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Evaluating the individual- and country-level variations in tax morale: evidence from 35 Eurasian countries

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Abstract

Purpose
Recently, a small but burgeoning literature has argued that tax non-compliance cannot be fully explained using the conventional rational economic actor approach which views non-compliance as occurring when the pay-off is greater than the expected cost of being caught and punished. Instead, a social actor approach has emerged which views tax non-compliance as higher when 'tax morale', defined as the intrinsic motivation to pay taxes, is low. To advance this social actor model, the aim of this paper is to evaluate the individual and national heterogeneity in tax morale, which is crucial if tax compliance is to be improved.

Methodology
To do this, we report data from the 2010 Life in Transition Survey (LiTS) on tax morale in 35 Eurasian countries.

Findings
Logit econometric analysis reveals on the one hand, that there is higher tax morale among middle-aged, married, home owners with children, with a university degree and employed, and on the other hand, that there is higher tax morale in more developed countries with stronger legal systems and less corruption, and higher levels of state intervention in the form of both taxation and expenditure.

Research implications

Rather than continue with the rational actor approach, this paper reveals how an emergent social actor approach can help to more fully explain tax non-compliance and results in a different policy approach focused upon changing country-level economic and social conditions associated with low tax morale and thus non-compliance.

Practical implications
These results display the specific populations with low tax morale which need targeting when seeking to tackle tax non-compliance.

Originality/value
This paper provides a new way of explaining and tackling tax non-compliance in Eurasian countries.

Introduction

All modern societies collect taxes to fund the provision of collective public goods and services such as transport, defence, healthcare and education systems. However, all societies also suffer from a significant level of non-compliance so far as paying taxes owed are concerned. In Eurasia for example, Schneider and Williams (2013) estimate that the shadow economy whereby people evade taxes is the equivalent of some one quarter of GDP. Unless such tax non-compliance is addressed, therefore, this will not only limit the public finances available to fund public goods and services but there will also be unfair competition for legitimate businesses, which will put pressure on those playing by the rules to not do so (Andrews et al., 2011; ILO, 2015; OECD, 2012).

When analysing tax non-compliance, empirical research has continuously demonstrated that such non-compliance cannot be fully explained using a rational economic actor model which views non-compliance as occurring when the pay-off is greater than the expected cost of being caught and punished (Allingham and Sandmo, 1972). Indeed, the perhaps most telling rebuttal of the rational actor model is that many voluntarily comply even when the benefit/cost ratio suggests that they should be non-compliant (Alm et al., 2010; Kirchler, 2007; Murphy 2008; Murphy and Harris, 2007). To explain this, a social actor model has emerged based on the concept of 'civic duty' (Orviska and Hudson, 2003) or what is more commonly referred to as 'tax morale', defined as a moral obligation or intrinsic motivation to pay taxes owed (Torgler and Schneider, 2007). Tax non-compliance from this perspective is thus viewed as arising when the intrinsic motivation to pay taxes is low (Alm et al., 2012; Torgler, 2007a,b, 2011). With the dominance since the 1970s of the rational economic actor approach, the social actor approach which focuses upon improving tax morale was largely neglected. Since the turn of the millennium, however, tax morale has started to become a key issue once again in recent research on tax compliance (Kirchler, 2007; Torgler, 2007). Until now however, Eurasian governments have remained largely entrenched in a rational economic actor approach, which seeks to increase the penalties for tax non-compliance and risks of detection (OECD, 2012; Williams, 2014a). The aim of this paper, therefore, is to start to evaluate the individual and national heterogeneity in tax morale in Eurasia, which is crucial if tax morale, and thereby tax compliance, is to be improved.

To commence, therefore, the next section reviews the conventional rational economic actor explanation of tax non-compliance and how a social actor explanation grounded in understanding the level of tax morale has begun to emerge, followed by a review of past research on tax morale at the individual- and country-level, various competing explanations for the cross-national variations in tax morale, and how there have been few if any evaluations of variations in tax morale at the individual- and cross-national levels in Eurasia. The third section introduces the data and methods used to fill this gap, namely a logit econometric analysis of a 2010 Life in Transition Survey (LiTS) involving 38,864 interviews in 35 Eurasian countries. Revealing in the fourth section the variations in tax morale both at the individual-level and cross-nationally in Eurasia, along with the contextual-level variables accounting for the heterogeneity, the fifth and final section then concludes by discussing the theoretical and policy implications.

Tax morale: a review of the literature and hypotheses development

Conventionally, tax non-compliance has been explained using a rational economic actor approach. The origins of this approach lie in the classic works of both Jeremy Bentham

(Bentham, 1788) and Cesare Beccaria (Beccaria, 1797) whose classic utilitarian theory of crime portrayed citizens as rational actors who evaluate the opportunities and risks confronting them and act in a non-compliant manner if the expected penalty and probability of being caught is small relative to the benefits of flouting the law. When studying crime, this rational actor approach became popularised by Becker (1968) during the late 1960s who argued that by increasing the risks of detection and sanctions confronting those disobeying the law, compliant behaviour would become the rational choice for citizens. During the early 1970s, in a seminal paper, Allingham and Sandmo (1972) applied this rational actor approach to the issue of tax non-compliance, viewing the non-compliant as rational economic actors who evade tax as long as the pay-off from evasion is greater than the expected cost of being caught and punished. The goal was therefore to change the cost/benefit ratio confronting those engaged or thinking about participating in non-compliance. Akin to the study of crime, it was argued that this should be achieved by increasing the actual and/or perceived penalties and risks of detection. This was subsequently widely adopted (e.g., Grabiner, 2000; Job et al., 2007; Richardson and Sawyer, 2001; Williams, 2014a).

However, the evidence that this is effective is less than conclusive. Although some argue that increasing the penalties and probability of detection reduces non-compliance, at least for some income groups (Klepper and Nagin, 1989; Varma and Doob, 1998), others reveal that this increases non-compliance, not least due to a breakdown of trust between the state and its citizens (Chang and Lai, 2004; Kirchler et al., 2014). Indeed, the most telling rebuttal of the rational actor model is that many voluntarily comply even when the benefit/cost ratio suggests that they should be non-compliant (Alm et al., 2010; Kirchler, 2007; Murphy 2008; Murphy and Harris, 2007).

In recent years, therefore, an alternative way of explaining and tackling tax non-compliance has become more prominent. From this viewpoint, individuals are not always rational economic actors with perfect information available to them, but are limited in their ability to know the actual costs and benefits, often do not perceive the true costs of their actions and are influenced by their social context (Alm, 2011). Reflected in the fact that many voluntarily comply even when the benefit/cost ratio suggests that they should be non-compliant (Alm et al., 2010; Kirchler, 2007; Murphy, 2008; Murphy and Harris, 2007), a 'social actor' model has emerged that explains non-compliance to result from low tax morale, by which is meant a low intrinsic motivation to pay taxes (Alm and Torgler, 2006, 2011; Cummings et al., 2009; McKerchar et al, 2013; Torgler, 2011; Torgler and Schneider, 2007). The goal, therefore, is to engender a commitment in citizens to self-regulate by improving their tax morale rather than force citizens to comply using threats, harassment and/or bribes (Kirchler, 2007; Torgler, 2007, 2011).

This social actor approach has a long history. Over a century ago, Georg von Schanz (1890) highlighted the relevance of a tax contract between the state and its citizens. Some six decades or so later the German 'Cologne school of tax psychology' sought to measure tax morale among taxpayers (Schmölders, 1952, 1960, 1962; Strümpel, 1969), viewing it as an important and integral attitude that was strongly related to tax non-compliance (Schmölders, 1960). Although this school of thought went into abeyance with the advent of the rational economic actor model from the 1970s, since the turn of the millennium, it has begun to resurface (see Alm et al., 2012; Kirchler, 2007; Torgler, 2007, 2011).

Numerous studies across various countries and global regions have sought to identify the individual-level socio-demographic and socio-economic characteristics associated with lower tax morale. Firstly, women have been argued to display higher tax morale than men (Alm and

Torgler, 2006a,b; Daude et al., 2013; Kastlunger et al., 2010; Torgler, 2005b, 2006, 2012; Torgler and Schneider, 2007). Secondly, tax morale has been shown to increase positively with age (Alm and Torgler, 2006a,b; Cannari and D'Alessio, 2007; Clotfelter, 1983; Cummings et al., 2009; Daude and Melguizo, 2010; Daude et al., 2013; Hug and Sporri, 2011; Lago-Peñas and Lago-Peñas, 2010; Martinez-Vazquez and Torgler, 2009; Torgler 2004, 2005a,b, 2006, 2012). Thirdly, tax morale is shown to be greater among married people, but weaker among people living together (Alm and Torgler, 2006a,b; Torgler 2005b, 2006). Fourthly, people with children have higher tax morale (Alm and Torgler, 2006a,b; Torgler 2005b, 2006), fifthly, that the more educated have a higher tax morale (Cannari and D'Alessio, 2007; Lago-Peñas and Lago-Peñas, 2010; Torgler, 2005a, 2006, 2012), sixth, that owner occupiers have higher tax morale (Torgler, 2007), and seventh and finally, the unemployed and self-employed have lower tax morale (Alm and Torgler 2006a,b; Cannari and D'Alessio, 2007; Daude et al., 2013; Hug and Sporri, 2011; Torgler, 2004, 2012). Whether this is the case in Eurasia, however, has not been so far subject to investigation. Here, therefore, the following hypotheses can be evaluated in Eurasia:

H1a: Women are more likely to have higher tax morale than men.
H1b: Younger age groups are more likely to have lower tax morale than older age groups.
H1c: Married people have higher tax morale than non-married people.
H1d: People with children have higher tax morale than those without children
H1e: Those with fewer years in formal education are more likely to have lower tax morale than those who spent longer in formal education.
H1f: Homeowners have higher tax morale than those renting.
H1g: The self-employed and unemployed have lower tax morale than those working as employees.

There have also been studies seeking to understand the cross-national variations in the level of tax morale. Indeed, empirical studies of cross-national variations display a strong negative correlation between the level of tax morale and the extent of non-compliance with Pearson r values between -0.46 and -0.66 (Alm and Torgler, 2006, 2007; Alm et al., 2006, Barone and Mocetti, 2009; Frey, 1997, 2003; Halla, 2010; Lewis, 1982; Riahi-Belkaoui, 2004; Richardson, 2006; Torgler, 2005a, 2011; Torgler and Schneider 2009). How, therefore, can these cross-national variations in tax morale be explained? Until now, most studies seeking to explain this have evaluated variables related to institutional quality, such as the influence of bureaucratic quality, democratic accountability, perceptions of state corruption, government stability, trust in the judiciary, and law and order (Cummings et al., 2008; Torgler, 2007, 2011, 2012; Torgler and Schneider, 2007). Rather than simply replicate these studies and variables, however, the intention here is to draw inspiration from the competing theories explaining cross-national variations in the prevalence of the wider informal economy (for a review, see Williams, 2014a) so as to identify a range of variables. This will enable a systematic analysis of a range of potential determinants of tax morale that is theoretically-grounded in two alternative explanations of the informal economy.

A 'modernisation' thesis has argued that the informal economy is less prevalent with economic development and the modernisation of government (Lewis 1959; La Porta and Schleifer 2014). Examining tax morale from this perspective, therefore, some institutional quality variables covered in current studies of tax morale are included. Less developed economies, measured in terms of GNP per capita, and societies lacking modern state

bureaucracies, manifested in for example, higher levels of corruption and lower levels of strength of legal rights, will have lower tax morale. Accordingly, we can evaluate the following hypotheses:

> Modernisation hypothesis (H2): tax morale will be higher in wealthier more modernised economies.
> H2a: tax morale will be higher in wealthier economies.
> H2b: tax morale will be higher in societies with stronger legal rights.
> H2c: tax morale will be higher in societies with lower levels of corruption.

However, there has also been a debate over whether higher or lower levels of state intervention are associated with smaller informal economies, and this too can be applied to identifying variables associated with higher tax morale. A 'state over-interference' thesis, adopted largely by neo-liberals, has argued that non-compliance is a rational economic decision and results from high taxes and state interference in the free market which increases the cost, time and effort associated with being compliant (e.g., De Soto, 1989, 2001; London and Hart 2004; Nwabuzor 2005; Sauvy 1984). As such, tax morale is asserted to be lower in countries with higher taxes and greater state interference in work and welfare systems. The consequent solution is to pursue tax reductions and state interference in order to reduce non-compliance. Alternatively, a 'state under-intervention' thesis asserts that non-compliance results from inadequate levels of state intervention in work and welfare arrangements, which leaves workers less than fully protected and dependent on engaging in such non-compliant endeavor as a survival strategy in the absence of other means of livelihood (Davis 2006; Gallin 2001; ILO 2014; Slavnic, 2010; Williams and Horodnic, 2015). As such, it calls for greater levels of state intervention. In recent years evaluations of the cross-national variations in the size of the informal economy have supported the state under-intervention thesis, revealing that the informal economy is smaller in countries with higher taxes and levels of state expenditure, and lower levels of inequality (Williams, 2014b,c, 2015a,b,c, Williams and Horodnic, 2016; Williams and Martinez, 2014). Here, therefore, and to test whether a similar finding is valid in relation to cross-national variations in tax morale, we can evaluate the following hypotheses:

> State under-intervention hypothesis (H3): tax morale will be higher in economies with greater state intervention
> H3a: tax morale will be higher in economies with higher levels of taxation.
> H3b: tax morale will be higher in economies with higher levels of state expenditure.
> H3c: tax morale will be higher in more equal societies.

Methodology

Data and sample
To evaluate these hypotheses in relation to Eurasian countries, data is here reported from the second round of the Life in Transition Survey (LiTS II), conducted jointly by the World Bank and the European Bank for Reconstruction and Development (EBRD) in 2010. The survey covers 35 Eurasian countries with varying degrees of development, including transition and

developed economies.[1] In each country, a nationally representative sample of between 1000-1500 households was selected for face-to-face interviews, depending on the size of the country. The advantage of the LiTS is that it builds on a consistent sampling methodology across countries. Within each household the head of household was interviewed about individual and household characteristics, and the 'last birthday' rule was applied to randomly choose the household member (who could also be the household head) for the remaining modules of the survey. The standard approach to sample design in each country was multi-stage random probability stratified clustered sampling. The sample was stratified by geographical region and the level of urbanity. To aid the development of the questionnaire, two rounds of piloting were conducted.

The questionnaire enables a detailed analysis of how people across the region perceive the impacts of transition on their lives and their attitudes towards transition issues in general. The survey contains specific questions on peoples' attitudes to paying taxes as well as their individual (gender, age, marital status, occupation, education) and household characteristics (owning or renting a house). In addition to the results of this survey, the original database has been here combined with country-level indicators from World Bank such as GDP, GINI index, government spending, tax revenues, health expenditures, corruption perception index, and strength of the legal rights system. The country level indicators enable an investigation of the impact of country level differences on tax morale across countries.

Model

To analyze the relationship between the tax morale and the individual socio-demographic and country level variables we use a series of binomial logit regression models. The binomial logit takes the following general form:

$$y_i = X_i\beta + \varepsilon$$

Where y_i is the dependent variable indicating whether the individual considers avoiding the payment of taxes as a 'seriously wrong' or 'wrong', and X_i is the set of explanatory variables (sociodemographic and country level contextual variables). In what follows, we discuss variables used in the regression analysis.

Variables

To analyse the above hypotheses, the dependent variable is a dichotomous variable extracted from the LiTs II (2010) survey based on the following question: 'how wrong if at all, do you consider the following behaviour: paying cash with no receipts to avoid paying VAT or other taxes: not wrong at all, a bit wrong, wrong, and seriously wrong. For the purposes of logit estimation, the dependent variable is constructed and takes values of 1 - seriously wrong and wrong, and 0 otherwise.

To analyse the hypotheses regarding the levels of tax morale across socio-demographic and socio-economic groups, the following individual-level variables are analysed to test hypotheses 1a-1g:

- Gender: a dummy variable with value 1 for males and 0 for females.
- Age: a continuous variable for the age and its squared term.

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[1] Countries included in the sample Albania, Armenia, Azerbaijan, Estonia, Belarus, Bosnia, Bulgaria, Croatia, Czech Republic, France, Georgia, Germany, Great Britain, Hungary, Italy, Kazakhstan, Kosovo, Kyrgyzstan, Latvia, Lithuania, Macedonia, Moldova, Mongolia, Montenegro, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Sweden, Tajikistan, Turkey, Ukraine, and Uzbekistan.

- Marital status: a categorical variables for the marital status of the respondent with value 1, for singles, for those separated or divorced, widowed, and value 0 for reference base category for married individuals.
- Number of Children**:** it is a continuous variable for the number of children below in the household.
- Employment status: a categorical variables grouping respondents by their occupation with value 1 for those self-employed, employed, employed without contract, unemployed and students. The reference base category is retired.
- Household ownership**:** a categorical variable for the home ownership status of the respondent, with value 1 for those who are paying the mortgage or rent a house, and zero for those who own outright a house as a reference base category.
- Education**:** a categorical variable for the educational level with value of 1 for primary and secondary education, and zero for university or postgraduate education as a reference base category.

To analyse hypotheses 2 and 3, we examine the association between cross-national variations in tax morale and country-level variables deemed important in each explanation. To do this, we here use data from the World Development Indicators database as of 2010 and Transparency International (2014). To evaluate the modernisation hypotheses 2a, 2b and 2c respectively, the respective indicators used are as follows:

- GDP per capita in purchasing power standards (current international $). For the purposes of testing for a nonlinear relationship with tax morale, we constructed GDP per capita squared.
- Strength of legal rights index. Strength of legal rights index measures the degree to which collateral and bankruptcy laws protect the rights of borrowers and lenders and thus facilitate lending. The index ranges from 0 to 12, with higher scores indicating that these laws are better designed.
- CPI (corruption perception index). 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.

To evaluate the 'state under-intervention' hypotheses (H3), meanwhile, the indicators used to measure the level of taxation and state expenditure are:

- Tax revenue (% of GDP). Tax revenue refers to compulsory transfers to the central government for public purposes. Certain compulsory transfers such as fines, penalties, and most social security contributions are excluded.
- Health expenditure per capita as a percentage of GDP per capita.
- Expenditure per student, tertiary (% of GDP per capita). Government expenditure per student is the average general government expenditure (current, capital, and transfers) per student in the given level of education, expressed as a percentage of GDP per capita.
- Gini index. This measures the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution. A Lorenz curve plots the cumulative percentages of total income received against the cumulative number of recipients, starting with the poorest individual or household. The Gini index measures the area between the Lorenz curve and a hypothetical line of absolute equality, expressed as a percentage of the maximum area under the line. Thus, a Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality.

To evaluate the varying level of tax morale across socio-demographic and socio-economic groups (hypotheses H1), we conduct a logit regression analysis across the individual-level variables. The hypotheses (H2 and H3) investigating the country-level variables associated with a higher level of tax morale are tested by staged multi-level logit regression analysis. This utilizes the hierarchical nature of the data (individuals within countries) by firstly examining the individual-level variables and then integrating each country-level variable in turn to analyze their association with a higher level of tax morale.

Results

To evaluate firstly, whether the variations in tax morale across socio-demographic and socio-economic groups are significant when other characteristics are taken into account and held constant (H1), and secondly, the validity of the explanations for the cross-national variations in the level of tax morale (H2-3), we here report the results of a staged multi-level logit regression model. This utilizes the hierarchical nature of the data (individuals within countries).

The first stage in the analysis estimated a baseline random intercept model with no explanatory variables to identify the appropriateness of a multi-level approach. This passed the Wald test, indicating significant variation between countries in the level of tax morale. Given this justification for using multilevel logit regression analysis, the second stage involved constructing a model with first-level (i.e. individual-level) variables to understand their effect. The third stage then included both first- and second-level (i.e. country-level) variables to understand the effects at both levels. Given that many of the country-level variables are significantly correlated, this hinders the use of single comprehensive model to test the hypotheses. For this reason, the country-level variables are here tested through sequential models applied to the same sample of individual-level characteristics. Accordingly, we can conclude that multicollinearity is not a problem in our data.

Model 1 in Table 1 reports the level of tax morale of different socio-demographic and socio-economic groups in Eurasia, when taking into account and holding constant other characteristics. This reveals that women do not have higher tax morale than men in Eurasia (refuting H1a), which differs to earlier studies in other global regions (Alm and Torgler, 2006; Torgler, 2005b; Torgler and Schneider, 2007b). However, tax morale does significantly vary according to age but it is not the older age groups who have higher tax morale than younger age groups (refuting H1b). Instead, there is an inverted u-shaped relationship between age and tax morale; middle-aged individuals are more likely to have higher tax morale. Married people, nevertheless, are more likely to have higher tax morale compared with non-married people (confirming H1c). So too is it the case that tax morale increases with number of children (confirming H1d) and those with a university education are more likely to have a higher tax morale than those without a university education (confirming H1e). It is also the case that those who own their homes outright are more likely to have higher tax morale than those renting (confirming H1f). The finding that the employed have significantly higher tax morale partially supports previous research, which asserts that the self-employed and employed have a higher likelihood of higher tax morale (thus neither fully supporting nor refuting H1g). In contrast to other studies, we did not find evidence that the unemployed have lower tax morale.

INSERT TABLE 1 ABOUT HERE

In models 2 to 8, the country-level contextual variables are introduced sequentially to test our research hypotheses, namely GDP per capita (M2), the Corruption Perceptions Index (M3), strength of the legal rights index (M4), tax revenue as a % of GDP (M5), health expenditure as a % of GDP (M6), educational expenditure per student in tertiary education as a % of GDP per capita (M7) and the Gini index (M8). Introducing these country-level variables improves the explanatory power of the models (shown in the R-squared results) compared with when only individual-level characteristics are analysed. This displays that country-level characteristics play an important role in explaining the cross-national variations in tax morale across Eurasia. Which characteristics, however, influence the level of tax morale and in which direction?

Starting with the modernisation thesis, model 2 reveals a significant relationship between the level of tax morale and GDP per capita. However, this only partially confirms H2a. There is a u-shaped relationship between the GDP per capita and level of tax morale. That is, the lower levels of GDP per capita have a negative relationship with tax morale up to a certain point, while with higher levels of GDP per capita, tax morale improves rapidly, thus supporting the modernisation thesis, namely that the more economically developed the country, the greater the level of tax morale. Models 3 and 4, meanwhile, display that there is a strong relationship between the institutional quality of a country and the level of tax morale. As model 3 displays, lower levels of perceived public sector corruption are associated with higher tax morale (confirming H2b). Furthermore, the greater the strength of legal rights, the higher is the level of tax morale (confirming H2c). This, therefore, supports the focus of the tax morality literature on institutional quality (e.g., Torgler, 2007, 2011, 2012; Torgler and Schneider, 2007).

Turning to the state under-intervention hypotheses, models 5-8 support the validity of the state under-intervention thesis (and refute the state over-interference thesis). As model 5 displays, the greater the tax revenue as a percentage of GDP, the greater is the level of tax morale (confirming H3a). Similarly, models 6 and 7 provide again support for the state under-intervention thesis that tax morale will be higher in economies with higher levels of state expenditure. Model 6 reveals that the greater the health expenditure per capita as a percentage of GDP, the higher is the level of tax morale (confirming H3b) whilst model 7 reveals that the greater the educational expenditure per students on tertiary education as a percentage of GDP per capita, the higher is the level of tax morale (again confirming H3b). There is thus a positive relationship between higher levels of tax revenue and state expenditure, and the level of tax morale. Finally, model 8 reveals a negative relationship between the Gini index and the level of tax morale; the greater the inequality in the society, the lower is the tax morale (confirming H3c). Inequality therefore has a negative effect on the likelihood of compliance.

Discussion and Conclusions

This paper has sought to evaluate the variations in tax morale across Eurasia both at the individual- and cross-national levels. This has revealed an inverted u-shape relationship between age and tax morale, showing that middle-aged individuals are more likely to have higher tax morale. It has also revealed that married people, with children, who own their own home, those with a university degree and employed people have significantly higher tax morale than unmarried people, people without children, those buying or renting their home, those without a university a degree, and those in self-employment and unemployed. However, no significant relationship has been identified between tax morale and gender.

To explain the cross-national variations in attitudes towards tax compliance, we tested three competing perspectives which assert that the prevalence of lower levels of tax morale result from: (a) under-development (modernisation explanation), and (b) too little state redistribution and intervention to protect citizens (state under-intervention explanation). Table 2 summarises the results. This reveals support for the hypotheses of the modernization thesis. The greater the level of economic development (as measured by GDP per capita and GDP per capita squared), the higher is tax morale (confirming H2a). However, this effect only holds after countries reach a certain threshold of GDP as indicated by U-shape relationship between tax morale and economic development. We also found that the higher the country score on the Strength of Legal Rights index, the higher is the tax morale (confirming H2b) and the more corrupt the public sector is perceived to be by citizens, the lower is the level of tax morale (confirming H2c).

INSERT TABLE 2 ABOUT HERE

Turning to the state under-intervention thesis, the important finding is that all of the sub-hypotheses of this thesis were confirmed. Not only was it found that the higher is the tax revenue as a percentage of GDP, the higher is the tax morale (confirming H3a), but also that the greater the level of state expenditure, the higher is the tax morale (confirming H3b). This is the case whether total both for total health expenditure (as a % of GDP) and total educational expenditure per student (as a % of GDP per capita), thus confirming hypotheses H3b. Finally, the finding is that tax morale is higher in more equal societies (confirming H3c).

The outcome, therefore, is that when the theorisations of tax non-compliance are applied to explaining tax morale, no one existing theoretical explanation suffices. Instead, previous theorisations need to be synthesised. To do this, a 'neo-modernisation' theorisation is here proposed. This recognises that there is a u-shaped relationship between tax morality and GDP per capita, and that the modernization of governance and thus institutional quality is significantly correlated with the level of tax morale, but also recognises that greater levels of state intervention, measured in terms of higher levels of state tax revenue and expenditure, is strongly correlated with cross-national variations in tax morale.

This has clear policy implications. Improving tax morale appears to be associated with a modernisation of societies through tackling public sector corruption, strengthening the legal framework and a shift towards greater state intervention via higher state revenue generation and expenditure, so as to facilitate redistribution via social transfers and create more equal societies. Applying these theorisations of the informal economy to the study of tax morale, therefore, this paper reinforces more in-depth previous scholarship on the relationship between tax morale and institutional quality, which reveals that bureaucratic quality, democratic accountability, government stability, trust in government, and law and order, are important determinants of the level of tax morale (Torgler, 2011, 2012; Torgler and Schneider, 2009). Additionally, however, it reveals that more interventionist policies in the form of higher state revenue generation and expenditure, which enables redistribution via social transfers and more equal societies, are also associated with higher tax morale. Whether such policies are the cause or effect of higher tax morale, of course, is open to question and requires further investigation.

In applying theorisations of the informal economy to explaining tax morale, therefore, one outcome of this paper is to reveal the need to complement the study of institutional quality with a wider range of variables associated with state intervention and expenditure. However, it also reveals that explanations of the informal economy have perhaps paid too little attention to

institutional quality issues, such as bureaucratic quality, democratic accountability, government stability, trust in government, and law and order, and that future research on the informal economy will need to pay greater attention to evaluating these explanatory variables.

In sum, this evaluation of the cross-national variations in tax morale in the 35 Eurasian countries has proposed a fuller neo-modernisation explanation. Whether this remains valid both when other global regions (especially with heterogonous taxation, corruption, and social welfare systems) are incorporated into the analysis as well as when longitudinal data within individual Eurasian nations are examined, now needs to be evaluated. If this paper encourages such analysis, as well as the greater use of institutional quality explanations when explaining the informal economy, then it will have achieved one of its intentions. If this then leads governments to shift away from seeking tax compliance using a rational economic actor approach focused upon increasing penalties and the risks of detection, and to adopt a social actor approach that focuses upon improving tax morale, and the adoption of the country-level measures which this paper shows leads to the improvement of tax morale, then it will have achieved its wider objective.

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