



Contents lists available at ScienceDirect

European Journal of Political Economy

journal homepage: www.elsevier.com/locate/ejpe

Tax evasion and well-being: A study of the social and institutional context in Central and Eastern Europe

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ARTICLE INFO

Article history:

Received 30 June 2015

Received in revised form 13 September 2016

Accepted 19 September 2016

Available online 20 September 2016

JEL codes:

H26

I31

P34

Keywords:

Life satisfaction

Subjective well-being

Tax evasion

Institutions

Social capital

ABSTRACT

The paper examines the relationship between tax evasion and individuals' well-being by using a subjective question on life satisfaction in fourteen Central and Eastern European countries. The paper focuses on the role of institutions and social capital in molding this relationship. The results indicate that evading taxes is negatively associated with individuals' life satisfaction. This negative relationship seems to be shaped by a positive perception of formal tax-related institutions and a high level of formal social capital. A similar analysis run for two generational groups, distinguished in terms of whether having had working experience during communism, yields further interesting results: while associational engagement (i.e. formal social capital) has a crucial role to the younger generation in the way they experience the relationship between evading tax and how satisfied they are with their life, for the older generation it is their social networks (i.e. informal social capital) that shape this relationship.

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1. Introduction

An important episode in the previous century was the rise and fall of communist economies in Central and Eastern Europe and the Baltic States. The collapse of these economies led to the emergence of the so-called transition countries, which were characterized by rapid economic and institutional change. This transformation has been accompanied by the appearance of a substantial amount of undeclared work (Feige and Urban, 2008; Schneider et al., 2011; Williams and Round 2010). This is typically described as 'income from productive economic activities which are legal and taxable, but on which income tax, social security contributions, VAT, etc. are not paid, because they are not reported to the tax, social security or customs authorities' (Feld and Larsen, 2005). Though tax evasion is seen as one aspect of engaging in undeclared work, some studies argue that saving taxes is not the primary goal of concealing such work from the authorities (Feld and Larsen, 2012; Feld and Schneider, 2010). Other studies, on the other hand, seem to indicate that in former communist countries in particular, evading taxes is an important motive for individuals engaging in undeclared work (Gërkhani, 2004a; Meriküll and Staehr, 2008; Schneider and Enste 2000).¹ This has to do with the communist legacy, as individuals were not used to paying taxes during communism (Kornai, 1990) and thus showed a strong resistance to do so during transition (Martinez-Vazquez and McNab, 2000; Torgler 2003a). Engaging in undeclared work is one way of expressing such resistance to paying taxes.

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¹ Meriküll and Staehr (2008) provide a broader overview of motives for 'unreported employment'.

From an economic and social perspective, doing undeclared work has important consequences both at the individual and at the societal level. In this paper, we focus on the aspect of tax evasion related to undeclared work and its impact on the individual. To this end, we examine the relationship between tax evasion and individuals' well-being, by using a subjective question on life satisfaction in fourteen Central and Eastern European countries.

To the best of our knowledge, there are two studies that have looked at related issues.² One focuses on a developed country (i.e. Germany) and finds a positive relationship between life satisfaction and tax payments (Akay et al., 2012). Although in the short run paying taxes reduces individuals' income, tax payments might increase life satisfaction for different reasons. First, individuals might feel satisfied about paying taxes that contribute to public goods (Frey et al., 2009; Levinson, 2012; Luechinger and Raschky, 2009) and to a sustainable social security system (Alesina et al., 2004). Second, individuals might be worried about the future impact of evading taxes today. For example, they may not receive or have rights to social benefits (Ferrer-i-Carbonell and Gërçhani, 2011). Individuals might also experience a utility loss by failing on their civic duty to contribute to the society (Frey and Stutzer, 2001; Orviska and Hudson, 2002) or by not being able to contribute to the welfare of others (i.e. the warm glow effect; Andreoni, 1990). In fact, in a study for Italy, Lubian and Zarri (2011) found that individuals with an intrinsic motivation to pay taxes are more satisfied with their life and neurological evidence seems to indicate that individuals get pleasure from donating and paying taxes (Harbaugh et al., 2007).

The other study focuses on a former communist country (i.e. Albania) and examines the relationship between subjective financial satisfaction and participation in the (in)formal sector by allowing for individual heterogeneity in terms of their tax morale (Ferrer-i-Carbonell and Gërçhani, 2011). The main finding is that for most individuals in Albania, working in the informal sector is negatively correlated with their financial satisfaction (on top of the differential income effect). For the few individuals with low tax morale, the correlation was positive.

A general overview of the literature in less developed and former communist countries points at two main perspectives on engaging in undeclared work. The so-called 'exit' perspective emphasizes the entrepreneurial spirit of the participants, who voluntarily choose to work informally due to more flexibility, better wages, fewer taxes, and less regulations compared to the formal sector (Biles, 2009; Maloney, 2004; Perry et al., 2007). The so-called 'exclusion' perspective, on the other hand, argues that engagement in undeclared work is not a matter of choice and is typically characterized by low wages, poor working conditions, and insecurity (i.e. job insecurity and exclusion from social benefits) (Banerjee, 1982; Harris and Todaro, 1970; Heckman and Hotz, 1986; Pisani and Pagán, 2003; Pradhan and van Soest, 1995; Thomas, 1990). According to this perspective, undeclared work (and tax evasion) is thus a question of survival or exclusion, due to a limited number of jobs available in the formal sector and a weak welfare state support (Ahmad 2008; Castells and Portes, 1989; Sassen, 1997). The literature argues that the exclusion perspective seems to be particularly relevant for undeclared work in former communist countries (Cichocki, 2014; Ferrer-i-Carbonell and Gërçhani, 2011; Gërçhani, 2004a; Schneider and Enste, 2000; Torgler, 2003a; Williams, 2014). In a study of unreported employment in Estonia, Latvia and Lithuania, Meriküll and Staehr (2008) conclude that "individuals take up informal employment not because there is substantial monetary gain, but because they cannot find employment in the formal sector." (p. 664). In another study on undeclared work in Germany, it appears that even after the reunion, individuals in East Germany consider engagement in undeclared work more important and acceptable than individuals living in the Western part (Feld and Larsen, 2012).

In line with all the above literature, we expect the negative relationship between evading taxes by engaging in undeclared work and individuals' subjective well-being to hold for a broader set of Central and Eastern European countries. In addition to an empirical test of this hypothesis, we extend on the previous literature by introducing the role of the social and institutional context in shaping the relationship between tax evasion and well-being. We do so by allowing for individual heterogeneity in terms of a variety of factors related to the context an individual is embedded in.

The rest of the paper is structured as follows. Section 2 reviews the literature, Section 3 presents the data, the econometric model and the details about the variables used in the empirical test, Section 4 shows and discusses the results, and Section 5 concludes.

2. The role of the social and institutional context

The standard view of tax compliance in tax theory is that taxes are a 'burden' or windfall harm. The chief problem in normative taxation theory is to devise taxes which minimize the 'excess burden', i.e., how to minimize the total burden of taxation. Based on an adaptation of the standard crime model (Becker, 1968), Allingham and Sandmo (1972) introduced a formal model where tax evasion is part of an optimal portfolio choice: the individual who chooses to evade taxes in effect makes a risky bet that she will not be caught and convicted. If the latter were to happen, this would be the costs incurred by evading taxes. The benefits, on the other hand, are primarily of financial nature (i.e. more individual income). However, various studies on tax compliance argue that such a model has shortcomings because even when detection and punishment rates are low, individuals do pay taxes (e.g. Alm et al., 2010; Dulleck et al., 2016; Feld and Frey, 2007; Feld and Schneider 2010; Frey and Torgler, 2007). These studies show that compliance with taxes is more frequent than the standard economic theory of tax evasion would predict if one takes account of individual tax morale, good governance, trust in government and in other taxpayers, etc. These aspects increase the costs of evading to the extent that they might outweigh the benefits, leading to more tax compliance than predicted by the original model. This is, these aspects increase the benefits of complying with taxes, which in turn is reflected in the positive effect of compliance on well-being. In other words, people may feel satisfied about paying taxes because doing so they contribute,

² Note that there is also research looking at the determinants of tax morale in transition countries and Latin America (Torgler, 2003a, 2005a). Their main finding is that financial satisfaction, satisfaction with life or happiness have a significant positive effect on tax morale.

among others, to public goods, to other's welfare, and to a moral and civic duty towards the society (see e.g. Andreoni, 1990; Frey et al., 2009; Frey and Stutzer, 2001; Harbaugh et al., 2007; Luechinger and Raschky, 2009). Drawing from a recent experimental study that finds that 'higher psychic stress increases tax compliance' (Dulleck et al., 2016), it is also likely that paying taxes makes people happy because it reduces stress.

In this paper we investigate further the relationship between tax evasion and life satisfaction by focusing on social and institutional factors that previous studies have shown to be relevant for individual tax evasion. These are tax-related institutions, both formal (i.e. rules and laws) and informal (i.e. social norms) (North, 1990), and social capital, also formal (i.e. donations to associations) and informal (i.e. networks of families, friends, and neighbors) (Paxton, 1999).

A positive relationship is reported between ineffective formal institutions and tax evasion (Cummings et al., 2009; Easter, 2002; Friedman et al., 2000; Gërzhani, 2004b; Hanousek and Palda, 2004; Schneider and Enste, 2000; Torgler, 2005b; Torgler and Schneider, 2009, 2007; Uslaner, 2006). This holds particularly in the case of former communist countries where an institutional vacuum emerged after the fall of the communist apparatus, weakening the position of new governments to collect taxes and hence provide 'public goods and build trustworthy institutions' (Torgler, 2012). The main argument is that ineffective or corrupted formal institutions lead to a decline of civic virtue and loyalty towards public institutions. This in turn leads to low tax morale that is reflected in less tax compliance. In case of the opposite, effective formal institutions are positively associated with more tax compliance. Therefore, we expect that the negative relationship between evading taxes and satisfaction will be stronger for those individuals who think that formal institutions do a good job. In fact, various studies show that under-provision of public goods is negatively associated with life satisfaction (Frey et al., 2009; Levinson, 2012; Luechinger and Raschky, 2009).

In addition to formal institutions, informal institutions such as social norms and conventions are shown to be also important in understanding individual behavior in general (North, 1990), and tax evasion behavior in particular (Feige, 1997; Gërzhani 2004b). A frequently researched aspect of informal institutions is individual tax morale,³ which is reported to be negatively related to tax compliance (Cummings et al., 2009; Schneider and Enste, 2000; Torgler, 2003a) but positively correlated with life satisfaction (Lubian and Zarri, 2011). In our study in Albania we found that the negative relationship between working in the informal sector (and thus evading) and financial satisfaction depended on individual tax morale. In fact, the estimated coefficient for working in the informal sector turned into positive for those individuals with low tax morale (Ferrer-i-Carbonell and Gërzhani, 2011). Thus, we expect that individuals with positive tax-related social norms will experience a stronger negative relationship between tax evasion and life satisfaction.

While the relationship between the institutional context and tax behavior has been increasingly studied over the years (Easter, 2002; Feld and Frey, 2002; Hug and Spörri, 2011; Uslaner, 2006), the knowledge on the role of social capital on tax evasion is more limited.⁴ Focusing on social capital as trust and cooperative behavior (Knack and Keefer, 1997), Frey and Torgler (2007) differentiate between vertical trust (trust between taxpayers and state authorities) and horizontal trust (generalized trust among taxpayers) in understanding tax morale. They argue that if taxpayers find the state trustworthy and believe that other taxpayers comply with taxes, they will more likely have a high level of tax morale and hence evade less. Focusing on the network aspect of social capital (i.e. informal social capital), Rose (2000) reports a positive relationship between informal social capital (i.e. networks of family and friends) and underground activities in Russia. This positive relationship is attributed to the disfunctioning of formal institutions in former communist countries that "force" people to fall back into their networks and bypass the state. Therefore, having a network of family and friends that can be supportive can reduce the negative effect of not paying taxes on well-being and life satisfaction, as own contribution to the welfare state is not seen as necessary. It is thus likely that, for individuals with a low level of informal social capital, the negative relationship between tax evasion and life satisfaction is stronger. Nevertheless, considering the horizontal aspect of tax morale (Frey and Torgler, 2007), one could also argue that having networks of friends and family with high tax morale would negatively affect the relationship between evading and satisfaction. The main mechanism underlying this effect would be the social control exercised by such a network.

Finally, studies on social capital have focused substantially on participation in civic associations (Putnam, 1993), which we consider a formal type of social capital. Empirical evidence is shown on how engagement in terms of membership in, volunteering and donating for associations contributes to a sense of civic responsibility for the public good, and thus decreases non-compliance behavior (Letki, 2006; Orviska and Hudson, 2002). This effect can however differ depending on the type of associations one participates in. The so-called Putnamesque associations, such as educational, sport and art clubs, religious and charitable organizations, and youth groups, promote more common goals 'without imposing negative externalities on the rest of the society'. The so-called Olsonian associations, i.e. political parties and movements, trade unions, professional associations, and various interest groups, 'tend to engage in collective action that reconfigures redistribution systems in their favor at the expense of the rest of the society' (Fidrmuc and Gërzhani, 2008; Knack and Keefer, 1997). Therefore, it is likely that participating in Putnamesque type of associations and thus having a more civic responsibility will strengthen the negative relationship between evading and life satisfaction. For individuals participating in the Olsonian type of associations, we expect this relationship to be weaker or even positive.

³ Tax morale is "the intrinsic motivation to pay taxes arising from the moral obligation to pay taxes as a contribution to society." (Cummings et al., 2009: 448).

⁴ Note that the relationship between social capital and life satisfaction has been frequently studied and established to be positive in both developed countries (e.g. Bjørnskov, 2003; Blanchflower and Oswald, 2004; Helliwell, 2006; Hudson, 2006; Winkelmann, 2009), and former communist countries (Abbott et al., 2011; Abbott and Sapsford, 2006; Habibov and Afandi, 2015; Lelkes, 2006).

3. Methodology

3.1. The data

The data at hand is a product of the “Public Goods through Private Eyes”, a full-scale comparative public opinion survey carried out in 14 countries in 2013 and 2014 (University of Warsaw). Respondents were nested in 1047 SPs in 14 countries. Response rate ranged from 39% in Poland and Ukraine to 65% in Hungary, with most countries around 45–50%. The sample selection process was standardized across all countries: stratified clustered random sample. Details on the data design can be found in Letki (2015).

The objective of the project was to collect cross-country data on the determinants of public attitudes and behavior towards public goods in the context of post-communist Central and Eastern Europe. The field work was carried out in the following fourteen countries: Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Moldova, Poland, Romania, Serbia, Slovakia, Slovenia, and Ukraine. The final sample consists of more than 22,000 observations and each country has at least 1400 observations.

Given our focus on undeclared work, the empirical analysis is based exclusively on working individuals. We classify respondents as working if they report that “during the last 7 days they have been in paid work (or away temporarily) (employee, self-employed, working for family business or a family owned farm)”. This leaves us with 8411 observations. In addition, the empirical analysis includes 1586 individuals who report having an “additional job, something that one does on a more or less regular basis, not just some sporadic, occasional income”. We classify these individuals as being engaged in moonlighting (i.e. having more than one job). This “working” sample consists of 9997 observations, a 45% of the total sample of 22039 observations. In addition, due to missing information, the first regression excludes about 1562 individuals. Most importantly, there is a large number of respondents who do not answer the questions related to institutions and social capital. The regressions that include these variables have about 5119 observations, a 55% of the working population in the sample.

3.2. Empirical model

To test and understand the relationship between individuals' well-being and tax evasion, we estimate the following life satisfaction equation:

$$LS_i = \alpha + TE_i\beta + (TE_i * I_i)\varphi + (TE_i * SC_i)\zeta + X_i\delta + \gamma C_c + \varphi T + \lambda E_i + \varepsilon_i, \quad (1)$$

where LS represents the answer to a life satisfaction question, i is the individual, TE indicates tax evasion, I and SC are a set of proxy variables for individual's opinion about the institutions, and their level of social capital. These two last sets of variables are expected to mediate in the relationship between tax evasion and life satisfaction. The regression also controls for a standard set of individual characteristics (X_i), such as income, education, health, and gender; and it includes a time fixed effect (T) as well as some country characteristics (C_c). The time fixed effect indicates whether the questionnaire was run in 2013 or 2014. In the regression we include the country GDP and the unemployment rate, as these two variables have been shown to correlate with individuals' satisfaction (data from the World Bank). In addition, to proxy for the institutional tax related context, we also include the corruption perception index (CPI) of the Transparency International. To recognize different cultures within a country, we also include a set of dummy variables representing the ethnic group in which the individual belongs (E). The errors are clustered at the country level. Finally, we include the usual error term ε .

An important limitation of our data is that it is cross-sectional. This means that we cannot control for individual time persistent traits: our estimates come from comparing individuals who evade with those who do not (everything else constant) and we can therefore not rule out that individuals who do evade are different from those who do not. This selection into evading can be due to either an individual choice (e.g., risk averse individuals might evade less or happy individuals have a higher tax morale and thus are less likely to evade –Torgler, 2005a, 2003a) or to a demand selection (e.g., low educated individuals might have no choice but to engage in undeclared work). It has been argued that individuals who participate in undeclared work in former communist countries are the ones excluded from the formalized labor market (cf. 1). This is, following the literature one can argue that there is no individual self-selection into undeclared work in these countries. Nevertheless, tax evasion can still be endogenous as individuals who evade taxes may have differences on a number of observables. In fact, in a regression analysis, we find that household size, age, and gender have a statistically significant effect on the probability to participate in undeclared work, while education, marital status, number of children, and sector where the individual works (including self-employment) do not. There are some small variations depending on the tax evasion measure used. Thus, although we control for many of the variables determining individuals' probability to evade, there are some individual characteristics (for example, ethics and job search effort) that we do not observe.

3.3. Main variables

In what follows we describe the main variables used in the regression analysis.

Subjective well-being: to proxy for individuals' well-being, we use a self-reported measure of life satisfaction that runs as follows: “All things considered, how satisfied are you with your life as a whole nowadays?” Individuals can cast their answer on a 0 to 10 scale, where 0 means totally dissatisfied and 10 is totally satisfied.

The use of this measure as a proxy for utility relies on two main assumptions: measurability (individuals are able and willing to give a good answer when asked about their satisfaction), and interpersonal comparability (individuals share the same concept of satisfaction). Empirical evidence accumulated up until now shows that these two assumptions hold. For example, it has been empirically shown that there is a strong correlation between the above measure of life satisfaction and more objective measures of well-being, notably expressions such as smiling and frowning (Sandvik et al., 1993); health (Blanchflower and Oswald, 2008; Steptoe and Wardle, 2005); and physical body reactions, such as psychological stress (Cohen et al., 2006; Hayney et al., 2003) and brain activity (Urry et al., 2004). In relation to the second assumption, evidence shows that individuals are quite good at predicting other individuals' satisfaction (or emotions) by looking at pictures and videos (Diener and Lucas, 1999; Sandvik et al., 1993). Hence, our measure shares the same concept of life satisfaction, well-being, and emotions.

From an empirical perspective, two aspects need consideration. First, though life satisfaction is coded as a discrete ordered variable, we regress life satisfaction using OLS. There is evidence that assuming cardinality has no impact on the results in terms of trade-offs between variables (Ferrer-i-Carbonell and Frijters, 2005). Second, since the data at hand is cross-sectional, we cannot control for individual time persistent unobservable personality traits. This is, we cannot control for all those unobservable variables that are time persistent and correlate with both, tax evasion and satisfaction (e.g., ethics and personality traits). In other words, the empirical analysis does not compare individuals over time but exploits differences across individuals, which might differ in aspects other than evading taxes. For details on the subjective well-being measure and related literature see Ferrer-i-Carbonell (2013).

Tax evasion: to capture the taxable unreported income by being engaged in undeclared work, we use the following question "Has it ever happened that you worked for cash in hand payment and did not pay tax on this income?". This question does not allow measuring the extension of tax evasion but rather whether an individual has evaded or not by working for cash in hand payment. A subsequent question asks respondents when this happened and answers can be casted in three categories: within the last 12 months, within the last 5 years, but not within the last 12 months, and more than 5 years ago. In the empirical analysis we include those individuals who report to have evaded not more than 5 years ago. This allows us to focus only on fairly recent evasion episodes and avoid undeclared work that took place, for example, during the communist period. The tax evasion variable can take a value 0 or 1, where 1 indicates that individual engaged in undeclared activities within the last 5 years.

Tax-related formal institutions (i.e. rules and laws) variable is captured by using two measures. The first measures the extent to which people agree or disagree (on a 1 –strongly agree– to 5 –strongly disagree– point scale) on whether: (a) the tax system is overly complex; (b) the tax system may not be perfect, but it works well for most people; (c) the tax system is unfair; (d) the government spends taxpayers' money effectively; and (e) the government is wasting a lot of public money. The answers to these questions are recoded and added up so that a higher value indicates a *positive perception of tax-related formal institutions*. This variable ranges from 5 to 25. The Cronbach's alpha reliability coefficient of this constructed variable is 0.6221.

The second measure is related to *individuals' perception about government provision of public goods*. We generate a discrete variable that takes value 1 if a respondent thinks that the government underprovides in all the following services: education, healthcare, social benefits, police, judiciary, army and defense, infrastructure, and environment protection. If not, the variable takes value 0. The Cronbach's alpha reliability coefficient of this constructed variable is 0.7483.

Tax-related informal institutions (i.e. social norms) variable is measured by whether respondents agree or strongly agree on that: (i) paying taxes for me is an obvious thing to do; (ii) I consider paying taxes to be my civic duty; (iii) I am happy that by paying taxes I support the state and other citizens; (iv) paying taxes for me is a natural thing to do; (v) most people claim larger tax deductions than they are entitled to; and (vi) most people who work for cash in hand payments pay taxes on this income. Statements (i), (ii), (iii) and (iv) capture the tax morale aspect of the tax-related informal institutions, whereas (v) and (vi) capture the conditional cooperation aspect (see Frey and Torgler, 2007 for more details). If individuals strongly agree or agree (answering 4 or 5 on a 1 to 5 scale) with all six statements, the variable takes value 6 and it means that respondents have a positive attitude towards tax-related informal institutions in their country. In the opposite case, the variable takes value 0. This variable can thus range from 0 to 6.

In line with Putnam's (2001) finding that the frequency of charitable contributions in the US over time has been highly correlated with membership in voluntary organizations, we capture the formal type of social capital by the number of charities or associations that the respondent has supported with financial donations within the past 12 months (a.k.a. 'philanthropic generosity'). The list includes associations related to the following: religion, politics, education, environment, sport, arts psychological support and therapy, local community, people in need, labor rights, human rights and peace, children or youth, consumer protection, health and patients' rights, and developing countries. As discussed in Section 2, we classify these associations into two groups: Putnamesque and Olsonian associations. These variables can range from 0 (when individuals do not financially support any association) to 5 for Putnamesque associations or to 6 for Olsonian associations. The data also contains information on membership and volunteering in these same associations. These two variables however show problems of multicollinearity with a correlation of about 0.6. The correlation between these two variables and the one of financially supporting these associations is instead very low. Therefore, the empirical analysis can include volunteering (or membership) and financial support, but not all three. Since including volunteering or being a member of these associations did not show any relevance for the analysis (its coefficients were small and statistically insignificant, and its inclusion did not change the other coefficients or their significance), for reasons of simplicity, the final specification only includes information on whether the individual financially supports any of these associations.

Informal type of social capital (i.e. networks of families, friends, and neighbors) is measured with the frequency in which people meet socially with their close circle of relations. This is family, friends, and neighbors. Individuals can respond on a discrete scale

Table 1

Descriptive statistics for the working sample.

	<i>N</i>	<i>Mean</i>	<i>St. Dv.</i>
Life satisfaction	9875	6.65	2.12
Tax evasion (last 5 years)	9987	0.10	0.30
Frequency meets family, friends & neighbors (often to never)	9780	10.25	4.05
# Putnam associations one financially supports	9756	0.20	0.49
# Olson associations one financially supports	9753	0.52	0.77
Positive attitude towards tax-related informal institutions	8179	2.90	1.42
Positive perception of tax-related formal institutions	8685	12.23	3.57
Individual reports under-provision of public goods	7392	0.21	0.41
Household income (PPP)	9939	7187	30406
Missing information on household income	9997	0.38	0.49
Household size	9974	2.93	1.38
Number of children in the household	9926	0.66	0.92
Age	9997	44.66	12.58
Individual is a male	9997	0.47	0.50
Individual is married	9923	0.70	0.46
Education level (low to high)	9958	4.05	1.75
Main occupation in (reference: other sector):			
Public sector	9258	0.35	0.48
Private sector	9258	0.53	0.50
Self-employment	9258	0.11	0.31
Moonlighting	9493	0.17	0.37
Daily life affected by health? (reference: yes, significantly):			
Yes, to some degree	9939	0.10	0.30
Yes, slightly	9939	0.17	0.37
No	9939	0.70	0.46
Belongs to a church / denomination	9997	0.61	0.49

ranging from 1 (every day) to 7 (never/almost never). The aggregate variable can take values from 3 (individuals who meet every day with relations from the three groups) to 21 (individuals who almost never meet with any of the three groups of relations).

In addition to these variables, the regression analysis includes a set of individual and household characteristics, some of which might be correlated with both, well-being and tax evasion. These are: household income in purchasing power parity, household composition (number of adults and of children living in the household), education level, age, gender, health status, religiosity, and

Table 2

Life satisfaction and tax evasion, baseline regression.

	<i>Coeff.</i>	<i>p-value</i>
Constant	6.369	0.00
Tax evasion (last 5 years)	−0.302	0.00
Control variables		
Household income (PPP)	0.000	0.72
Missing information on household income	0.211	0.00
Household size	0.066	0.02
Number of children in the household	−0.064	0.10
Age	−0.075	0.00
Age squared	0.001	0.00
Individual is a male	0.003	0.96
Individual is married	0.338	0.00
Education level (low to high)	0.141	0.00
Main occupation (ref. private sector)		
Public sector	0.110	0.05
Self-employment	0.233	0.01
Other sector	0.568	0.02
Moonlighting	0.147	0.08
Daily life affected by health? (reference: yes, significantly):		
Yes, to some degree	0.465	0.01
Yes, slightly	0.668	0.00
No	0.944	0.00
Belong to church /denomination	0.098	0.17
GDP per capita	0.000	0.03
Unemployment rate	−0.012	0.65
Corruption Index (CPI)	−0.017	0.26
Number of observations	8435	
R-Square	0.129	

Note: The regression also includes dummy variables for ethnic group and year of the interview. Errors are clustered at the country level and design weights are used.

marital status of the respondent. We also include a set of variables related to the respondent's employment characteristics: whether respondents work in the public or private sector, whether they are self-employed, or report moonlighting activities. Finally, since there is a large number of individuals who do not report their income (about 38% of our sub-sample of working individuals), we include a dummy variable that takes value 1 if the respondent does not report income. In this case, the variable household income takes value 0.

In Table 1 below we show the descriptive statistics of our final sample of working individuals.

4. Results

4.1. Results for the total sample

We first present baseline results in Table 2 (above). The results show a clear and strong negative correlation between life satisfaction and tax evasion of about 0.3. The coefficient of tax evasion is statistically significant at 0.2%. This coefficient is similar to the one of being married. This is, individuals are indifferent, in terms of life satisfaction, between being married and evading taxes. Thus as expected, people who evade in former communist countries are less satisfied with their life in general.

The control variables do not offer any surprising result. Although household income is not statistically significant, the variable indicating that an individual did not report their income is positively correlated with life satisfaction. This means that individuals who do not report their income share some unobservable common characteristics that are positively correlated with reported life satisfaction. Household size is positively related to life satisfaction and the number of children in the household has a negative correlation with life satisfaction, although only significant at 10%. Age shows an inverted-U shape with a minimum satisfaction level at around 55 years old. Gender has no significant effect, while education level is positively correlated with satisfaction. This might mean that higher educated individuals have on average better jobs and more opportunities than the lower educated. Everything else constant, individuals working in the private sector are less satisfied than public workers or individuals self-employed. Moonlighting show a positive and statistically significant correlation with life satisfaction. Good health is positively correlated with life satisfaction. The GDP per capita is positively correlated with satisfaction, but the unemployment rate or the corruption index does not show a statistically significant coefficient. When the regression analysis controls for individuals' perception of the formal and informal institutions in the country (Tables 3 and 4), the coefficient for the GDP remains positive and significant, unemployment rate shows a negative and statistically significant coefficient sign, and corruption is negative but only statistically significant for individuals older than 45 (Table 4).

Next, we introduce the main independent variables that capture individuals' perceptions and attitudes related to (formal and informal) institutions and their level of (formal and informal) social capital. Table 3 shows the results. Introducing these variables in the analysis has little effect on the rest of explanatory variables, except for the country variables (GDP, unemployment rate, and corruption index), as already discussed.

The results presented in Table 3 indicate the importance of some institutions and social capital on shaping the relationship between tax evasion and satisfaction. The last two columns of the table show the Wald test for the interaction terms (F value and the probability that are statistically significant from zero).

Table 3
Life satisfaction, tax evasion, and the role of institutions and social capital.

	Coeff.	p	Wald test	
			F(1, 970)	Prob
Constant	6.395	0.00		
Tax evasion (last 5 years)	0.313	0.52		
Interaction terms:				
Tax evasion (last 5 years) * the following variables				
Frequency meets family, friends & neighbors (often to never)	−0.043	0.11	2.51	0.11
# Putnam associations one financially supports	−0.696	0.00	10.15	0.00
# Olson associations one financially supports	0.373	0.01	6.84	0.01
Positive attitude towards tax-related informal institutions	−0.091	0.27	1.24	0.27
Positive perception of tax-related formal institutions	−0.001	0.99	0.00	0.99
Individual reports under-provision of public goods	0.667	0.01	7.92	0.01
The variables in levels:				
Frequency meets family, friends & neighbors (often to never)	−0.022	0.03		
# Putnam associations one financially supports	0.139	0.07		
# Olson associations one financially supports	0.092	0.05		
Positive attitude towards tax-related informal institutions	0.116	0.00		
Positive perception of tax-related formal institutions	0.069	0.00		
Individual reports under-provision of public goods	0.003	0.98		
Number of observations	5519			
R-Square	0.166			

Note: The regression also includes all controls present in Table 2. Errors are clustered at the country level and design weights are used.

Table 4

Life satisfaction, tax evasion, and the role of institutions and social capital by generation.

	45 or Younger		Older than 45	
	Coeff.	p	Coeff.	p
Constant	8.071	0.00	5.887	0.02
Tax evasion (last 5 years)	−0.296	0.59	1.874	0.01
Interaction terms:				
Tax evasion (last 5 years) * the following variables				
Frequency meets family, friends & neighbors (often to never)	−0.022	0.52	−0.106	0.01
# Putnam associations one financially supports	−0.870	0.00	−0.223	0.58
# Olson associations one financially supports	0.416	0.01	0.203	0.38
Positive attitude towards tax-related informal institutions	−0.080	0.50	−0.043	0.72
Positive perception of tax-related formal institutions	0.028	0.51	−0.078	0.13
Individual reports under-provision of public goods	0.600	0.04	0.786	0.06
The variables in levels:				
Frequency meets family, friends & neighbors (often to never)	−0.014	0.29	−0.028	0.04
# Putnam associations one financially supports	0.182	0.07	0.068	0.52
# Olson associations one financially supports	0.111	0.08	0.079	0.20
Positive attitude towards tax-related informal institutions	0.098	0.00	0.130	0.00
Positive perception of tax-related formal institutions	0.065	0.00	0.075	0.00
Individual reports under-provision of public goods	−0.047	0.68	0.016	0.90
Number of observations	2669		2450	
R-Square	0.176		0.171	

Note: The regression also includes all controls present in Table 2. Errors are clustered at the country level and design weights are used.

Three out of the six interactions between tax evasion and variables capturing the social and institutional context are statistically significant at 1%. One of the two measures used to proxy formal institutions has a mediating role in the relation between tax evasion and satisfaction, namely the individuals' perception about government provision of public goods. For individuals who think that the government is underproviding public services (about 21% of the sample), tax evasion and life satisfaction are positively correlated. These results provide support for the arguments made earlier that when individuals think that formal institutions do a good job, they are not satisfied with the fact that they are evading.

Informal institutions however do not seem to matter in shaping the correlation between satisfaction and tax evasion. This finding seems to be in line with empirical evidence on the tax morale of East and West Germans after the reunification, namely that East Germans' tax morale has been decreasing since the reunification (Torgler, 2003b).

The informal type of social capital (measured by the frequency with which individuals meet with friends, family and neighbors) is negatively correlated with life satisfaction. The interaction between this variable and tax evasion is however only statistically significant at the 11% level. The formal type of social capital, on the other hand, does have a mediating role on the correlation between tax evasion and satisfaction. As expected, we find that: (i) the more Putnamesque associations individuals financially support, the higher is the negative correlation between tax evasion and life satisfaction; while (ii) the opposite is true for Olsonian associations. Contributing to any of the two types of associations is positively correlated with individual life satisfaction, although the effect is larger for Putnamesque associations. In the next section, we discuss this in more detail.

4.2. Results by generation

In an interesting study of tax morale in an East-West-German comparison after the German reunification, Torgler (2003b) argues that social norms people used to adhere to before the reunification matter in their post-communist tax morale. This should even be more the case for the older generation as they "were exposed for a longer time to an environment where social-norm adherence was important" (p. 509). The main finding is that East Germans had a higher level of tax morale than the West Germans both in 1990 (after the reunification) and in 1997, but that the high tax morale has decreased over this period. This

Table 5

Wald test of the role of institutions and social capital by generation.

	45 or Younger		Older than 45	
	Wald Test		Wald Test	
	F(1,855)	Prob	F(1,855)	Prob
Interaction terms with Tax evasion (last 5 years)				
Frequency meets family, friends & neighbors (often to never)	0.420	0.52	6.390	0.01
# Putnam associations one financially supports	12.130	0.00	0.310	0.58
# Olson associations one financially supports	6.690	0.01	0.790	0.38
Positive attitude towards tax-related informal institutions	0.460	0.50	0.130	0.72
Positive perception of tax-related formal institutions	0.450	0.50	2.310	0.13
Individual reports under-provision of public goods	4.440	0.35	3.590	0.06

Note: Tests are based on regression results presented in Table 4.

finding is primarily attributed to the more strict social norms of obeying to the GDR state apparatus that the East Germans were exposed to, which have started to erode almost a decade after the reunification. In line with this study, we present additional results dividing our sample into two: those who did and those who did not have working experience during the communist period. This is, individuals who were younger than 45 years old in 2013/2014 and those who were 45 or older. Through this division we aim to capture possible social norms and experiences related to the communist legacy. In line with Torgler's (2003b) finding, our data show that the average tax morale is higher for those individuals 45 or older and the difference with the younger sample is statistically significant.

Table 4 shows the regression results when we divide the sample into these two groups, whereas Table 5 presents the Wald test of statistical significance of the mediating role of institutions and social capital on the relationship between tax evasion and life satisfaction.

The results indicate that only those 6% of older individuals who meet with family, friends and neighbors very often have a negative relationship between tax evasion and life satisfaction. For the rest, the relationship is positive. In fact, the data does not show any mediating role of tax morale on the correlation between tax evasion and satisfaction. It seems that the role of tax morale is indirectly captured by the importance of networks (meeting with family, friends and neighbors) for the older generation only. Such importance may have its roots in the communist period known for a tighter social control and a higher level of tax morale (Torgler, 2003b). Therefore, we believe that the concept of horizontal trust (Frey and Torgler, 2007) is relevant here, as the social control through networks may be making the older generation unhappier about evading than the younger one. This is in line with our argument that having networks of friends and family with high tax morale would negatively affect the relationship between evading and satisfaction.

Formal tax-related institutions do play a role for both generations. Individuals who think that the government underprovides public services are less negatively affected by evading taxes. This is in line with the literature (Cummings et al., 2009; Easter, 2002; Friedman et al., 2000; Gërxhani, 2004b; Hanousek and Palda, 2004; Schneider and Enste, 2000; Torgler, 2005b; Torgler and Schneider, 2009, 2007; Uslaner, 2006), which argues that this finding holds particularly in the case of former communist countries (Torgler, 2012).

The role of social capital, on the other hand, differs substantially between the two groups. For the younger generation, the financial support of associations (i.e. formal social capital) has a mediating role in the relationship between tax evasion and satisfaction, whereas for the older generation it is their social networks (i.e. informal social capital) that shape this relationship. It seems that associational engagement has a crucial role to the younger generation in the way they experience the relationship between evading tax and how satisfied they are with their life.

More specifically, we find that for the younger generation engagement in Putnamesque associations strengthens the negative relationship between evading and life satisfaction. For individuals participating in the Olsonian type of associations, this relationship is reversed. This is, young individuals who financially support at least one Olsonian type of association experience a positive relationship between evading and satisfaction. In other words, the ones who support the more rent-seeking type of associations are instead happy about their tax evasion behavior. It seems that if the association they support is driven by more common goals 'without imposing negative externalities on the rest of the society', the young individuals are more unhappy about evading as they believe in their civic duty. Whereas those young individuals who support associations that 'tend to engage in collective action that reconfigures redistribution systems in their favor at the expense of the rest of the society' (Olsonian) might think that these associations are better in providing for their welfare than the state. Therefore, financially supporting these associations reverts the negative relationship between tax evasion and satisfaction.

5. Conclusion

The starting point of this paper was to examine the relationship between tax evasion and subjective well-being in former communist countries. The latter are characterized by large individual engagements in undeclared work and, more importantly, mainly for survival reasons. The paper contributes to the literature on understanding tax evasion in former communist countries as well as the effect that the current context and the past legacy has on shaping the relationship between tax evasion and individual life satisfaction.

Using a subjective measure of satisfaction (individual well-being) in fourteen Central and Eastern European countries we identified on average a negative relationship between tax evasion and life satisfaction. This relationship, however, showed a clear heterogeneity across individuals distinguished by their experience of the social and institutional context. This is, the social and institutional context in which individuals are embedded play an important role in mediating this negative relationship.

Focusing on the role of the social and institutional context is particularly relevant in these countries, as they have gone through drastic social, economic, and institutional changes. Our findings support this by showing that social and institutional factors do matter in shaping the relationship between tax evasion and life satisfaction. More particularly, the mediating role of social capital depends on the type one has access to. Individuals engaged in various civically-oriented type of associations experience a negative correlation between tax evasion and satisfaction. Interestingly, this negative relationship becomes positive for those individuals who have access to and financially support 'rent-seeking' associations. Regarding the institutional factors the results indicate that individuals who believe that the government is doing a good job in providing public services, experience a negative relationship between tax evasion and life satisfaction.

These findings are in line with what we expected from the literature and most importantly hint at an 'exclusion' situation in former communist countries. This, however, depends on the context an individual lives in. While for some individuals tax evasion

is not negatively associated with life satisfaction, the way they experience various social and institutional factors turns this relationship into negative. This implies that if these individuals had a choice, they would rather enter a formalized labor market.

Moreover, we show that the social norms and experiences related to the communist legacy still matter, as the older generation seems to experience the relationship between tax evasion and well-being differently than the younger generation. As to be expected, these legacies of the past are more present in the tax-related behavior of the older generation most of whom show a positive correlation between tax evasion and satisfaction. In fact, only those individuals with strong networks show a negative relationship between evading and satisfaction. We argue that such strong social networks may operate through social control on the ones who evade, hence making the latter group unhappy about evading. This social control appears to be relevant only for those individuals who have experienced the communist period, a time with tighter social control and higher tax morale.

The younger generation, on the other hand, seems to be affected by their participation in associations through financial donations. However, this effect varies depending on the type of association one supports. Young individuals who are more keen in supporting civic-oriented associations are unhappy about the uncivic act of evading taxes. A careful interpretation might be that if they have no choice but to evade, they try to ‘compensate’ by contributing to civic associations. As for those young individuals supporting rent-seeking associations, evading taxes seems to make them more satisfied with their life. It is likely that they have more faith in this type of associations to increase their well-being than the state itself. This is why they rather support such associations than pay taxes to the state.

Though we were able to use a unique data set that helps to better understand citizens’ attitudes towards public goods in fourteen former communist countries, the data is cross-sectional, thus it does not allow controlling for individual time persistent traits. In addition, the measure of tax evasion used in the paper suffers from two main limitations: it is self-reported and it is only measured through one question. If individuals feel threatened or uncomfortable about reporting their undeclared activities, we expect that our measure of tax evasion is biased and we cannot exclude underreporting.

Our results do however indicate some evidence on theoretical arguments that the decision to comply or not is often conditioned by the institutional structure that prevailed in the pre-transition period (Feige, 1997; Torgler 2003b). Although more research is needed to look closely at the relationships examined here, our findings point to the importance of good functioning institutions and associational engagement. The fact that the latter is more prominent among the younger generation suggests the beginning of a break-up with the communist legacy of the past.

Funding

The data used in the paper was financially supported by the ERC StG 240830 “Public Goods through Private Eyes” Project.

Acknowledgments

We are grateful to Natalia Letki for giving us full access to the data collected as part of the “Public Goods through Private Eyes” project, Institute of Sociology, University of Warsaw, Poland.

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