



The tax morale of exhausted taxpayers. The case of Greece

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Accepted: 30 August 2021 / Published online: 10 September 2021

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Abstract

Every modern and organized country is making progress when its citizens pay their taxes regardless of whether they will be audited or not by the tax authorities. This research attempts to understand the impact of various tax morale related factors on the taxpaying behavior of the exhausted, due to the 10 years long financial crisis, Greek citizens. A new conceptual model is proposed and empirically tested using data from 1.014 Greek citizens from 50 regions of Greece. The results suggest that tax conscience exerts the highest positive and direct influence on tax morale. Furthermore, the crucial role of trust in reciprocity, trust in democracy and trust in public services, which directly affect tax morale, is also confirmed. In addition, it is found that women have higher tax morale than men, while the importance of perceived (level of) tax justice is highlighted, since it indirectly influences tax morale through its strong direct effect on a large number of trust in the quality of governance related factors.

Keywords Tax morale · Tax conscience · Tax evasion · Quality of governance · Trust

JEL Classification H2 · Z1 · K4

1 Introduction

to a report of the European Commission, only in 2018, the states of E.U. lost 140 billion Euros in taxes (VAT Gap) because of the increased tax evasion and, also, the inadequate audit mechanisms (E.C, 2020). More particularly, it was mentioned that,

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among the EU-28, Greece has the second biggest VAT Gap with 31% or, in other words, uncollected taxes of 7022 billion euros ([vat-gap-full-report-2020_en.pdf](#) ([europa.eu](#)). The social consequences of tax evasion, especially because of the inadequate funding of the public goods and services (Luttmer & Singhal, 2014), led the E.U. to include the addressing of the phenomenon of tax evasion in the list of its main principles and priorities (E.C, 2017). O.E.C.D (2017) characteristically mentions that the problem of tax evasion in Greece is still huge, despite all the efforts for fighting it. The Director of the Independent Authority for Public Revenue (I.A.P.R) in his interview in 2018 stated that tax evasion for Greeks seems to be a "national sport". Moreover, it should be stressed that Greek citizens not only do not comply with the payment of their own taxes, but they also show great tolerance (and perhaps disinterest as well) to the others' tax evasion behavior, since they do not condemn tax evasion incidents they observe in their daily lives. This claim is supported by the fact that although the magnitude of tax evasion is determined at a rate from 6 to 9% of G.D.P, or about €11 to €16 billion per year (DiaNOEsis & Ernst and Young, 2016), the number of complaints reported to the tax offices were 2.033 cases (I.A.P.R 2017). Although there is no official data (due to G.D.P.R) on the motives of the people who made these complaints, it seems that their main driver was not tax conscience (and tax morale) but, rather, revenge, personal gains, family and professional disputes (according to statements of senior officials of the Ministry of Finance published in newspapers and magazines).

In the tax evasion related literature concerning Greece, many researchers have put a lot of effort in order to find and interpret the main factors that led to the emergence of the phenomenon of tax evasion. Characteristically, Schneider (2015), studying the tax evasion and the corruption in Greece and in other countries of O.E.C.D, argues that the level of tax evasion are increased as the tax burden on the citizens is increased and, also, that the higher the tax burden the lower citizens' morale concerning tax issues (tax morale). Tax morale, that is, the citizens' internal desire to pay his taxes (Alm & Torgler, 2006; Cummings et al., 2009; Torgler & Schneider, 2007) is directly related to the level of tax evasion. Kaplanoglou and Rapanos (2013, 2015) claim that the Greek citizens' low tax morale is a result of the low (perceived) level of tax justice and the decrease of citizens' trust towards their government and their fellow citizens. In the same line, Bitzenis and Vlachos (2018) also argue that the phenomenon of the customer-type state and the phenomenon of nepotism is related, to a large extent, to the Greek citizens' low level of tax morale. Similarly, Horodnic (2018) underlines the positive relationship of tax morale with important trust related factors concerning the quality of the governance of a country, such as trust in public authorities, government quality/spending effectiveness, government fairness, fairness of tax system (pp. 872–873 Table I).

The present study intends to reveal the interactions among various tax morale related factors, both among themselves and with tax morale. More specifically, the factors which are incorporated into the proposed theoretical framework include factors related to the trust in the quality of governance, trust in principles and institutions, patriotism, tax conscience and others. This study is important since, until today, the effect of the tax morale related factors on the exhausted taxpayers, who still experience the consequences of a ten-year financial crisis (2008–2018) and

over- taxation, has not been adequately studied. In this direction, a new conceptual framework has been developed and empirically tested using the Structural Equation Modeling (SEM). The empirical examination of the proposed model will improve our understanding regarding the factors that influence citizens' tax compliance and will provide tax authorities with some valuable information that might help them solve the tax evasion problem. Thus, the understanding of the direct and indirect paths that exist among the factors related to tax morale is very important, not only for academics, but, above all, for policy makers (Brink & Porcano, 2016).

The article is structured as follows. The second part presents the concept of tax morale and describes the quality of governance and other factors. The third part formulates twenty one hypotheses and explains the research methodology adopted. Next, the fourth part presents some of the main results obtained by performing factor, correlation and structural equations analysis. In the fifth part, an in-depth interpretation of the results is attempted. Finally, the main conclusions of the current research are discussed in the sixth part.

2 Literature review

The current literature related to the tax morale and its factors is very rich but also diverse, since many researchers have studied the same factors but from a different perspective. Taking into consideration all these findings, a decision was made to examine tax morale, focusing mainly on the crucial factors related to the quality of governance. However, some other equally important tax morale related factors, such as tax conscience, patriotism and other factors, were also examined and incorporated into the proposed research model. The complete list of all the factors and subfactors examined are grouped into dimensions, such as trust, personal perceptions, demographic and other factors, and are briefly presented in Table 1, in order for readers to be able to better understand the proposed research model.

2.1 Tax morale

The understanding of the important role of morale in the interpretation of individual tax behavior may explain why taxpayers do not always act as self-interested citizens, i.e. they do not serve exclusively their individual interests carried away by the implicit rationality as given by neoclassical models (Alm & Torgler, 2006). Consequently, this makes clear the fact that citizens' tax behavior cannot be understood without taking the morale dimensions into account, which might explain the puzzle of tax compliance as it was cited above.

Schmölders (1970) came up with the term "tax morale", which is defined as taxpayers' attitude with regard to the fulfillment of the obligations towards the tax law. This procedure is related with the definition of the sovereignty of the state, since tax revenues are essential for the funding of the needs of a state. At the same time, Schmölders and the rest representatives of the "Cologne school of tax psychology" associated tax morale with tax mentality and conscience. Reference is also made to

Table 1 Quality of governance factors

Quality of governance factors	Authors
Quality of political institutions	Horodnic, 2018; Torgler et al., 2007; Owsiak, 2007; Frey & Torgler, 2007
Citizens' trust in court and the legal system	Hug & Sporri, 2011; Kaplanoglou & Rapanos, 2011; Cummings et al., 2009; Uslander, 2008; Torgler et al., 2007; Feld & Torgler, 2007
Citizens' trust in the Government and Parliament	Chan et al., 2018; Hug & Sporri, 2011; Kaplanoglou & Rapanos, 2011; Cummings et al., 2009; Uslander, 2008; Torgler et al., 2007
Citizens' trust in the state which plays the role of the tax collector and provider of public goods and services	Chan et al., 2018; Cummings et al., 2009; Owsiak, 2007; Hanousek & Palda, 2004
Perceived level of impunity and accountability	Torgler et al., 2007; Frey & Torgler, 2007; Torgler & Schneider, 2007
Transparency of public spending	Sipos, 2015
Citizens' trust in tax authorities and tax officials	Horodnic, 2018; Randlane, 2016; Kaplanoglou & Rapanos, 2015; Richardson, 2008
Quality of services provided by public organizations and tax authorities' respect to citizens	Alm & Torgler, 2011; Torgler et al., 2008; Mittone, 2006
Fight against corruption and bureaucracy	Horodnic, 2018; Randlane, 2016; Bitzenis & Vlachos, 2015; Luttmer & Singhal, 2014; Lago-Peñas & Lago-Peñas, 2010; Cummings et al., 2009; Torgler et al., 2008; Torgler et al., 2007
Compliance with the principles of fair tax burden (fair tax rate)	Alasfour et al., 2016; Lago-Peñas & Lago-Peñas, 2010; Owsiak, 2007; Torgler & Murphy, 2004
Trust in the principle of tax reciprocity (or trust in the way the government spends expenditure for public goods and services)	Horodnic, 2018; Bitzenis & Vlachos, 2018; Randlane, 2016; Luttmer & Singhal, 2014; Barone & Mocetti, 2011; Cummings et al., 2009
Fairness of tax system	Cyan et al., 2016; Çevik 2016; Cummings et al., 2009; Torgler et al., 2008
Citizens' trust in direct democracy	Martins & Gomes, 2014; Lago-Peñas & Lago-Peñas, 2010; Frey & Torgler, 2007

the term “tax mentality” by Nerre (2008), who highlights that tax morale and tax discipline are the main characteristic features of tax mentality.

The most usual definition of tax morale, according to the majority of the tax related literature, defines tax morale as citizens' intrinsic motivation to pay taxes in a developed democratic society (Alm & Torgler, 2006; Cummings et al., 2009; Frey, 2003; Torgler & Schneider, 2007; Torgler, 2004, 2005). One of the most recent definitions is that of Luttmer and Singhal (2014), who define tax morale broadly as an umbrella term capturing non-pecuniary motivations for tax compliance. Such factors, leading to the fulfillment of the tax obligations, is the feeling of guilt or shame, the reciprocity motivation, the peer behavior and the possibility of social recognition or sanctions from peers and, last but not least, the cultural or social norms (pp. 150). Luttmer and Singhal (2014, pp.155) numbered five main mechanisms acting as channels in order to urge citizens to tax compliance. The five classes

of these channels are: (1) intrinsic motivation, (2) reciprocity, (3) peer effects and social influences, (4) long-run cultural factors and (5) information imperfections and deviations from utility maximizations (Luttmer & Singhal, 2014, pp. 155).

Feld and Frey (2007) linked the meaning of tax morale with the existence of a psychological tax contract between the state and its citizens. In this contract, citizens promise to conform with the tax law, but not without something in return, since the state should provide them with free access to public goods and services. Therefore, these authors defined the three main features of tax morale, that is, first of all, the principle of reciprocity, then the political procedure, which enables the process of the principle of reciprocity and, finally, the personal relationship of trust between taxpayers and the tax authorities.

2.2 Quality of governance factors

Torgler et al. (2007) confirm the strong influence of the quality of political institutions on tax morale and respectively the influence of tax morale on tax compliance. At the same time, other sub-factors, such as voice and accountability, rule of law, political stability and absence of violence, regulatory quality and control of corruption, have also a great impact on tax morale. Similarly, trust in the justice system and the parliament has also a highly significant positive effect on tax morale. Many researchers have, studied the relationship between the quality of governance, tax morale and tax compliance, such as Horodnic, 2018; Alasfour et al., 2016; Luttmer & Singhal, 2014; D'Arcy, 2011; Lago Peñas & Lago Peñas, 2010; Levi & Sacks, 2010; Torgler et al., 2007; Alm & Torgler, 2006; Frey & Torgler, 2007; Cummings et al., 2009). Kouamé (2017) has shown that trust in public institutions increases taxpayers' willingness to comply. More specifically, the effect of trust in public institutions on tax morale is higher in developed countries compared to emerging and developing countries (Kouamé, 2017). Equally important is the trust in tax authorities factor, which is directly related to tax policy and, therefore, to the quality of governance. Feld and Frey (2002) showed that trust leads to the voluntary tax compliance when it constitutes an integral element of a healthy and reliable relationship between tax authorities and taxpayers. This relationship is called "psychological tax contract" (Feld & Frey, 2002, pp. 89). In fact, it is a kind of exchange, since taxpayers honestly declare their real income and pay their taxes when tax authorities treat taxpayers in a respectful manner.

Quality of governance comprises of a set of political decisions taken by the elected government in order to strengthen the tax morale of taxpayers and, hence, to restrain the phenomenon of tax evasion. The main determinant factors found in literature are the following (Table 1):

The main findings concerning the effect of these important quality of governance related factors on tax morale are presented in Appendix A. In the same Appendix the effect of some other factors (demographic characteristics) is also presented. Significant interest presents factors like education that affect tax morale either positively or negatively depending on how the factor is approached. Thus, higher level of education leads to a greater understanding of tax reciprocity (positive sign in tax

morale) (Cyan et al., 2016) but, also, better knowledge of tax law leads to tax avoidance (negative sign of tax morale) (Torgler, 2006).

2.3 Tax conscience, patriotism and other factors

Many researchers concluded that the development and the creation of tax culture leads to higher tax morale levels (Alm & Torgler, 2004, 2006; Brink & Porcano, 2016; Feld & Torgler, 2007; Feld et al., 2008; Frey & Torgler, 2007; Kountouris & Remoundou, 2013; Torgler, 2002, 2003, 2004, 2012; Williams & Horodnic, 2016). Tax conscience is defined as the moral obligation for paying the tax but, also, the belief that the revenues arising from taxation contribute to the fulfillment of important community needs (Torgler & Schneider, 2007). The concept of tax conscience is connected with this of tax morale, which includes the “rules of behavior applicable to the citizens as taxpayers in their relationship with the government” (Song & Yarborough, 1978). According to Schmolders (1970), as it is mentioned by Frank and Kirchler (2006), tax conscience differs from one person to the person, or from nation to nation, exactly as it happens with the tax morale. Horodnic (2018, p. 877) suggests that tax morale is influenced by cultures, subcultures, communities and social groups. Analyzing people living in the same environment, but from different cultures, Kountouris and Remoundou (2013) examined the level of tax morale of the first generation immigrants and concluded that the level of citizens’ tax morale in the origin country affects the tax morale of the people in the host country.

The sense of patriotism, in relation to the tax compliance, is another important factor of tax morale, which has been studied by many researchers (Bilgin, 2014; Leonardo & Martinez-Vazquez, 2016; MacGregor & Wilkinson, 2012; Martinez-Vazquez & Torgler, 2009; Torgler, 2003, 2004; Torgler & Schneider, 2004). Most researchers have concluded that patriotism (it is also mentioned as national pride) is considered as a crucial personal factor and shows a positive impact on tax morale (the higher the feeling of patriotism is, the higher the tax morale).

Furthermore, the positive relationship between trust in the fellow citizens and tax morale has been studied by several researchers (Çevik, 2016; Torgler & Schaffner, 2007; Torgler et al., 2008; Torgler, 2004, 2005a, 2005b). For the case of Greece, it is supported that the strong social phenomenon of tax evasion is strengthened because of the low tax morale of the Greek taxpayers, a fact that is explained, among other factors, also by the even more decreasing citizens’ trust towards the government and their fellow citizens (Kaplanoglou & Rapanos, 2013).

Also, the influence from the immediate social environment concerns the information obtained from taxpayers’ immediate family and friendly environment or the other sources (social media, internet, tv, radio, newspapers) and is identified with citizens’ briefing on tax issues. In fact, this factor aims to study citizens’ interest for various tax related events, but also the influence the immediate family or friendly environment exerts on citizens (Torgler & Schaffner, 2007, pp. 19). Horodnic (2018 p. 877) mentions that the information citizens receive on tax related issues (e.g. consequences of the tax evasion), through the tax authorities, colleagues, family and friends, has a particular importance as far as the shaping of their tax morale level.

Finally, concerning the impact of specific demographic characteristics to tax morale, a large number of researchers has investigated the influence of gender on tax morale (Alm & Torgler, 2006; Bilgin, 2014; Cyan et al., 2016; Chan et al., 2018; Tekeli, 2011; Torgler, 2004, 2005a, 2005b; O.E.C.D, 2013). The above researchers have come to the conclusion that women have higher tax morale than men (Horodnic, 2018, p. 875). Citizens' age has also attracted the attention of a large number of researchers (Alasfour et al., 2016; Alm & Torgler, 2006; Cyan et al., 2016; Prieto et al., 2006; Torgler, 2004, 2005a, 2005b, 2006). Most of them found that older people have a greater inclination to tax morale in many countries, including the west industrialized countries (Alm & Torgler, 2006; Slemrod, 2003). Finally, the impact of family status on tax morale was also studied by many researchers (Torgler, 2005a, 2005b, 2006; Alm & Torgler, 2006; Chan et al., 2018). Their main conclusion was that tax morale is becoming stronger when the married couples have lived together for a longer period, compared with couples that have just been married, and also that, overall, married people have higher tax morale than single ones (Horodnic, 2018, p. 875).

A list of tax morale related factors that will be incorporated into in the proposed research model is presented in Table 2

Table 2 Factors incorporated into the proposed research model

Quality of governance	Trust factors	Trust in tax authorities
		Trust in law
		Trust in tax reciprocity
		Trust in democracy
		Trust in government
		Trust in public services
		Trust in fair taxation
	Personal perceptions factors	Perceived tax complexity
		Perceived tax justice
		Perceived quality of tax services
		Perceived respect of taxpayers from tax authorities
		Perceived political accountability
		Perceived corruption
		Perceived bureaucracy
Other factors	Trust in fellow citizens	
	Tax conscience	
	Economic patriotism	
	Influence from immediate (social) environment	
Demographic factors	Age	
	Gender	
	Marital status	
Tax morale		

3 Hypotheses development and research methodology

3.1 Hypotheses development

As it has already been mentioned, many researchers have studied the positive or negative impact a large number of factors exert on tax morale (Appendix A). Many empirical studies and theoretical approaches (Bitzenis & Vlachos, 2015; Horodnic, 2018; Kaufmann et al., 2003; Luttmer & Singhal, 2014; O.E.C.D, 2013; Randlane, 2016) supported the negative effect of some of these factors (lack of accountability, perceived corruption and bureaucracy) on tax morale. Also, it is found that the more complicated the tax laws are perceived by taxpayers, the lower their tax morale is (Alm et al., 2012; Torgler & Schaffner, 2007). On the other hand, several other factors are found to have a positive impact on tax morale especially the trust quality of governance factors.

Taking into consideration that Greek exhausted taxpayers, who still experience the consequences of a ten-year financial crisis (2008–2018) through over-taxation, are still trying to evade taxes (for their own reasons), it is interesting to reveal the interactions among tax morale related factors, both among themselves and with tax morale. Thus, based on the main findings of the above empirical and theoretical studies and the fact that a more detailed study of Greek taxpayers' tax morale may lead to valuable conclusions on how tax morale determinants are going to reduce tax evasion phenomenon by filling the VAT Gap, the following hypotheses are formulated:

- H1:** Perceived level of corruption negatively affects Tax Morale.
- H2:** Perceived level of bureaucracy negatively affects Tax Morale.
- H3:** Perceived level of accountability negatively affects Tax Morale.
- H4:** Perceived level of tax law complexity negatively affects Tax Morale.
- H5:** Trust in Tax Authorities positively affects Tax Morale.
- H6:** Trust in Law positively affects Tax Morale.
- H7:** Trust in Tax Reciprocity positively affects Tax Morale.
- H8:** Trust in Democracy positively affects Tax Morale.
- H9:** Trust in Government positively affects Tax Morale.
- H10:** Trust in Public Services positively affects Tax Morale.
- H11:** Trust in Fair Taxation positively affects Tax Morale.
- H12:** Trust in Fellow Citizens positively affects Tax Morale.
- H13:** Perceived Level of Tax Justice positively affects Tax Morale.
- H14:** Perceived Level of Tax Services positively affects Tax Morale.
- H15:** Perceived respect of the tax authorities to taxpayers positively affects Tax Morale.
- H16:** Patriotism positively affects Tax Morale.
- H17:** Tax conscience positively affects Tax Morale.
- H18:** Immediate (Social) Environment positively affects Tax Morale.
- H19:** Women have higher tax morale than men.
- H20:** Older have higher tax morale than younger.
- H21:** Married have higher tax morale than single.

3.2 Research methodology

This paper reports only a small portion of the findings of a large research undertaken in order to study the tax evasion phenomenon in Greece. More specifically, the emphasis here is on investigating the impact of a number of factors on Greek taxpayers' tax morale. The study was carried out in more than 50 different regions of Greece (urban, rural, and semi-urban areas) and targeting a sample with different occupational and demographic characteristics. A structured questionnaire consisting of 120 questions was constructed and used to collect the necessary primary data. The questions used to measure the eighteen independent (excluding the demographic factors) and the dependent factor were adopted from various sources (Table 3). The questions were closed-end questions measured using the Likert (1–5) scale, where 1 represented "totally disagree", while 5 "totally agree". The questionnaire design process followed all the necessary methodological steps (translation / backtranslation, internal pre-testing and external pilot testing) in order to eliminate all the possible problems (i.e. content validity), make it easy to understand and answer and, thus, allow us to collect valid data. The final sample consists of 1,014 valid questionnaires. The data collection team consisted of 50 students who were randomly selected from a list of 300 students, based on the criterion of their permanent residency (since one of the main targets was the geographic representation of people from most regions of Greece). They were trained through a number of seminars in order to distribute and collect (in the same way) their questionnaires at their home cities (or at the rural areas around it). Specific instructions were given to them concerning the demographic characteristics of the people who could receive the questionnaire. Each member of the research group should collect 20–40 questionnaires (depending on the size of region they were coming from). They were advised not to include a large number of participants from their family or friend circles (up to 5), nor from their social media groups. Instead, they were asked to visit different parts of their home towns at different times in order to find the people who will participate in this research. In this way the randomness of the sample was secured. The data collection process lasted 6 to 8 months and took place at the end of the Greek financial crisis (between 2017 and 2018).

The final sample is considered balanced in terms of gender and marital status (men 53.4%—women 46.6%, unmarried 50.9%—married people 43%). Further, the level of education is significantly high, as 62% of the sample is university graduates and an additional 10% holds a master's degree. Almost 90% of the respondents are Orthodox Christians. Regarding the professional identity of the respondents, 40.5% are employees in the private or public sector, 17.8% are self-employed or farmers, 3.3% are retired, 7.6% are unemployed and 27.7% are pupils/university students. The significant participation of students is considered useful as they have the right to make a complaint about tax evasion, even if they are not yet tax-active citizens. Finally, the family monthly income of the respondents is between 1000 and 3000 € (44%), or lower (0–1,000 €—39.5%) (Table 3).

The proposed research model (Fig. 1) and the hypotheses were mainly tested using the Structural Equations Modeling (SEM) with latent variables (AMOS 7), an approach that offers several advantages over traditional analyses (Bagozzi &

Table 3 Number of items and their sources

Trust determinants of tax morale	No of items	Sources
Trust in law	5	Scale developed by the researchers
Trust in government	6	Scale developed by the researchers
Trust in public services	6	Kasper et al. (2014) (2 quest.), Belanger and Carter (2008) (4 quest.)
Trust in tax authorities	8	Azwadi and Norsiah (2014) (2 quest.), Van Dijke and Verboon (2009) (2 quest.) Taxpayer Opinion Survey (1987);[U.S.A] (4 quest)
Trust in democracy	7	European Value Survey (EVS) (2011) master questionnaire Q64 to Q67 (7 quest.)
Trust in tax reciprocity	5	Van Dijke and Verboon (2009) (5 quest.)
Trust in fair taxation	6	Van Dijke and Verboon (2009) (4 quest.), Azwadi and Norsiah (2014) (2 quest.)
Perceive level of tax justice	6	Taylor (2001) (6 quest.)
Perceived quality of tax services	6	Torgler and Schaffner (2007, pp. 14) (8 quest.)
Trust in fellow citizens	4	European Social Survey (ESS2) 2004/5 Question Card 32 (3 quest.) and 33 (1 quest.)
Tax conscience	5	Lubian and Zarri (2011, pp. 229, Table 6),
Economic patriotism	6	MacGregor and Wilkinson (2012, pp. 166)
Influence from immediate (social) environment	5	Torgler and Schaffner (2007, pp. 19)
Perceived tax complexity	4	Torgler and Schaffner (2007 pp. 17)(2 quest)
Taxpayer Opinion Survey (1987) (2 quest)		
Perceived respect of taxpayers from tax authorities	6	Torgler and Schaffner (2007, pp. 15)
Perceived political accountability	5	Kaufmann et al. (2003) (1 quest) By the researchers (4 quest)
Perceived corruption	7	WVS Wave 6 (2014) (5 quest) Van Dijke and Verboon (2009) (2 quest)
Perceived bureaucracy	6	Luo and Junkunc (2008) (1 quest) By the researchers (5 quest)
Tax morale	8	Torgler (2003) (1 quest.), Torgler, Schaffner, and Macintyre (2007) (7 quest.)

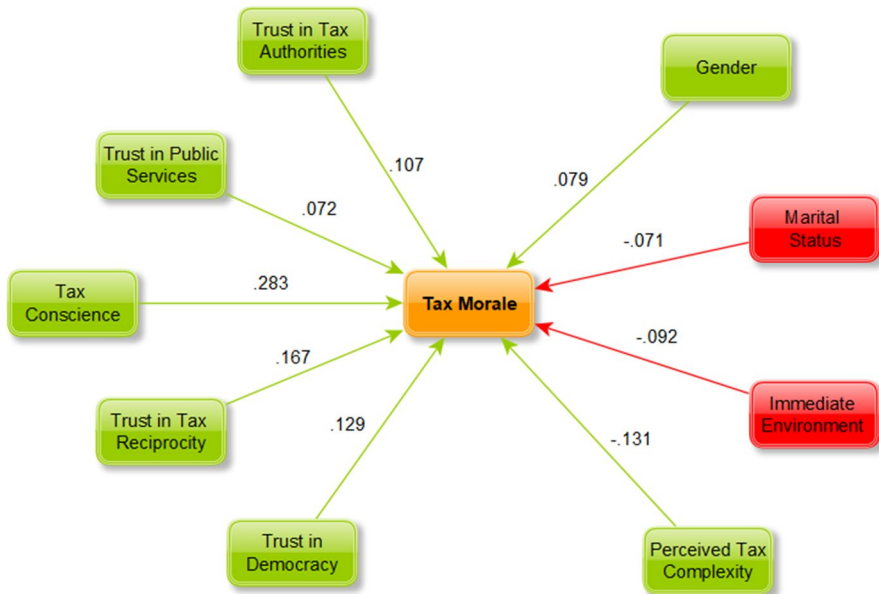


Fig. 1 Proposed Model

Yi, 1989). Data were analyzed using the two-stage approach proposed by Anderson and Gerbing (1998). SEM, also known as “causal modelling” or “covariance structure modelling”, was used to empirically test the validity and accuracy of the proposed model. It has several advantages over other statistical analysis methodologies, with the most important one probably been the fact that it allows the testing of models that include complex patterns of relationships, in which certain factors are both dependent and independent. Moreover, SEM examines indirect, direct and total effects between different research factors, proposes modifications indices and produces various measures of validity. In order to evaluate the overall fit of the model, the following indices were used in Table 5 (Bentler & Bonnet, 1980; Hair et al., 1995; Schumacker & Lomax, 2010; Smith & McMillan, 2001)

- Normed X^2 (CMIN/df): (Accepted score < 5).
- CFI / GFI / NFI : (Accepted score > 0.9).
- RMR: (Accepted score < 0.08).
- RMSEA: (Accepted score < 0.1).

4 Results

The analysis of the results of the descriptive analysis (Table 4) reveals that almost all the factors of quality of governance have a mean score under 3, underlining the mistrust of participants towards the quality of governance. It should be stressed here that this mistrust is not towards the policies of a specific government, but towards

Table 4 Factor analysis

Factor	Mean	Std. dev	KMO	TVE	Factor loadings	Cronbach a
Trust in law	2.25	1.057	.838	56.572	.733—.771	.808
Trust in government	2.20	1.076	.829	78.200	.821—.917	.904
Trust in public services	2.50	.966	.858	63.736	.720—.826	.884
Trust in tax authorities	2.43	1.007	.808	58.072	.656—.737	.781
Trust in democracy	3.39	1.041	.697	62.600	.619—.813	.680
Trust in tax reciprocity	2.02	.995	.890	62.948	.760—.812	.880
Trust in fair taxation	2.07	1.018	.674	53.877	.646—.733	.676
Perceived level of tax justice	2.16	1.048	.730	57.670	.652—.800	.745
Perceived quality of tax services	2.47	0.968	.688	54.153	.669—.809	.713
Trust in fellow citizens	2.65	1.032	.591	62.882	.616—.830	.649
Tax conscience	3.70	1.083	.816	56.276	.639—.732	.806
Economic patriotism	2.90	1.242	.744	65.423	.635—.863	.822
Influence from immediate (social) environment	3.07	1.213	.755	55.239	.685—.785	.728
Perceived tax complexity	3.32	1.123	.700	57.913	.672—.724	.728
Perceived respect of taxpayers from tax authorities	2.55	1.062	.843	53.025	.698—.754	.822
Perceived political accountability	3.90	1.095	.617	50.695	.626—.789	.613
Perceived corruption	3.48	1.024	.735	64.718	.740—.834	.818
Perceived bureaucracy	4.27	.889	.901	57.563	.696—.794	.894
Tax morale	2.71	1.191	.738	55.831	.611—.803	.936

Table 5 Overall fit indices

CMIN/DF	GFI	CFI	NFI	RMR	RMSEA
< 5	> ,900	> ,900	> ,900	< ,070	< ,100
2,829	,951	,949	,925	,038	,042

the whole political system (the last 12 years Greeks had 5 different Prime ministers from 3 different political parties). However, there is an exception, their trust in the institution of Democracy (mean score 3.4), which is really very positive since it indicates their strong commitment and belief in democracy. This, despite the fact that it is verified that corruption (mean score 3.48), bureaucracy (mean score 4.27) and lack of accountability (mean score 3.9) are still considered as key factors that dominate the public administration and alienate citizens from developing high tax morale. Moreover, citizens’ trust towards the actual operation of the two main tax principles, that is, the principle of tax reciprocity (mean score 2.02) and the principle of fair taxation (mean score 2.07), is very low, expressing their strong belief that they do not take back as much as they pay to the state in the form of direct and indirect taxation and, equally important, that reach people pay less that they should. Finally, it seems that they agree that the payment of taxes is one of citizens’ most

important obligations, which actually indicates that there is a tax conscience (mean score 3.7).

To test for the accuracy of the research model, factor analysis was performed. The results of this analysis (Table 4) confirmed the validity of the questionnaire design, the examined factors, and the appropriateness of their measurement since the scores of (a) Kaiser–Meyer–Olkin (K.M.O), (b) Total Variance Explained (T.V.E), and (c) factor loadings are within accepted ranges. According to Malhotra (1999), K.M.O score should be greater than 0.6, TVE score should be greater than 50% (Fornell & Larcker, 1981; Straub, 1989), while factor loadings should be greater than 0.5 (Straub, 1989). Further, the reliability of the factors was examined using the Cronbach alpha index, which was found to be greater than 0.6, suggesting that the factors are reliable (Carmines & Zeller, 1979; DeVellis, 1991; Nunnally, 1978).

As it mentioned before the validity and accuracy of the proposed research model was empirically tested using the Structural Equations Modeling (SEM). In order to evaluate the overall fit of the model, Normed X^2 (CMIN/df), RMSEA and RMR, CFI, GFI and NFI have been examined. The results (Table 5) show that all overall model-fit indexes are within the accepted values, thus suggesting that the proposed model is valid.

Further, the analysis of the proposed research model (Fig. 1) suggests the acceptance (based on the direct effects) of only 9 (H4, H5, H7, H8, H10, H17, H18, H19 and H21) out of the 21 hypotheses originally tested. However, it must be stressed that H21 and H18 are accepted with negative sign. Taking into account the indirect effects, it is found that they are very low and, as a result, no other hypothesis should be accepted.

The main findings of this analysis (SEM) are the followings

- (i) First, it is found that tax conscience (0.283), trust in tax reciprocity (0.167), perceived tax complexity (-0.131), trust in democracy (0.129), trust in tax authorities (0.107), gender (0.079), and trust in public services (0.072) have a statistically important direct relationship with tax morale, thus supporting hypotheses H17, H7, H4, H8, H5, H19 and H10.
- (ii) Furthermore, there are two factors that influence tax morale but with an opposite sign from what each hypothesis provides for and they are rejected. In particular, these factors are marital status (-0.071) και influence from immediate social environment (-0.092).
- (iii) The important role of the factor tax conscience is highlighted, since it is the factor with the highest direct effect (0.283) on tax morale.
- (iv) Perceived level of tax justice stands out, even if it does not directly but only indirectly (0.077) affect tax morale. However, it directly and with great intensity influences a large number of trust factors such as trust in law (0.306), trust in government (0.416), trust in public services (0.204), trust in tax authorities (0.440), trust in fair taxation (0.445), etc.
- (v) The impact of gender was further analyzed taking into account the results of ANOVA analysis. More specifically, the suggestion that women have higher tax morale than men is supported from the results.

- (vi) The predictive power of the proposed model is quite low (15%), which means that other factors should also be taken into account in order to clarify the big picture and crystallize the impact on tax compliance from the dozens of determinants of tax morale. Such factors are presented in the literature and they are related with personal or social norms, like the tendency of taking over a risk (Torgler & Werner, 2005; Torgler et al., 2007; Williams & Horodnic, 2016), the feeling of shame (Çevik, 2016; Dell'Anno, 2009; Vythelingum et al., 2017), the tendency to develop guilt (Benjamini & Maital, 1985; Bosco & Mittone, 1997; Gordon, 1989; Lewis, 1971) and the attitude towards the law.

5 Interpretation of results

According to the results tax conscience emerges as the most important factor as far as its impact on tax morale is concerned. Tax conscience includes the concept of personal duty known as civic duty, a concept that can determine the extent to which a taxpayer feels tax compliance as a duty depending on his simple morale (Russo, 2013). Besides, Horodnic (2018, p. 877) mentions that citizens' duty is positively linked to tax morale. In psychology, conscience is defined as the possibility or the property that leads to the repentance, when someone acts against his moral values (Cate, 2010). In other words, conscience indicates the feeling a person has regarding his behavior, that is, when a bad or a good behavior is expressed. According to the above, a citizen's tax conscience, especially in a country that has just gone through from an unprecedented ten-year economic crisis (2008–2018), is the crowning of its culture, since only the collection of the estimated taxes can make the economy be fully functional.

Since, therefore, tax conscience indicates the feeling a citizen has regarding his tax behavior, as well as his fellow citizens' behavior, then, the relationship of tax conscience both with tax morale and the need to condemn tax evasion phenomena (which he daily experiences) is fully justified. However, what does really happen? In the Greek reality, while the magnitude of tax evasion is very high percentage (6–9% of GDP or approximately €11 to €16 billion each year) (DiaNEOsis & Ernst and Young, 2016), citizens put up with tax evasion phenomena that they experience in their daily lives without condemning them. According to official data, citizens do not seem to be willing to condemn incidents of tax evasion, since very few cases of complaints (approximately 2.000 according to I.A.P.R., 2017) will be further audited by the tax offices. Moreover, complainants' main motives are anything but tax conscience, for example revenge, personal gains, family and professional disputes. In the Greek reality, most stores benefit from tax evasion offering a small return to their customers. In most tourist resorts, mainly islands, several companies do not issue receipts misleading their customers. Greek citizens does not trust the state, its mechanisms and its services. The unequal tax treatment, bureaucracy, corruption, over-regulation, clientelism and nepotism (Bitzenis & Vlachos, 2018) create and maintain this feeling.

The positive (0.167) relationship of trust in tax reciprocity with tax morale is supported by the results of many other studies in Greece (Bitzenis & Vlachos, 2018; Drogalas et al., 2018; Kaplanoglou & Rapanos, 2015). In a report of the World

Economic Forum (2017), Greece is ranked last (29th) among the developed economies for the fair development. As far as the pillar of the financial resources is concerned, the score of Greece (3.58) marginally overcomes the base line (scale from 1 to 7), since it is revealed that the high and unfair taxation is an obstacle for attracting new investments and prevents the increase of labor demand.

At the same time, the very low effectiveness which is noticed in the production of public goods and the provision of public services (mean score 2.46) confirms the low level of tax reciprocity (WEF_Forum_IncGrwth_2017.pdf—weforum.org). Most people would agree with the view that a state with high taxation, but with low reciprocity, does not create a relationship of trust between citizens and the state. Besides, not collected taxes will not be transformed into services, infrastructures, schools, hospitals, parks, thus preventing the state from enhancing the prosperity of the society. For example, although the majority of Greek citizens are proud of the unique Olympic Games that took place in 2004 in Athens, at the same time, they are very disappointed since they still pay taxes for the Olympic constructions, most of which have not been used (from the local communities or other interested social parties) or maintained and, as a result, they are destroyed.

Furthermore, it has been found that trust in democracy has a statistically important, direct and positive (0.129) relationship with tax morale verifying. Trust in democracy is related to how citizens perceive the operation of the democratic procedures. Feld and Frey (2002) linked the direct democracy (of the cantons of Swiss) to the high tax morale of the Swiss. They underlined the instrumentation of the mechanism of referendum as an extension of direct democracy, giving the right to the Swiss citizens to directly take part in crucial dilemmas that affect their lives, such as the increase of tax rates. On the other side, in Greece (of the representative democracy), the phenomenon parliamentary candidates to promise tax reductions and measures against tax evasion is very often before the election. However, almost after their election they vote according to their party line, transferring the fulfillment of their promises to the next government. Despite all that, it is observed that the trust in the institution of democracy (as a political system) remains high in the conscience of Greek taxpayers.

Furthermore, the positive relationship (0.072) between trust in public services and tax morale was also supported by many other studies which regards this relationship as a pre-requisite point for the exertion of an effective but also reciprocal public policy (Kaplanoglou & Rapanos, 2013, 2015). In an informative report of E.C (2016, Fig. 2, p. 6), it is mentioned that only 6% of the Greek citizens perceives the quality of the provided public services as good (very good or relatively good), when 93% of them considers it as bad (very bad or relatively bad). Citizens' mistrust in public services are reasonable, and many times it is directly related to phenomena of corruption and bureaucracy. Clausen et al. (2009) have shown that the phenomenon of corruption in public administration undermines citizens' trust in public services, risking the relationship between the government and citizens.

As far as the demographic factors are concerned, gender is found to have a statistically significant direct and positive relationship (0.79) with tax morale (women have higher tax morale than men), which is similar to the results of other researches (Alm & Torgler, 2006; Bilgin, 2014; Cyan et al., 2016; Chan et al., 2018; Torgler,

2004, 2005a, 2005b; Tekeli, 2011; O.E.C.D, 2013). It is claimed that this behavior is attributed to the fact that women understand more easily the social importance of the payment of the taxes. Interesting is the analysis of Tarousa (2017, p. 12, 13), who investigated the relationship of young people with tax morale, and found that while today women seem more obedient to the taxation rules than men, on the other hand, they are independent and more prone to the risk compared with their past attitude.

Also, the importance of perceived level of tax justice emerged, which although only indirectly (0.077) affects tax morale (through trust in tax reciprocity and trust in government), it directly and strongly affects nine other factors, i.e. trust in government (0.416), trust in public services (0.204), trust in tax authorities (0.440), trust in law (0.306), trust in tax reciprocity (0.272), trust in democracy (0.470), trust in fair taxation (0.445), trust in fellow citizens (0.155), and economic patriotism (0.103). Perceived level of tax justice was examined as a separate factor, because it represents one of the main reasons that lead citizens to develop feelings of mistrust towards so many other governance quality related factors.

Further, it is interesting that marital status ($- 0.071$) and influence from immediate social environment ($- 0.092$) have an opposite effect on tax morale than the one originally assumed. The non-verification of the H21 (married have higher tax morale than single) is probably due to the consequences of the economic crisis. The negative relationship between the married taxpayers and tax morale can be justified by the sense of injustice they suffer from over-taxation, which was actually intensified during the economic crisis and contributed to the considerable decrease of their available income. Consequently, they perceive that their duty towards their families (provision of the absolute) is much stronger than their duty towards the society (paying their taxes). In the same direction, the non-verification of H18 (immediate social environment positively affects tax morale) is justified. The compulsory involvement of various members of their close family or friendly environment (Torgler & Schaffner, 2007, pp. 19) in phenomena of bureaucracy and corruption in the public administration can negatively affect taxpayers' tax morale. Besides, Horodnic (2018 pp.877) mentions that special emphasis on the tax morale of a person has the information on tax issues (e.g. about the consequences of tax evasion) from colleagues, members of the family and friends (Torgler, 2012; Torgler & Schaffner, 2007; Torgler et al., 2008). This is actually a prove of the vicious circle of the Greek tax system is in, since everybody and everything "advice" taxpayers not to pay their taxes, since "only fools pay taxes".

Last but not least, trust in tax authorities (0.107) is found to have a statistically significant direct and positive relationship (0.79) with tax morale. Thus, the verification of H5 (Trust in Tax Authorities positively affects Tax Morale) is justified. Greek taxpayers' morale is negatively influenced by the implementation of specific policies like tax amnesties (in exchange for the payment of a specific amount every year). Many times, citizens blame tax authorities for the unfair level of taxes imposed to them, forgetting that it is the government that passes the laws, while tax authorities simply imply them. Also, Greek taxpayers have difficulty in understanding why tax authorities do not collect the unpaid taxes. According to O.E.C.D (2017), the overdue debts in Greece (in 2018) were estimated at 19.3% of the annual taxes, compared to 32% on average in O.E.C.D countries. Further, citizens' mistrust in tax offices is

enhanced because of the lack of respect between auditors and auditees. This mistrust is the reason why the “psychological” contract between taxpayers and tax authorities cannot be activated (Feld & Frey, 2002). All the above create a hostile environment for citizens, especially when they are accompanied by high levels of bureaucracy (Bitzenis & Vlachos, 2015; Horodnic, 2018; Luttmer & Singhal, 2014), corruption, but mainly by a complicated and unstable legal framework.

6 Conclusions

The main aim of this paper was to analyze the determinant tax morale factors and the extent to which they affect the level of tax morale of the exhausted (because of the consequences of the economic crisis) Greek taxpayers. Empirical and experimental findings in the tax morale (or tax compliance) literature have shown that many factors positively affect taxpayers’ tax morale, while there are some other that negatively affect it. Furthermore, many researchers found that tax morale is significantly influenced by a group of factors related to the quality of governance and citizens’ trust in the government.

This study is important since, until today, the effect of the tax morale related factors on the exhausted taxpayers, who still experience the consequences of a ten-year financial crisis (2008–2018) and over-taxation, has not been adequately studied. So, this paper attempts to fill this gap by analyzing tax morale as a dependent variable, using a data set from 1.014 Greek citizens. The important role of tax conscience is highlighted, since it is the factor with the highest direct effect on tax morale. It is a fact that tax conscience in Greece must be cultivated to future taxpayers from an early stage of their life, through games, e-learning activities and many other researches.

Most researches on tax evasion usually propose the reinforcement of the relevant education at schools, that is, inform future taxpayers (students) on the destructive consequences of tax evasion and the importance of the payment of the taxes for the whole society. This proposal is without any real value in the case of Greece, since the Greek state should first start introducing fair legislation which will not favor specific economic, political, social parties, and will not change twice every year. Further, the state should develop a transparent tax system, better train all tax officials, and create an atmosphere of cooperation and trust. Governments must deal with bureaucracy and corruption by punishing disloyal officials and, mainly, disloyal politicians. All these attempts for improving the quality of governance could be just the beginning and will help to change the whole mindset of Greek taxpayers and the creation of a strong tax conscience.

Appendix A

See Table 6

Table 6 The impact of factors on tax morale

	Age	Woman	Married people	Educa-tion level	Income level	Self work	Full time employed	Working at home, part time employed	Unem-ployed, retired	Stu-dents	National pride	Reli-gious-ness	Read-ing news-papers	Cultural & regional differences	Pro-creative attitude	Risk aver-sion	Finan-cial satis-faction	Redis-tribution of income	Efficient govern-mental tax revenues	Mod-erniza-tion of soci-eties	Trust in elected gov-ernment, prime minister, parliament	Finan-cial trans-action with state	Fair-ness admin-istra-tion ser-vices	Sat-isfac-tion with judiciary	Trust (Direct democ-racy)	Per-ceived corrup-tion (pub-lic)	Confi-dence	
Torgler (2004)	+			-		-				-		+				+		+							+			
Torgler (2005a, 2005b)	+		+							+		+					+					+						
Torgler (2005a)									+			+													+			
Prieto et al. (2006)																												
Torgler (2006)	+		+					+				+																
Alm and Torgler (2006)	+		+						+			+																
In the same paper	+											+																
Torgler and Schneider (2007)										+		+																
Cummings et al. (2009)																												
Daude and Melguizo (2010)																												

Table 6 (continued)

	Age	Woman	Married people	Educational level	Income level	Full time work	Self employed	Unemployed at home, part time, retired	Working employees	Unemployed	Studen-	National pride	Religiousness	Reading news- papers	Cultural differences	Pro-	Risk aver-	Finan-	Redis-	Efficient Mod-	Trust in Finan-	Fair-	Sat-	Trust (Direct)	Per-	Confi-
Barone and Moccetti (2011)																										
Tekeli (2011)	+			+	-			-					+													
O.E.C.D (2013)				+									+													
Bilgin (2014)				+	+							+														+
Martins and Gomes (2014)																										+
Williams & Martinez (2014)																										-
Alasfour et al. (2016)																										-
Cyan et al. (2016)			+																							+

(+) shows the factors that positively affect tax morale and (-) shows the factors that negatively affect tax morale

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