LIFE SATISFACTION AND TAX MORALE: THE ROLE OF TRUST IN GOVERNMENT AND CULTURAL ORIENTATION

Marco Ciziceno [1] Pietro Pizzuto [2]

[1] University of Palermo, Department of Economics, Business and Statistics (SEAS), Viale delle Scienze, Building 13, 90128 – Palermo (Italy)

ORCID iD: 0000-0001-8183-5699
e-mail: marco.ciziceno@unipa.it

[2] University of Palermo, Department of Economics, Business and Statistics (SEAS), Viale delle Scienze, Building 13, 90128 – Palermo (Italy)

ORCID iD: 0000-0001-5055-8916

e-mail: pietro.pizzuto02@unipa.it

Corresponding author: **Marco Ciziceno** (e-mail: marco.ciziceno@unipa.it)

ETHICAL STATEMENTS:
Declaration of interest: none.

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

An updated version of this article has been published in *Journal of Behavioral and Experimental Economics*:

Ciziceno, M., & Pizzuto, P. (2022). Life satisfaction and tax morale: The role of trust in government and cultural orientation. *Journal of Behavioral and Experimental Economics*, 97, 101824. https://doi.org/10.1016/j.socec.2021.101824

LIFE SATISFACTION AND TAX MORALE: THE ROLE OF TRUST IN GOVERNMENT AND CULTURAL ORIENTATION

Abstract:

Taxes are essential for a government to function correctly, because they fund public services and promote long-term growth in a country. Tax morale is a positive attitude toward taxation shaped by extrinsic and intrinsic motivations, including numerous psychological factors. However, these factors are far from completely clear and a better understanding of what drives tax morale can greatly help governments in the design of tax policies and their administration. In this paper we test the novel hypothesis that life satisfaction is one of the psychological aspects affecting tax morale. Using longitudinal data from the World Value Survey, we show that people more satisfied with their own life show higher tax morale. We also provide evidence on the roles played by confidence in government and people's cultural orientation in shaping the relationship between life satisfaction and tax morale. Our findings support the idea that implementing alternative policies that, directly or indirectly, increase tax morale could be politically relevant for helping governments mobilize adequate resources from taxation, given that tax evasion prosecution is far from perfect.

Keywords: Tax Morale; Life Satisfaction; Subjective Well-Being; Confidence in Government; Individualism; Collectivism.

1. Introduction

Tax evasion and tax avoidance are well known as the first revenue generation problems. According to the World Bank (Mele 2017), the tax gap between supposed and actual revenues has detrimental consequences for countries' economies. Given the importance of taxation, governments are sometimes forced to use deterrent measures aimed at discouraging fiscal dishonesty. These include, for example, increasing audit probability (Dell'Anno 2009), the massive control of corruption (Bird et al. 2008), and tax enforcement (Filippin et al. 2013). While some studies support the efficacy of these measures (Mazzolini et al. 2017), others have demonstrated their negligible effects in the medium and long term (Hartl et al. 2015; Williams and Franic 2016). For this reason, a priority for governments is to encourage fiscal transparency and tax morale, rather than just relying on forcing citizens to comply with tax rules (Capasso et al. 2020).

Previous literature has identified several factors that are supposed to influence tax morale (for a complete review, see Lago-Peñas and Lago-Peñas 2010). Tax morale is a voluntary motivation influenced by reciprocity (i.e., the level of cooperation between citizens and tax authorities) and vertical trust (i.e., the confidence people have in formal institutions). According to the institutional theory (Horodnic 2018; Williams 2017; Williams and Kayaoglu 2016), tax morale is the result of individuals' interaction with formal and informal institutions. However, the results from this stream of research are far from conclusive (see, for example, Privitera et al.

2021; Dulleck et al. 2016) and an important finding is that cultural and psychological traits tend to affect tax morale (see Andrighetto et al. 2016).

In recent times, a holistic approach (Prichard et al. 2019) starting from several contributions in the fields of sociology and psychology investigates favorable conditions for a more fair and inclusive society. For example, a strand of the literature on subjective well-being points out that more satisfied people frequently participate in pro-social activities (Cunningham 1988) and demonstrate higher levels of social capital (Tov and Diener 2009). Moreover, according to the "frequent positive affect model" (for a review, see Lyubomirsky et al. 2005), people satisfied with their life show greater interest in helping others (Feingold 1983), a tendency to act in a cooperative manner (Rigby and Slee 1993), and specific altruistic behaviors in the workplace (Williams and Shiaw 1999). Although these findings suggest that subjective well-being (SWB) elicits cooperation, trust and, in general, pro-sociality, very few studies have linked SWB to tax morale.

Starting from this intuition, we pool data from 96 countries and four waves of the World Value Survey (WVS) to test the novel hypothesis that higher life satisfaction is related to individuals' tax morale. Our results suggest that life satisfaction is positively associated with tax morale and this relationship remains relatively stable over time. To further confirm this hypothesis, we test the association between life satisfaction and a set of civic attitudes other than tax morale. We find that people with higher life satisfaction systematically reject opportunistic behaviors as falsely claiming benefits or accepting a bribe. These findings support the idea that well-being tends to be positively associated with moral honesty in general, and tax morale in particular.

Moreover, we fully exploited our dataset, alternatively looking at the interaction effects of confidence in government (i.e., vertical trust) and people's cultural orientation (i.e., *collectivistic* and *individualistic* tendencies, conceptualized at the individual level as *allocentrism* and *idiocentrism* – see Triandis et al. 1985, 2001) on this association. We find that the combination of higher life satisfaction and greater confidence in government constitutes a catalyst for tax morale. Conversely, people who express pronounced individualism (*idiocentrism*) tend to justify tax cheating, which, in turn, buffers the positive influence life satisfaction has on tax morale.

The results of this study contribute to three different streams of the literature. The first is on the motivations underlying the tax morale "black box" (see Feld and Frey 2002; Torgler 2005, 2011). Our results add further knowledge to the research on tax mentality, and they may encourage policymakers to design more effective, evidence-based interventions to improve people's life satisfaction.

The second concerns the link between life satisfaction and the respect of norms. Previous studies (Tov and Diener 2009; Helliwell 2014) have suggested a generalized association between the two. The present research indicates a specific context in which people's perception of their life encourages cooperative and civic attitudes.

Finally, the third contribution is on the literature exploring the heterogeneity of tax culture across countries. Two mechanisms are expected to be crucial in this study: the first is linked to how much people are confident in governments; the second involves the existence of a "tax subculture" with its own set of shared judgments and moral standards. The policy implications of our findings are discussed.

2. Literature Review

2.1 Tax Morale and Tax Compliance

Beginning with the seminal contributions of the Cologne school of tax psychology (Schmölders 1970), tax morale has received increasing attention from researchers. Tax morale is usually defined as individuals' moral attitudes toward paying or evading taxes (Kornhauser 2006). According to Luttmer and Singhal (2014: 150) tax morale is an "umbrella-term capturing non-pecuniary motivations for tax compliance as well as factors that fall outside the standard, expected utility framework". However, scholars agree that tax morale is an elusive concept composed by several, interlinked elements, including a fear of being caught, preferences for honesty, moral sentiments, cultural factors and social norms (Doerremberg and Peichl 2018; Privitera et al. 2021). For example, Alesina and Giuliano (2005) observe that tax morale is higher where people are more sensitive to the concept of inequity. From another perspective, people that judge their government to be unfair or unreliable may "rationalize" tax evasion as justified (Andreoni et al. 1998) and show lower tax morale. Other studies claim that tax morale is determined by the perceptions people have about how public money is spent (Smith 1992).

Studies from the 1990s in this area realized the importance of paying particular attention to tax morale since it could be the "missing link" between theory and data. For this reason, tax morale items have been introduced in several international surveys and an increasing number of researchers have used such data in trying to solve the so-called "puzzle of compliance". Indeed, to quote Torgler (2004: 4): "to resolve the puzzle of tax compliance, many researchers have argued that tax morale can contribute to explaining the high degree of tax compliance". However, both concepts are ambiguous and, in the case of tax compliance, largely unobservable. On the one hand, the seminal works of Kelman (1965) and Vogel (1974) partly try to explain the set of determinants driving people's tax morale. In particular, according to Vogel (1974), taxpayers can be classified into two groups: people complying with tax rules as they fear the consequences of tax evasion, and people complying with tax rules as they have internalized tax morale values. On the basis of this distinction, experimental studies have isolated at least two main sets of factors driving tax morale, the so-called intrinsic and extrinsic motivations (for a detailed distinction, see Dwenger et al. 2016). The former (intrinsic) include individuals' beliefs, values and norms, whereas the latter (extrinsic) are related to the consequences of deterrent tax policies. However, as reported by Kornhauser (2006: 607): "external and internal factors interact and researchers are examining the ways in which internal motivations interact with external ones, each influencing and affecting the other and how cognitive processes can influence both".

On the other hand, and from another perspective, the economic theory (see Allingham and Sandmo 1972) explains tax compliance in terms of individuals' expected utility under conditions of uncertainty. Even if this approach has been adopted in the past to analyze compliance behaviors in response to different deterrent policies, further studies have started to consider who participates in informal economy more as a social actor than a rational economic actor (Williams and Kayaoglu 2016). For example, Feld and Frey (2006) criticize

Allingham and Sandmo's model because it is based on a rational approach focused on individuals' extrinsic motivations, which does not include the intrinsic ones mentioned above.

As discussed earlier, there is still a lack of empirical evidence in support of this causal relationship, and in recent years an increasing number of studies have tried to empirically link tax morale to the willingness to pay taxes (i.e., tax compliance). For example, Halla (2012) has tested the direction of this association, offering convincing evidence about the existence of a causal effect of tax morale on tax compliance. However, additional studies are needed to consolidate this finding, and in general, an extensive literature in sociology, social psychology, and political science points out the problematic nature of the causal relationship between attitudes and behaviors (for an *excursus* see Shuman and Johnson 1976; Ajzen 1996; Ajzen and Fishbein 2005). For these reasons mainstream literature does not recommend the use of tax morale as a proxy for tax compliance.

2.2 Tax Morale and Life Satisfaction

Tax morale is called a "black box" because the reasons underlying it are numerous, and the interplay among them is far from clear (Torgler 2005, 2011). For example, the literature indicates that tax morale declines with age (Prieto et al. 2006), is more common among men than women (Lee and Chavez 2020), and has a lower incidence in married couples (Alm and Torgler 2006). Moreover, the existing research has found that the failures and imperfections of public institutions determine an asymmetry between codified norms and individuals' values and beliefs (see the institutional theory: Horodnic 2018; Williams 2017; Williams and Kayaoglu 2016) and such asymmetry generates, in turn, a mistrust of institutions and lower tax morale. For example, the misuse of public power for private gain (i.e., corruption), the lack of redistributive justice, and the perception that deterrence measures (penalties and risk of detection) are weak or inefficient systematically reduce tax morale and encourage free riding or opportunistic behaviors (Giraud 1996; Gerstenblüth et al. 2012; Torgler 2004a).

As mentioned, recent studies have also suggested a relationship between happiness and pro-social behaviors. From a theoretical point of view, the "frequent positive affect model" (Lyubomirsky et al. 2005) argues that long-term happiness is correlated with successful outcomes in many life domains (e.g., work life or family). It seems that happy people – compared to their unhappy peers – show positive attributes such as sociability, cooperation, and altruism, that are correlated with successful outcomes in life. Empirically, Magen and Aharoni (1991) have shown that high school students who experienced higher happiness were more likely to be involved in community service activities (e.g., volunteering) and reported a greater desire to contribute to society. In line with this finding, other studies have established a robust association between people's sense of well-being and respect for civic and social norms. Tov and Diener (2009) find that in nations with higher subjective well-being (SWB), citizens are more cooperative with each other and respectful of social norms. Kushlev et al. (2021), using a representative sample from the Gallup World Poll (GWP), tested the effects of different components of subjective well-being (SWB) on the attitude toward helping others and one's own community. Their results indicate that both life satisfaction and happiness (respectively the cognitive and

emotional component of SWB, see Diener et al. 1985)[1] are associated with pro-social behavior (on this point see also Aknin et al. 2012).

Considering that formal institutions are far from being perfect and repressive policies are not always sufficient, a better understanding of alternative factors that can improve individuals' tax morale is of key importance for combating tax evasion. Since tax morale is a mental process (Andrighetto et al. 2016) encompassing individuals' psychological traits, investigating those factors could be a relevant issue. On the basis of previous research showing the potential link between subjective well-being and social norms, we hypothesize that people's life satisfaction is associated with tax morale. The rationale underlying this hypothesis is that "more satisfied people" tend to behave in a fairer manner (as discussed earlier), and they are also more trustful and cooperative, meaning that they are less likely to justify tax cheating. Indeed, the emerging literature for selected countries has already provided preliminary evidence on the positive relationship between people's sense of well-being, in terms of life satisfaction or happiness, and people's tax morale. For example, Tjondro (2018) argues that individuals' life satisfaction and democracy encourage tax morale in Indonesia. Sà et al. (2013) find very similar results in the Portuguese context. However, these studies are conducted in specific areas of the world and comparative studies in different countries and contexts are limited.

2.3 The Potential Role of Confidence in Government and Cultural Orientation

Apart from the motivations mentioned above, additional (and contextual) factors are suggested as influencing tax morale. Feld and Frey (2002) indicate confidence in government as one of these. When public authorities lose credibility in citizens' eyes (i.e., they have low confidence), taxpayers may assume opportunistic behaviors because any event of distrust reduces the moral cost of tax cheating. Torgler et al. (2007) find that the quality of governance matters in the "puzzle of tax compliance" more than traditional economic models predict. Moreover, confidence in the court (Alm and Torgler 2006) and the legal system (Torgler 2005a) are also relevant drivers for tax morale.

Tax morale has also been examined from a cross-cultural perspective. Culture is a multifaceted and complex construct. According to Hofstede (1991: 5): "it is the collective programming of the mind which distinguishes the members of one group or category of people from another". For example, Hofstede (1980; 2001) first used dimensions of national cultures, such as individualism vs. collectivism, as possible determinants of tax avoidance and tax evasion.[2] Although there are several conceptualizations of individualism/collectivism in the scientific literature (in the fields of psychology, sociology and anthropology), it is generally recognized that individualism refers to a self-focused way of thinking, whereas collectivism reflects the idea that the interests of one's own group prevail over personal ones (see Triandis 1996). Triandis et al. (1985) proposed two

[1] Subjective well-being (SWB) is the combination of people's life satisfaction and individuals' emotions (i.e., pleasant affect and unpleasant affect) in response to daily events (Diener et al. 1985). Studies have demonstrated that life satisfaction is a distinct construct representing the cognitive components of SWB, whereas happiness is the emotional one (see Andrews and Withey 1976).

[2] Hofstede's cultural dimensions also include Power Distance, Uncertainty Avoidance, Masculinity/Femininity, Long-/Short-Term Orientation, and Indulgence/Restraint. See https://www.hofstede-insights.com/product/compare-countries/.

personality terms that correspond to individualism and collectivism at the individual level of analysis: *idiocentrism* (personality traits associated with individualistic cultures) and *allocentrism* (personality traits associated with collectivistic cultures).

Existing studies investigating the relationship between individualism/collectivism (and *idiocentrism/allocentrism*) and the diffusion of unfair and illegal behaviors (such as tax evasion and petty corruption) often face the key empirical question of how these cultural dimensions can be measured and compared across countries. Existing studies usually rely on country indices or national scores of individualism (and other cultural dimensions), following the methodology developed by Hofstede (1980). Conversely, other studies (see Triandis et al. 1985, 2001; Li et al. 2006) use an individual-level approach based on survey questions measuring *idiocentrism* vs. *allocentrism* (meant as *individualistic* vs. *collectivistic* tendencies). However, the empirical evidence is mixed and the results of the analyses conducted at the country level do not always match those at the individual one. On the one hand, studies realized at the country level show that individualistic societies are often associated with a lower tolerance toward tax evasion than collectivistic ones (see Tsakumis et al. 2007; Yong and Martin 2016). The reason given for this finding is that individualism tends to promote self-determination as well as a sense of responsibility toward legal rules and institutional compliance (see Alesina and Giuliano 2015). Moreover, according to Husted (1999), in collectivistic societies, well-integrated, strong and cohesive groups continue to protect each other at all costs. Their alliance is directed at meeting the needs of those in the group, often at the expenses of other individuals or groups (see also Hofstede 2001).

However, Triandis et al. (2001) and Li et al. (2006) show that although collectivistic cultures tend to be, on average, more corrupted than individualistic ones, in some cases within a country (i.e., at the individual level of analysis), individualism (*idiocentrism*) is more associated with corruption than collectivism (*allocentrism*). Indeed, studies based on individual-level data (see, for example, Triandis 2004) argue that individualistic people have substantially lost social ties, and they emphasize the pursuit of one's self-interest above all (see also Inglehart 1990). Robertson and Fadil (1999) find that those who meet individualistic values are more focused on self-achievement and self-actualization. According to Triandis et al. (2001), highly competitive individuals are more likely to behave in corrupt ways because they must win at all costs. In line with this hypothesis, Martin et al. (2007) find that episodes of firm corruption are more frequent in individualistic cultures than in collectivistic ones. On the other hand, Schwartz (1992, 1994) argues that collectivistic traits exalt integrated groups' relations, harmony, family, and conformity with traditions in a positive way. According to this point of view, collectivistic attitudes (*allocentrism*) are more associated with obedience to authorities and the respect of social norms.

3. Data and Materials

3.1. Data

Data used in this study are mainly drawn from the World Value Survey (WVS).[3] The WVS collects information about a multitude of social, political, and cultural issues around the world. We used the longitudinal dataset encompassing the 3rd (1994–1998), 4th (1999–2004), 5th (2005–2009), and 6th (2010–2014) waves. To better understand the systematic differences in tax morale at the individual and contextual levels, we conduct an extensive comparative analysis of 96 countries. The list of countries included in the analysis has been determined by data availability.[4]

3.2. Materials

This section describes all the items included in the analysis.

Tax Morale: A 1-item scale was used as a proxy for individuals' tax morale. The item asked the following question: "Please tell me for each of the following statements whether you think it can always be justified, never be justified, or something in between: [...] cheating on tax if you have the chance". Answers range from 1 (always justified) to 10 (never justified). Alm and Torgler (2006) discuss the reliability of the tax morale item in the WVS, drawing the conclusion that such a measure matches with results from other studies using more comprehensive approaches. Compared to the original survey scale, the item has been recoded (reversed) to facilitate the interpretation of the results; thus, in our study, the answer "never justified cheating on taxes" assumes the value of 10 and indicates higher tax morale.

Life Satisfaction: Life satisfaction is the cognitive component of subjective well-being (SWB) (Diener et al. 2002a) evaluating individuals' judgments of their own life (Diener et al. 1985). Compared to other components of SWB (e.g., happiness), it is more stable and less susceptible to cultural differences (Fujita and Diener 2005). For this reason, life satisfaction is often used as a brief measure of SWB, and its inclusion in national and international surveys is a well-established practice (see also the European Social Survey and the Gallup World Pool Survey). A single item is used to measure satisfaction with life. Participants in the WVS answered the following question: "All things considered, how satisfied are you with your life as a whole these days?" (the score ranges from 1 = completely dissatisfied to 10 = completely satisfied).

Confidence in Government: The variable is codified by asking respondents to express their confidence in government. The 4-point scale ranges from 1 (no confidence at all) to 4 (a great deal of confidence).

Cultural Orientation: We measure respondents' cultural orientation (*allocentrism* vs. *idiocentrism*) by capturing their opinions about traditions, divorce, family and friends. According to Inglehart (1990), people from collectivistic cultures build social ties around family or church members and exalt the importance of traditions. The first question we use is a scenario item: "tradition is important to me; to follow the customs handed down by one's religion or family". A 7-point scale, ranging from 1 (very much like me) to 7 (not at all like me), measures respondents' attitudes, with higher scores indicating higher *idiocentrism*. The second and third items used measure respondents' degree of importance of their own family and friends (Chen and West

3 See https://www.worldvaluessurvey.org/wvs.jsp
4 The full list of countries included in the analysis is available in the Appendix (Table A1).

2008). The answers range from 1 (not at all important) to 4 (very important), where 4 represents the highest level of *allocentric* tendencies. Finally, we measure the respondents' opinion on the justification for divorce. The answers range from 1 (never justifiable) to 10 (always justifiable), where 10 represents the highest level of *idiocentrism*. Lester (1995) provides evidence that people in individualistic societies tolerate divorce more than collectivistic ones. We also use Hofstede's score of individualism vs. collectivism[5] to compare the results obtained at the individual level with those at the country (or "cultural") level.

Control Variables: We include socio-demographic variables as controls: sex (0 = female; 1 = male); age of respondents (in years) and its square,[6] level of education attainment (ISCED classification), personal income (a 10-point scale ranging from 1 = lowest household income to 10 = highest household income),[7] employment status (0 = unemployed; 1 = employed), marital status (0 = divorced, separated, widow or single; 1 = married) and self-reported social class position (ranging from 1 = lowest class to 5 = highest class). We also include two items from the WVS to measure respondents' religiosity (Torgler and Schneider 2007 find that religious people are more inclined to pay taxes). The first item is a dummy variable assuming the value of 0 (not religious people) and 1 (religious people); the latter item measures religious service attendance by asking the following question: "how often do you attend religious services?". The item is measured on a 7-point scale, ranging from 1 (never) to 7 (more than once a week).

4. Model Specification

Following previous studies in the literature exploring the WVS database (i.e., Nikolova 2016; Lago-Peñas and Lago-Peñas 2010), we use a panel specification that allows us to examine the drivers of tax morale:

$$TM_{itc} = \alpha_c + \gamma_t + \beta LS_{itc} + \boldsymbol{\delta}' \boldsymbol{X_{itc}} + \varepsilon_{itc} \quad (1)$$

where TM denotes the tax morale of the individual *i* in country *c* polled in survey wave *t* (and measured on a scale from 1 to 10); *LS* denotes the reported level of life satisfaction by the individual *i* in country *c* polled in survey wave *t* (and measured on a scale from 1 to 10); α_i are country fixed effects to control for unobserved cross-country heterogeneity in tax morale;[8] γ_t are waves fixed effects to control for global shocks; X is the set

[5] Data retrieved from: https://clearlycultural.com/geert-hofstede-cultural-dimensions/individualism/.
[6] Assuming that the relationship between the age of respondents and tax morale is not linear, we include the square of respondents' age in the model.
[7] As noted by Nikolova (2016), the WVS data do not have an income variable (with actual money amounts), but report respondents' assessment of their household net income expressed in deciles.
[8] Survey data tend to be affected by the so-called "social desirability bias" – that is, respondents give the answer that they believe to be the most socially acceptable even if it is not their own view (see Nederhof 1985). Although previous empirical research has shown that in the case of self-reported well-being measures the bias tends to be marginal (see Veenhoven 1991, Konow and Earley 2008) the inclusion of country fixed effects helps in mitigating the concerns related to tax morale items (indeed, social desirability bias tends to be dependent on the culture of the country, see Easterlin 1995). Moreover, our tax morale variable is not dichotomous and respondents were not forced to respond "yes" or "no", but they had the possibility of expressing different degree of intensity with a Likert scale as well as the option to refuse the question. According to McCulloch et al. (2021) giving respondents the possibility to provide "No answer" or state "Don't know" helps in alleviating the social desirability bias in the case of questions related to the justification of tax cheating.

of control variables at the individual level (such as age, gender, education, marital status, income scale, and others). The parameter of interest is β, and the standard errors are clustered at the country level.[9] Following Nikolova (2016), we use an OLS estimator with robust standard errors. Thus, estimates can also be easily interpreted in terms of marginal effects.[10] To check for the robustness of our findings, we also estimate equation (1) by WVS waves.

Since the relationship between life satisfaction and tax morale may depend on individuals' characteristics or attitudes (for example, their confidence in government and their cultural orientation), to test this novel hypothesis, we estimate the following equation:

$$TM_{itc} = \alpha_c + \gamma_t + \beta_H D_{ic} LS_{itc} + \beta_L (1 - D_{ic}) LS_{itc} + \boldsymbol{\delta}' \boldsymbol{X_{itc}} + \varepsilon_{itc} \quad (2)$$

where D_i is a dummy variable that takes the value of one when the level of the variable proxying individuals' confidence in government or cultural orientation is above the median and zero below (note that for cultural orientation higher values are associated with more pronounced *idiocentric* tendencies). The coefficient β_H is the coefficient in the case of higher level of the selected characteristic (that is, when the value is above the median) and β_L is the coefficient in the case of a lower level of the selected characteristic (that is, when the value is below the median). Equation (2) is estimated separately by using, in turn, proxies for individuals' confidence in government or cultural orientation.

5. Results and Discussion

5.1 Baseline

Table 1 (column 1) shows the baseline results obtained by estimating equation (1) on the whole sample. We find that greater life satisfaction is linked to higher tax morale. Particularly, one standard deviation increase in life satisfaction generates an increase of 0.1 point in tax morale. This finding is consistent with the few previous studies on this topic conducted in specific areas of the world (e.g., Portugal – see Sà, Martins and Gomes 2013; or Indonesia – see Tjondro 2018). As earlier mentioned, a potential explanation for the positive association between life satisfaction and tax morale is given by the "frequent positive affect model" (Lyubomirsky et al. 2005). The model suggests that being happy generates a sort of virtuous circle encompassing generalized trust,

[9] Clustering at the country level allows for correcting for the Moulton bias (Moulton 1990). The World Value Survey longitudinal dataset, unfortunately, does not include panel data in which the same individuals are observed over time. Respondent ID numbers across the waves refer to different respondents and not to the same person, thus making clustering at the individual level not possible (and not necessary). It is worth mentioning that our results are robust to estimating the model using conventional standard errors or standard errors corrected with respect to heteroskedasticity.

[10] Ferrer-i-Carbonell and Frijters (2004) have demonstrated that in the case of life satisfaction, ignoring the ordinality of the life satisfaction data does not affect the results. The same applies here when using tax morale as a dependent variable. Indeed, as will be later shown in the text, using a different empirical methodology (i.e., ordered logit) the results are very similar and broadly unchanged with respect to the baseline.

civic duty, and cooperation with others that also seems to result in higher tax morale. Moreover, the existing literature indicates that people more satisfied with their own life express, in general, greater altruism and spirit of collaboration (see Feingold 1983; Rigby and Slee 1993; Williams and Shiaw 1999). According to Helliwell (2014:81) "humans are more than just social, they are pro-social. In other words, they get happiness not just from doing things with others, but from doing things both with and for others". The author also points out that happiness has several implications for social norms and the quality of the environment in which people live: "if people really are happier working together for a worthy purpose, this exposes a multitude of win-win solutions to material problems, thereby building community while meeting material needs" (Helliwell 2014: 78).

Table 1 - Life satisfaction and tax morale (baseline estimation)

	OLS	OLS	Ordered Logit	Ordered Logit
	(1)	**(2)**	**(3)**	**(4)**
Satisfaction with your life	0.038***	0.039***	0.051***	0.058***
	(0.005)	(0.005)	(0.005)	(0.006)
Individual-level control variables				
Age	0.011***	0.011***	0.010***	0.009**
	(0.003)	(0.004)	(0.003)	(0.004)
Age^2	0.001	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Sex (*1=male*)	0.174***	0.192***	0.166***	0.193***
	(0.020)	(0.024)	(0.022)	(0.027)
Highest educational level attained	0.026***	0.027***	0.022***	0.022***
	(0.005)	(0.006)	(0.005)	(0.006)
Employment status	-0.022	-0.027	-0.030	-0.036*
	(0.021)	(0.019)	(0.020)	(0.021)
Marital status (*1=married*)	0.080***	0.085***	0.078***	0.078***
	(0.016)	(0.018)	(0.015)	(0.018)
Scale of incomes	-0.035***	-0.036***	-0.041***	-0.042***
	(0.012)	(0.011)	(0.011)	(0.010)
Social Class position (*self-reported*)	-0.018	-0.022	-0.024	-0.028
	(0.019)	(0.016)	(0.019)	(0.017)
Religious person (*1=yes*)	0.053	0.105***	0.073*	0.128***
	(0.043)	(0.038)	(0.042)	(0.039)
Religious service attendance	0.031***	0.034***	0.027***	0.028***
	(0.005)	(0.006)	(0.006)	(0.007)
Country-level control variables				
Income inequality		-0.066***		-0.060**
		(0.024)		(0.026)
Control of corruption		1.120*		1.032**
		(0.618)		(0.502)
Tax revenue (% of GDP)		-0.030		-0.023
		(0.020)		(0.018)
GDP per-capita		0.044***		0.036***
		(0.013)		(0.013)
Inflation rate		-0.050*		-0.015
		(0.025)		(0.027)
Observations	198,840	138,728	198,840	138,728
R-squared	0.104	0.097	0.043	0.043

*Note: Standard errors in parentheses are clustered at the country level *** p<0.01, ** p<0.05, * p<0.1.*
Country and time (wave) fixed effects included but not reported.

Looking at the estimated coefficients for the socio-demographic variables as well, we find that, in line with previous studies, age, gender (i.e., female), education level, and marital status (i.e., married couples) are positively and statistically significantly associated with higher tax morale (Prieto et al. 2006), while we observe a negative association between personal income and tax morale (Frey and Torgler 2007). The effects of religiosity variables are partially in line with those of Alm and Torgler (2006), since we find a positive and statistically significant association only for religious service attendance. The employment status, instead, seems to be not significantly associated with tax morale.

Furthermore, we include in our analysis numerous country-level controls. We control for the corruption surveillance under the hypothesis that active and effective control of corruption increases government legitimacy and thus tax morale (see Alm et al. 2016). Second, we consider the potential role that income inequality exerts in shaping tax morale. Scholars (see for example, Giraud 1996) indicate that less equal societies tend to show lower levels of tax morale. Research findings also indicate that inequality and corruption weaken governments' effectiveness. More important, they penalize tax morale and discourage any voluntary commitment because they make public authorities unreliable in the eyes of citizens (Gerstenblüth et al. 2012). We also control for the GDP per capita as a proxy for economic development. While Doerremberg and Peichl (2018) and Alm et al. (2016) find contrasting findings about the link between individual income, wealth, and tax morale, Williams and Krasniqi (2017) provide evidence of a positive association between tax morale and countries' level of development (with GDP per capita as a proxy). Finally, our regression also includes the volume of tax revenue (as % of GDP) and the inflation rate as further controls to account for country heterogeneity.[11] The results of this exercise (Table 1 – column 2) are very similar to and broadly unchanged with respect to those presented in the baseline and confirm the positive relationship between life satisfaction and tax morale. In addition, the effects of country-level controls are mostly in line with our expectations. Tax morale appears to be lower when income inequality is high. This mechanism is explained by the fact that if taxpayers recognize the social system as inequal, they are less inclined to financing it with their taxes (Giraud 1996). The presence of active anti-corruption surveillance is significantly associated with greater tax morale. This is because corruption is not only detrimental to the economic system, but it also impairs the vertical relationship between citizens and public authorities. Inflation is negatively associated with tax morale, while GDP per capita is positively associated with it, although the tax revenue (as % of GDP) coefficient estimate is negative and statistically insignificant.

5.2 Robustness and Sensitivity Exercises

The results are robust to several checks. First, our hypothesis that higher life satisfaction generates a sort of virtuous circle encompassing generalized trust, cooperation, and higher tax morale is still confirmed when we

[11] We use the average value of the variables within the period covered by each survey. Data on control of corruption are taken from the World Bank's Worldwide Governance Indicators (WGI) Database. Net income inequality data (Gini index) comes from the Standardized World Income Inequality Database (SWIID – version 8.3). Data on tax revenue (as % of GDP) and inflation comes from the World Bank's World Development Indicators (WDI) database. Data on per capita GDP are taken from the IMF's World Economic Outlook (WEO).

use a set of WVS variables expressing attitudes toward civic behaviors. The concept of a social norm includes all the written and unwritten rules, attitudes, and behaviors that are considered acceptable in a particular context (Berkowitz 2005). These norms help people to live in a more stable and predictable environment. In particular, we find that more satisfied people are less tolerant in justifying unfair and illegal behaviors such as falsely claiming state benefits, freeriding in public transportation, or bribing[12] (Table 2). It seems that life satisfaction not only increases people's tax morale, but it also encourages individuals' pro-social and civic attitudes. This finding is also in line with several studies discussed in previous sections and especially that of Tov and Diener (2009), who find that subjective well-being increases cooperation and trust among citizens (i.e., increases the level of social capital) and that of Kushlev et al. (2021) who note that both happiness and life satisfaction positively affects pro-social behaviors.

When repeating the analysis with WVS items indicating attitudes toward other forms of "non-civic social norms" (i.e., justifying homosexuality and abortion) and political demonstration (i.e., attending lawful/peaceful demonstrations and joining in boycotts) we find less conclusive results suggesting that our theory appears to be confined to civic social norms. Indeed, it seems that attitudes toward such "non-civic social norms" are not clearly linked to individuals' subjective well-being. The literature points to other relevant factors, not included in our analysis, that may intervene in this process and if neglected may lead to biased results. For example, tolerance in all forms – political, racial, religious, and social – does not depend exclusively on personal motivations and judgments, but also on a combination of normative, cognitive, and affective factors (see Chong 1994). Lottes and Kuriloff (1992) find lower levels of justification for homosexuality in people who declare themselves more conservative (as opposed to liberal), pointing to the key role that political orientation plays in this relationship. Others investigate the impact of a variety of measures related to sex role ideology, including macho personality, non-feminist attitudes, adversarial sexual beliefs, and traditional attitudes toward female sexuality (Lottes 1991) as well as measures related to race and family background (Davidson et al. 2008). Instead, Hooghe and Quintelier (2014) isolate the role of the quality of governance on formal and informal political participation (including protesting and boycotting). Although shedding more light on the relationship between life satisfaction and "non-civic social norms" is undoubtedly a relevant topic, we believe that our framework is not suitable for reaching this goal and it merits further study in future research.

As a second robustness check we re-estimated our model using a different empirical methodology (i.e., ordered logit). Our results are also confirmed in this case since we obtain very similar and broadly unchanged results with respect to those obtained using OLS (see Table 1, columns 3–4). Finally, the results do not show overtime variation since when we re-estimate equation (1) for each WVS wave, the positive association between life satisfaction and tax morale remains stable over time, confirming the robustness of our results (Table 3).

[12] Compared to the original survey scale, the items have been recoded (reversed) to facilitate the interpretation of the results; thus, in our study, the answer "never justified…" assumes the highest value and indicates better compliance with social norms and formal institutions.

Table 2 - Life satisfaction, social and civic norms

	Falsely Claiming Government Benefits (10=never justifiable)		**Avoiding a fare on public transport (10=never justifiable)**		**Someone accepting a bribe (10=never justifiable)**	
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Satisfaction with your life	0.024***	0.024***	0.026***	0.025***	0.022***	0.025***
	(0.005)	(0.006)	(0.004)	(0.005)	(0.004)	(0.005)
Individual-level control variables						
Age	0.019***	0.022***	0.025***	0.028***	0.015***	0.018***
	(0.004)	(0.004)	(0.004)	(0.005)	(0.003)	(0.003)
Age^2	-0.000	-0.000**	-0.000**	-0.000**	-0.000*	-0.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Sex (*1=male*)	0.076***	0.102***	0.063***	0.054***	0.103***	0.114***
	(0.017)	(0.019)	(0.017)	(0.018)	(0.014)	(0.017)
Highest educational level attained	0.042***	0.045***	0.027***	0.027**	0.031***	0.037***
	(0.007)	(0.009)	(0.008)	(0.011)	(0.005)	(0.008)
Employment status	0.011	-0.004	0.024	0.025	-0.009	-0.013
	(0.021)	(0.025)	(0.021)	(0.023)	(0.017)	(0.017)
Marital status (*1=married*)	0.086***	0.095***	0.116***	0.128***	0.066***	0.077***
	(0.015)	(0.015)	(0.016)	(0.017)	(0.015)	(0.016)
Scale of incomes	-0.006	-0.008	-0.015	-0.010	-0.013	-0.018*
	(0.011)	(0.011)	(0.012)	(0.012)	(0.011)	(0.009)
Social Class position (*self-reported*)	-0.007	-0.000	-0.010	-0.020	-0.039*	-0.038**
	(0.020)	(0.016)	(0.020)	(0.020)	(0.021)	(0.018)
Religious person (*1=yes*)	0.015	0.052	0.064	0.114***	0.029	0.078**
	(0.046)	(0.049)	(0.040)	(0.040)	(0.037)	(0.038)
Religious service attendance	0.002	-0.002	0.018***	0.017***	0.008**	0.010*
	(0.006)	(0.006)	(0.004)	(0.005)	(0.004)	(0.005)
Country-level control variables						
Income inequality		0.036		0.017		-0.046
		(0.032)		(0.025)		(0.035)
Control of corruption		1.119*		1.222**		1.182
		(0.636)		(0.597)		(0.725)
Tax revenue (% of GDP)		0.001		-0.034		0.008
		(0.043)		(0.021)		(0.030)
GDP per-capita		0.038		0.042*		0.015
		(0.025)		(0.024)		(0.015)
Inflation rate		-0.234***		-0.060		-0.232
		(0.059)		(0.038)		(0.164)
		0.036		0.017		-0.046
Observations	200,661	139,926	201,587	140,076	206,043	140,869
R-squared	0.092	0.096	0.112	0.107	0.104	0.102

*Note: Standard errors in parentheses are clustered at the country level *** p<0.01, ** p<0.05, * p<0.1.*
Country and time (wave) fixed effects included but not reported. Compared to the original survey scale, the following items (i.e., Falsely Claiming Government Benefits; Avoiding a fare on public transport; Someone accepting a bribe) have been recoded (reversed) to allow easier interpretation of the results; thus, the answer "never justifiable..." assumes the value of 10 and indicates higher civic attitudes.

Table 3 - Life satisfaction and tax morale – by Waves

	(1) Wave 1994-1998	(2) Wave 1999-2004	(3) Wave 2005-2009	(4) Wave 2010-2014
Satisfaction with your life	0.036***	0.034***	0.037***	0.035***
	(0.009)	(0.010)	(0.010)	(0.007)
Control variables				
Age	0.025***	0.007	0.006	0.007*
	(0.006)	(0.004)	(0.005)	(0.004)
Age^2	-0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Sex (*1=male*)	0.260***	0.160***	0.134***	0.123***
	(0.032)	(0.035)	(0.033)	(0.026)
Highest educational level attained	0.010	0.024**	0.032***	0.034***
	(0.009)	(0.010)	(0.009)	(0.008)
Employment status	-0.027	-0.036	-0.025	-0.024
	(0.040)	(0.031)	(0.030)	(0.028)
Marital status (*1=married*)	0.073**	0.111***	0.062**	0.076***
	(0.029)	(0.031)	(0.026)	(0.018)
Scale of incomes	-0.021**	0.005	-0.037***	-0.055***
	(0.010)	(0.011)	(0.010)	(0.017)
Social Class position (*self-reported*)	-0.038*	-0.040*	0.005	-0.026
	(0.022)	(0.024)	(0.016)	(0.016)
Religious person (*1=yes*)	0.089*	0.164**	0.141***	0.004
	(0.050)	(0.061)	(0.036)	(0.057)
Religious service attendance	0.055***	0.029***	0.029***	0.021**
	(0.008)	(0.009)	(0.008)	(0.009)
Observations	46,630	34,208	49,353	68,649
R-squared	0.105	0.085	0.119	0.159

*Note: Standard errors in parentheses are clustered at the country level *** p<0.01, ** p<0.05, * p<0.1. Country fixed effects included but not reported. World Value Survey Wave classification: Wave 3 = 1994-1998; Wave 4 = 1999-2004; Wave 5 = 2005-2009; Wave 6 = 2010-2014.*

5.3 The Role of Confidence in Government and Cultural Orientation

As discussed in section 2.2, some additional factors may affect the relationship between life satisfaction and tax morale, leading to heterogeneous effects depending on individuals' characteristics or attitudes. On the one hand, scholars often indicate confidence in government as a critical element for people's well-being and tax morale. This is because trustworthy governments provide individuals with a more ordered and predictable environment (see Hudson 2006). As discussed earlier, taxpayers may assume opportunistic behaviors (i.e., tax cheating) when public authorities lose credibility in the eyes of their citizens. Likewise, Ciziceno and Pizzuto (2020) find that the evolution patterns of life satisfaction across EU-28 countries in the aftermath of the Great Recession are systematically affected by good institutional performances.

On the other hand, we have hypothesized that at the individual level, cultural orientation may exert a functional role in shaping tax morale. We use survey items related to *allocentrism* vs. *idiocentrism* tendencies, advocated by previous studies on this topic (among others, see Ang 2015). Research has demonstrated that people with collectivist attitudes (*allocentrism*) show greater adherence to social norms than people who express individualistic ones (*idiocentrism*) (Kim et al. 1994). These results suggest that *allocentrism* is associated with higher civic duties and responsibilities that, in turn, are considered essential for social cohesion and group

harmony in some countries (Miller et al. 1990). For example, in South Korea (i.e., a typical collectivistic country), the dominant cultural configuration involves obedience to authority and emphasis on status hierarchies (Triandis and Gelfand 1998). Conversely, in the U.S. context (i.e., a typical individualistic country), the prevalent cultural themes are personal freedom and verticality (Markus and Kitayama 1991).

To test for these hypotheses, we estimate equation (2), introducing the dummy variable D_i that takes a value of one when the level of the variable as a proxy for individuals' confidence in government or cultural orientation is above the median, and zero below. Specifically, for cultural orientation we test the broad set of variables discussed earlier that can act as a proxy for individualistic vs. collectivistic attitudes at the individual level (i.e., WVS items measuring respondents' importance of family and friends, tradition and conformity, as well as their attitudes toward divorce). Note that higher values are associated with more pronounced *idiocentric* tendencies.

The results presented in Table 4 (column 1) suggest that the association between higher life satisfaction and higher tax morale tends to be more evident when confidence in government is higher.[13] Notably, the effect is 30% higher than in our baseline estimation. Our findings are in line with those of Feld and Frey (2006), who find higher tax morale in Switzerland's democratic and trustworthy cantons than authoritative ones. Similarly, Torgler (2004a) shows that public officers' petty corruption and disloyalty undermine government confidence and impair the taxation process. From a different perspective, other studies indicate that lower trust in public institutions (generated by high perceived corruption) reduces individuals' life satisfaction in developed and underdeveloped countries (Ciziceno and Travaglino 2019). Furthermore, when repeating our baseline analysis using a different item from the WVS (that is: satisfaction with the way democracy develops) as the main explanatory variable, the results point to a positive and statistically significant relationship between satisfaction with democracy and tax morale. This finding provides, thus, additional support to our hypothesis on the positive association between trust in (and satisfaction with) institutions and tax morale that, in turn, magnifies the positive relationship between life satisfaction and tax morale. Note that the item "satisfaction with the way democracy develops" can be considered complementary and not a substitute for our main item of interest, which is "All things considered, how satisfied are you with your life as a whole these days?". Indeed, the former concerns the public sphere of life (similar to the item capturing the individuals' confidence in government), while the latter refers to the private one (typically considered the realm of family and home life that is, in theory, free of the influence of government and other institutions).[14]

Similarly, we find that cultural orientation matters in shaping the positive relationship between life satisfaction and tax morale. Regardless of the variable used as a proxy for cultural orientation (see Table 4, columns 2–5), we find that the association between life satisfaction and tax morale is stronger in the case of higher reported collectivistic attitudes (*allocentrism*). Notably, the effect is 65% higher than in our baseline estimation when

[13] Table A2 in the Appendix presents the results obtained adding the country controls previously defined. They are very similar and broadly unchanged with respect to those presented in the text, though the estimations cover a fewer number of countries (63) due to data limitations on country-level variables.

[14] For more details on this point see the influential contribution by Habermas (1991) (the original contribution in German, dates back to 1962) and the related literature.

using the item on how justifiable divorce is. We obtain similar results when participants express a higher importance for their family and friends or lower aversion to traditions (i.e., a clear expression of *allocentrism*). Thus, the results from the interaction terms suggest the idea that *allocentrism* magnifies the effects that life satisfaction has on tax morale. Our findings are in line with those of Bame-Aldred et al. (2013), who find that collectivistic values discourage any morally questionable behavior like tax evasion.

It is worth mentioning that when re-estimating equation (2) using Hofstede's score of individualism at the country level (or quoting Triandis et al. 2001: "at the cultural level"), the results of the interaction between life satisfaction and Hofstede's individualism score do not point to statistically significantly different coefficients (with a slightly larger coefficient for more collectivistic societies, if any) (Table A3). This mixed finding at different levels of aggregation is not new in the literature. Indeed, existing empirical evidence has already suggested that the results of analyses conducted at the country level do not always match with those at the individual one (for a broad discussion see Triandis et al. 1985). An example is given by Triandis et al. (2001), who investigate the relationship between culture, personality and deception. The authors find that cultural collectivism is positively related to the reported use of deception in negotiations. Conversely, at the individual level, they find opposite results suggesting that vertical individualism (*idiocentrism*) predicts deception more than collectivism (*allocentrism*). Similar conclusions are reported by Van De Vijver and Leung (2000: 45) who, discussing the findings of different studies on subjective well-being, point out how "subjective well-being is positively correlated with national income at the national level (more affluent countries report average higher levels of well-being), but no such relationship existed when data were examined for the United States during the past decades. Subjective well-being did not increase in this period, despite the sizable net increase in income".

In our case, the mixed results obtained at the country (or cultural) and individual level of analysis seem to suggest that the relationship between life satisfaction and tax morale is similar in individualistic and collectivistic cultures taken as a whole (where we take into account the average level of responses that are aggregated within cultures),[15] but within them, collectivistic inclinations seem to magnify the association between life satisfaction and tax morale. Using the personality terms proposed by Triandis et al. (1985), *allocentrism* (which describes collectivistic tendencies at the individual level) represents a catalyst that enhances the positive relationship between life satisfaction and tax morale. Conversely, *idiocentrism* (which indicates the psychological manifestation of individualism at the individual level) seem to mitigate such a positive association.

As an additional exercise, we re-estimated equation (2) interacting each country-level control variable (as indicated in Table 2 – Column 2) with life satisfaction. Although the results shown in Table A3 suggest positive and larger effects of the interacted term on tax morale in the case of a lower level of inequality, higher control of corruption, higher level of tax revenue, and higher level of GDP per capita, the difference between the

[15] Indeed, the loss of information embedded in a national score like Hofstede's does not allow the full exploitation of the heterogeneous information related to the individuals' tendencies.

coefficients associated with higher and lower levels of these interactions is not statistically different from zero (except for GDP per capita).[16]

Thus, what emerges is that individuals' confidence in government and cultural orientation (*allocentrism* vs. *idiocentrism*) seem to better explain the heterogeneity of the relationship between life satisfaction and tax morale than country-level characteristics (from both the social and economic points of view).

Table 4 - Life satisfaction and tax morale – Interaction effects

	(1)	(2)	(3)	(4)	(5)
Interaction (1)					
*Life satisfaction * Confidence in government (High)*	0.048***				
	(0.005)				
*Life satisfaction * Confidence in government (Low)*	0.029***				
	(0.005)				
Interaction (2)					
*Life satisfaction * Traditions aversion (High)*		0.011			
		(0.008)			
*Life satisfaction * Traditions aversion (Low)*		0.046***			
		(0.006)			
*Life satisfaction * Justifiable divorce (High)*			-0.017		
			(0.011)		
*Life satisfaction * Justifiable divorce (Low)*			0.063***		
			(0.006)		
*Life satisfaction * Important in life: Family (Low)*				-0.058***	
				(0.014)	
*Life satisfaction * Important in life: Family (High)*				0.038***	
				(0.005)	
*Life satisfaction * Important in life: Friends (Low)*					0.028***
					(0.005)
*Life satisfaction * Important in life: Friends (High)*					0.039***
					(0.005)
Control variables					
Age	0.012***	0.006*	0.014***	0.012***	0.011***
	(0.003)	(0.004)	(0.003)	(0.003)	(0.003)
Age^2	0.000	0.000	-0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Sex (*1=male*)	0.171***	0.124***	0.189***	0.172***	0.176***
	(0.020)	(0.022)	(0.019)	(0.019)	(0.020)
Highest educational level attained	0.028***	0.030***	0.034***	0.026***	0.025***
	(0.005)	(0.007)	(0.005)	(0.005)	(0.005)
Employment status	-0.025	-0.018	-0.013	-0.021	-0.021
	(0.022)	(0.022)	(0.021)	(0.021)	(0.021)
Marital status (*1=married*)	0.082***	0.070***	0.059***	0.072***	0.082***
	(0.017)	(0.017)	(0.015)	(0.016)	(0.016)
Scale of incomes	-0.036***	-0.051***	-0.032***	-0.035***	-0.035***
	(0.012)	(0.014)	(0.011)	(0.012)	(0.012)
Social Class position (*self-reported*)	-0.017	-0.005	-0.014	-0.018	-0.018
	(0.020)	(0.020)	(0.018)	(0.019)	(0.019)
Religious person (*1=yes*)	0.049	0.031	0.017	0.051	0.053
	(0.044)	(0.046)	(0.042)	(0.043)	(0.043)
Religious service attendance	0.029***	0.019***	0.022***	0.031***	0.031***
	(0.005)	(0.006)	(0.005)	(0.005)	(0.005)

[16] We believe that the results on the significant difference between the two regimes obtained when using GDP per capita can depend on the crucial role played by the shadow economy. Indeed, recent research has shown how informality is both strictly related to tax morale (OECD 2013, Torgler 2011) and also affects life satisfaction (Schneider 2015; Achim et al. 2018). However, the interplay among the three elements is far from clear, and deserves further attention in future research.

	(1)	(2)	(3)	(4)	(5)
Observations	187,654	114,574	195,780	198,399	197,940
R-squared	0.107	0.133	0.117	0.105	0.104
F-test difference (a)	21.47***	42.24***	39.57***	46.06***	10.23***

*Note: Standard errors in parentheses are clustered at the country level *** p<0.01, ** p<0.05, * p<0.1. Country and time (wave) fixed effects included but not reported. Lower levels of "Traditions aversion" and "Justifiable divorce" as well as higher levels of "Important in life: Family" and "Important in life: Friends" are associated with higher collectivistic attitudes. F-test (a) tests the difference between life satisfaction in the case of higher trust in government (or collectivism) and life satisfaction in the case of lower trust in government (or collectivism).*

6. Conclusions and Policy Implications

A priority for governments should be improving citizens' tax morale. The first policy implication that could be drawn from this research is that increasing people's life satisfaction is important not only *per se* but also because it is associated with higher citizens' tax morale. Our findings are in line with the so-called "frequent positive affect model" which suggests that people who report higher subjective well-being are more cooperative citizens and behave in a way that is supportive of their community (see Lyubomirsky et al. 2005; Tov and Diener 2009; Kushlev et al. 2021 for similar empirical findings). Interestingly, we find that individuals' characteristics and attitudes (i.e., their confidence in government and cultural orientation) seem to play a more important role in shaping the relationship between life satisfaction and tax morale than other country-level factors. Given that the prosecution of tax evasion is far from perfect, the implementation of alternative policies that, directly or indirectly, increase tax morale could be politically relevant.

There is substantial evidence that confidence in government is essential for people's life satisfaction and well-being (Hudson 2006; Rose-Ackerman 1999). Our study shows that it also influences individuals' tax morale since the lower the confidence in government, the weaker the relationship between life satisfaction and tax morale. Hudson (2006) demonstrates that any adverse experience with public institutions reduces trust in them. Alongside this, Capasso et al. (2020) show that fiscal transparency increases citizens' awareness about the allocation of public resources and leads to greater tax morale. Thus, to increase people's confidence in public institutions, governments should consider reforms that promote greater fiscal transparency and accountability. Policymakers could make available more salient information regarding the effects of their taxation and accessible information about tax evasion initiatives, avoiding vertical and authoritative decisions. From another perspective, our study reveals that effective anti-corruption policies and lower-income inequality are associated with tax morale. Hence, tax morale also depends on the degree of fairness, equity, and accountability people perceive in their external environment.

Likewise, this research highlighted the role that cultural orientation (collectivistic vs. individualistic tendencies – *allocentrism* vs. *idiocentrism*) could play in people's tax morale. Previous research findings have demonstrated that collectivistic values emphasize the group's needs and, more importantly, are associated with greater observance of social norms. In this context, the fact that a collectivistic way of thinking is a catalyst that enhances the positive relationship between life satisfaction and tax morale should induce policymakers to

promote people's sense of belonging, horizontal links, and generalized trust. If properly oriented, such factors could increase self-policing, and could also mitigate the presence of lower tax morale.

We are aware that our analysis has two principal limitations. The first is that our results do not necessarily imply a causal relationship. Although we explored several channels through which life satisfaction may affect tax morale and civic attitudes in general, it is possible to argue to some extent that it could be tax morale that influences life satisfaction. The second issue refers to a possible problem of an omitted variable bias. Despite the fact that we account for unobserved cross-country and -period (waves) heterogeneity and control for numerous determinants of tax morale based on previous literature, our specification does not allow us to claim a full removal of such a bias. These issues offer a range of interesting avenues for further research on this topic.

References:

Achim M.V., Borlea S.N., Găban L.V., Cuceu I.C. (2018) Rethinking the shadow economy in terms of happiness. Evidence for the European Union Member States Technol. *Econ. Dev. Econ.,* 24 (1), 199-228.

Ajzen, I. (1996). The directive influence of attitudes on behavior. In P. M. Gollwitzer & J. A. Bargh (Eds.), *The psychology of action: Linking cognition and motivation to behavior* (385–403). The Guilford Press.

Ajzen, I., & Fishbein, M. (2005). The Influence of Attitudes on Behavior. In D. Albarracín, B. T. Johnson, & M. P. Zanna (Eds.), *The handbook of attitudes* (pp. 173–221). Lawrence Erlbaum Associates Publishers.

Aknin, L. B., Hamlin, J. K., & Dunn, E. W. (2012). Giving leads to happiness in young children. *PLoS one*, *7*(6), e39211.

Alesina, A., & Giuliano, P. (2015). Culture and institutions. *Journal of Economic Literature*, 53(4), 898-944.

Allingham, M. G., & Sandmo, A. (1972). Income tax evasion: A theoretical analysis. *Journal of Public Economics*, 1(3-4), 323-338.

Alm, J., & Torgler, B. (2006). Culture differences and tax morale in the United States and in Europe. *Journal of Economic Psychology*, 27(2), 224-246.

Alm, J., Martinez-Vazquez, J., & McClellan, C. (2016). Corruption and firm tax evasion. *Journal of Economic Behavior & Organization*, 124, 146-163.

Andreoni, J., Erard, B., & Feinstein, J. (1998). Tax compliance. *Journal of Economic Literature*, *36*(2), 818-860.

Andrews, F. M., & Withey, S. B. (1976). *Social indicators of well-being: Americans' perceptions of life quality*. New York: Plenum.

Andrighetto, G., Zhang, N., Ottone, S., Ponzano, F., D'Attoma, J., & Steinmo, S. (2016). Are some countries more honest than others? Evidence from a tax compliance experiment in Sweden and Italy. *Frontiers in Psychology*, 7, 472.

Ang, J. B. (2015). *Agricultural Legacy, Individualistic Culture, and Techology Adoption* (No. 1506). Nanyang Technological University, School of Social Sciences, Economic Growth Centre.

Bame-Aldred, C. W., Cullen, J. B., Martin, K. D., & Parboteeah, K. P. (2013). National culture and firm-level tax evasion. *Journal of Business Research*, 66(3), 390-396.

Berkowitz, A. D. (2005). An overview of the social norms approach. In L. Lederman, L. Stewart, F. Goodhart and L Laitman (Eds*), Changing the Culture of College Drinking: A Socially Situated Prevention Campaign,* (193-214), Hampton Press.

Bird, R. M., Martinez-Vazquez, J., & Torgler, B. (2008). Tax effort in developing countries and high income countries: The impact of corruption, voice and accountability. *Economic Analysis and Policy*, 38(1), 55-71.

Capasso, S., Cicatiello, L., De Simone, E., Gaeta, G. L., & ReisMourao, P. (2020). Fiscal transparency and tax ethics: does better information lead to greater compliance?. *Journal of Policy Modeling*, *43*(5), 1031-1050.

Chen, F. F., & West, S. G. (2008). Measuring individualism and collectivism: The importance of considering differential components, reference groups, and measurement invariance. *Journal of Research in Personality*, 42(2), 259-294.

Chong, D. (1994). Tolerance and social adjustment to new norms and practices. *Political Behavior*, 16(1), 21-53.

Ciziceno, M. & Pizzuto, P. (2020). The Well-Being Gap during the Great Recession: The Role of Growth and Institutions. *Research in Applied Economics*, 12(2), 24-48. doi: 10.5296/rae.v12i2.16728.

Ciziceno, M., & Travaglino, G. A. (2019). Perceived corruption and individuals' life satisfaction: The mediating role of institutional trust. *Social Indicators Research*, 141(2), 685-701. doi: https://doi.org/10.1007/s11205-018-1850-2.

Cunningham, M.R. (1988). What do you do when you're happy or blue? Mood, expectancies, and behavioral interest. *Motivation & Emotion*, 12, 309-331.

Davidson Sr, J. K., Moore, N. B., Earle, J. R., & Davis, R. (2008). Sexual attitudes and behavior at four universities: Do region, race, and/or religion matter?. *Adolescence*, 43(170), 189-221.

Dell'Anno, R. (2009). Tax evasion, tax morale and policy maker's effectiveness. *The Journal of Socio-Economics*, 38(6), 988-997.

Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49(1), 71-75.

Diener, E., Lucas, R. E., Oishi, S., & Suh, E. M. (2002a). Looking up and looking down: Weighting good and bad information in life satisfaction judgments. *Personality and Social Psychology Bulletin*, 28(4), 437-445.

Doerremberg, P., Peichl, A. (2018). Tax Morale and the Role of Social Norms and Reciprocity. Evidence from a Randomized Survey Experiment, *Discussion paper no. 11714*, IZA Institute of Labor Economics.

Dulleck, U., Fooken, J., Newton, C., Ristl, A., Schaffner, M., & Torgler, B. (2016). Tax compliance and psychic costs: behavioral experimental evidence using a physiological marker. *Journal of Public Economics*, 134, 9-18.

Dwenger, N., Kleven, H., Rasul, I., & Rincke, J. (2016). Extrinsic and intrinsic motivations for tax compliance: Evidence from a field experiment in Germany. *American Economic Journal: Economic Policy*, 8(3), 203-32.

Easterlin, R. A. (1995). Will raising the incomes of all increase the happiness of all?. *Journal of Economic Behavior & Organization*, *27*(1), 35-47.

Feingold, A. (1983). Happiness, unselfishness, and popularity. *Journal of Psychology*, 115, 3–5.

Feld, L. P., & Frey, B. S. (2002). Trust breeds trust: How taxpayers are treated. *Economics of Governance*, 3(2), 87-99.

Feld, L. P., & Frey, B. S. (2006). Tax evasion in Switzerland: The roles of deterrence and tax morale. *Tax Evasion, Trust and State Capacities*, 3, 123-153.

Ferrer-i-Carbonell, A., & Gërxhani, K. (2016). Tax evasion and well-being: A study of the social and institutional context in Central and Eastern Europe. *European Journal of Political Economy*, 45, 149-159.

Ferrer-i-Carbonell, A., & Frijters, P. (2004). How important is methodology for the estimates of the determinants of happiness?. *The Economic Journal*, 114(497), 641-659.

Filippin, A., Fiorio, C. V., & Viviano, E. (2013). The effect of tax enforcement on tax morale. *European Journal of Political Economy*, 32, 320-331.

Frey, B. S., & Torgler, B. (2007). Tax morale and conditional cooperation. *Journal of Comparative Economics*, 35(1), 136-159.

Fujita, F., & Diener, E. (2005). Life satisfaction set point: stability and change. *Journal of Personality and Social Psychology*, 88(1), 158.

Gerstenblüth, M., Melgar, N., Pagano, J. P., & Rossi, M. (2012). How do inequality affect tax morale in Latin America and Caribbean?. *Revista de Economía del Rosario*, 15(2), 123-135.

Giraud, P. N. (1996). *L'inégalité du monde. Économie du monde contemporain*. Gallimard.

Habermas, J. (1991). The structural transformation of the public sphere: An inquiry into a category of bourgeois society. Cambridge (Massachusetts): MIT press.

Halla, M. (2012). Tax morale and compliance behavior: First evidence on a causal link. *The BE Journal of Economic Analysis & Policy*, 12(1).

Hartl, B., Hofmann, E., Gangl, K., Hartner-Tiefenthaler, M. and Kirchler, E. (2015). Does the sole description of a tax authority affect tax evasion? The impact of described coercive and legitimate power. *PLoS One*, 10(4), e0123355.

Helliwell, J. F. (2014). Social norms, happiness, and the environment: closing the circle. *Sustainability: Science, Practice and Policy*, 10(1), 78-84.

Hofstede, G. (1980). Motivation, leadership, and organization: do American theories apply abroad?. *Organizational Dynamics*, 9(1), 42-63.

Hofstede, G. (1991). Cultures and Organizations: Software of the Mind. London, UK: McGraw-Hill.

Hofstede, G. (2001). Culture's recent consequences: Using dimension scores in theory and research. *International Journal of Cross Cultural Management*. 1(1), 11-17.

Hooghe, M., & Quintelier, E. (2014). Political participation in European countries: The effect of authoritarian rule, corruption, lack of good governance and economic downturn. *Comparative European Politics*, 12(2), 209-232.

Horodnic, I. A. (2018). Tax morale and institutional theory: a systematic review. *International Journal of Sociology and Social Policy*, 38(9/10), 868-886.

Hudson, J. (2006). Institutional trust and subjective well-being across the EU. *Kyklos*, 59(1), 43-62.

Husted, B. W. (1999). Wealth, culture, and corruption. Journal of International Business Studies, 30, 339–359.

Inglehart, R. (1990). Values, ideology, and cognitive mobilization in new social movements. *Challenging the political order: new social and political movements in western democracies*, 43-66.

Kelman, H. C. (1965). Manipulation of human behavior: An ethical dilemma for the social scientist. *Journal of Social Issues*.

Kim, U. E., Triandis, H. C., Kâğitçibaşi, Ç. E., Choi, S. C. E., & Yoon, G. E. (1994). *Individualism and collectivism: Theory, method, and applications*. Sage Publications, Inc.

Konow, J., & Earley, J. (2008). The hedonistic paradox: is homo economicus happier?. *Journal of public Economics*, *92*(1-2), 1-33.

Kornhauser, M. E. (2006). A tax morale approach to compliance: Recommendations for the IRS. *Florida Tax Revenue*, 6(8), 599.

Kushlev, K., Radosic, N., & Diener, E. (2020). Subjective well-being and prosociality around the globe: Happy people give more of their time and money to others. *Preprint DOI: 10.31234/osf.io/7wzan*

Lago-Peñas, I., & Lago-Peñas, S. (2010). The determinants of tax morale in comparative perspective: Evidence from European countries. *European Journal of Political Economy*, 26(4), 441-453.

Lee, A. R., & Chávez, K. (2020). Are Women More Averse to Corruption than Men? The Case of South Korea. *Social Science Quarterly*, 101(2), 473-489.

Lester, D. (1995). Individualism and divorce. *Psychological Reports*, 76(1), 258-258.

Li, S., Triandis, H. C., & Yu, Y. (2006). Cultural orientation and corruption. *Ethics & Behavior*, 16(3), 199-215.

Lottes, I. L. (1991). Belief systems: Sexuality and rape. *Journal of Psychology & Human Sexuality*, 4(1), 37-59.

Lottes, I. L., & Kuriloff, P. J. (1992). The effects of gender, race, religion, and political orientation on the sex role attitudes of college freshmen. *Adolescence*, 27(107), 675.

Luttmer, E. F., & Singhal, M. (2014). Tax morale. *Journal of economic perspectives*, 28(4), 149-68.

Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success? *Psychological Bulletin*, 131, 803-855.

Magen, Z., & Aharoni, R. (1991). Adolescents' contributing toward others: Relationship to positive experiences and transpersonal commitment. *Journal of Humanistic Psychology*, 31, 126–143.

Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, 98(2), 224.

Martin KD, Cullen JB, Johnson JL, Parboteeah KP. (2007). Deciding to bribe: a cross-level analysis of firm and home country influences on bribery activity. *Acad. Manage Journal*, 50, 1401–22.

Mazzolini, G., Pagani, L. and Santoro, A. (2017). The deterrence effect of real-world operational tax audits. DEMS Working Paper Series No. 359. Milan: Department of Economics, Management and Statistics, University of Milan – Bicocca.

McCulloch, N. E. I. L., Moerenhout, T., & Yang, J. (2021). Building a social contract? Understanding tax morale in Nigeria. The Journal of Development Studies, 57(2), 226-243.

Mele, G. (2017). Gearing up for a more efficient tax system: an assessment of tax efficiency, a cost-benefit analysis of tax expenditures, and an exploration of labor informality and its tax implications (Spanish). Washington, D.C. : World Bank Group.

Miller, J. G., Bersoff, D. M., & Harwood, R. L. (1990). Perceptions of social responsibilities in India and in the United States: Moral imperatives or personal decisions?. *Journal of Personality and Social Psychology*, 58(1), 33.

Moulton, B. R. (1990). An illustration of a pitfall in estimating the effects of aggregate variables on micro units. *The review of Economics and Statistics*, 334-338.

Nederhof, A. J. (1985). Methods of coping with social desirability bias: A review. *European Journal of Social Psychology*, 15(3), 263-280.

Nikolova, M. (2016). Minding the happiness gap: Political institutions and perceived quality of life in transition. *European Journal of Political Economy*, 45, 129-148.

OECD (2013). *What drives tax morale?*. Retrieved from: https://www.oecd.org/tax/tax-global/what-drives-tax-morale.pdf

Prichard, W., Custers, A. L., Dom, R., Davenport, S. R., & Roscitt, M. A. (2019). Innovations in tax compliance: Conceptual framework. *World Bank Policy Research Working Paper*, (9032).

Prieto, J., & Sanzo, M. José, Suárez, Javier (2006). Análisis económico de la actitud hacia el fraude fiscal en España, *Hacienda Pública Española*, 177, 107-128.

Privitera, A., Enachescu, J., Kirchler, E., & Hartmann, A. J. (2021). Emotions in Tax Related Situations Shape Compliance Intentions: A Comparison between Austria and Italy. *Journal of Behavioral and Experimental Economics*.

Rigby, K., & Slee, P. T. (1993). Dimensions of interpersonal relation among Australian children and implications for psychological wellbeing. *Journal of Social Psychology*, 133, 33–42.

Robertson, C., & Fadil, P. A. (1999). Ethical decision making in multinational organizations: A culture-based model. *Journal of Business Ethics*, 19(4), 385-392.

Rose-Ackerman, S. (1999). Political corruption and democracy. *Conn. J. Int'l L.*, 14, 363.

Sá, C., Martins, A., & Gomes, C. (2013). Tax morale, occupation and income level: An analysis of Portuguese taxpayers. *Comunicações*.

Schmölders, G. (1970), Survey research in public finance: a behavioural approach to fiscal theory, *Public Finance*, 25(2), 300-306.

Schneider, F. (2015). GDP, Well-being, Happiness and the Shadow Economy: Some Results for Japan. The Senshu social well-being review, 1, 23-42.

Schuman, H., & Johnson, M. P. (1976). Attitudes and behavior. *Annual Review of Sociology*, *2*(1), 161-207.

Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. *Advances in Experimental Social Psychology*, 25(1), 1-65.

Schwartz, S. H. (1994). Are there universal aspects in the structure and contents of human values?. *Journal of Social Issues*, 50(4), 19-45.

Smith, S. (1992). Taxation and the Environment: A Survey. *Fiscal Studies*, 15, 19-43.

Tjondro, E. (2018). Individual Satisfaction and Tax Morale: The Perspective of Different Profession in Indonesia. *Journal of Public Administration and Governance*, 8 (2), 14-37. ISSN 2161-7104.

Torgler, B. (2004). Tax morale in Asian countries. *Journal of Asian Economics*, 15(2), 237-266.

Torgler, B. (2004a). Tax morale, trust and corruption: Empirical evidence from transition countries (No. 2004-05). *CREMA Working Paper*.

Torgler, B. (2005). Tax morale in Latin America. *Public Choice*, 122(1-2), 133-157.

Torgler, B. (2005a). Tax morale and direct democracy. *European Journal of Political Economy*, 21(2), 525-531.

Torgler, B. (2011), "Tax Morale and Compliance. Review of Evidence and Case Studies for Europe", Policy Research Working Paper 5922, *The World Bank*, Washington DC.

Torgler, B., & Schneider, F. (2007). What shapes attitudes toward paying taxes? Evidence from multicultural European countries. *Social Science Quarterly*, 88(2), 443-470.

Torgler, B., Schaffner, M., & Macintyre, A. (2007). Tax compliance, tax morale and governance quality. *CREMA Working Paper* (No. 2007-17).

Tov W., Diener E. (2009) The Well-Being of Nations: Linking Together Trust, Cooperation, and Democracy. In: Diener E. (eds) The Science of Well-Being. *Social Indicators Research Series*, Vol 37. Springer, Dordrecht.

Triandis, H. C. (1996). The psychological measurement of cultural syndromes. *American Psychologist*, 51(4), 407.

Triandis, H. C. (2004). The many dimensions of culture. *Academy of Management Perspectives*, 18(1), 88-93.

Triandis, H. C., & Gelfand, M. J. (1998). Converging measurement of horizontal and vertical individualism and collectivism. *Journal of Personality and Social Psychology*, 74(1), 118.

Triandis, H. C., Carnevale, P., Gelfand, M., Robert, C., Wasti, A., Probst, T., et al. (2001). Culture, personality and deception: A multilevel approach. *International Journal of Cross-Cultural Management*, 1, 73–90

Triandis, H. C., Carnevale, P., Gelfand, M., Robert, C., Wasti, S. A., Probst, T., ... & Schmitz, P. (2001). Culture and deception in business negotiations: A multilevel analysis. *International Journal of Cross Cultural Management*, 1(1), 73-90.

Triandis, H. C., Leung, K., Villareal, M. J., & Clack, F. I. (1985). Allocentric versus idiocentric tendencies: Convergent and discriminant validation. *Journal of Research in Personality*, 19(4), 395-415.

Tsakumis, G. T., Curatola, A. P., & Porcano, T. M. (2007). The relation between national cultural dimensions and tax evasion. *Journal of international accounting, auditing and taxation*, 16(2), 131-147.

Van de Vijver, F. J., & Leung, K. (2000). Methodological issues in psychological research on culture. *Journal of cross-cultural psychology*, 31(1), 33-51.

Veenhoven, R. (1991). Questions on Happiness: Classical Topics, Modem Answers, Blind Spots. In E. Strack, M. Argyle, & N. Schwarz (Eds.), *Subjective Well-Being: An Interdisciplinary Perspective,* (pp. 7-26). Oxford: Pergamon.

Vogel, J. (1974). Taxation and public opinion in Sweden: An interpretation of recent survey data. *National Tax Journal*, 27(4), 499-513.

Williams, C. C., & Kayaoglu, A. (2016). Tackling the informal economy in the European Union: a social actor approach. *UTMS Journal of Economics*, 7(2), 133-147.

Williams, C.C. (2017). *Entrepreneurship in the Informal Sector: An Institutional Perspective*. Routledge: London.

Williams, C.C. and Franic, F. (2016). Beyond a deterrence approach towards the undeclared economy: Some lessons from Bulgaria. *Journal of Balkan and Near Eastern Studies*, 18(1), 90–106.

Williams, S.,& Shiaw, W.T. (1999). Mood and organizational citizen ship behavior: The effects of positive affect on employee organizational citizenship behavior intentions. *Journal of Psychology*, 133, 656–668.

Yong, S., & Martin, F. (2016). Tax compliance and cultural values: the impact of individualism and collectivism on the behaviour of New Zealand small business owners. *Austl. Tax F*., 31, 289.

APPENDIX

Table A1 – List of countries included in the analysis

Albania	Hong Kong	Poland
Algeria	Hungary	Puerto Rico
Argentina	India	Qatar
Armenia	Indonesia	Romania
Australia	Iran	Russia
Azerbaijan	Iraq	Rwanda
Bangladesh	Israel	Saudi Arabia
Belarus	Italy	Serbia
Bosnia Herzegovina	Japan	Singapore
Brazil	Jordan	Slovak Republic
Bulgaria	Kazakhstan	Slovenia
Burkina Faso	Korea	South Africa
Canada	Kuwait	Spain
Chile	Kyrgyz Republic	Sweden
China	Latvia	Switzerland
Colombia	Lebanon	Taiwan
Croatia	Libya	Tanzania
Cyprus	Lithuania	Thailand
Czech Republic	Macedonia	Trinidad-Tobago
Dominican Republic	Malaysia	Tunisia
Ecuador	Mali	Turkey
Egypt	Mexico	Uganda
El Salvador	Moldova	Ukraine
Estonia	Montenegro	United Kingdom
Ethiopia	Morocco	United States
Finland	Netherlands	Uruguay
France	New Zealand	Uzbekistan
Georgia	Nigeria	Venezuela
Germany	Norway	Vietnam
Ghana	Pakistan	Yemen
Guatemala	Peru	Zambia
Haiti	Philippines	Zimbabwe

Table A2 - Life satisfaction and tax morale – Interaction effects – Robustness check

	(1)	(2)	(3)	(4)	(5)
Interaction (1)					
*Life satisfaction * Trust in government (High)*	0.048***				
	(0.006)				
*Life satisfaction * Trust in government (Low)*	0.030***				
	(0.006)				
Interaction (2)					
*Life satisfaction * Traditions aversion (High)*		0.012			
		(0.010)			
*Life satisfaction * Traditions aversion (Low)*		0.047***			
		(0.007)			
*Life satisfaction * Justifiable divorce (High)*			-0.010		
			(0.013)		
*Life satisfaction * Justifiable divorce (Low)*			0.065***		
			(0.006)		
*Life satisfaction * Important in life: Family (Low)*				-0.051***	
				(0.016)	
*Life satisfaction * Important in life: Family (High)*				0.039***	
				(0.005)	
*Life satisfaction * Important in life: Friends (Low)*					0.027***
					(0.005)
*Life satisfaction * Important in life: Friends (High)*					0.041***
					(0.005)
Individual-level control variables					
Age	0.012***	0.006	0.015***	0.012***	0.011***
	(0.004)	(0.004)	(0.003)	(0.004)	(0.004)
Age^2	0.000	0.000	-0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Sex (*1=male*)	0.189***	0.149***	0.210***	0.190***	0.193***
	(0.025)	(0.025)	(0.024)	(0.024)	(0.024)
Highest educational level attained	0.028***	0.032***	0.036***	0.027***	0.026***
	(0.006)	(0.009)	(0.007)	(0.006)	(0.006)
Employment status	-0.029	-0.002	-0.019	-0.025	-0.026
	(0.018)	(0.019)	(0.019)	(0.019)	(0.019)
Marital status (*1=married*)	0.088***	0.093***	0.067***	0.076***	0.087***
	(0.019)	(0.018)	(0.017)	(0.017)	(0.018)
Scale of incomes	-0.038***	-0.052***	-0.033***	-0.036***	-0.036***
	(0.010)	(0.013)	(0.010)	(0.011)	(0.011)
Social Class position (*self-reported*)	-0.018	-0.008	-0.017	-0.022	-0.023
	(0.016)	(0.014)	(0.015)	(0.016)	(0.016)
Religious person (*1=yes*)	0.104**	0.068	0.069*	0.103***	0.105***
	(0.040)	(0.055)	(0.036)	(0.038)	(0.038)
Religious service attendance	0.032***	0.021***	0.023***	0.033***	0.033***
	(0.006)	(0.008)	(0.006)	(0.006)	(0.006)
Country-level control variables					
Income inequality	-0.058**	-0.151	-0.072***	-0.065***	-0.067***
	(0.026)	(0.102)	(0.024)	(0.024)	(0.024)
Control of corruption	1.098*	1.526	1.047*	1.119*	1.127*
	(0.632)	(1.425)	(0.585)	(0.617)	(0.622)
Tax revenue (% of GDP)	-0.028	0.012	-0.031	-0.030	-0.030
	(0.021)	(0.039)	(0.019)	(0.020)	(0.020)
GDP per-capita	0.046***	-0.182	0.050***	0.045***	0.045***
	(0.014)	(0.137)	(0.013)	(0.013)	(0.013)
Inflation rate	-0.059**	0.036	-0.050**	-0.051**	-0.050*
	(0.027)	(6.127)	(0.024)	(0.025)	(0.025)
Observations	132,301	85,980	136,526	138,406	138,169
R-squared	0.100	0.107	0.109	0.098	0.097
F-test difference (a)	8.756***	31.47***	25.13***	33.35***	14.92***

*Note: Standard errors in parentheses are clustered at the country level *** p<0.01, ** p<0.05, * p<0.1. Country and time (wave) fixed effects included but not reported. Lower levels of "Traditions aversion" and "Justifiable divorce" as well as higher levels of "Important in life: Family" and "Important in life: Friends" are associated with higher collectivist attitudes. F-test (a) tests the difference between life satisfaction in the case of higher trust in government (or collectivism) and life satisfaction in the case of lower trust in government (or collectivism).*

Table A3 - Life satisfaction and tax morale – Interaction effects with country-level variables

	(1)	(2)	(3)	(4)	(5)	(6)
Interaction						
*Life satisfaction * Hofstede's Index (High)*	0.038***					
	(0.011)					
*Life satisfaction * Hofstede's Index (Low)*	0.040***					
	(0.010)					
*Life satisfaction * Income inequality (High)*		0.028***				
		(0.007)				
*Life satisfaction * Income inequality (Low)*		0.043***				
		(0.007)				
*Life satisfaction * Control of corruption (High)*			0.047***			
			(0.008)			
*Life satisfaction * Control of corruption (Low)*			0.036***			
			(0.008)			
*Life satisfaction * Tax revenue (% of GDP) (High)*				0.039***		
				(0.007)		
*Life satisfaction * Tax revenue (% of GDP) (Low)*				0.036***		
				(0.010)		
*Life satisfaction * GDP per-capita (High)*					0.057***	
					(0.009)	
*Life satisfaction * GDP per-capita (Low)*					0.025***	
					(0.005)	
*Life satisfaction * Inflation rate (High)*						0.037***
						(0.008)
*Life satisfaction * Inflation rate (Low)*						0.037***
						(0.007)
Individual-level control variables						
Age	0.008*	0.011***	0.011***	0.011***	0.012***	0.011***
	(0.004)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Age^2	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Sex (*1=male*)	0.165***	0.177***	0.177***	0.189***	0.175***	0.174***
	(0.025)	(0.021)	(0.021)	(0.021)	(0.020)	(0.020)
Highest educational level attained	0.033***	0.028***	0.026***	0.026***	0.026***	0.027***
	(0.006)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Employment status	-0.012	-0.020	-0.026	-0.013	-0.023	-0.022
	(0.028)	(0.021)	(0.023)	(0.024)	(0.022)	(0.021)
Marital status (*1=married*)	0.079***	0.080***	0.082***	0.076***	0.076***	0.082***
	(0.022)	(0.017)	(0.019)	(0.019)	(0.017)	(0.017)
Scale of incomes	-0.032*	-0.039***	-0.037***	-0.038**	-0.038***	-0.036***
	(0.018)	(0.012)	(0.013)	(0.015)	(0.012)	(0.012)
Social Class position (*self-reported*)	-0.020	-0.020	-0.014	-0.007	-0.016	-0.019
	(0.026)	(0.020)	(0.020)	(0.022)	(0.019)	(0.019)
Religious person (*1=yes*)	0.096**	0.090**	0.050	0.060	0.055	0.048
	(0.045)	(0.036)	(0.047)	(0.046)	(0.042)	(0.044)
Religious service attendance	0.035***	0.034***	0.035***	0.032***	0.033***	0.033***
	(0.006)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Observations	124,088	187,570	173,393	155,976	191,736	193,683
R-squared	0.080	0.108	0.106	0.094	0.106	0.105
F-test difference (a)	0.025	2.109	0.643	0.0691	9.776***	0.000

*Note: Standard errors in parentheses are clustered at the country level *** p<0.01, ** p<0.05, * p<0.1. Country and time (wave) fixed effects included but not reported. Higher levels of the Hofstede's Index are associated with more individualistic societies. F-test (a) tests the difference between life satisfaction in the case of higher levels of the indicated variable and life satisfaction in the case of lower levels of the indicated variable.*