeta Blvd., Bucharest, Romania
E-mail: catalin.gradinaru@faa.unibuc.ro

https://doi.org/10.5755/j01.ee.35.1.33517

Tax compliance (TC) behaviour differences between the Romanian Millennials and "Zoomers" are investigated in this paper to identify the variances in TC behaviour between generations. A questionnaire was developed, and it was applied to 350 respondents. Online survey data were collected from May to July 2022. The influences on TC from various variables were considered using generalized linear models (GLM) and path analysis with Structural Equation Modelling (SEM). The findings show a positive impact from awareness, age, and tax morale, emphasizing the need for measures to increase awareness of the tax system and the level of citizens' tax morale. These findings are crucial for policymakers as they can create appropriate programs to educate people about TC behaviour and cater them to different generations. Also, tax morale's sensitivities may be affected by these tailored programs. The current research presents fresh avenues for further investigations into generational variations and the impact of emotions on TC behaviour.

Keywords: *Tax Compliance; Gen Y; Gen Z; Survey Data; Awareness; Tax Morale.*

Introduction

There is an inverse relationship between the objectives of the taxpayers and the government. The taxpayers want to minimize the contributions and taxes paid to the budget, but the government seeks to maximize this amount. A tax represents a burden on a taxpayer to a greater or lesser extent. The policymaker can motivate taxpayers to comply, with tax legislation, by building trust and using its power.

Power and trust in the authorities influence the level of TC. Research on the impact of trust and the power of the authority has focused on issues such as social norms, perceptions of justice, the likelihood of an audit, and fines. Thus, TC is stimulated through audits and fines (i.e., through the perception of the authorities' power) and the development of a relationship of trust with taxpayers by offering various services to help them.

To increase the budget revenues, it is essential to stimulate the TC, which means reporting and paying taxes on time and fulfilling tax obligations provided by law. These revenues are used to provide various public goods and services. Tax incomes support public expenditures and financing of public services (Youde & Lim, 2019).

TC is analysed from both economic and behavioural influences. The determinants of TC remain a multifaceted problem for the government. Still, a significant part of the literature investigates its interdependencies with the enforcement, trust, and power of authorities (Batrancea *et al.*, 2019). If policymakers can establish good services and proper accountability rules, citizens' compliance is higher.

Noneconomic factors should also be taken into consideration when analysing TC behaviour. TC should be regarded from different cultural, social, and political perspectives (Bertinelli *et al.*, 2020).

For this research, a questionnaire was developed, and our sample included 350 respondents. This paper examines TC behaviour differences between the Romanian Millennials (Generation Y) and "Zoomers" (Generation Z) and compares the results with the one obtained from the entire investigated sample. The paper aims to explore if there are variances in TC behaviour between generations. Various influences on TC were considered, such as awareness, power, morals, law enforcement, information services, trust, fairness, and rewards. In addition, a GLM was used to capture the effects on TC. A SEM analysis was developed, showing the positive and significant influences of the variables on TC.

The paper is structured as follows. The next section presents the relevant literature in the field. Section 3 contains a description of the methodology employed in the paper. Section 4 focuses on the analysis. Section 5 presents the discussions. Finally, section 6 concludes the article.

Literature Review

There are various works in the literature analysing TC. Also, essential indicators have been considered in connection with TC (see Figure 1). Randlane (2016) systematized the TC studies and divided them into economic approaches based on rational decisions and behavioural approaches based on irrational decisions, mainly due to social factors. Lisi (2021) splits methods of increasing TC into deterrence-based, social-based, and reward-based.

The economic perspective investigates TC from two theories, expected utility and deterrence (Olusegun, 2021). Shih-Ying & Mei-Jane (2005) suggest that TC should be regarded in correlation with government expenditures. Income increases and tax corruption decreased the levels of TC, while the efficiency of government expenditure increased taxpayers' motivation to pay taxes. Yaniv (2009) suggests that TC increases as the income tax rate increases. On the other hand, the research conducted by Durham *et al.* (2014) emphasized that the combined effect of income source and decision context doesn't significantly influence TC. However, each separate factor influences compliance behaviour. Riahi-Belkaoui (2004) underlines that in countries with high economic freedom, the equity market is significant, competition laws are operative, the crime rate is reduced, citizens don't perceive paying taxes as a burden, and they provide tax-compliant behaviour.

Tax Compliance, Governments, and Administrative Policies

Administrative policies and governments play a significant part in the compliance behaviour of taxpayers (Alm *et al.,* 2010; Hashimzade *et al.,* 2014; Resnick, 2021; Sebele-Mpofu & Ntim, 2020). Therefore, governments must understand TC behaviour to adopt proper decisions to increase tax revenues and develop policy instruments to decrease the tax gap (Hashimzade *et al.,* 2014).

TC increases as the citizens are provided with clear liabilities and information services. Thus, citizens understand that tax payments encourage wealth redistribution through an improved offer of public goods and services (Alm *et al.,* 2010). Therefore, good governance and an efficient tax system support TC and tax morale (Sebele-Mpofu & Ntim, 2020). Initially depicted by Schmolders (1960), the tax morale concept portrays the mentality of individuals connected to their consciousness to be citizens regarding their attitude towards their taxes (Nichita & Batrancea, 2012), honesty and social stigma (Kemme *et al.,* 2020). The findings of Casal *et al.* (2016) connect TC mainly with the voice of taxpayers on their contributions but also with increased procedural justice and information about public expenditure.

Other dimensions associated with taxpayers' compliance behaviour and governmental authorities are trust, power, deterrence, law enforcement, and penalties (Bruno, 2019; Kogler *et al.,* 2013; Resnick, 2021; Youde & Lim, 2019). If the taxpayers perceive that the tax revenues are spent wisely by the authorities and further invested in public goods and services, then their compliance increases (Sebele-Mpofu & Ntim, 2020). Gobena & van Dijke (2017) emphasized that the citizens' trust in the authorities influences TC. The authorities which can provide procedural justice increase voluntary compliance. Suppose individuals don't trust authorities and perceive procedural justice as low. In this case, their willingness to pay taxes decreases.

Kogler *et al.* (2013) suggest that perceived trust in the authorities employs voluntary compliance, while perceived power of the authorities fosters enforced compliance. Resnick (2021) advocates that informal workers have a higher propensity to pay taxes if they trust policymakers and understand that these taxes are collected to support the development of social and transport infrastructure. The study developed by Enachescu *et al.* (2019) revealed that positive and negative emotions are essential in TC behaviour. So, when designing tax policies, it is crucial to consider developing positive feelings of the citizens toward tax institutions to boost a positive image and attitudes toward taxes and thus create a compliance behaviour. The authorities must raise trust and power to reduce tax evasion and increase TC (Batrancea *et al.,* 2019). There is a direct relationship between the trustworthiness and reliability of tax authorities and taxpayers' trust in their work (Lisi, 2019).

Youde & Lim (2019) underline factors such as: awareness about trust in authorities, tax payment procedures, policymakers, accounting agencies, law enforcement, and penalties that contribute to the high-compliance behaviour of taxpayers. Nichita *et al.* (2019) argue that taxpayers express a higher propensity toward compliance when they better understand taxation's importance in society. Thus, literacy and awareness on this matter are considered significant in the willingness to pay taxes, while other variables such as gender, age, level of education, income, and tax morale are not. Technical and legal tax knowledge is also essential to enable taxpayers to comply. Awareness about tax behaviour reduces compliance costs and thus decreases tax evasion (Musimenta, 2020).

Other authors concentrate their research on deterrence and enforcement mechanisms that positively affect TC and suggest that governments apply them to increase tax collection (Bruno, 2019). Deterrence procedures should be regulated according to the realities and challenges of each specific country. Respecting tax regulations by citizens can be achieved not only through coercive rules and regulations applied by the state but also through cooperation, social norms, and ethical behaviour (Benkraiem *et al.,* 2021; Schneider, 2007; Torgler & Wenzel, 2007).

Other studies underline the relationship between TC and fairness (Alm *et al.,* 1992; Wenzel, 2002). For example, the findings of Taing & Chang (2021) emphasized that the citizens' TC is influenced by tax morale, tax fairness, and tax complexity, while other determining components, such as the power of authority, trust in government, tax information, and tax awareness don't develop a significant relationship with TC.

Fatas *et al.* (2021) investigated the impact of rewards on TC behaviour, and the results suggested that they are attractive to citizens and increase TC. The findings of Lisi (2021) underline that rewards support tax morale, but they need to be planned to impulse truthful behaviour. Junpath *et al.* (2016) suggest that providing regular tax amnesties will discourage the compliance behaviour of both non-compliant and compliant taxpayers.

Consequently, TC's behaviour represents a balanced dance between two partners. As Rechberger *et al.* (2010) suggest, an equilibrium between the honest behaviour of taxpayers and support and recognition from tax authorities should coexist.

Tax compliance, governments, and administrative policies	Information services and liabilities
	Trust
	Power
	Awareness
	Deterrence
	Law enforcement
	Fairness
	Penalties
	Rewards and amnesties

Figure 1. Tax Compliance, Governments, and Administrative Policies

Source: authors' contribution.

Tax Compliance, Social and Cultural Factors

Different studies continue to investigate the effect of deterrence, trust, and law enforcement on TC behaviour and include the influence of other variables in the analysis (see Figure 2). For example, the social influence of family, friends, or work colleagues is essential and increases individual TC. On the other hand, individuals become less persistent in their TC behaviour if they have evidence about the tax evasion behaviour of their peers. Also, the source of information is equally essential, as unofficial information could generate an adverse change in TC behaviour, while official information encourages tax reporting behaviour (Garcia *et al.*, 2020).

The investigation of TC levels in a country deepens the research in the areas of social norms system. As a social norm, TC is investigated from the perspective of contagion and shame effects (Blaufus *et al.*, 2017). The results of its study suggested that the contagion effect exerts a more decisive influence over tax evasion. Still, the shame felt by citizens leads to a reduction in tax evasion, while tax publicity causes a contagion effect and influences TC positively. Therefore, the taxpayers must feel that they are part of the community where they live and work to respect the rules and regulations and have compliant behaviour. The findings of Hashimzade *et al.* (2014) reinforce the idea that compliance behaviour depends on occupational groups and the beliefs and attitudes of specific clusters. Thus, it becomes critical for governmental authorities to develop such a tax system that shows equity, efficiency, and effectiveness in the eyes of the citizens (Mikesell & Birskyte, 2007).

Socio-demographic variables also exert a significant influence on TC. Hofmann *et al.* (2017) depict the relationship between sociodemographic variables and TC. The study's findings suggest that age and sex have limited power on compliance behaviour, while the power of education and income is unimportant. Chan *et al.* (2000) found that education indirectly and positively influences taxpayers' compliance behaviour, as educated people have a higher level of tax knowledge and moral development. High-educated people tend to have tax-compliant behaviour, but the avoidance tendency is higher. This is because they understand better the legislation and filling procedures. Thus, tax complexity is reduced (Hofmann *et al.*, 2017). Therefore, higher education may be related to lower evasion and a higher avoidance tendency (Hofmann *et al.*, 2017). The results of Richardson (2006a) suggest that tax evasion decreases when the complexity level is low, while education level, services income sources, fairness, and tax morale are high.

Mathieu *et al.* (2010) illustrate that older people have a more positive attitude toward taxes than young people, while women have a more negative attitude than men. Younger people tend to be less compliant than older ones, as the last category needs social security and health care services and better understands the benefits of paying taxes (Hofmann *et al.*, 2017).

Tax compliance, social and cultural factors	Social influences
	Social norms
	Socio-demographic variables (i.e. education, age, sex, and religion)
	Cultural framework
	Tax morale

Figure 2. Tax Compliance, Social and Cultural Factors

Source: authors' contribution.

Kastlunger *et al.* (2010) suggest that women are more tax compliant than men, and this behaviour should be related to social aspects rather than biological ones. The findings of Lewis *et al.* (2009) show that differences between individuals are essential in TC behaviour. For example, males and economists tend to modify tax conduct. Hwang & Nagac (2021) tested the role of religiosity, and the findings suggested that it exerts an essential limit on tax evasion.

TC is also explained from the perspective of Hofstede's cultural framework. Tsakumis *et al.* (2007) underline that national culture explains tax evasion differences between countries. High levels of uncertainty avoidance and power distance are related to increased tax evasion, while high levels of individualism and masculinity are linked with lower levels of tax evasion.

An important number of researches connect TC with tax morale which is utterly related to intrinsic beliefs about the necessity of paying taxes (Luttmer & Singhal, 2014). According to Fochmann *et al.* (2021), the tax morale of citizens prevails in the case of correct prefilled forms, thus increasing compliance behaviour. Moral rules determine that individuals pay taxes. Christian & Alm (2014) investigate the impact of two moral emotions, sympathy, and empathy, on compliance behaviour. A higher level of empathy and sympathy decreases tax evasion.

Our study formulated a set of hypotheses based on previous insights on TC influences presented above. The literature and specific studies supporting the below hypotheses are displayed in Table 1.

Table 1

The Hypotheses of the Research

Hypothesis		Literature investigation	
		Authors	**Relationship**
H1	Awareness about taxes positively influences TC	Youde & Lim (2019)	(-) / (+)
		Nichita *et al.* (2019)	(+)
		Musimenta (2020)	(-) with tax evasion
		Taing & Chang (2021)	(…)
H2	High power of the national tax system positively influences TC	Bătrâncea *et al.* (2019)	(+)
		Kogler *et al.* (2013)	(+)
		Taing & Chang (2021)	(…)
H3	Tax morale is directly correlated with TC	Schmölders (1960)	(+)
		Luttmer & Singhal (2014)	complex
		Nichita *et al.* (2019)	(…)
		Fochmann *et al.* (2021)	(+)
H4	Law enforcement positively influences TC	Taing & Chang (2021)	(+)
		Youde & Lim (2019)	(+)
		Bruno (2019)	(-)
H5	The provision of information services by authorities positively influences TC	Doerrenberg & Schmitz (2017)	(+)
H6	Trust in tax authorities positively influences TC	Gobena & van Dijke (2017)	(+)
		Youde & Lim (2019)	(+)
		Bătrâncea *et al.* (2019)	(+)
		Taing & Chang (2021)	(…)
H7	Fairness of the tax system positively influences TC	Alm *et al.* (1992)	(…)
		Wenzel (2002)	(+)
		Richardson (2006a)	(-) with tax evasion
H8	Rewards and amnesties provided by the authorities support TC	Taing & Chang (2021)	(+)
		Fatas *et al.* (2021)	(+)
		Lisi (2021)	(+)
H9	There is a different TC behaviour by gender	Lewis *et al.* (2009)	(+)/(-)
		Kastlunger *et al.* (2010)	(+)/(-)
		Mathieu *et al.* (2010)	(+)/(-)
		Hofmann *et al.* (2017)	limited
H10	Generation Z has a different TC behaviour than Millennials	Nichita *et al.* (2019)	(…)
		Mathieu *et al.* (2010)	(+)/(-)
		Hofmann *et al.* (2017)	(+)/(-)
		Nichita *et al.* (2019)	(…)
H11	The education level of the citizens differentiates the TC behaviour	Chan *et al.* (2000)	(+) / (-)
		Richardson (2006a) Hofmann *et al.* (2017)	(+) / (-)
			(+) / (-)
		Nichita *et al.* (2019)	(…)
H12	Occupational choice of citizens influences TC behaviour	Hashimzade *et al.* (2014)	complex
H13	Varied income groups of people exhibit different attitudes toward TC	Hofmann *et al.* (2017)	(…)
		Nichita *et al.* (2019)	(…)

Source: authors' contribution.

Note: *negative (-) / positive (+) / no significant relationship with TC (…)*

Methodology Description

This research investigated the behaviour of Romanian citizens regarding TC. We conducted an online survey in Romania from May to July 2022 to test the previous hypotheses.

The Survey

Primary data for the empirical analysis were collected via a questionnaire entitled "The principles and methods used in applying taxes in Romania". The sample included 350 respondents aged 18 to 65. Respondents were divided into two main groups of generations, namely: Generation Z, aged 18 to 25 years (47.4 %, n=166), and Generation Millennials, aged 26 to 41 years (35.7 %, n=125). The remaining respondents had 42 to 57 years (15.5 %, n=54) and 58 years and above (1.4 %, n=5). Most respondents were male (58 %, n=203), while females represented 42 % of the sample (n=147). The convenience sampling technique was applied to select conveniently located respondents (Edgar & Manz, 2017). This sampling technique often recruits respondents from a convenient population subset (Baxter *et al.,* 2015). Socio-demographic questions were included related to education, occupation, and income. The questionnaire encompassed four demographic variables (gender, age, education, and occupation) and one economic variable (income) likely to impact TC. Table 2 shows the descriptive statistics of the variables.

Table 2

Descriptive Statistics of Respondents' Profile

Measure	Item	Frequency (%) *N* = 350
Gender	Male	203 (58.0)
	Female	147 (42.0)
Age	18-25	166 (47.4)
	26-41	125 (35.7)
	42-57	54 (15.5)
	58 or above	5 (1.4)
Average monthly income	1000 lei or less	40 (11.4)
	1001 – 2000 lei	25 (7.1)
	2001 – 3000 lei	57 (16.3)
	3001 – 4000 lei	66 (18.9)
	More than 4000 lei	162 (46.3)
Education	High school	67 (19.1)
	Post-secondary studies	6 (1.7)
	Professional studies	10 (2.9)
	Bachelor's degree	182 (52.0)
	Postgraduate studies	85 (24.3)
Occupation	Employee	237 (67.7)
	Student	70 (20.0)
	Others (…)	43 (12.3)

Source: authors' contribution.

An objective of the current research was to depict TC behaviour differences between the Millennials and Generation Z and to compare the results with the one obtained from the entire investigated sample. Previous studies showed that education, gender, and income influence TC behaviour. Therefore, our survey aims to explore if there are variances in TC behaviour between generations.

The research questionnaire included closed-ended questions. The variables used for the analysis were: categorical variables (TC – binary; socio-demographic data) and ordinal variables (five-point Likert scale).

Other TC-related questions provided multiple choices, and their interpretations were not included in the econometric model. Still, the authors provided just an explanation of the results to consolidate the value of the previous answers and the paper's findings.

The Variables

The dependent variable was TC, a binary variable for filing tax returns. The respondents provided yes or no answers related to their TC behaviour. According to the literature, the influences on TC included several items related to awareness (six dimensions), power, tax morale (five dimensions), law enforcement, information services, trust (two dimensions), fairness, and rewards and amnesties, each measured using a five-point Likert scale. The description of each variable is presented in Table 3.

The questionnaire comprised six items on tax awareness, including awareness about tax returns as an expression of tax payment and tax system, TC, tax equity, tax evasion, and tax progressivity as an expression of tax payment procedures. Also, tax morale included five items reflecting honesty, tax evasion behaviour versus fines, investments, tax rates, and tax system equity. Trust was reflected in the questionnaire through the trust behaviour of citizens in the National Agency of Fiscal Administration (ANAF) to collect the taxes efficiently. A total of 18 items were investigated through the questionnaire and further included in the econometric analysis.

The Model

GLM are preferred over traditional regression. Nelder & Wedderburn (1972) developed GLM, considering the normal, binomial, Poisson, and gamma distribution and offering a unified procedure for fitting. The models such as linear regression, analysis-of-variance, logit, probit, log-linear, multinomial response, and survival data models have

common proprieties, enabling the study of GLM as a single class (McCullagh & Nelder, 1989). Thus, GLM provides a superior method of data analysis. A GLM comprises a random component, a linear predictor, and a link function (Fox, 2016). The model doesn't have an error term because it models the mean and not the individual values. The random component is the response variable Y_i. The linear predictor takes the following form:

$$\eta_i = \alpha + \beta_1 X_{i1} + \beta_{i2} X_{i2} + \cdots + \beta_{ik} X_{ik} \quad (1)$$

In Equation 1, X_{ij} are prespecified functions of the explanatory variables. The link function g(.) transforms the expectation of Y_i , $\mu_i = E(Y_i)$, to the linear predictor (Equation 2).

$$g(\mu_i) = \eta_i = \alpha + \beta_1 X_{i1} + \beta_{i2} X_{i2} + \cdots + \beta_{ik} X_{ik} \quad (2)$$

A binary probit analysis was performed to check the influences of previously described independent variables on TC. This model type examines "the effects of categorical and continuous explanatory measures on a dichotomous response variable" (Denham, 2017), in our case, TC. The link function for probit models is as follows:

$$f(x) = \phi^{-1}(\mu_i) \quad (3)$$

In Equation 3, μ_i is the expected value of the response, η_i is the linear predictor, $\phi(.)$ is the cumulative distribution function of the standard-normal cumulative binomial distribution, and ϕ^{-1} represents the inverse standard normal cumulative binomial distribution function.

Table 3

Variables Description

No.	Category	Variables	Code	Description	Type
1.	Awareness	tax return	AwTD	The citizen's awareness regarding tax returns – reports of tax liabilities and payments	Five-point Likert scale
2.		tax system	AwTS	Awareness regarding tax system – total tax liability	
3.		tax compliance	AwTC	Awareness regarding tax compliance – the correct calculation, reporting and payment of tax liability on time	
4.		tax equity	AwTEq	Awareness regarding tax equity – the importance of the contributory capacity of the taxpayer	
5.		tax evasion	AwTEv	Awareness regarding tax evasion – taxpayers' illegal attempt to evade taxes	
6.		tax progressivity	AwTP	Awareness regarding tax progressivity – low-income earners pay a smaller percentage in taxes than the high-income earners	
7.	Power	tax system	PTS	Power of the Romanian tax system – effectiveness in controlling evasion	
8.	Tax morale	honesty	TMH	Honesty of taxpayers in filling tax returns	
9.		fines	TMEF	Perception regarding the level of fines for tax evasion	
10.		investments	TMEI	Perception regarding the supply of public goods and services	
11.		tax rates	TMER	Perception regarding the level of tax rates	
12.		tax system equity	TMEIq	Perception of tax system equity	
13.	Law enforcement	law enforcement	LEn	Effectiveness of Romanian law on tax evasion – punishment with imprisonment or a fine	
14.	Information services	ANAF* fraud	ISAF	ANAF provides information encouraging voluntary compliance to prevent tax fraud by diversifying and increasing the quality of services and ensuring simplified procedures	
15.	Trust	ANAF budget income	TABI	Taxpayers' trust in tax authority's efficiency in collecting tax revenues	
16.		ANAF tax control	TATC	Taxpayers' trust in tax authority's control (by promoting quality fiscal control and being oriented towards sectors with a high risk of fraud)	
17.	Fairness	state fairness	FS	Fair taxes are levied on all citizens	
18.	Rewards and amnesties	state rewards and amnesties	RAS	The state supports the business environment through the tax system	
19.	Socio-demographic	gender	G	-	binary
20.		age	A	-	categorical
21.		education	Ed	-	categorical
22.		occupation	O	-	categorical
23.		income	I	-	categorical

Source: authors' contribution.

*Note: * The National Agency for Fiscal Administration (Romanian: Agenția Națională de Administrare Fiscală)*

To further validate and describe the relationships among observed variables, structural equation models (SEM) were developed. This technique combines factor analysis with multiple regressions and, thus, enables the investigation of a series of dependent relationships (Abdul & Wang'ombe, 2018; Hair *et al.,* 2011). This in-depth explanatory analysis also helped validate or invalidate the hypothesis mentioned above. Confirmatory factor analysis (CFA) was used as the indicators are well specified according to related theories and knowledge (Thakkar, 2020). SEM's equation can be written as follows (Kaplan, 2001):

$$\eta = B\eta + \Gamma\xi + \varsigma \quad (4)$$

In Equation 4, η is a vector of the endogenous latent variables, ξ is a vector of exogenous latent variables, B is a matrix of regression coefficients relating the latent endogenous variables to each other, Γ is a matrix of regression coefficients relating endogenous variables to exogenous variables, and ς is a vector of disturbance terms. The equations that describe the link between latent variables and observable variables are:

$$y = \Lambda_y\eta + \varepsilon \quad (5)$$

$$x = \Lambda_x\xi + \delta \quad (6)$$

In Equation 5 and Equation 6, Λy and Λx are matrices of the factor loading, and ε and δ are vectors of uniqueness.

Data Analysis

Several pieces of information were observed from the questionnaire's results relating to TC behaviour. The results showed that the respondents are familiar with TC, tax returns, tax systems, tax equity, and tax evasion concepts. More than 52 % have completed tax returns regarding their incomes or the income tax owed. Their feelings about taxes are diverse: more than 29 % rejected taxes, 35 % are pessimistic, 17 % expressed concern about taxes, and 20 % are indifferent. More than a third of the respondents stated that paying taxes contributes to the increase in public goods and services supply. Still, 60 % of the respondents consider the Romanian tax system unsatisfactory. Also, the research revealed that citizens must be honest when filing a tax return. Still, tax evasion is justified if the revenues raised to the budget are not used efficiently for important public investment projects (more than one-third). Also, more than one-third of the respondents considered tax evasion warranted if the tax rates are too high and the tax system is unfair. To maintain a low level of evasion, prison sentences or fines for tax evasion are considered adequate (more than 49 %). Regarding the current context, more than 58 % of the respondents do not believe that the current pandemic has influenced their behaviour regarding paying taxes. Almost two-thirds believe that the policymaker does not support the business environment through the tax system and that taxes should not be increased to improve the supply of public goods and services.

Adopting a progressive tax is an effective solution for increasing the revenues raised to the budget and the tax system's fairness (more than one-third of the respondents). However, almost another one-third were indifferent regarding this aspect.

Table 4

Viability and Reliability of the Variables

No.	Variables	All ages		Generation Z (18-25 years)		Millennials (26-41 years)	
		Cronbach's Alpha if Item Deleted	Pearson Correlation	Cronbach's Alpha if Item Deleted	Pearson Correlation	Cronbach's Alpha if Item Deleted	Pearson Correlation
1.	AwTD	0.782	0.634**	0.777	0.691**	0.779	0.593**
2.	AwTS	0.782	0.645**	0.780	0.670**	0.777	0.626**
3.	AwTC	0.781	0.649**	0.782	0.642**	0.775	0.653**
4.	AwTEq	0.781	0.655**	0.784	0.609**	0.769	0.710**
5.	AwTEv	0.788	0.562**	0.789	0.553**	0.782	0.556**
6.	AwTP	0.786	0.593**	0.785	0.602**	0.780	0.592**
7.	PTS	0.802	0.290**	0.801	0.292**	0.795	0.328**
8.	TMH	0.803	0.258**	0.800	0.329**	0.799	0.225*
9.	TMEF	0.797	0.465**	0.798	0.452**	0.791	0.459**
10.	TMEI	0.796	0.472**	0.796	0.478**	0.790	0.471**
11.	TMER	0.797	0.436**	0.800	0.395**	0.787	0.490**
12.	TMEIq	0.797	0.442**	0.802	0.369**	0.784	0.537**
13.	LEn	0.806	0.307**	0.807	0.314**	0.801	0.294**
14.	ISAF	0.791	0.512**	0.792	0.510**	0.788	0.478**
15.	TABI	0.792	0.507**	0.791	0.512**	0.785	0.515**
16.	TATC	0.794	0.467**	0.792	0.498**	0.789	0.449**
17.	FS	0.803	0.296**	0.801	0.328**	0.805	0.150
18.	RAS	0.802	0.312**	0.803	0.303**	0.802	0.199*
	Cronbach's Alpha	0.803		0.803		0.797	
	N of Items	18		18		18	

Source: authors' contribution.

The measures that the policymaker should adopt to increase the degree of TC are as follows: the degree of digitization of institutions should be increased (63 %); a relationship of trust should be developed with taxpayers by offering new services (58 %); funds should be allocated for public investment projects (46 %); harsher penalties should

be adopted for tax evasion (38 %); a tax cut should be adopted (35 %); the number of controls carried out by state institutions should increase (29 %). When setting the priorities for spending the money raised to the state budget through taxes, the respondents emphasized education, research, the health system, infrastructure development, supporting small businesses, energy, agriculture, and rural development.

A GLM was used to capture the effects of awareness, power, morale, law enforcement, information services, trust, fairness, rewards, and demographic variables such as gender, age, education, occupation, and income on TC (as the dependent variable). The analysis was conducted using IBM SPSS Statistics 26.0 and IBM SPSS Amos.

The first step was to check to validity and reliability of the items collected (see Table 4). The check was performed for all three samples: all ages, Generation Z and Millennials. First, the validity of the items was tested using the Pearson correlation coefficient. The correlation coefficients are significant for all 18 items investigated for all ages and Generation Z samples. The Pearson coefficient was significant in the Millennials sample except for the FS item. Next, Cronbach's alpha tests were applied to check for the reliability of the items. The coefficient values are above 0.7, and thus, the internal consistency of the data is acceptable for all three samples.

Table 5

Tax Compliance Determinants

Variables	All ages			Generation Z (18-25 years)			Millennials (26-41 years)		
	Omnibus Test[1)]	Coefficient (std. error)	Wald Chi-Square	Omnibus Test[1)]	Coefficient (std. error)	Wald Chi-Square	Omnibus Test[1)]	Coefficient (std. error)	Wald Chi-Square
AwTD	45.6***	0.347 (0.053)	43.055***	12.556***	0.269 (0.077)	12.059***	23.273***	0.426 (0.092)	21.337***
AwTS	31.9***	0.314 (0.057)	30.527***	6.014**	0.202 (0.083)	5.894**	20.564***	0.426 (0.098)	18.815***
AwTC	25.966***	0.278 (0.056)	25.094***	5.381**	0.192 (0.083)	5.299**	19.632***	0.426 (0.100)	17.979***
AwTEq	29.823***	0.289 (0.054)	28.716***	10.096***	0.256 (0.082)	9.801***	14.541***	0.331 (0.089)	13.726***
AwTEv	13.465***	0.198 (0.054)	13.212***	5.731**	0.209 (0.089)	5.575**	10.629***	0.285 (0.089)	10.250***
AwTP	27.655***	0.260 (0.050)	26.774***	8.510***	0.220 (0.076)	8.282***	16.048***	0.324 (0.083)	15.268***
PTS	0.692	0.071 (0.086)	0.691	0.003	-0.008 (0.140)	0.003	0.123	0.046 (0.132)	0.123
TMH	0.061	-0.022 (0.088)	0.061	0.467	-0.095 (0.140)	0.468	0.777	0.122 (0.139)	0.768
TMEF	3.145	0.082 (0.046)	3.135	4.007**	0.140 (0.070)	3.958**	1.015	0.079 (0.079)	1.011
TMEI	4.588***	0.097 (0.046)	4.568**	4.055**	0.141 (0.071)	3.999**	3.233*	0.138 (0.077)	3.208*
TMER	3.371*	0.093 (0.051)	3.355*	6.033**	0.193 (0.080)	5.892**	2.339	0.132 (0.087)	2.320
TMEIq	3.632*	0.095 (0.050)	3.615*	6.045**	0.196 (0.081)	5.898**	2.798*	0.141 (0.085)	2.771*
LEn	0.385	-0.032 (0.051)	0.385	0.976	-0.074 (0.075)	0.974	0.002	0.004 (0.088)	0.002
ISAF	0.369	-0.033 (0.055)	0.369	0.308	0.047 (0.084)	0.307	0.753	-0.080 (0.09)	0.751
TABI	0.016	-0.007 (0.057)	0.016	0.015	0.010 (0.087)	0.015	0.042	0.018 (0.091)	0.042
TATC	0.393	-0.035 (0.055)	0.392	1.107	0.087 (0.083)	1.103	0.737	-0.081 (0.095)	0.735
FS	2.101	-0.094 (0.065)	2.091	1.611	-0.129 (0.102)	1.591	0.257	-0.057 (0.113)	0.257
RAS	2.931*	-0.113 (0.066)	2.916*	0.474	-0.070 (0.101)	0.472	1.523	-0.143 (0.116)	1.515
G	0.015	0.016 (0.136)	0.015	0.021	0.030 (0.210)	0.021	0.746	-0.197 (0.228)	0.745
A	31.794***	0.509 (0.093)	30.142***	-	-	-	-	-	-
Ed	16.511***	0.203 (0.051)	16.025***	4.395**	0.142 (0.068)	4.316**	0.031	0.021 (0.120)	0.031
O	0.0003	-0.002 (0.096)	0.0003	1.321	-0.188 (0.164)	1.313	5.012**	0.386 (0.180)	4.586**
I	17.708***	0.208 (0.050)	17.171***	4.082**	0.144 (0.072)	4.022**	0.178	0.047 (0.111)	0.178
Obs.	350				166			125	

Source: authors' contribution.

*Note: [1)] - Likelihood Ratio Chi-Square; *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.1*

The binary probit models were developed with TC as the dependent variable and 23 items as explanatory variables, of five demographic and economic ones. The likelihood ratio chi-square values and attached p-values

validated 12 models with each of the following explanatory variables: AwTD, AwTS, AwTC, AwTEq, AwTEv, AwTP, TMEI, TMER, and TMEIq, including A, Ed, and I as demographic and economic items. The associated p-values of each coefficient and the standard errors show the influence on the dependent variable (see Table 5).

The results from GLM were further developed into a path analysis using SEM, selecting just the variables that significantly influenced the TC. Thus, three path analyses emerged for all ages, Generation Z and Millennials.

First, we checked the model fit indices (see Table 6). All three structures fit the data. The NFI, RFI, IFI, TLI, and CFI values are higher than the critical value of 0.9, while the RMSEA index is below 0.08, the critical accepted value in all three SEM developed.

Table 6

Model Fitting Analysis

The goodness of fit index	Default model	Critical (Acceptable) Value	Explanation
All ages			
Normed fit index (NFI)	0.947	≥0.9	Fit
Relative fit index (RFI)	0.918	≥0.9	Fit
Incremental fit index (IFI)	0.972	≥0.9	Fit
Tucker Lewis index (TLI)	0.956	≥0.9	Fit
Comparative fit index (CFI)	0.971	≥0.9	Fit
Root mean squared error of approximation (RMSEA)	0.056	≤0.08	Fit
Generation Z			
Normed fit index (NFI)	0.928	≥0.9	Fit
Relative fit index (RFI)	0.90	≥0.9	Fit
Incremental fit index (IFI)	0.972	≥0.9	Fit
Tucker Lewis index (TLI)	0.960	≥0.9	Fit
Comparative fit index (CFI)	0.972	≥0.9	Fit
Root mean square error of approximation (RMSEA)	0.059	≤0.08	Fit
Millennials			
Normed fit index (NFI)	0.949	≥0.9	Fit
Relative fit index (RFI)	0.920	≥0.9	Fit
Incremental fit index (IFI)	0.985	≥0.9	Fit
Tucker Lewis index (TLI)	0.976	≥0.9	Fit
Comparative fit index (CFI)	0.985	≥0.9	Fit
Root means square error of approximation (RMSEA)	0.056	≤0.08	Fit

Source: authors' contribution.

Figure 3 presents the final structural model for the entire sample, all ages, respectively. The data in Table 7 and Figure 3 show that awareness positively impacts TC (β=0.14, p-value<0.001). AwTD and AwTS have the strongest influence on the awareness group factors, positively impacting TC. Age positively impacts TC (β=0.15, p-value<0.001). Finally, tax morale positively impacts TC (β=0.04, p-value=0.037).

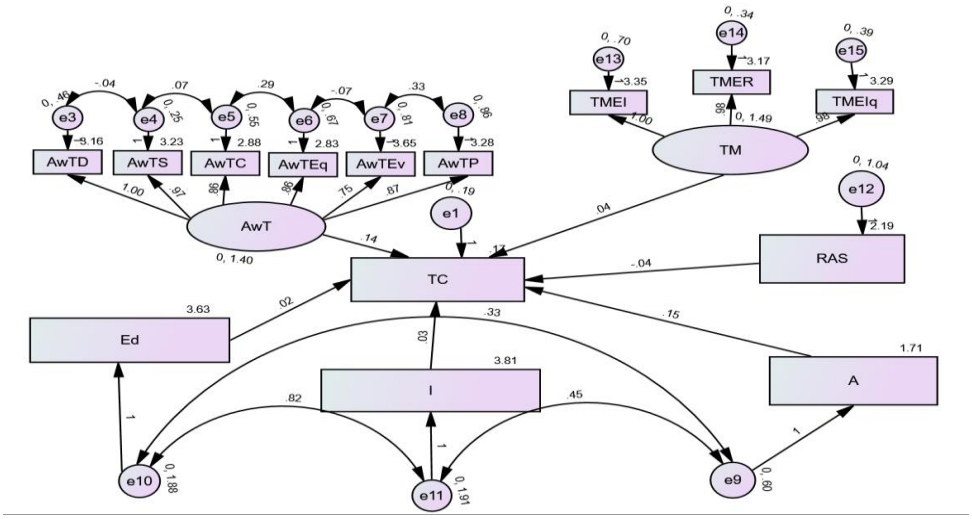

Figure 3. SEM For the Entire Sample (All Ages)

Source: authors' contribution

The SEM for Generation Z (Table 7 and Figure 4) underlined that awareness has a positive impact on TC (β=0.105, p-value<0.001). AwTD and AwTS have the strongest influence in the awareness group factors, positively impacting TC. Tax morale has a positive impact on TC (β=0.091, p-value=0.036).

The SEM for Millennials (Table 7 and Figure 5) shows that awareness has a positive impact on TC (β=0.174, p-value<0.001). AwTD and AwTP have the strongest influence in the awareness group factors, positively impacting TC.

Table 7

Regression Weights

Path	Estimate	S.E.	C.R.	p	Result
All ages					
AwT→ TC	0.14	0.021	6.519	< 0.001	H1: accepted
Ed→TC	0.020	0.019	1.033	0.302	H11: rejected
I→TC	0.03	0.020	1.348	0.178	H13: rejected
A→TC	0.15	0.034	4.451	< 0.001	H10: accepted
RAS→ TC	-0.04	0.023	-1.594	0.111	H8: rejected
TM→TC	0.04	0.020	2.084	0.037	H3: accepted
AwT→ AwTS	0.970	0.045	21.633	< 0.001	
AwT→AwTC	0.860	0.052	16.678	< 0.001	
AwT→AwTEq	0.857	0.054	15.987	< 0.001	
AwT→AwTEv	0.753	0.054	14.055	< 0.001	
AwT→AwTD	1.000				
AwT→AwTP	0.874	0.058	15.203	< 0.001	
TM→TMEI	1.000				
TM→TMER	0.983	0.050	19.672	< 0.001	
TM→TMEIq	0.983	0.050	19.502	< 0.001	
Generation Z					
AwT→ TC	0.105	0.032	3.314	< 0.001	H1: accepted
Ed→TC	0.034	0.025	1.350	0.177	H11: rejected
I→TC	0.026	0.026	0.989	0.323	H13: rejected
TM→TC	0.091	0.044	2.098	0.036	H3: accepted
AwT→ AwTS	0.963	0.076	12.699	< 0.001	
AwT→AwTC	0.851	0.078	10.975	< 0.001	
AwT→AwTEq	0.825	0.080	10.333	< 0.001	
AwT→AwTEv	0.601	0.076	7.862	< 0.001	
AwT→AwTD	1.000				
AwT→AwTP	0.768	0.086	8.910	< 0.001	
TM→TMEI	1.246	0.145	8.596	< 0.001	
TM→TMEIq	1.894	0.933	2.029	0.042	
TM→TMEF	1.000				
TM→TMER	1.622	0.802	2.022	0.043	
Generation Millennials					
AwT→ TC	0.174	0.036	4.881	< 0.001	H1: accepted
O→TC	0.083	0.054	1.557	0.119	H12: rejected
TM→TC	0.038	0.038	1.009	0.313	H3: rejected
AwT→ AwTS	0.973	0.067	14.507	< 0.001	
AwT→AwTC	0.817	0.084	9.693	< 0.001	
AwT→AwTEq	0.882	0.092	9.545	< 0.001	
AwT→AwTEv	0.917	0.090	10.233	< 0.001	
AwT→AwTD	1.000				
AwT→AwTP	0.991	0.097	10.186	< 0.001	
TM→TMEI	1.000				
TM→TMEIq	0.582	0.422	1.380	0.168	

Source: authors' contribution.

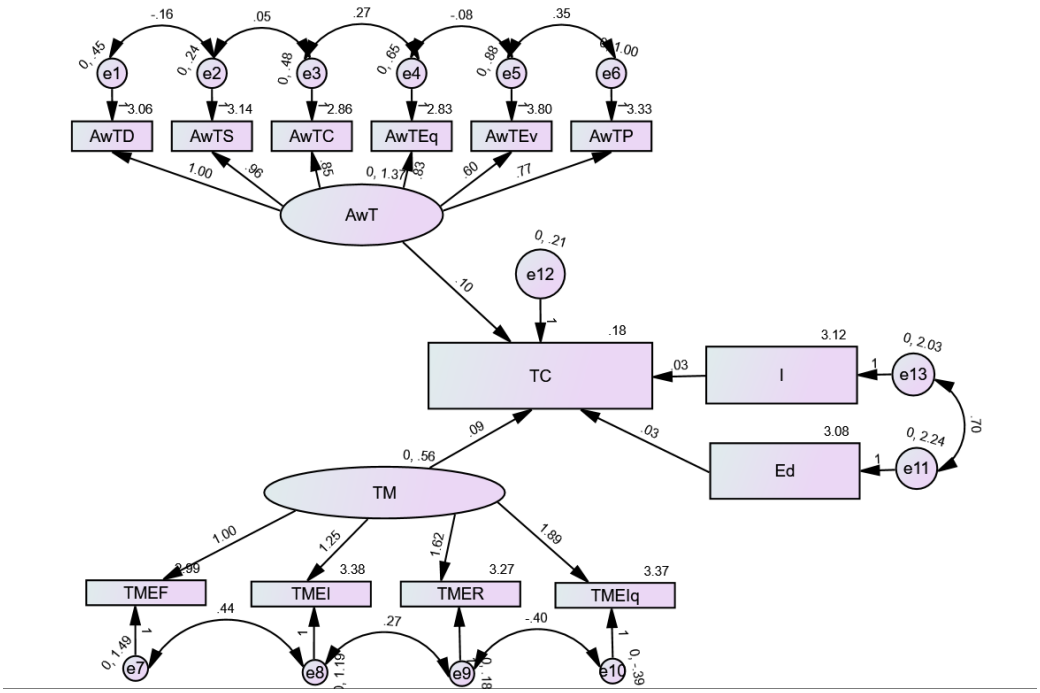

Figure 4. SEM for the Generation Z Group

Source: authors' contribution.

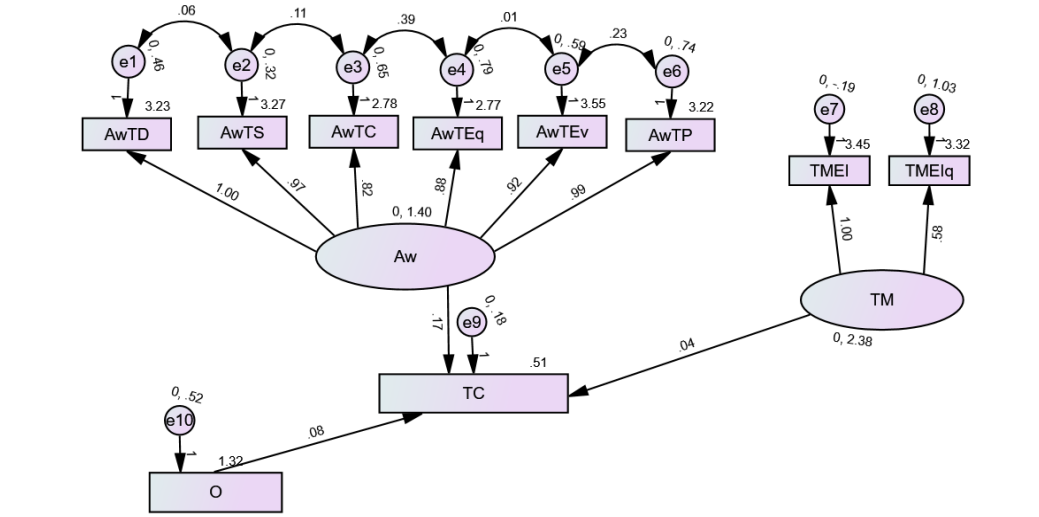

Figure 5. SEM for the Millennials Group

Source: authors' contribution.

Discussions

The awareness dimensions influence TC behaviour (for the entire sample, but also Generation Z group and Millennials group), underlining the importance of making citizens conscious about tax returns, the tax system, TC, tax equity, tax evasion, and tax progressivity. Thus, hypothesis H1 is accepted. These items were considered very important in influencing TC behaviour for both Millennials and Generation Z. These results confirm the ones of Nichita *et al.* (2019) and Youde & Lim (2019).

Two more hypotheses are accepted in this research. The second one is H3. Tax morale (TM) positively influences TC, but only in the case of the entire sample and Generation Z group. These results confirm the ones of Christian & Alm (2014) and Fochmann *et al.* (2021).

In the case of the entire sample, the third accepted hypothesis is H10. Thus, the age variable positively influences the TC. For this hypothesis, we considered that the behaviour of Generation Z is different from that of Generation Millennials in tax compliance. In this case, the results do not confirm the ones of Nichita *et al.* (2019), who argue that age is not considered significant in the willingness to pay taxes, and Hofmann *et al.* (2017), who suggest that age has limited power on compliance behaviour.

Findings from the analysis suggest that power has no significant impact on TC. These results confirm the ones of Faizal *et al.* (2017), which found that legitimate power and coercive power have no effect on TC, but are in contrast with the results of Batrancea *et al.* (2019), Kogler *et al.* (2013), and Wahl *et al.* (2010) which suggest that higher power had a positive effect on compliance. Also, the findings of Batrancea *et al.* (2019) underlined that country-pattern are mixed as in 13 countries, power reduces voluntary compliance, while power had no significant effect in the other 31 countries. Table 8 shows the impact of variables on TC according to the results of the SEM analysis. This difference may result from various cultural origins and educational backgrounds. The taxpayers do not believe that their activities to comply with the tax system will be affected by the authority (Faizal *et al.*, 2017).

Table 8

The Impact of Variables on TC in SEM

	Entire sample, all ages	**Generation Z**	**Millennials**
Variables		**Impact**	
Awareness	+	+	+
- AwTD	strongest impact	strongest impact	strongest impact
- AwTS	strongest impact	strongest impact	
- AwTP			strongest impact
Age	+		
Tax morale	+	+	

Source: authors' contribution.

Our results indicated that law enforcement does not affect TC behaviour. According to Lederman (2018), enforcement is connected to the fact that few taxpayers evade taxes, non-enforcement and tax evasion are socially acceptable, and compliance behaviour as a social norm disappears. On the contrary, Castro & Scartascini (2013) suggested that an increase in law enforcement positively affects TC. To raise revenues, the tax authority needs to improve law enforcement (Rosidm & Romadhaniah, 2021). On the other hand, Murphy (2008) suggests that practices in regulatory enforcement do not result in future compliance, as citizens can feel resentful about paying taxes. Enforcement could be somewhat associated with the non-compliance behaviour of taxpayers as the authorities must take credible enforcement actions (OECD, 2004).

The analysis showed that fairness has no significant influence on TC. Richardson (2006b) supports that tax fairness dimensions affect TC behaviour differently. The evidence of Muslichah (2018) suggested that tax fairness has a significant positive effect on TC. Mei Tan & Chin-Fatt (2000) found no connection between TC and perceived fairness.

Conclusions and Implications

This study investigated the relationships between tax compliance and essential factors such as awareness, power, tax morale, and law enforcement. The findings underline positive influences on TC from awareness, age, and tax morale. However, these results differ depending on the analysed group of respondents. A summary of the research's findings shows that the awareness dimensions strongly influence TC behaviour for the Generation Z group. A positive influence over TC is also exhibited by tax morale. The Millennial group awareness dimensions influence TC behaviour. Also, the awareness dimensions strongly influence TC behaviour for the entire sample. Tax morale and the age variable positively influence TC for the entire sample. However, the research has also shown that variables such as power, law enforcement, and fairness have no significant impact or do not affect TC.

These results emphasize the need for authorities to implement measures to increase awareness regarding the tax system and the citizens' tax morale level. Developing proper strategies to boost TC to increase tax revenues raised to the budget is essential, first focusing on increasing taxpayers' awareness and tax morale. The revenues raised to the budget will register an increase due to the improvements in the tax morale level. This is important because there is no need for an enforcement effort in this case. Another important aspect is the taxpayers' trust in tax authority, thus emphasizing the need to build trust among taxpayers.

The following actions aimed to increase awareness were highlighted by OECD (2021): information campaigns (increasing the number of people who receive information to increase taxpayer knowledge, increasing compliance by outlining how the funds raised are used); establishing a solid and constructive rapport with taxpayers; tailored communication (communicating with particular taxpayer groups, insights into behaviour to encourage compliance).

The policymaker needs to encourage higher TC by informing and educating taxpayers (especially the young) about how their contributions will fund vital infrastructure and services, like education. The promotion of TC has also made use of information and communication technology. The digital revolution is assisting in lowering the barriers to tax compliance.

State authorities use a relatively new technique for youth and children's TC education. The study of taxes is incorporated into the academic program.

The following measures were advised by the OECD (2019) to boost tax morale and maintain TC: support taxpayer education programme; support the development of tax administrations (particularly regarding enhancing tax payment convenience); cautiously analyse how to improve revenue-expenditure ties to create the social contract.

Moreover, further investigation should be addressed to identify the relationship developed between power and other variables, such as taxpayers' trust. If authorities want to increase the amount of voluntary compliance among taxpayers, they should think about enhancing both power and trust (Bătrâncea *et al.*, 2019).

Good legal institutions can only help with a better rule of law enforcement and additional information about taxes (Bruno, 2019). Thus, people know how strong they are, increasing the chances of TC behaviour. On the other hand, legitimacy may be compromised, and the taxpayers' desire to obey the law may be undermined when formal enforcement is poor (Slemrod, 2019). Consequently, future studies should incorporate a more thorough investigation of taxpayers' feelings regarding TC.

Our findings also suggested that fairness doesn't have an impact on TC. But fairness is not a straightforward idea because various people may have different ideas of what is fair; this concept has multiple dimensions (Mei Tan & Chin-Fatt, 2000).

Despite the lack of clear proof, fairness is still a significant aspect that cannot be disregarded when discussing TC. The policymaker should also implement measures to improve the public's perceptions of fairness and attitudes toward TC, such as to lessen taxpayers' confusion and misunderstanding of the tax system (Mei Tan & Chin-Fatt, 2000).

The study has some limitations. First, the study is cross-sectional, and the analysis aims to track behaviour based on a specific moment. Thus, further research might focus on changing TC over time. Therefore, a longitudinal study might be used to provide a more thorough understanding of TC behaviour.

Furthermore, the data was obtained based on a quantitative questionnaire, which implies that the analysis has limited the respondent's ability to express their thoughts and ideas on the matter thoroughly. In addition, individuals may have responded somewhat differently than regularly, as this could have made them feel they were providing sensitive information (Alshira'j & Abdul-Jabbar, 2020), thus, leading toward biased answers. Future studies may employ qualitative approaches, such as focus groups or interviews with a sample population of Generation Z and Millennials, to complement the quantitative findings.

Also, even if the convenience sampling technique could be perceived as the weakest non-probability sampling strategy, it is often used to obtain a series of attitudes and opinions that can be further tested in future research (Albert *et al.*, 2010). Another aspect that needs to be mentioned refers to the sample size. Future research should use more extensive and diverse samples to improve the generalizability of the findings to the more significant population of Romanian Millennials and Generation Z.

Further analysis might aim at comparing the tax offenders (Murphy, 2008) with outstanding TC of individuals, including other variables such as tax system structure, attitude and perception, and the noncompliance opportunity (Fischer *et al.*, 1992, Vincent, 2021), filing of tax returns, actual tax payments, and incidence of tax overpayment (Abdul & Wang'ombe, 2018), the perception of government spending (Sritharan & Salawati, 2019), the tax knowledge (Al-Ttaffi *et al.*, 2020), or the citizen's desire to obtain adequate compensation for the taxes paid (Alhempi *et al.*, 2020). Finally, an extension of the research could be towards incorporating factors such as the level of sympathy or patriotism an individual has, showing emotions' role in decisions concerning tax compliance (Alm, 2019) or even religiosity (Carsamer & Abbam, 2020).

Our investigation regarding the relationship between TC and emotions is limited. Our research findings showed that 34.7% of the respondents displayed pessimism regarding paying taxes, 29.5% rejection and just 6.6% trust. These investigations should be enlarged to integrate more complex psychological approaches regarding the relationship between emotions, neural activities and TC. In this regard, a more in-depth qualitative approach, such as a focus group, could be recommended to depict how emotions can function as drivers for TC. Also, future research can use the religious dimension for investigation. In this case, the religious variable should be clearly mentioned, and can be any aspect related to religion, such as the beliefs, practices, affiliations, or the impact of religious institutions.

Additional studies could employ a broader perspective by analysing TC behaviour through a cross-national or cross-cultural comparison. However, such a comparison could present challenges in reporting behaviour relative to the tax system specific to a country. A more detailed view of TC behaviour globally is provided by a cross-national analysis to identify what mechanisms underpinning voluntary compliance are more cross-culturally universal.

On the other hand, generational investigations benefit policymakers as they can identify TC behaviour drivers and barriers. The literature suggests that there are behavioural differences between younger and older people. No research hasn't been conducted so far on the TC behaviour of Generation Alpha. For those people, qualitative studies on their TC behaviour may offer fascinating new information to start developing a more sustainable tax system.

References

Abdul, F., & Wang'ombe, D. (2018). Tax costs and tax compliance behaviour in Kenya. *Journal of Accounting and Taxation*, 10(1), 1–18. https://doi.org/10.5897/JAT2017.0283

Albert, B., Tullis, T., & Tedesco, D. (2010). Chapter 2 - Planning the Study, eds. Albert, B., Tullis, T., Tedesco, D., Beyond the Usability Lab, *Morgan Kaufmann*, 17–47. https://doi.org/10.1016/B978-0-12-374892-8.00002-8

Alhempi, R. R., Ardiansyah, I., Kusumastuti, S. Y., & Endri, E. (2020). Tax Compliance in Income Tax Payments. *International Journal of Innovation, Creativity and Change*, 13(1), 356–374. https://www.ijicc.net/images/vol_13/13129_Alhempi_2020_E_R.pdf

Alm, J., McClelland, G. H., & Schulze, W. D. (1992). Why do people pay taxes? *Journal of Public Economics*, 48, 21–38. https://doi.org/10.1016/0047-2727(92)90040-M

Alm, J., Cherry, T., Jones, M., & McKee, M. (2010). Taxpayer information assistance services and tax compliance behavior. *Journal of Economic Psychology*, 31(4), 577–586. https://doi.org/10.1016/j.joep.2010.03.018

Alm, J. (2019). What Motivates Tax Compliance. *Journal of Economic Surveys*, 33(2), 353–388. https://doi.org/10.1111/joes.12272

Alshira'j, A. F., & Abdul-Jabbar, H. (2020). Moderating role of patriotism on sales tax compliance among Jordanian SMEs. *International Journal of Islamic and Middle Eastern Finance and Management* 13(3), 389-415, https://EconPapers.repec.org/RePEc:eme:imefpp:imefm-04-2019-0139. https://doi.org/10.1108/IMEFM-04-2019-0139

Alventosa, A., & Olcina, G. (2020). Tax compliance and wealth inequality. *Applied Economics Letters*, 27(11), 899–903. https://doi.org/10.1080/13504851.2019.1646859

Al-Ttaffi, L. H. A., Bin-Nashwan, S. A., & Amrah, M. R. (2020). The Influence of Tax Knowledge on Tax Compliance Behaviour: A Case of Yemeni Individual Taxpayers. *Journal of Business Management and Accounting*, 10(2), 15–30. https://doi.org/10.32890/jbma2020.10.2.2

Batrancea, L. Nichita, A., Olsen, J., Kogler, C.,Kirchler, E., Hoelzl, E., Weiss, A., Torgler, B., Fooken, J., Fuller, J., Schaffner, M., Banuri, S., Hassanein, M., Alarcon-Garcia, G., Aldemir, C., Apostol, O., Weinberg, D., Batrancea, I., Belianin, A., Gomez, F., Briguglio, M., Dermol, V., Doyle, E., Gcabo, R., Gong, B., Ennya, S., Essel-Anderson, A., Frecknall-Hughes, J., Hasanain, A., Hizen, Y., Huber, O., Kaplanoglou, G., Kudła, J., Lemoine, J., Leurcharusmee, S., Matthiasson, T., Mehta, S., Min, S., Naufal, G., Niskanen, M., Nordblom, K., Ozturk, E., Pacheco, L., Pántya, J., Rapanos, V., Roland-Levy, C., Roux-Cesar, A.M., Salamzadeh, A., Savadori, L., Schei, V., Sharma, M., Summers, B., Suriya, K., Tran, Q., Villegas-Palacio, C., Visser, M., Xia, C., Yi, S., & Zukauskas, S. (2019). Trust and power as determinants of tax compliance across 44 nations. *Journal of Economic Psychology*, 74, 102191. https://doi.org/10.1016/j.joep.2019.102191

Baxter, K., Courage, C., & Caine, K. (2015). Chapter 5 - Choosing a User Experience Research Activity, Editor(s): Baxter, K., Courage, C., Caine, K.. In Interactive Technologies, Understanding your Users (Second Edition). *Morgan Kaufmann*, 96-112. https://doi.org/10.1016/B978-0-12-800232-2.00005-5

Benkraiem, R., Uyar, A., Kilic, M., & Schneider, F. (2021). Ethical behavior, auditing strength, and tax evasion: A worldwide perspective. *Journal of International Accounting, Auditing and Taxation*, 43, 100380. https://doi.org/10.1016/j.intaccaudtax.2021.100380

Bertinelli, L., Bourgain, A., & Leon, F. (2020). Corruption and tax compliance: evidence from small retailers in Bamako, Mali. *Applied Economics Letters*, 27(5), 366–370. https://doi.org/10.1080/13504851.2019.1616057

Blaufus, K., Bob, J., Otto, P., & Wolf, N. (2017). The Effect of Tax Privacy on Tax Compliance - An Experimental Investigation. *European Accounting Review*, 26(3), 561–580. https://doi.org/10.1080/09638180.2016.1258319

Brizi, A., Giacomantonio, M., Schumpe, B., & Mannetti, L. (2015). Intention to pay taxes or to avoid them: The impact of social value orientation. *Journal of Economic Psychology*, 50, 22–31. https://doi.org/10.1016/j.joep.2015.06.005

Bruno, R. L. (2019). Tax enforcement, tax compliance and tax morale in transition economies: A theoretical model. *European Journal of Political Economy*, 56, 193–211. https://doi.org/10.1016/j.ejpoleco.2018.08.006

Carsamer, E., & Abbam, A. (2020). Religion and tax compliance among SMEs in Ghana. Journal of Financial Crime. https://doi.org/10.1108/JFC-01-2020-0007

Casal, S., Kogler, C., Mittone, L., & Kirchler, E. (2016). Tax compliance depends on voice of taxpayers. *Journal of Economic Psychology*, 56, 141–150. https://doi.org/10.1016/j.joep.2016.06.005

Castro, L., & Scartascini, C. (2013). Tax Compliance and Enforcement in the Pampas: Evidence from a Field Experiment, No. IDB-WP-472, Inter-American Development Bank, Felipe Herrera Library, https://EconPapers.repec.org/RePEc:idb:wpaper:idb-wp-472. https://doi.org/10.2139/ssrn.2367709

Chan, C., Troutman, C., & 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. https://doi.org/10.1016/S1061-9518(00)00027-6

Christian, R. C., & Alm, J. (2014). Empathy, sympathy, and tax compliance. *Journal of Economic Psychology*, 40, 2014, 62–82. https://doi.org/10.1016/j.joep.2012.10.001

Curi, J. A. A. (2019). Legalism and creativity: tax non-compliance in the eyes of the economic elite. *International Review of Sociology*, 29(1), 58–79. https://doi.org/10.1080/03906701.2019.1532653

Denham, B. E. (2017). Categorical Statistics for Communication Research, Chichester, UK, Malden, MA, John Wiley & Sons, Inc.

Doerrenberg, P., & Schmitz, J. (2017), Tax compliance and information provision. A field experiment with small firms. *Journal of Behavioral Economics for Policy*, 1, (1), 47–54. https://www.research-collection.ethz.ch/handle/20.500.11850/231893

Durham, Y., Manly, T., & Ritsema, C. (2014). The effects of income source, context, and income level on tax compliance decisions in a dynamic experiment. *Journal of Economic Psychology*, 40, 220–233. https://doi.org/10.10 16/j.joep.2012.09.012

Edgar, T., & Manz, D. (2017). Chapter 4 - Exploratory Study, Editor(s): Thomas W. Edgar, David O. Manz, Research Methods for Cyber Security. Syngress, 95–130. https://doi.org/10.1016/B978-0-12-805349-2.00004-2

Enachescu, J., Olsen, J., Kogler, C., Zeelenberg, M., Breugelmans, S., & Kirchler, E. (2019). The role of emotions in tax compliance behavior: A mixed-methods approach. *Journal of Economic Psychology*, 74, 102194. https://doi.org/10.1016/j.joep.2019.102194

Faizal, S. M., Palil, M. R., Maelah, R., & Ramli, R. (2017). Power and Trust as Factors Influencing Tax Compliance Behavior in Malaysia. *Asian Journal of Accounting and Governance* 8, 79–85. https://doi.org/10.17576/AJAG-2017-08-07

Fatas, E., Nosenzo, D., Sefton, M.,& Zizzo, D. J. (2021). A self-funding reward mechanism for tax compliance. *Journal of Economic Psychology*, 86, 102421. https://doi.org/10.1016/j.joep.2021.102421

Fischer, C., Wartick, M., & Mark, M. (1992). Detection Probability and Taxpayer Compliance: A Review of the Literature, *Journal of Accounting Literature*,11, 1–46.

Fochmann, M., Muller, N., & Overesch, M. (2021). Less cheating? The effects of prefilled forms on compliance behavior, *Journal of Economic Psychology*, 83, 2021, 102365. https://doi.org/10.1016/j.joep.2021.102365

Fox, J. (2016). Applied Regression Analysis and Generalized Linear Models, 3rd Edition, Thousand Oaks, California, SAGE Publications, Inc.

Garcia, F., Opromolla, L.D., Andrea Vezzulli, A.,& Marques, R. (2020). The effects of official and unofficial information on tax compliance. *Journal of Economic Psychology*, 78, 102265. https://doi.org/10.1016/j.joep.2020.102265

Gobena, L.B., & Van Dijke, M. (2017). Fear and caring: Procedural justice, trust, and collective identification as antecedents of voluntary tax compliance. *Journal of Economic Psychology*, 62, 1–16. https://doi.org/10.1016/j.joep.2017.05.005

Hair, J. F. J. Wolfinbarger, M., Money, A. H., Samouel, P., & Page, M. J. (2011). Essentials of Business Research Methods, Armonk, New York, M.E. Sharpe Inc.

Hashimzade, N., Myles, G., Page, F., & Rablen, M. (2014). Social networks and occupational choice: The endogenous formation of attitudes and beliefs about tax compliance. *Journal of Economic Psychology*, 40, 134–146. https://doi.org/10.1016/j.joep.2012.09.002

Hofmann, E., Voracek, M., Bock, C., & Kirchler, E. (2017). Tax compliance across sociodemographic categories: Meta-analyses of survey studies in 111 countries. *Journal of Economic Psychology*, 62, 63-71. https://doi.org/10.1016/j.joep.2017.06.005

Hwang, S., & Nagac, K. (2021). Religiosity and Tax Compliance: Evidence from U.S. *Counties Applied Economics*, 53(47), 5477–5489. https://doi.org/10.1080/00036846.2021.1923638

Junpath, S. V., Kharwa M. S. E., & Stainbank, L. J. (2016). Taxpayers' attitudes towards tax amnesties and compliance in South Africa: an exploratory study, *South African Journal of Accounting Research*, 30:2, 97-119. https://doi.org/10.1080/10291954.2015.1070565

Kaplan, D. (2001). Structural Equation Modeling. *International Encyclopedia of the Social & Behavioral Sciences*, 15215–15222. https://doi.org/10.1016/B0-08-043076-7/00776-2

Kastlunger, B., Dressler, S., Kirchler, E., Mittone, L., & Voracek, M. (2010). Sex differences in tax compliance: Differentiating between demographic sex, gender-role orientation, and prenatal masculinization (2D:4D). *Journal of Economic Psychology*, 31(4), 542–552. .https://doi.org/10.1016/j.joep.2010.03.015

Kastlunger, B., Lozza, E., Kirchler, E., & Schabmann, A. (2013). Powerful authorities and trusting citizens: The Slippery Slope Framework and tax compliance in Italy. *Journal of Economic Psychology*, Elsevier, 34(C), 36–45. https://doi.org/10.1016/j.joep.2012.11.007

Kemme, D. M., Parikh, B., & Steigner, T. (2020). Tax Morale and International Tax Evasion. *Journal of World Business*, 55 (3), 101052, 1–12. https://doi.org/10.1016/j.jwb.2019.101052

Kogler, C., Batrancea, L., Nichita, A., Pantya, J., Belianin, A., & Kirchler, E. (2013). Trust and power as determinants of tax compliance: Testing the assumptions of the slippery slope framework in Austria, Hungary, Romania and Russia. *Journal of Economic Psychology*, 34, 169–180. https://doi.org/10.1016/j.joep.2012.09.010

Lederman, L. (2018). Does Enforcement Reduce Voluntary Tax Compliance? *Articles by Maurer Faculty*, 2732, https://www.repository.law.indiana.edu/facpub/2732

Lewis, A., Carrera, S., Cullis, J., & Jones, P. (2009). Individual, cognitive and cultural differences in tax compliance: UK and Italy compared. *Journal of Economic Psychology*, 30(3), 431–445. https://doi.org/10.1016/j.joep.2008.11.002

Lisi, G. (2019). Slippery slope framework, tax morale and tax compliance: A theoretical integration and an empirical assessment, Discussion Papers in Economic Behaviour, 0219, University of Valencia, ERI-CES, 1–21, https://www.uv.es/erices/RePEc/WP/2019/0219.pdf

Lisi, G. (2021). Can rewards foster honest tax behaviors?. *International Public Management Journal*, 900–915. https://doi.org/10.1080/10967494.2021.1948469

Luttmer, E. F., & Singhal, M. (2014). Tax morale. *The Journal of Economic Perspectives*, 28(4), 149–168. https://doi.org/10.1257/jep.28.4.149

Mathieu, L., Price, C. W., & Antwi, F. (2010). The distribution of UK personal income tax compliance costs. *Applied Economics*, 42(3), 351–368. https://doi.org/10.1080/00036840701604370

McCullagh, P., & Nelder, J. A. (1989). Generalized Linear Models, 2nd Edition, London, Chapman and Hall. https://doi.org/10.1007/978-1-4899-3242-6

Mei Tan, L., & Chin-Fatt, C. (2000). The Impact of Tax Knowledge on the Perceptions of Tax Fairness and Attitudes Towards Compliance. *Asian Review of Accounting*, 8(1), 44–58. https://doi.org/10.1108/eb060720

Mikesell, J., & Birskyte, L. (2007). The Tax Compliance Puzzle: Evidence from Theory and Practice. *International Journal of Public Administration*, 30:10, 1045–1081. https://doi.org/10.1080/01900690701221423

Murphy, K. (2008). Enforcing Tax Compliance: To Punish or Persuade?. *Economic Analysis and Policy*, 38(1), 113–135. https://doi.org/10.1016/S0313-5926(08)50009-9

Musimenta, D. (2020). Knowledge requirements, tax complexity, compliance costs and tax compliance in Uganda. *Cogent Business & Management*, 7(1), 1812220. https://doi.org/10.1080/23311975.2020.1812220

Muslichah dan Graha, S. V. (2018). The Effect of Tax Fairness on Tax Compliance with Trust as an Intervening Variable. *Accounting and Financial Review*, 1 (2), 78–85. https://doi.org/10.26905/afr.v1i2.2372

Nelder, J. A., & Wedderburn R. W. M. (1972). Generalized Linear Models, *Journal of the Royal Statistical Society*, Series A (General), 135(3), 370–384. https://doi.org/10.2307/2344614

Nichita, A., Batrancea, L., Pop, C. M., Batrancea, I., Morar, I. D., Masca, E., Roux-Cesar, A. M., Forte, D., Formigoni, H., & da Silva, A. A. (2019). We Learn Not for School but for Life: Empirical Evidence of the Impact of Tax Literacy on Tax Compliance. *Eastern European Economics*, 57(5), 397–429. https://doi.org/10.1080/00128775.2019.1621183

Nichita, R. A., & Batrancea, L. M. (2012). The implications of tax morale on tax compliance behavior. The Annals of the University of Oradea. *Economic Sciences*, Tom XXI, 1st issue, July 2012, 739–744, http://anale.stecono miceuoradea.ro/volume/2012/n1/106.pdf

OECD (2004). Compliance Risk Management: Managing and Improving Tax Compliance, Forum on Tax Administration Compliance Sub-group, https://www.oecd.org/tax/administration/33818656.pdf

OECD (2019). Tax Morale: What Drives People and Businesses to Pay Tax?, OECD Publishing, Paris. https://doi.org/10.1787/f3d8ea10-en

OECD (2021). Building Tax Culture, Compliance and Citizenship: A Global Source Book on Taxpayer Education, Second Edition, OECD Publishing, Paris. https://doi.org/10.1787/18585eb1-en

Olusegun, V. (2021). Assessing SMEs tax non-compliance behaviour in Sub-Saharan Africa (SSA): An insight from Nigeria. *Cogent Business & Management*, 8(1), 1938930. https://doi.org/10.1080/23311975.2021.1938930

Randlane, K. (2016). Tax Compliance as a System: Mapping the Field. *International Journal of Public Administration*, 39(7), 515–525. https://doi.org/10.1080/01900692.2015.1028636

Rechberger, S., Hartner, M., Kirchler, E., & Hammerle, F. (2010). Tax amnesties, justice perceptions, and filing behavior: A simulation study. *Law & Policy*, 32, 214–225. https://doi.org/10.1111/j.1467-9930.2009.00316.x

Resnick, D. (2021). Taxing Informality: Compliance and Policy Preferences in Urban Zambia. *The Journal of Development Studies*, 57(7), 1063–1085. https://doi.org/10.1080/00220388.2020.1841171

Riahi-Belkaoui, A. (2004). Relationship between tax compliance internationally and selected determinants of tax morale, *Journal of International Accounting, Auditing and Taxation*, 13(2), 135-143, ISSN 1061-9518. https://doi.org/10.1016/j.intaccaudtax.2004.09.001

Richardson, G. (2006a). Determinants of tax evasion: A cross-country investigation. *Journal of International Accounting, Auditing and Taxation*, 15(2), 2006, 150–169. https://doi.org/10.1016/j.intaccaudtax.2006.08.005

Richardson, G. (2006b). The Impact of Tax Fairness Dimensions on Tax Compliance Behavior in an Asian Jurisdiction: The Case of Hong Kong. *International Tax Journal*, 32, 39–52.

Rosidm, A., & Romadhaniah, R. (2021). Assessing the Effectiveness of Law Enforcement in Improving Tax Compliance in Indonesia: An Empirical Investigation. *Bulletin of Indonesian Economic Studies*. https://doi.org/10.1080/ 00074918. 2021.1970110

Schmolders, G. (1960). Das Irrationale in der offentlichen Finanzwirtschaft, Frankfurt, Suhrkamp

Sebele-Mpofu, F., & Ntim, C. (2020). Governance quality and tax morale and compliance in Zimbabwe's informal sector. *Cogent Business & Management*, 7(1). https://doi.org/10.1080/23311975.2020.1794662

Shih-Ying, W., & Mei-Jane, T. (2005). Determinants of Tax Compliance - A Cross-Country Analysis, FinanzArchiv: *Public Finance Analysis*, 61(3), 393–417. https://EconPapers.repec.org/RePEc:mhr:finarc:urn:sici:0015-2218(200511)61:3_393:dotcac_2.0.tx_2-w

Slemrod, J. (2019). Tax Compliance and Enforcement. *Journal of Economic Literature*, 57(4), 904–954. https://doi.org/10.1257/jel.20181437

Sritharan, N., & Salawati, S. (2019). Economic Factors Impact on Individual Taxpayers' Tax Compliance Behaviour in Malaysia. *International Journal of Academic Research in Accounting, Finance and Management Sciences* 9(2),172–182. https://doi.org/10.6007/IJARAFMS/v9-i3/6355

Taing, H. B., & Chang, Y. (2021). Determinants of Tax Compliance Intention: Focus on the Theory of Planned Behavior. *International Journal of Public Administration*, 44(1), 62–73. https://doi.org/10.1080/01900692.2020.1728313

Thakkar, J. J. (2020). Structural Equation Modelling - Application for Research and Practice (with AMOS and R), Singapore, Springer Nature Singapore Pte Ltd. https://doi.org/10.1007/978-981-15-3793-6

Torgler, B., & Schneider, F. (2007). What shapes attitudes toward paying taxes? Evidence from multicultural European countries. *Social Science Quarterly*, 88 (2), 443–470. https://doi.org/10.1111/j.1540-6237.2007.00466.x

Tsakumis, G., Curatola, A., &Porcano, T. (2007). The relation between national cultural dimensions and tax evasion. *Journal of International Accounting, Auditing and Taxation*, 16(2), 131–147. https://doi.org/10.1016/j.intaccaudtax.2007.06.004

Vincent, O. (2021). The development of a scale to measure SMEs tax compliance in Nigeria: An adaptation of Fischer's model. *Journal of Accounting and Taxation*, 13(3), 132–143, July-September. https://doi.org/10.5897/JAT2021.0479

Wahl, I., Kastlunger, B., & Kirchler, E. (2010). Trust in Authorities and Power to Enforce Tax Compliance: An Empirical Analysis of the "Slippery Slope Framework". *Law & Policy*, 32(4), 383–406. https://doi.org/10.1111/j.1467-9930.2010.00327.x

Wenzel, M. (2002). Tax compliance and the psychology of justice: Mapping the field. In V. Braithwaite (Ed.). Taxing democracy. Aldershot, Ashgate Publishing Ltd.

Wenzel, M. (2007). The multiplicity of taxpayer identities and their implications for tax ethics. *Law & Policy*, 29(1), 31–50. https://doi.org/10.1111/j.1467-9930.2007.00244.x

Yaniv, G. (2009). The Tax Compliance Demand Curve: A Diagrammatical Approach to Income Tax Evasion. *The Journal of Economic Education*, 40(2), 213–224. https://doi.org/10.3200/JECE.40.2.213-224

Youde, S., & Lim, S. (2019). The Determinants of Medium Taxpayers' Compliance Perspectives: Empirical Evidence from Siem Reap Province, Cambodia. *International Journal of Public Administration*, 42(14), 1222–233. https://doi.org/10.1080/01900692.2019.1591447

Authors' Biographies

Camelia Surugiu is a full professor at the University of Bucharest, Faculty of Administration and Business, Romania. Her areas of interest concern tax compliance and tax harmonization.

Marius-Răzvan Surugiu is a senior researcher at the Institute of National Economy, Romanian Academy, Bucharest, Romania. His research interests are economic development and the relationship between taxation and the business cycle.

Cătălin Grădinaru is a lecturer at the University of Bucharest, Faculty of Administration and Business, Romania. He is interested in strategic planning and competitive business strategies.

The article has been reviewed.

Received in February 2023; accepted in November 2023.