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TAX COMPLIANCE DETERMINANTS: EMPIRICAL EVIDENCE FROM CROATIA

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Abstract. Governments ensure majority of their revenues through taxes. If properly designed, taxation policies can be mechanisms of promoting sustainable economic development and inclusive economic growth. However, the main issue of government authorities remains achieving tax compliance among taxpayers. The question of noncompliance intersects different fields from public finance, law, ethics, and its complexity presents a challenge for the society in general.

This study aims to examine the influence of chosen economic and psychological determinants on tax compliance. In order to identify the determinants of taxpayers' behaviour, a total of 862 questionnaires were administered and collected directly from Croatian taxpayers. Partial least squares structural equation modelling (PLS-SEM) was applied to analyse the survey data. The results suggest that social norms and tax morale influence taxpayers' compliance significantly.

Overall, findings of this study contribute to the better understanding of tax compliance and its determinants in the context of a genuine paradigm shift in the field. This emphasizes the importance of including and exploring psychological determinants in tax compliance analysis.

Keywords: tax compliance, taxation policies, taxpayers' behaviour, economic determinants, psychological determinants, PLS-SEM.

JEL Classification: D91, H26.

Introduction

Taxpayer behaviour, such as tax evasion and tax avoidance, occur in developing countries, but also in developed countries. Taxpayer noncompliance is hampering government efforts to generate tax revenue. Several authors point to the fact that tackling this problem should be a priority, highlighting that recent estimate of tax evasion in the European Union (EU) alone point to a figure of 825 billion Euros per year (Murphy, 2019; Raczkowski, 2015). Not only an illegal form of tax noncompliance is a problem, but tax avoidance as well. Tørsløv et al.

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(2020) claim that in 2018 tax-avoidance strategies of multinational companies resulted in transferring more than 900 billion dollars in profits to tax havens, lowering global corporate tax receipts by 10%. They also pointed out that the highest profit loss is actually happening in (non-haven) EU countries, leaving tax authorities in the EU without 20% of their tax revenues.

In Croatia, fiscal reform began in 1992. Since then, there have been many modifications to the tax system complemented by legislative changes. As a result, from the taxpayers' perspective, the system can be described as complex. Cvrlje (2015) points to the fact that ensuring stability and reducing the complexity of Croatian tax system is indeed a challenge, and this is related to the fact that the Croatian legislation, with regard to finance, budget and taxes is not clear enough. Moreover, taxpayers' very low trust in authorities and their perception of tax administration's inefficiency and corruption open up many issues and lead to complex tax-related challenges. The numbers on tax revenues follow these premises, since Croatia is among the countries with the lowest tax-to-GDP ratio in the EU. According to Eurostat (2022), current taxes on income, wealth, etc. as a ratio to GDP amounted to 13.0% in the EU in 2020. On one side lies Denmark, which raised the equivalent of 30.9% of GDP from these taxes in 2020, while Romania (4.7% of GDP), Bulgaria (5.9% of GDP) and Croatia (6.5% of GDP) hold the opposite side of scale. When comparing the size of the shadow economy, Bulgaria, Romania and Croatia remain the hot topic in EU context (ATKearney, 2013).

As well as being a significant problem for the economy and society, tax compliance has attracted the attention of scientists willing to explore the factors behind it. Many studies investigated corporate income tax or constructs like tax evasion, corruption, and the underground economy (Allingham & Sandmo, 1972; Braithwaite, 2017; Nguyen et al., 2020; Richardson, 2006). However, understanding individual taxpayers' attitudes towards taxation is challenging for researchers and has become their focus in last two decades. While the research so far has established two main types of taxpayer behaviours (compliance and noncompliance), it has not fully investigated the determinants that influence and drive these behaviours. Although it is important to follow the traditional economic framework, more recent research strongly suggests that taxpayers are motivated by other factors (Kirchler, 2007; Alm et al., 2012; Alm, 2019; Nguyen et al., 2020). The evolution of research topics in the tax compliance field has begun to recognise the importance of social and psychological factors. As a result, a whole range of potential determinants that can be used to encourage tax compliance has been identified. The biggest challenge for future researchers, therefore, is to analyse how "non-economic" determinants affect taxpayers' behaviour.

This research was aimed to identify and establish these determinants in Croatia. The compliance data and information on economic and psychological factors were collected directly from taxpayers through questionnaires administered online to mobile phones and social networks. Furthermore, empirical research determined the correlation between the selected determinants with tax compliance using partial least squares structural equation modelling (PLS-SEM).

Research results follow a paradigm shift present in the field and emphasize that traditional economic tools are becoming less influential in ensuring tax compliance. If there is an awareness about limited tax evasion by the majority of compliant taxpayers, this makes

people more willing to comply with their tax liabilities (Walsh, 2012). Based on the findings presented here, the authors join the challenging new context with an idea to shape softer policy measures which would stimulate the culture of voluntary tax compliance (Kirchler, 2007; Williams & Puts, 2017; Franić, 2020).

Keeping these results in mind, it is now possible to create tailored made tax model that would encompass unique tax climate as well as Croatian taxpayers' habits and behaviour. This personalised approach to taxpayers' noncompliance is enabling government authorities to predict this effect more accurately and empowers them to create tailor-made tax policies. Finally, the findings based on this research and data related to Croatian taxpayers will provide an insight into tax policy through the taxpayers' perspective of themselves and potentially be useful to countries with similar economic and fiscal policies. Additionally, this study may be useful to bring to light peculiarities of Croatian taxpayers as opposed to other EU members taxpayers.

The structure of the paper is as follows: after a short introductory part, a theoretical background is presented to emphasize the most relevant findings on the subject matter. The next section focuses on the methodology used and the data obtained. The fourth part elaborates the research results. Finally, the last section provides the discussion, conclusions, limitations, and the direction of further research.

1. Theoretical background

The first step in a coherent approach to the topic of tax compliance is to adequately define it. In the literature, it is often emphasised that tax compliance is a complex concept which is influenced by a large number of determinants (Hashimzade et al., 2013; Onu et al., 2019). Jackson and Milliron (1986) define tax compliance behaviour as reporting all income and tax liabilities and paying taxes to the tax authorities by following the relevant tax laws, regulations, and tax orders. Roth et al. (1989) emphasize that compliance means fulfilling tax liabilities accurately and in accordance with the legal framework.

These definitions and their authors rely solely on an economic perspective of taxpayer behaviour. They follow the so-called traditional economic theory of crime and all its related theories (Allingham & Sandmo, 1972; Cowell, 1981; Pencavel, 1979; Srinivasan, 1973; Yaniv, 1999; Yitzaki, 1974). In terms of tax compliance, these models assume that tax payments are made only because of the economic deterrence.

A step away from traditional theories was made by Andreoni et al. (1998), who introduced a concept of taxpayers' willingness to comply with all legal frameworks, inter alia, with the goal of maintaining country's economic stability. James and Alley (1999) define tax compliance as a taxpayers' willingness to follow the "spirit and letter" of tax law and administration, implying that this should be without the use of any coercive activities. In doing so, the authors emphasize the importance and complexity of convincing taxpayers to respect the above mentioned. These authors later give a more precise description of tax compliance as a wide range of behavioural choices for taxpayers to adjust to society's overall goals, all in line with tax policy (James & Alley, 2002).

More recent research in the last two decades has led to the awareness that taxpayer behaviour and its analysis should include other, especially psychological, determinants. In this regard, studies suggest that the tax compliance and its mechanisms cannot be fully explained by purely economic considerations, just as deterrence is not the key to achieving it (Kirchler, 2007; Torgler, 2011; Alm et al., 2012; Marandu et al., 2015; Alm, 2019; Enachescu et al., 2019; e Hassan et al., 2021). The behaviour of taxpayers has become an important subject of consideration for both developed and developing countries, and the focus has been on the taxpayers' responsibility and willingness to declare income and thus participate in defining their tax liability (Inasius, 2019).

Of the authors who have recently tried to give a universal definition of tax compliance, Kirchler (2007) described it as the taxpayers' willingness to respect their tax obligations. Furthermore, Alm et al. (2012) argued that it was becoming increasingly clear that taxpayer behaviour could not be analysed solely under the classical economic considerations, thus introducing a psychological perspective. Through it, tax compliance determinants range from tax audit and penalties to attitudes, social norms, and fairness. Moreover, there is a body of empirical evidence on the impact of the whole spectrum of determinants that needs to be included when researching and analysing taxpayer behaviour (Alm, 2019). It is, therefore, extremely important to consider those determinants in both the research on the topic, and in the case of tax policy interventions (Alm et al., 2020). For the purpose of this research, authors compiled a table referring to the prior research on tax compliance determinants. This table also served as a basis for the idea of combining diverse tax compliance determinants when setting a research model.

As can be seen from Table 1, some authors offer evidence about the crucial role of economic determinants such as audits and sanctions (Kleven et al., 2011; Nguyen et al., 2020). Conversely, Richardson (2006) and Christian and Alm (2014) argue that non-economic determinants have the strongest impact on taxpayers' behaviour. Even though their analysis proves audits are effective in achieving tax compliance, Alm et al. (2020) suggest that policy makers should be cautious about this and avoid generalization due to the taxpayers' heterogeneity. Franić (2020) suggests that intrinsic factors, namely tax morale, stand out as a key component regarding Polish taxpayers' compliance. Górecki and Letki (2020) emphasize the significance of norms in the tax compliance model, suggesting that strong subjective norms can even replace penalties and their deterrent effect. Saad (2014) claims that high tax complexity can be contributing factors towards taxpayers' non-compliance, suggesting that this problem can be solved through better education and system and tax law simplification. Similar findings are available regarding the fairness perceptions of taxpayers. Farrar et al. (2018) and Hartner et al. (2008) emphasize that if taxpayers perceive the tax system as fair, then it is possible to incentivize voluntary compliance and, in so doing, mitigate tax avoidance and tax evasion.

In general, there is a strong trend towards the idea that enforcement mechanisms or tax rate levels may not be a first-choice tool towards ensuring taxpayers' compliance (Matthews, 2005; Christian & Alm, 2014; Swistak, 2016; Górecki & Letki, 2020).

Table 1. Prior research on tax compliance determinants (source: authors' own compilation, 2021)

Authors (Year)	Economic Determinants	Psychological Determinants	Methodology	Sample
Wenzel (2004)	Personal norms	Social norms	Regression analysis	Australian citizens (valid N = 1,406)
Torgler and Schneider (2005)		Tax morale	Regression analysis	Austria's individual taxpayers, WVS/EVS data
Richardson (2006)	Income source Marginal tax rates	Self-assessment Tax morale Fairness Complexity	Regression analysis	45 countries
Bobek et al. (2007)		Subjective norms Personal norms	Factor analysis	student and non-student population (Australia, Singapore, and the U.S.)
Blanthorne and Kaplan (2008)	Opportunity to underreport	Ethical beliefs Social norms	SEM	355 individual taxpayers (USA)
Hartner et al. (2008)		Procedural fairness	Structural equation modelling (SEM)	Secondary data
Kleven et al. (2011)	Audit probability		Regression analysis	42800 income taxpayers
Bott et al. (2014)	Detection probability	Moral appeals	Regression analysis	18,000 taxpayers in Norway
Christian and Alm (2014)		Sympathy Empathy	Experimental methods	100 participants (undergraduate and graduate students)
Helhel and Ahmed (2014)	Tax rates Audits Penalties	Tax complexity Tax knowledge Fairness	Regression analysis	170 individual taxpayers (Yemen)
Saad (2014)		Tax Knowledge Tax complexity	Thematic analysis	30 individual taxpayers (New Zealand)
Dwenger et al. (2016)	Audit probability	Tax simplification Tax misperception Compliance rewards	Regression analysis	40,000 individual taxpayers in Bavaria, Germany
Doerrenberg and Schmitz (2017)		Information transmission Morale appeals	Regression analysis	142 small accounting firms in the Slovenian region of Kranj
Hallsworth et al. (2017)		Social norm messages	Large-scale natural field experiments	Secondary data – 200,000 individuals in the UK
Farrar et al. (2018)		Fairness	Exploratory factor analysis (EFA), Structural equation analysis (SEA)	sample of 501 individual taxpayer (USA)

End of Table 1

Authors (Year)	Economic Determinants	Psychological Determinants	Methodology	Sample
van Dijke et al. (2019)		Procedural and distributive justice Citizens' perceptions of the tax authority's power	Regression analysis	273 taxpayers from Ethiopia & 248 from USA
Onu et al. (2019)		Personal norms Fairness Societal norms Tax knowledge	Exploratory factor analysis Regression analysis	330 owners or part-owners of micro-business in the UK
Alm et al. (2020)	Audit rate		Regression analysis	278 subjects (students) across the five experimental studies
Cranor et al. (2020)	Financial incentives	Social norms	Regression analysis	Delinquent Taxpayers
Crnogorac and Lago-Peñas (2020)		Tax morale	Regression analysis	Former Yugoslavian countries – data from EVS (individual taxpayers)
Franić (2020)	Financial problems Detection risk Expected sanctions	Tax morale	Regression analysis	Secondary data
Górecki and Letki (2020)	Tax rate Penalties	Fairness Norms	Regression analysis	1500 individual taxpayers in 14 CEE countries

2. Methodology and hypotheses development

Researching, analysing and understanding taxpayer behaviour has always been a challenging task, regardless of the specificity of the data source or methodology (Alm & McKee, 2006; Alm, 2019). Understandably so, since noncompliant taxpayers' intent to cover up that behaviour. Despite problems with the data and methodologies in the field of this topic, they provide new insights into the topic and contribute new ideas as well as new solutions. Based on the relevant literature and theoretical approach created by Alm et al. (2012), we propose the research model presented in Figure 1.

While the established economic framework of tax compliance is still acknowledged in the field, more recent studies strongly suggest that taxpayers are motivated by a combination of diverse factors (Marandu et al., 2015; Dwenger et al., 2016; Onu et al., 2019; Franić, 2020). As a result of this process, the whole research paradigm has been changed and shifted from economic towards psychological perspective (Alm et al., 2012). This study follows the idea of paradigm shift and combines three economic and four psychological determinants of tax compliance in the model. Hypotheses are, therefore, as follows:

H1a: Tax audits have a significant impact on taxpayers' compliance.

H1b: Tax rates have a significant impact on taxpayers' compliance.

H1c: Sanctions have a significant impact on taxpayers' compliance.

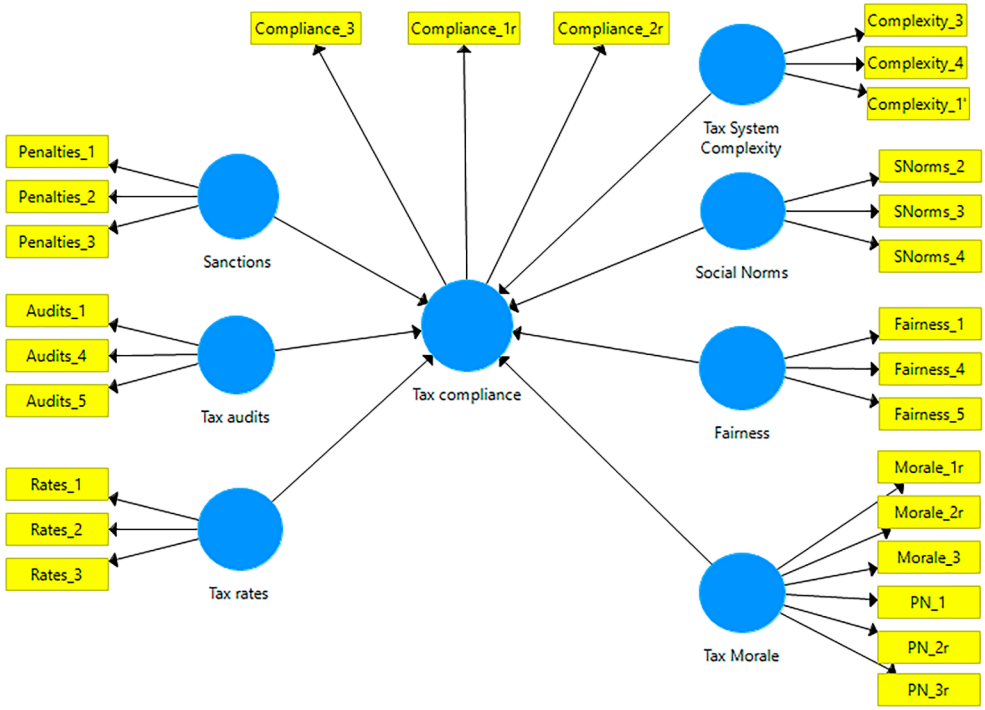

Figure 1. Croatian Tax compliance model (2021)

H2a: The complexity of tax laws and the tax system has a significant impact on taxpayers' compliance.

H2b: Taxpayers' social norms have a significant impact on their tax compliance.

H2c: Taxpayers' fairness perceptions of the tax system have a significant impact on their tax compliance.

H2d: Taxpayers' tax morale has a significant impact on their tax compliance.

2.1. Research design

In order to identify the economic and psychological factors that determine tax compliance, primary research was conducted using the survey method. The measuring instrument in the empirical research was a structured questionnaire in the Croatian language, designed on the basis of previously used and tested measuring instruments and scales from the relevant literature (Kirchler et al., 2006; Hauptman et al., 2015; Tenidou et al., 2015; Onu et al., 2019; van Dijke et al., 2019). For the research, this was pretested and piloted, to check the content validity and reliability of the questionnaire before conducting the main survey. After that, the questionnaire was slightly modified due to the specificities of the Croatian tax system.

The questionnaire contains four sections: economic determinants (9 items), psychological determinants (15 items), tax compliance (3 items) and sociodemographic characteristics (gender, education level, employment status, monthly income, seniority). The Likert scale

was applied, and respondents expressed their degree of agreement on a five-point scale (1 – I completely disagree, 5 – I completely agree). Sociodemographic characteristics were examined by multiple-choice questions.

2.2. Data collection

The main issue in the survey empirical research is identifying statistically significant sample. There are different recommendations for the sample size. The PLS-SEM method does not require that the variables have a normal distribution; it is suitable for achieving quite precise results with a small sample. However, there are recommendations that the sample size should be at least ten times larger than the largest number of formative indicators for a single construct or ten times larger than the largest number of structural paths in the model (Nunnally & Bernstein, 1994; Hair et al., 2014b). According to these recommendations, for the purposes of this study, authors estimated sample size of 700 respondents.

Based on the objectives and hypotheses set, the above research was conducted in the Republic of Croatia on a random sample of Croatian individual taxpayers (income tax). The sampling was based on the willingness and availability of participants to complete the questionnaires. The study was conducted in Croatia from October 2021 to January 2022. For this purpose, 2 subsamples were examined – one by mobile phone invitations (from a phone book), and the other through social network invitations (Facebook and Instagram). Targeting two specific sociodemographic groups, these subsamples were combined to achieve the greatest possible representativeness of the sample in relation to population parameters (inspired by Rinken et al., 2020). A total of 862 responses were valid and accepted for this study, representing a response rate of 60.9%.

Another important component, the ethical behaviour of researchers, was considered when planning and conducting research, since the sensitivity of the topic is undeniable. The guidelines that serve as expected ethical behaviours are widely accepted in the scientific community, as stated by Bhattacherjee (2012): voluntary participation of respondents in research, guaranteed anonymity of respondents and confidentiality of data, a statement of the purpose of the study and a guarantee that all collected data will only be used for scientific research purposes only.

2.3. Data analysis

Partial least squares structural equation modelling was applied to analyse the survey data, through SmartPLS 3.0 software (Ringle et al., 2015). PLS-SEM is widely used in a variety of fields, from marketing to behavioural sciences. It is more and more popular due to its ability to model latent constructs under conditions of non-normality and small to medium sample sizes (Hair et al., 2014a). So far, few authors have recently used this method in the field of tax compliance research (Saad, 2012; Inasius, 2019; Djajanti, 2020; Ya'u et al., 2020; e Hassan et al., 2021).

The preliminary analysis was processed using Statistical Package for Social Sciences (SPSS), version 20.0. The purpose was to obtain basic information, a summary of the structure and characteristics related to the tested sample. A summary of the respondent's profile can be seen in Table 2.

Table 2. Respondent's profile (2022)

Category		Number	Percentage
Gender	Female	490	56.8
	Male	372	43.2
	Total	862	100.0
Age	18–24	18	2.1
	25–34	113	13.1
	35–44	289	33.5
	45–54	148	17.2
	55–64	116	13.5
	>65	178	20.6
	Total	862	100.0
Education	High school or less	246	28.5
	Diploma/Bachelor's	137	15.9
	Master's	355	41.2
	Postgraduate	124	14.4
	Total	862	100.0
Working experience	<5 years	82	9.5
	6–20 years	414	48.0
	>20 years	366	42.5
	Total	862	100.0

After assessing the demographic profile of the sample, SmartPLS 3.0. was employed to test the measurement and structural model. The following sections present a detailed evaluation of both measurement and structural model.

3. Findings

According to Hair et al. (2014a), the recommended two-stage analytical procedures for PLS-SEM include testing the measurement model (validity and reliability of the measures) and then the structural model.

To examine the reflective measurement model, convergent validity was first tested. This was done through factor loadings, composite reliability (CR), and average variance extracted (AVE). Table 3 shows result of this assessment.

Table 3 shows that all item loadings exceed 0.5 which is regarded as acceptable value (Chin, 1998). For reflective models, these indicators depict the trajectory of the latent variable towards the observed variables. The composite reliability results also indicated that the measures were robust in terms of internal consistency reliability, since they are all above the acceptable level of 0.7. Finally, the average variance extracted, indicating the amount of variance in the indicators accounted for by the latent construct, exceeds the recommended value of 0.5 (Hair et al., 2014a).

Table 3. Validity and reliability for constructs

Constructs	Items	Loadings	AVE	CR
Tax Audits	Audits_1	0.775	0.651	0.848
	Audits_4	0.804		
	Audits_5	0.841		
Sanctions	Penalties_1	0.618	0.689	0.866
	Penalties_2	0.923		
	Penalties_3	0.913		
Tax Rates	Rates_1	0.940	0.693	0.870
	Rates_2	0.828		
	Rates_3	0.715		
Tax System Complexity	Complexity_3	0.516	0.609	0.817
	Complexity_4	0.882		
	Complexity_1'	0.885		
Social Norms	Snorms_2	0.879	0.628	0.833
	Snorms_3	0.835		
	Snorms_4	0.643		
Tax Morale	Morale_1r	0.726	0.522	0.867
	Morale_2r	0.798		
	Morale_3	0.654		
	PN_1	0.663		
	PN_2r	0.698		
	PN_3r	0.784		
Fairness	Fairness_1	0.611	0.608	0.819
	Fairness_4	0.913		
	Fairness_5	0.786		
Tax Compliance	Compliance_1r	0.775	0.611	0.825
	Compliance_2r	0.741		
	Compliance_3	0.827		

Next step in analysis is assessing the discriminant validity outcomes. They determine whether the constructs in the model are correlated among themselves. It is aimed to assess that a reflective construct has the strongest relationships with its own indicators in the PLS path model (Hair et al., 2022). Table 4 demonstrates adequate discriminant validity, since diagonal values (square root of the AVE) of each construct are larger than its corresponding correlation coefficients (Fornell & Larcker, 1981).

However, Henseler et al. (2015) argue that the above-mentioned approach does not reliably recognize the lack of discriminant validity in common research situations. Therefore, they suggest the use of alternative approach, based on the multitrait-multimethod matrix, to assess discriminant validity: the heterotrait-monotrait ratio of correlations (HTMT). The results of this alternative method are presented in Table 5. As it can be seen, all values are below the recommended HTMT.90 (Gold et al., 2001).

Table 4. Discriminant validity

Constructs	1	2	3	4	5	6	7	8
Fairness	0.780							
Sanctions	0.218	0.830						
Social Norms	0.221	0.269	0.793					
Tax Morale	0.187	0.223	0.413	0.723				
Tax System Complexity	0.324	0.164	0.193	0.141	0.781			
Tax Audits	0.339	0.448	0.259	0.140	0.170	0.807		
Tax Compliance	0.180	0.198	0.374	0.646	0.136	0.119	0.782	
Tax Rates	–0.242	0.195	0.076	0.002	0.010	0.014	–0.037	0.833

Table 5. Heterotrait-monotrait (HTMT)

Constructs	1	2	3	4	5	6	7
Fairness							
Sanctions	0.306						
Social Norms	0.389	0.367					
Tax Morale	0.230	0.282	0.511				
Tax System Complexity	0.468	0.199	0.260	0.160			
Tax Audits	0.518	0.586	0.383	0.176	0.240		
Tax Compliance	0.228	0.264	0.495	0.852	0.160	0.167	
Tax Rates	0.291	0.277	0.117	0.101	0.058	0.051	0.095

In the next step, structural model assessment follows. According to the recommended procedure (Hair et al., 2014b), structural model is estimated through the following criteria:

1. path coefficient (β) for strength and direction of relationships between latent variables;
2. t-values;
3. coefficient of determination (R2).

In addition to this, it is also suggested that one should report the predictive relevance (Q2) and the effect sizes (f2). Table 6 shows structural estimates.

To test hypotheses H1a-c and H2a-d the significance of the β coefficients and their p-values, were assessed. As it can be seen, the effects of social norms (β = 0.122, p-value = 0.000) and tax morale (β = 0.582, p-value = 0.000) on tax compliance were positive and significant. Therefore, hypotheses H2b and H2d were supported. In addition to this, all factual t-values were greater than 2.58 at ($p < 0.01$) which indicates the confirmation of above-mentioned hypotheses in the research. In other words, taxpayers will be willing to comply if people in their surroundings are compliant as well, which is in line with the previous studies that emphasize the potential and importance of including social norms in the tax compliance research (Hanno & Violette, 1996; Alm et al., 1999; Davis et al., 2003; Wenzel, 2005; Slemrod, 2016; Alm, 2019). As a taxpayers' intrinsic motivation and sense of duty in paying taxes, tax morale is a tax compliance determinant existing regardless of legal rules (Torgler & Schneider, 2009; Mitrakos et al., 2014). Research results suggest that compliance significantly depends upon an individual's tax morale, which is similar to previous results by Frey (1997) and Franić (2020).

Table 6. Structural estimates (hypotheses testing)

HYPOTHESES	Beta	Standard Deviation (STDEV)	T Value	P Values	Decision
H1a: Tax Audits -> Tax compliance	–0.026	0.031	0.836	0.403	Not supported
H1b: Tax Rates -> Tax compliance	–0.052	0.036	1.454	0.146	Not supported
H1c: Sanctions -> Tax compliance	0.049	0.033	1.494	0.135	Not supported
H2a: Tax System Complexity -> Tax compliance	0.020	0.028	0.701	0.483	Not supported
H2b: Social Norms -> Tax compliance	0.122	0.032	3.840	0.000	Supported
H2c: Fairness -> Tax compliance	0.023	0.030	0.778	0.437	Not supported
H2d: Tax Morale -> Tax compliance	0.582	0.029	20.312	0.000	Supported

Note: * Critical t-values 2.58 ($p < 0.01$).

Based on these results, techniques such as "nudge" should be considered as a valuable tool for a gentle push made by governments (especially in the surroundings where the role of social norms is significant). As Peša et al. (2021) pointed out, there is a lack of nudging mechanisms in Croatian public policy and its future reforms should certainly incorporate nudging. In addition to this, Riahi-Belkaoui (2004) implicated that increasing tax compliance can be achieved through campaigns that highlight the sense of duty and solidarity linked to the fulfilment of personal tax duties. Such campaigns have already been presented and effectively used in the UK in the field of public health, pension system, education system as well as the tax system (Peša et al., 2021). Similar nudging mechanisms are incorporated in EU agency's campaign, and this is definitely a tool that should be widely used in Croatia, according to these research results.

On the other hand, the effect of tax audits ($\beta = –0.026$, p-value = 0.403), tax rates ($\beta = –0.052$, p-value = 0.146), sanctions ($\beta = 0.049$, p-value = 0.135), tax system complexity ($\beta = 0.020$, p-value = 0.483), and fairness ($\beta = 0.023$, p-value = 0.437), was not significant. Therefore, hypotheses H1a, H1b, H1c, H2a and H2c are not supported.

The R2 value of the dependent variable was also examined, analysing exogenous variables' combined effect on the endogenous variable. R2 value of 0.437 suggests that 43.7% of the variance of tax compliance is explained by this model. Cohen (1988) uses values 0.26 (substantial), 0.13 (moderate) and 0.02 (weak), which in this case shows substantial explanatory power of the dependent variable.

In the next step, effect sizes (f2) are estimated. It can be determined by calculating change in R2 value when a specific construct is eliminated from the model. According to Cohen's (1988) guidelines, value of 0.02 is for small effects, 0.15 for medium effects, and 0.35 for large effects. As it can be seen in Table 7, the effect size of tax morale on tax compliance was large and of social norms on tax compliance was small. Effect size of all other exogenous constructs on endogenous construct was none.

In the last step, we tested the predictive relevance of the model (Q2) through the blindfolding procedure. A Q2 value greater than 0 means that the model has predictive relevance, while less than 0 means the model has no predictive relevance. In our research, Q2 was estimated using cross-validated redundancy procedures and the value gained is Q2 = 0.256 with acceptable predictive relevance.

Table 7. Relative effect size

	Relative effect size (f^2)	Assessment
Fairness	0.001	None
Sanctions	0.003	None
Social Norms	0.020	Small
Tax Morale	0.485	Large
Tax System Complexity	0.001	None
Tax Audits	0.001	None
Tax Rates	0.004	None

Conclusions

Investigating the patterns of taxpayer behaviour is a prerequisite of functional taxation policies and systems as well. The need for comprehensive empirical research on this topic arises from the actual problem of low tax compliance levels and its impact on the economy, but also on society as a whole. With these priorities in mind, it is necessary to identify the relevant determinants of tax compliance and thus highlight the potential for improvements in the tax system.

This study's main goal was to evaluate the economic and psychological determinants that form tax compliance of Croatian taxpayers. The purpose was to achieve better understanding of the crucial tax compliance determinants, through the analysis of taxpayers' attitudes towards taxation. This can certainly be a step forward to an improved voluntary compliance and the efficiency of the tax administration. A growing body of literature in this field suggests tax compliance is determined by a whole palette of determinants – from pure economic, such as audits and penalties, to psychological like norms and fairness. By combining three economic and four psychological determinants, this paper offers detailed insight into the decision-making process of 862 Croatian taxpayers. This research proposed that tax rate, tax audit, sanctions, tax system complexity, fairness perception, social norms and tax morale are indicators that measure tax compliance.

The contribution of this work lies in the determination of economic and psychological factors for the future strengthening of tax compliance in the Republic of Croatia, as well as testing the impact of established economic and psychological factors on tax compliance. Regarding the practical implications of the study, research results further enrich the understanding of taxpayers' behaviour. The contribution is also visible through new insights into the importance of psychological determinants for tax compliance, the ability to improve cooperation within the tax system and predict the future behaviour of taxpayers, all with the aim of reducing tax evasion.

After the analysis in PLS-SEM, results suggest that social norms and tax morale impact positively and significantly the compliance process. Confirming the hypothesis about social norms means that knowledge about family, friends and peer behaviour can be prevalent in one's compliance decision.

These results also bring to light the fact that Croatia's economic and political specificities (such as low public sector efficiency and trust in government) can play a key feature in the minimalisation of unwilling tax behaviour. By confirming the influence of tax morale on tax compliance, these research results suggest that more actions should be aimed towards increasing the level of taxpayers' tax morale and using this as a preventive tool as well as a part of taxation strategy.

These findings follow a paradigm shift in the field, implying that deterrence and traditional economic tools have less and less influence in ensuring tax compliance. In general, educating citizens about the importance and role of taxes in society can be a good starting point in minimising tax avoidance and evasion. Apart from the encouragement to advance our knowledge about these issues, the paper calls for the government actions to put more emphasis on improving the psychological contract between the state and citizens. It also seems crucial to shape softer policy measuers in the light of voluntary tax compliance.

Study has couple limitations, that result from the complexity of the topic. First one is related to the study's sample. It is comprised of taxpayers' population, while non-taxpayers' perspectives is something that could also provide an interesting addition. Similar to this, only income taxpayers were in focus of the research, while there is no doubt that the overall tax burden is significantly bigger. And finally, regardless of the wide use of questionnaires in tax compliance research, these instruments can have their own limitations. It is recommended for future studies to consider experimental methods to avoid some of the obstacles in analysing taxpayers' behaviour.

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