Explaining cross-national variations in tax morality in the European Union: an exploratory analysis

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Abstract

The aim of this paper is to conduct an exploratory analysis of factors that might explain the cross-national variations in the level tax morality across the European Union. In order to do this, three competing explanations for the cross-national variations in tax morality will be evaluated which variously view lower levels of tax morality to be a result of either: under-development (a modernisation explanation); high taxes, state corruption and too much state interference (a neo-liberal explanation), or too little state redistribution and intervention to protect citizens (a structuralist explanation). Evaluating the cross-national variations in tax morality reported in a 2007 Eurobarometer survey using multilevel econometric techniques, the finding is that the tax morality of a baseline European citizen is higher in more developed and less corrupt nations and in countries with higher levels of taxation, social protection and redistribution. The outcome is a call for a synthesis of the three explanations in the form of a new neo-modernisation explanation which, contrary to neo-liberal discourse, argues that developed nations with higher levels of taxation, greater levels of social protection and higher levels of redistribution have higher levels of tax morality. The tentative policy implications are then discussed.

Keywords: informal economy, tax morality, taxation, neo-liberalism, social Europe.

Introduction

Why do citizens in some countries display a greater motivation to pay their taxes than in other countries? By taxes in this paper, we refer to direct taxes on labour income and wealth and indirect ones for self-employed small entrepreneurs offering goods and services at a small scale too for consumers in the private sector. The aim of this paper is to undertake an exploratory analysis of some of the factors that might explain such cross-national variations in the level of tax morality. Until now, only a handful of studies have sought to understand this issue, and these have variously identified the influence of tax progressivity, religiosity, perceptions of state corruption and the perceived fairness of the tax administration on tax morality (Cummings, Martinez-Vazquez, Mckee, & Torgler, 2008; Doerrenberg & Peichl, 2013; Torgler, 2007; Torgler & Schneider, 2007a). The aim of this paper is to conduct a more systematic exploratory analysis of the country-level characteristics associated with cross-national variations in tax morality. Given the close correlation between levels of tax morality and tax non-compliance (Alm, Martinez-Vazquez, & Torgler, 2006; Barone & Mocetti, 2009; Feld & 'Tyran, 2002; Torgler, 2001, 2005a, 2011; Torgler & Schneider, 2009), this will be achieved by examining the characteristics deemed important in each of the major theories explaining the cross-national variations in the levels of undeclared work (Chen 2012; Morris & Polese, 2013; Williams, 2011) and by evaluating whether they are also closely correlated with cross-national variations in tax morality. In

doing so, the characteristics will be identified of those societies in which tax morality is higher and tentative clues provided regarding what needs to be done to improve the willingness of citizens to pay taxes.

In the first section, therefore, the previous literature on tax morality will be briefly reviewed so as to reveal how, despite a number of descriptive analyses of the cross-national variations in tax morality, by which is here meant their intrinsic motivation to pay taxes (Torgler, 2007; Cummings et al., 2008), there have been few attempts to systematically explain these variations. To fill this gap, the contextual variables deemed important in the major theoretical perspectives that explain the cross-national variations in the levels of undeclared work are then used to develop research hypotheses to be tested with regard to cross-national variations in tax morality. The second section will then report the data, variables and methods used to analyse the cross-national variations in tax morality in the 27 member states of the European Union (EU-27), whilst the third section will report the results. Finding a strong association between cross-national variations in the levels of tax morality and cross-national variations in some of the contextual variables identified by each of the theoretical explanations but not others, the fifth and final section will then evaluate the implications for both theorising cross-national variations in the levels of tax morality as well as the implications for policy.

Tax morality: a review of the literature

Why do citizens pay their taxes? For many decades, the assumption grounded in the classic utilitarian theory of Jeremy Bentham (Bentham, 1788) and Cesare Beccaria (Beccaria, 1797) was that taxpayers are rational actors who seek to maximise their expected utility. As such, they evaluate the opportunities and risks confronting them and disobey the law when the expected penalty and probability of being caught is small relative to the profits to be gained (Allingham & Sandmo, 1972). The outcome was the adoption of a deterrence approach, in which governments sought to ensure that the costs of non-compliance outweigh the benefits by increasing the penalties for those caught and/or create the perceived likelihood of detection (Grabiner, 2000; Grabosky, 1995; Gramsick & Bursik, 1990; Hasseldine & Li, 1999; Job & Honaker, 2003; Lewis, 1982; Milliron & Toy, 1988; Richardson & Sawyer, 2001; Sandford, 1999). This rational economic actor model, however, does not explain the high levels of voluntary compliance found in many countries and why populations remain compliant even when the benefits of non-compliance far outweigh the risks (Baldry, 1986; Erard & Feinstein, 1994; Gordon, 1989; Graetz & Wilde, 1985; Murphy, 2003, 2008; Skinner & Slemrod, 1985).

To explain why citizens continue to pay their taxes when there are very low penalties and levels of detection (Alm, Martinez-Vazquez, & Torgler, 2010; Kirchler, 2007; Torgler, 2007) and why increasing penalties and the likelihood of detection often results in the opposite behaviour to what the rational economic actor model suggests, namely greater non-compliance (Brehm & Brehm, 1981; Murphy & Harris, 2007), a small but growing literature has turned its attention to studying tax morality, defined as the intrinsic motivation to pay taxes as a contribution to society (Cummings et al., 2008; Torgler, 2007; Torgler & Schneider, 2007b). Although a high level of tax morality (i.e., an attitude) does not automatically result in a high level of tax compliance (i.e., a behaviour), empirical studies display a very strong negative correlation between the level of tax morality and the extent of tax non-compliance with Pearson r values between –0.51 and –0.66 (Alm & Torgler, 2007; Alm, Martinez-Vazquez, & Torgler, 2006; Barone & Mocetti, 2009; Feld & Tyran, 2002; Frey, 1997, 2003; Halla, 2010; Lewis, 1982; Pommerehne & Weck-Hanneman, 1996; Riahi-Belkaoui, 2004; Richardson, 2006; Torgler, 2001, 2005a, 2011; Torgler & Schneider, 2009). The higher the level of tax morality is, the lower the level of tax non-compliance.

Indeed, examining the cross-national variations in tax morality in an analysis of 30 countries, Riahi-Belkaoui (2004) identifies a strong association between behaviour (i.e., the level of tax compliance) and attitudes (i.e., the level of tax morality), as does Richardson (2006) in his comparison of 45 countries along with Alm, Jackson, and McKee (1993) and Alm and Torgler (2006). When comparing post-socialist countries using a simple linear regression, Torgler (2011) finds that a decrease of tax morality by one unit leads to an increase in the shadow economy of 20 percentage points and that cross-national variations in the level of tax morality (the Pearson r correlation amounts to –0.551) explain more than 30 per cent of the cross-national variation in the size of the shadow economy.

How, therefore, can these cross-national variations in tax morality be explained? Until now, only progressive taxation, religiosity, perceptions of state corruption and the perceived quality of the tax administration have been specified as associated with cross-national variations in tax morality (Cummings et al., 2008; Doerrenberg & Peichl, 2013; Torgler, 2006; Torgler & Schneider, 2007a, 2007b). Indeed, the quality of the tax administration and how this varies cross-nationally has been the prominent issue discussed. First, there have been many discussions of 'procedural justice', which refers to whether citizens believe that the tax authority has treated them in a respectful, impartial and responsible manner (Alm, Jackson, & McKee, 1993; Braithwaite and Reinhart, 2000; Murphy, 2005; Tyler, 1997; Tyler & Blader, 2000, 2003; Wenzel, 2002). Second, there have been discussions of 'procedural fairness' which refers to whether citizens perceived themselves as receiving the goods and services they believe that they deserve given the taxes that they pay (McGee, 2005, October; Murphy, 2003; Murphy, Tyler, & Curtis, 2009; Wenzel, 2002; Hartner, Rechberger, Kirchler and Schabmann, 2008). Third and finally, the influence of perceptions of public sector corruption has been investigated (Abed & Davoodi, 2002; Kaufmann,Kraay, & Mastruzzi, 2004; Morris & Polese, 2014; Tedds, 2007; Torgler 2007; Treisman, 2000; Uslaner, 2007). The more unjust, unfair and/or corrupt a government is perceived to be by its citizens, the lower the level of tax morality.

Beyond this institutional quality explanation, however, few other factors have been discussed. Therefore, and given the strong relationship between cross-national variations in the levels of tax morality and undeclared work, here the variables deemed to be important by the major competing theoretical explanations for the cross-national variations in the prevalence of undeclared work will be analysed (Chen, 2012; Williams, 2011; Williams & Round, 2010). To identify these variables, each of these theories is reviewed here in turn.

As Williams and Round (2010) have revealed, there are three major competing explanations for the cross-national variations in undeclared work. First, the modernisation thesis which views undeclared work to be greater in less developed economies; second, the neo-liberal thesis, which views undeclared work to be greater in societies with higher taxes, greater public sector corruption and too much state intervention in work and welfare provision; and third, the structuralist thesis, which views undeclared work to be greater in economies with less state intervention in work and welfare. Based on these competing theories, it can thus be hypothesised that cross-national variations in tax morality are correlated with the level of economic development (modernisation explanation), the level of taxes, public sector corruption and regulatory burdens (neo-liberal explanation) and the degree of state redistribution and intervention (structuralist explanation). As such, the following hypotheses can be tested:

– Economic development hypothesis: the more economically developed a country is, the higher the tax morality of its citizens.
– Corruption hypothesis: the lower the perception of public sector corruption in a country is, the higher the tax morality of its citizens.
– Redistribution hypothesis: the more the state intervenes to facilitate redistribution in a country, the higher the tax morality of its citizens.
– Inequality hypothesis: the more equal a society is, the higher the tax morality of its citizens.

Data, methods and variables

Data

Until now, the World Values Survey (WVS) or European Values Survey (EVS) have been predominantly used to calculate cross-national variations in tax morality (Alm & Torgler, 2006; Torgler 2004, 2005b, 2006; Torgler & Schneider, 2007a, 2007b; Martinez-Vazquez & Torgler, 2009). Here, we use the Special Eurobarometer No. 284 ('Undeclared work in the European Union'), conducted as part of wave 67.3 of Eurobarometer in all 27 European Union member states (TNS Infratest, Rockwool Foundation and Regioplan, 2006; European Commission, 2007). Employing the same sampling methodology as other Eurobarometer surveys, 26,659 interviews were conducted during May and June 2007 on a face-to-face basis, with some 500 conducted in smaller countries to 1,500 in larger nations. In every country, a multi-stage random (probability) sampling methodology was used. Interviews were conducted face-to-face in the national language with adults aged 15 years and older. The weighting process used ensures that on the issues of gender, age, region and locality size, the sample was proportionate to the universe in each country.

The interview schedule adopted a graduated approach, commencing with attitudinal questions, followed by questions on whether they had received undeclared goods and services, and then their participation in undeclared work. Here we use the attitudinal questions to examine tax morality. This asked:

Now I would like to know how you assess various behaviours. For each of them, please tell me to what extent you find it acceptable or not. Please use the following scale: '1' means that you find it absolutely unacceptable and '10' means that you find it absolutely acceptable:

(1) A private person is hired by a private household for work and she does not report the payment received in return to tax or social security institutions although it should be reported.

(2) A firm is hired by a private household for work and it does not report the payment received in return to tax or social security institutions.

(3) A firm is hired by another firm for work and it does not report its activity to tax or social security institutions.

(4) A firm hires a private person and all or a part of the salary paid to her is not officially registered.

(5) Someone evades taxes by not or only partially declaring income.

The outcome is that a multi-item index of tax morality can be constructed by collating participants' responses on a 10-point Likert scale to each question. This has several advantages (Jackson & Milliron, 1986; Lewis, 1982; Torgler, 2011). First, a single item question may have difficulty adequately capturing the inter-related facets of tax morality and may also be adversely affected by random errors in measurement. Second, a multi-item index has the advantage that errors tend to average out, therefore, producing a more reliable measure. Third, compared with a single item measure, a multi-item index likely provides better score reliability by pooling together information that the items have in common.

Here, therefore, an aggregate tax morality index for each country has been created through rotated principal component factor analysis. Since we assume that the different dimensions of tax morality considered are related to each other, we use oblique rotation. The initial correlation between them varies between 0.40 and 0.72. Overall, all items contribute significantly to the single extracted factor with weights ranging from 0.66 to 0.85 and a high reliability Cronbach's alpha of the tax morality index created of 0.87. The index has been represented here in the 10-point Likert scale original format. The lower the index value is, the higher the tax morality.

Methods

Given the hierarchical structure of the data, with individuals nested within countries, for the econometric analysis we use a series of multilevel models. As the dependent variable is a 10-point Likert scale index, we employ multilevel mixed-effects linear regressions. Indeed, the likelihood-ratio test that there is no cross-country variation in individual tax morality can be safely rejected. This means that the hierarchical lineal regression model should be used. We start by fitting to our data a random effects ANOVA, which allows the portion of the variance in individual tax morality, which in turn is due to cross-national differences compared with individual differences to be determined:

$$\text{Tax morality}_{ij} = \beta_{0j} + \varepsilon_{ij}$$
$$B_{0j} = \gamma_{00} + \delta_{0j} \tag{1}$$

where for an individual i in a country j, β_{0j} can be interpreted as the mean tax morality in a country, whereas γ_{00} is the grand mean. The level-1 error term (ε_{ij}) shows how an individual's tax morale deviates from the mean evaluation in the country in which s/he lives. The level-2 error term (δ_{0j}) shows how the mean evaluation in a particular country deviates from the grand mean.

We continue the econometric analysis by adding to our random intercept model a vector containing the individual level socio-demographic characteristics (x_{ij}). In this case, the mixed model assumes fixed effects while the intercept is allowed to vary across countries to accommodate cross-national variations in the baseline tax morality:

$$\text{Tax morality}_{ij} = \beta_{0j} + x_{ij} + \varepsilon_{ij}$$
$$B_{0j} = \gamma_{00} + \delta_{0j} \tag{2}$$

Finally, in order to account for the variation in the intercepts we include a vector (z_j) containing the country-level variables that seek to test our research hypothesis outlined above on the role of economic development, taxes, corruption, social redistribution and inequality on the tax morale of citizens across the EU-27 member states:

$$\text{Tax morality}_{ij} = \beta_{0j} + x_{ij} + z_j + \varepsilon_{ij}$$
$$B_{0j} = \gamma_{00} + \delta_{0j} \tag{3}$$

Finally, the series of models are introduced in additive fashion using the same sample of individuals for the estimation so as to make results readily comparable. Model 2 here serves as the benchmark model to estimate the variation in tax morality once country-level variables are introduced.

Variables

Drawing on existing research (Alm & Torgler 2006; Cummings et al. 2008; Martinez-Vazquez & Torgler, 2009; Prieto et al., 2006; Torgler, 2004, 2005a, 2005b, 2006; Torgler & Schneider, 2007a), the vectors of individual level socio-demographic characteristics include the following variables:
– Political ideology: a continuous variable for the self-perceived left-right political orientation of the respondent with value 1 for extreme-left and 10 for extreme-right.
– Gender: a dummy variable with value 0 for males and 1 for females.
– Age: a categorical variable for the age of the respondent recoded in six categories: 15-24, 25-34, 35-44, 45-54, 55-64, 65+ years old.

– Citizenship status: a categorical variable for the citizenship of the respondents with value 1 for those nationals of the EU country in which they are interviewed (95 per cent), value 2 for those nationals of another EU country (3 per cent), value 3 for those nationals of a European country non EU (1 per cent), and value 4 for those nationals of a country outside Europe (1 per cent).
– Marital status: a categorical variable for the marital status of the respondent with value 1 for married individuals, value 2 for cohabiters, value 3 for singles, value 4 for those separated or divorced, and value 5 for widowed.
– Children: a categorical variable for the presence of children below 14 years old in the household with value 1 for childless households, value 2 for those with children up to 10 years old, and value 3 for households with children aged 10 to 14 years old.
– Occupation: a category variable grouping respondents by their occupation with value 1 for those self-employed, value 2 for managers, value 3 for other white collars, value 4 for manual workers, value 5 for housekeepers, value 6 for unemployed respondents, value 7 for retired and value 8 for students.
– Personal income: a categorical variable for the gross income from formal employment per month of the respondents with value 0 for those with no such labour income, value 1 for those with less than €500 per month, value 2 for those with up to €1,000, value 3 for those with a monthly labour income up to €2,000, value 4 with an income up to €3,000, and value 5 for those with more than €3,000 per month.
– Household property: a categorical variable for the type of household property with value 1 for those who have already paid the mortgage, value 2 for those who do not own the property, and value 3 for those still paying the mortgage.
– Number of household goods: this is a continuous variable counting the number of durable goods in the household.
– Community size: a categorical variable with value 1 for those respondents living in a rural area or village, value 2 for those living in a small or middle size city and value 3 for those respondents living in a large city.

Finally, the vector of country level characteristics covers the contextual variables derived from the theoretical perspectives, used to test the hypotheses. The 2007 data for these contextual variables have been collected from Eurostat, with the exception of the perceptions of public sector corruption, which has been taken from Transparency International (Transparency International, 2013). These contextual variables are: GDP per capita (natural log); social expenditure per capita (natural log), which describes the level of expenditure on social protection (excluding old age benefits) as a % of GDP; public sector corruption perceptions index, which scores countries on a scale from zero to 10, with zero indicating high levels and 10 low levels of perceived public sector corruption; direct taxes as a % GDP; the Gini coefficient, which measures the inequalities in market income and old age benefits before tax and other transfers; the population at risk of poverty (percentage after social transfers), defined as the persons with an equivalised disposable income below the risk-of-poverty threshold, which is set at 60 per cent of the national median equivalised disposable income, after social transfers; and income inequality, measured as the ratio of equivalised disposable income of the top and the bottom quintile of the income distribution.

Results and discussion

Table 1 reveals that the higher the level of economic development as measured by GDP per capita is, the greater the level of tax morality, thus supporting the modernisation thesis. The same relationship is found for the two measures of social redistribution, namely social expenditure per capita and the

Table 1: Partial correlations amongst the individual tax morality and the country level contextual variables

	Tax morality	GDP per capita	Social expenditure as % of GDP	Corruption Perceptions Index	Direct taxes as % of GDP	Gini Coefficient	% of population at risk of poverty
Tax morale							
GDP per capita	−0.115**						
Social expenditure as % of GDP	−0.120**	0.939**					
Corruption Perceptions Index	−0.127**	0.818**	0.825**				
Direct taxes as % of GDP	−0.099**	0.579**	0.635**	0.737**			
Gini coefficient	0.047**	−0.449**	−0.495**	−0.474**	−0.411**		
% of popn at risk of poverty	0.027**	−0.464**	−0.516**	−0.511**	−0.320**	0.922**	
Income inequality	0.055**	−0.544**	−0.567**	−0.534**	−0.410**	0.977**	0.938**

Significant at **p‹0.05 or less
Source: Eurobarometer 287 (2007): Undeclared Work in the European Union

proportion of GDP collected through direct taxes, thus supporting the structuralist thesis and negating the neo-liberal thesis. The greater the social expenditure per capita and the higher the level of taxation as a percentage of GDP are, the higher the level of tax morality. In the case of the index of perceived public sector corruption, coded in a manner where higher values mean lower levels of perceived public sector corruption, the finding is that the greater the perception of public sector corruption is, the lower tax morality is, thus supporting the corruption hypothesis and this aspect of the neo-liberal explanation. Finally, the three measures used to test the relationship between country level inequality and the level of individual tax morality can be tested. These are the gini coefficient, the population at risk of poverty, and income inequalities. The greater the equality in a society, the higher the level of tax morality, although the correlations are smaller than for economic development, corruption and redistribution.

As for the linear relationship between these country level characteristics, overall the partial correlations shown in Table 1 are considerably high. This hinders testing the research hypotheses through a single comprehensive model. For this reason, they are here tested through sequential models applied to the same sample of individuals.

The main results of these sequential models are displayed in Table 2. Model 1 is a random intercept model that only includes the individual level socio-demographic variables. This shows that women have higher levels of tax morality, as found in earlier studies using the World Values Survey and European Values Survey (Alm & Torgler, 2006; Torgler, 2005b; Torgler & Schneider, 2007b). It also displays that older individuals over 65 years old across the EU-27 have higher levels of tax morality than younger people, again supporting previous research (Alm & Torgler, 2006; Cummings et al., 2008; Martinez-Vázquez & Torgler, 2009; Prieto Rodríguez, Sanzo Pérez, & Suárez Pandiello, 2005; Torgler, 2004, 2005b, 2006; Torgler and Schneider, 2007). Interestingly, non-EU citizens, both Europeans and non-Europeans, have higher levels of tax morality compared with nationals of the 27 member states, intimating that tax morality is not a product of immigration. So far as is known, this has not been evaluated previously. In addition, cohabitors and separated or divorced individuals have higher tax moralities compared with married people, again reinforcing previous research (Alm & Torgler, 2006; Torgler, 2005b, 2006).

Turning to whether tax morality varies by occupational status, our results show that self-employed, manual workers, housekeepers and the unemployed are the groups reporting lower tax morality. This is not wholly in line with previous research. Although it reinforces the research of Torgler (2004),

which shows that the self-employed and unemployed have lower tax morality, and Prieto Rodríguez et al. (2005), which reveals that the self-employed have lower tax morality, it goes against previous research which shows that housekeepers have stronger tax morality in Latin America (Torgler, 2005b). Turning to the influence of wealth, this research reveals that a higher personal income is associated with greater tax morality, further reinforced when another indicator of household wealth, the index counting the number of durable domestic goods, is analysed. This runs counter to previous research, which reports that tax morality is lower for upper-class individuals (Martinez-Vázquez and Torgler, 2009; Torgler, 2004, 2006). Finally, individuals living in less urbanised areas across the EU have greater tax morality, suggesting a strong urban-rural divide in the level of tax morality.

Models 2 to 5 are the random intercept models in which each of the significant country-level contextual variables are introduced sequentially to test our research hypotheses, namely GDP per capita (M2), social expenditure per capita (M3), corruption (M4) and direct taxes as a proportion of GDP (M5). Thus, model 2 shows that economic development as measured by the log of GDP per capita has a positive impact on tax morality. In this case, the R-squared reaches 12 per cent, compared with only 5 per cent when solely socio-demographic characteristics are analysed, displaying that this country-level characteristic plays an important role in explaining the cross-national variations in individual tax morality across the EU-27.

Models 3 and Model 5 introduce the log of social expenditure per capita and the importance of direct taxes as a proportion of GDP respectively. In line with our hypotheses, tax morality rises with increases in both social expenditure per capita as well as increases in direct taxes as a percentage of GDP, thus supporting the structuralist explanation and refuting the neo-liberal explanation. As mentioned above, and given the close association between GDP and social expenditure per capita, the model (M5) including the level of direct taxes as a percentage of GDP is more likely to be measuring social redistribution. Finally, the level of perceived public sector corruption also plays an important role in shaping tax morality across the EU. As M4 displays, lower levels of perceived public sector corruption are associated with higher tax morality.

Altogether, the four models introducing these contextual variables (M2-5) improve significantly the explicative power as measured by the relative increase in the R squared, compared with when only socio-demographic variables are included (M1). Yet, the interclass correlation has only lowered to 7 per cent from the initial 9 per cent of the baseline (M0 model). This still indicates that 7 per cent of the variation in tax morality due to country level differences across the EU countries remains unexplained. The country level characteristics we consider to test our hypotheses only account for 2 per cent of the country level variation in tax morality. Cleary, there may be other country level factors that we do not consider here that may explain the respondents' differences in tax morality. This funding calls for further exploration in future studies.

Finally, as suggested by the partial correlations shown in Table 1, none of the three country level variables used to test the inequality hypothesis (the Gini coefficient, the proportion of population at risk of poverty, and the income distribution between the wealthiest and the poorest) report a statistically significant correlation with the level of tax morality, although the results are all in the expected direction, namely greater equality increases the level of tax morality.

To facilitate understanding these results, we here construct a 'baseline' EU citizen using the mean and modal values across the EU-27. This 'baseline' citizen is a woman, retired and over 65 years old, who is a national of the EU country in which she has been interviewed, and is married with no income from formal employment, lives in a rural area or village and holds a centrist political ideology. Taking each country level characteristic found to be statistically significant in Table 2, Figure 1 displays the predicted individual tax morality of this baseline EU citizen for three different levels of each contextual variable; low is the minimum value, average is the mean, and high is the maximum value across EU member states. These predicted tax moralities are then compared with a benchmark tax

Table 2: Multilevel mixed-effects linear regression for the determinants of individual tax morality across EU-27 member states

Variables	M0	M1	M2	M3	M4	M5
Political ideology		-0.004 (0.005)	-0.005(0.005)	-0.005(0.005)	-0.005(0.005)	-0.004(0.005)
Female		-.183***(0.023)	-.183***(0.023)	-.183***(0.023)	-.183***(0.023)	-.183***(0.023)
Age (RC: over 65)						
15-24		0.796***(0.072)	0.794***(0.072)	0.793***(0.072)	0.794***(0.072)	0.794***(0.072)
25-34		0.619***(0.058)	0.617***(0.058)	0.617***(0.058)	0.616***(0.058)	0.617***(0.058)
35-44		0.400***(0.055)	0.399***(0.055)	0.398***(0.055)	0.398***(0.055)	0.399***(0.055)
45-54		0.286***(0.049)	0.285***(0.049)	0.285***(0.049)	0.285***(0.049)	0.285***(0.049)
55-64		0.127***(0.040)	0.126***(0.040)	0.126***(0.040)	0.126***(0.040)	0.126***(0.040)
Citizenship status (RC: Own country)						
Other EU		0.055(0.068)	0.058(0.068)	0.057(0.068)	0.056(0.068)	0.055(0.068)
Europe non-EU		-0.194*(0.108)	-0.193*(0.108)	-0.194*(0.108)	-0.193*(0.108)	-0.194*(0.108)
Outside Europe		-0.173*(0.093)	-0.172*(0.093)	-0.172*(0.093)	-0.172*(0.093)	-0.173*(0.093)
Marital status (RC: Married)						
Cohabiting		0.229***(0.044)	0.230***(0.044)	0.230***(0.044)	0.230***(0.044)	0.229***(0.044)
Single		0.043(0.044)	0.044(0.044)	0.044(0.044)	0.044(0.044)	0.043(0.044)
Separated/Divorced		0.153***(0.035)	0.154***(0.035)	0.154***(0.035)	0.154***(0.035)	0.154***(0.035)
Widowed		0.024(0.041)	0.024(0.041)	0.024(0.041)	0.024(0.041)	0.024(0.041)
Children (RC: No children)						
Children <10		0.022(0.033)	0.022(0.033)	0.022(0.033)	0.022(0.033)	0.022(0.033)
Children 10-14		0.022(0.035)	0.022(0.035)	0.022(0.035)	0.022(0.035)	0.022(0.035)
Occupation (RC:Retired)						
Self-employed		0.209***(0.059)	0.208***(0.059)	0.208***(0.059)	0.208***(0.059)	0.208***(0.059)
Managers		0.021(0.057)	0.020(0.057)	0.020(0.057)	0.020(0.057)	0.020(0.057)
Other white collars		0.037(0.056)	0.038(0.056)	0.037(0.056)	0.037(0.056)	0.037(0.056)
Manual workers		0.131**(0.052)	0.131**(0.052)	0.131**(0.052)	0.131**(0.052)	0.130**(0.052)
Housekeeper		0.117**(0.050)	0.118**(0.050)	0.118**(0.050)	0.117**(0.050)	0.117**(0.050)
Unemployed		0.178***(0.061)	0.178***(0.061)	0.178***(0.061)	0.178***(0.061)	0.178***(0.061)
Students		0.087(0.071)	0.087(0.071)	0.086(0.071)	0.086(0.071)	0.087(0.071)
Personal income (RC: No income)						
‹€500		0.007(0.053)	0.004(0.053)	0.003(0.053)	0.005(0.053)	0.005(0.053)
€500-1000		-0.066(0.050)	-0.067(0.050)	-0.067(0.050)	-0.067(0.050)	-0.066(0.050)
€1000-2000		-0.058(0.049)	-0.057(0.049)	-0.057(0.049)	-0.057(0.049)	-0.057(0.049)
€2000-3000		-0.077(0.057)	-0.075(0.057)	-0.075(0.057)	-0.075(0.057)	-0.075(0.057)
›€3000		-0.136**(0.058)	-0.134**(0.058)	-0.133**(0.058)	-0.134**(0.058)	-0.133**(0.058)
Household property (RC: Mortgage paid)						
Not own property		0.011(0.031)	0.013(0.031)	0.013(0.031)	0.013(0.031)	0.013(0.031)
Paying mortgage		-0.038(0.031)	-0.035(0.031)	-0.035(0.031)	-0.035(0.031)	-0.036(0.031)
Number of household goods		-0.015**(0.007)	-0.014**(0.007)	-0.014**(0.007)	-0.014**(0.007)	-0.015**(0.007)
Community size (RC: Rural area or village)						
Small or middle size area		-0.055**(0.026)	-0.055**(0.026)	-0.055**(0.026)	-0.055**(0.026)	-0.055**(0.026)
Large area		0.008(0.029)	0.007(0.029)	0.007(0.029)	0.008(0.029)	0.008(0.029)
GDP per capita (ln)			-0.394*(0.206)			
Social expenditure per capita (ln)				-0.249*(0.133)		
Corruption perceptions index (CPI)					-0.084*(0.048)	
Direct taxes (% GDP)						-0.027*(0.017)
Constant	2.509***	2.318***	6.270***	4.420***	2.862***	2.658***
	(0.095)	(0.102)	(2.063)	(1.126)	(0.328)	(0.231)
Observations	19,959	19,959	19,959	19,959	19,959	19,959
Number of groups	27	27	27	27	27	27
Log likelihood	-3,714	-3,669	-3,669	-3,669	-3,669	-3,669
χ²		935***	940***	939***	939***	938***
Random-effects Parameters						
Identity: Country						
Variance (constant)	0.241(0.095)	0.207(0.058)	0.182(0.051)	0.182(0.051)	0.185(0.052)	0.188(0.052)
Variance (residual)	2.407(0.024)	2.300(0.023)	2.300(0.023)	2.300(0.023)	2.300(0.023)	2.300(0.023)
ICC	0.09	0.08	0.07	0.07	0.07	0.07
R²		0.05	0.12	0.12	0.11	0.09
LR test	1,538***	1,185***	1,115***	1,109***	1,075***	1,133***

Significant at ** $p < 0.05$ or less (standard errors in parentheses)
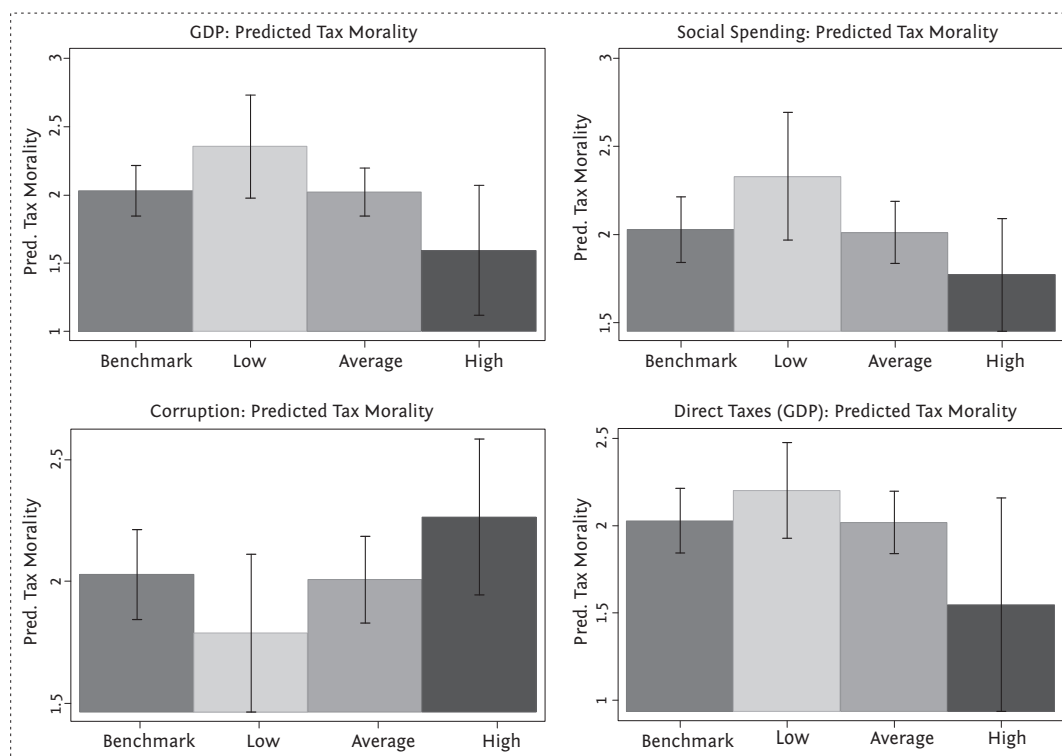Source: Eurobarometer 287 (2007): Undeclared Work in the European Union

Figure 1: Predicted tax morality for a baseline individual as significant country level characteristics change (with 95 % confidence intervals)
Source: Eurobarometer 287 (2007): Undeclared Work in the European Union.

morality, where only the individual level socio-demographic variables of Model 1 have been used. The key interest here is in how the cross-national variations in these country level characteristics alter the tax morality of this baseline European citizen.

The first graph in Figure 1 reveals that this baseline European citizen living in the poorest EU country in terms of GDP per capita has a tax morality 16 per cent lower compared with the benchmark, whilst those living in the richest member state have a tax morality that is 22 per cent higher. The impact of cross-national variations in social expenditure per capita on cross-national variations in tax morality for the baseline citizen is somewhat smaller. Nevertheless, the individual tax morality of this baseline citizen is 15 per cent lower for those living in the member state with the lowest levels of social expenditure per capita, while it is 13 per cent higher for those in member states with the highest social expenditure.

The cross-national variations in the level of perceived public sector corruption also have a clear effect on cross-national variations in tax morality for the baseline European citizen. The tax morality of the baseline European citizen is 12 per cent lower than the benchmark in the member state with the lowest perception of public sector corruption but is 11 per cent higher than the benchmark in the member state with the highest perception of public sector corruption.

Finally, the impact of redistribution through direct taxes as a percentage of GDP is significant. In the member state with the lowest level of direct taxes, the tax morality of the baseline European citizens is 8 per cent higher than the benchmark. However, in the EU member state with the highest level of direct taxes, the tax morality of its citizens is 24 per cent higher than the benchmark predicted tax morality, which only accounts for individual level characteristics.

Conclusions

This article has critically evaluated three competing explanations for the cross-national variations in attitudes towards tax compliance which view the prevalence of lower levels of tax morality to result from either: under-development (modernisation explanation); high taxes, state corruption and too much state interference (neo-liberal explanation), or too little state redistribution and intervention to protect citizens (structuralist explanation). To test these explanations, four hypotheses have been tested here, namely the economic development hypothesis that the more economically developed the country, the greater the level of tax morality (to test the modernisation explanation); the corruption hypothesis that the lower the perception of public sector corruption in a country is, the higher the tax morality (to test this aspect of the neo-liberal explanation); the redistribution hypothesis that the less the state intervenes to facilitate redistribution in a country, the higher the tax morality (to test the neo-liberal explanation but also the structuralist explanation which argues the inverse); and the inequality hypothesis that the more equal a society is, the higher the tax morality (to test the structuralist explanation).

This has revealed that the greater the level of economic development is, as measured by GDP per capita, the higher the level of tax morality, thus supporting the modernisation thesis. Similarly, the more corrupt the public sector is perceived to be, the lower the level of tax morality is, thus supporting the corruption hypothesis and this aspect of the neo-liberal explanation. For the two measures used to evaluate the redistribution hypothesis, namely social expenditure per capita and the proportion of GDP collected through direct taxes, however, the structuralist thesis rather than the neo-liberal thesis is validated. The greater the social expenditure and the higher the level of taxation as a percentage of GDP are, the higher the tax morality. Finally, the three measures used to test the inequality hypothesis and, thus, the relationship between country level inequality and the level of individual tax morality in a given country, display that the greater the equality in a society is, the higher the level of tax morality, although the correlations are smaller than those found for the economic development, redistribution and corruption hypotheses.

Applying the theories of undeclared work to understanding tax morality, therefore, this paper reveals that no one existing theoretical explanation suffices. Instead, previous theorisations need to be synthesised. To achieve this, a 'neo-modernisation' theorisation is proposed here. This recognises the validity of the modernisation thesis that GDP per capita, the neo-liberal argument that state corruption and the structuralist explanation that state intervention and redistribution are all strongly correlated with cross-national variations in tax morality but refutes the neo-liberal argument that reducing taxes and social expenditure will lead to higher levels of tax morality.

This has clear policy implications. The advocacy by neo-liberals of lower taxes and lower state intervention in the form of social expenditure does not appear to lead to higher tax morality. Instead, improving tax morality is associated with a modernisation of societies through improving GDP per capita, tackling public sector corruption and a shift towards higher direct taxes so as to facilitate redistribution via social transfers and greater social protection expenditure so as to create more equal societies. Unlike previous literature on tax morality, therefore, which has heavily focused upon the important role played by the quality of the tax administration and level of state corruption in improving tax morality, this article shows that these other societal characteristics are also important.

In sum, this evaluation of the cross-national variations in tax morality in the EU-27 has resulted in a new explanation. Whether this neo-modernisation explanation remains valid both when other global regions are incorporated into the analysis as well as when longitudinal data within individual nations are examined, now needs to be evaluated. If this article encourages such research, as well as recognition and further investigation of the need for wider policy measures to be pursued when seeking to improve tax morality, then it will have achieved its intention.

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