Perceptions of Institutional Quality and Justification of Tax Evasion

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August, 2019

Abstract

According to the World Values Survey (WVS), citizens justification of tax evasion varies widely across individuals and countries. We explore in this paper how justification of tax evasion covaries across individuals and countries with measures of government quality and the survey respondents own perceptions of the institutional quality. We study three proxies for individuals assessment of institutional quality, namely confidence in government, in civil service and in justice. We find only weak evidence that better assessments of the quality of government institutions are associated with less justification of tax evasion.

Keywords: Development, institutional quality, tax morale, tolerance of tax evasion

JEL Codes: E26, H26, O17, O23 , P16

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1 Introduction

Individuals hold different views regarding tax evasion and institutional quality. The World Values Survey (WVS) ask several questions to register these views systematically across countries and time. As the tax morale literature has shown, there are some consistent patterns of joint variation between individuals justification of tax evasion and some individual characteristics, views and expressed values (Alm and Torgler 2006; Doerrenberg and Peichl 2013; Feld and Frey 2002; Halla 2012; Heinemann 2010; Luttmer and Singhal 2014; Torgler 2005). In the present paper, we systematically explore the potential covariation between justification of tax evasion and perceptions of institutional quality.

The motivating hypothesis is that skepticism regarding the quality of institutions might contribute to explain why many individuals justify tax evasion. This justification might emerge as a feeling of reciprocity: if the government is inefficient or corrupt, why should I pay my taxes? Alternatively, a negative correlation between tax evasion and institutional quality might arise because the perceived risk of being observed and punished is higher if the government is efficient, among other things, in monitoring tax evaders. However, as several authors in the tax morale literature have pointed out, the probability of being observed evading is usually so low, even in developed countries, that it is difficult to explain tax compliance based only on traditional incentives arguments (Feld and Frey 2002; Luttmer and Singhal 2014; Sandmo 2005; Torgler 2005).[1]

We see our paper mainly as a contribution to the literature on tax morale. Ours is a negative result, showing that justification of tax evasion is at most weakly associated to negative perceptions of institutional quality. Our analysis, as most of the literature on tax morale, provides no causal evidence (see Halla 2012, for an exception). We, more modestly, explore covariation. But of course, covariation is usually a first step in the more ambitious search for causal links. Finding correlations does not allow to make causal inference, but in the absence of correlations, there is little if any scope for causal links.

Our paper also contributes to the literature on informality that emerged mainly in developing countries (for a survey, see Perry et al. 2007). According to this literature, informality —of which tax evasion is one symptom— emerges because governments have limited ability to monitor and enforce the law. If, in turn, as the literature on tax morale suggests, justification of tax evasion is an indicator of individual's willingness to evade, we should expect a systematic negative correlation between justification of tax evasion and perceptions of government effectiveness.

After this introduction, the paper continues as follows. In section 2, we present the data and the

[1] See however Slemrod (2003, 2007), for a critical view on this argument.

econometric methodology. In section 3 we present our main empirical results. The paper ends with some concluding remarks in section 4.

2 Data and methods

2.1 Data sources

Our main data source is the World Values Survey (WVS). We focus on a question regarding justification of tax evasion and three questions about institutional quality. We also use some other questions to control for some individual characteristics and opinions. Aggregate variables come from the World Bank data bases.

We present results using wave 6 of the WVS, collected between 2010 and 2014 (Inglehart et al. 2018). This is the most recent wave and covers 60 countries, of which we could incorporate in our analysis 56.[2] Four countries were dropped because of data availability issues.

Our justification-of-tax-evasion variable is based on a question in the WVS that goes as follows: "Please tell me for each of the following actions whether you think it can always be justified, never be justified, or something in between." One of these actions is: "Cheating on taxes if you have a chance". Respondents are then asked to choose in a 10-point scale, where 1 is "never justifiable" and 10 is "always justifiable". We built a binary variable (named $justifiable$), equal to 0 if the respondent never justifies tax evasion (he chooses 1 in the ten point scale), and 1 otherwise. Hence, $justifiable = 1$ in our coding means that the respondent did not choose zero tolerance of tax evasion.[3]

We analyze how respondents justification of tax evasion covaries with their perceptions of institutional quality and country available indexes of government quality. Our proxies for individuals opinions about institutional quality are based on a WVS set of questions in which the interviewer reads the following sentence: "I am going to name a number of organizations. For each one, could you tell me how much confidence you have in them: is it a great deal of confidence, quite a lot of confidence, not very much confidence or none at all?" We used three organizations: "the government (in your nation's

[2]The 56 countries considered were: Algeria, Azerbaijan, Argentina, Australia, Armenia, Brazil, Belarus, Chile, China, Taiwan, Colombia, Cyprus, Ecuador, Estonia, Georgia, Ghana, Hong Kong, India, Iraq, Japan, Jordan, Kazakhstan, South Korea, Kuwait, Kyrgyzstan, Lebanon, Libya, Malaysia, Mexico, Morocco, Netherlands, Nigeria, Pakistan, Palestine, Peru, Philippines, Poland, Romania, Russia, Rwanda, Slovenia, South Africa, Zimbabwe, Singapore, Spain, Sweden, Thailand, Trinidad and Tobago, Tunisia, Turkey, Ukraine, Egypt, United States, Uruguay, Uzbekistan and Yemen.

[3]We follow the literature on tax morale in recoding this variable. Frey and Torgler (2007), Streiff (2013), Torgler (2005), and Torgler and Schneider (2007) use a four-point scale. For convenience and ease of interpretation of the results, we use a two point scale as, among others, Alm and Torgler (2006), Daude (2012), Doerrenberg and Peichl (2013), Gerstenblüth et al. (2012), Halla (2012), and Heinemann (2010). The cutoff point at the first category is also the most commonly used in the tax morale literature. We provide some justification of this choice below, in section 2.2.

capital)", "the civil service" and "the courts". We kept the original WVS four-point scale but recoded it to have 1 representing "none at all" and 4 "a great deal". We named these variables *confidence in government*, *confidence in civil service*, and *confidence in justice*. We also built binary variables for individuals perceptions of institutional quality recoding the original 4-point scales. We named these binary variables as *high confidence in ...* (government, civil service and justice). They take value 1 if respondents chose the "a great deal of confidence" or "quite a lot of confidence" options, and 0 otherwise.

We also used an index of country government quality built by the World Bank included in the Worldwide Governance Indicators (WGI) project (The World Bank 2014). The WGI measures six dimensions of governance: voice and accountability; political stability and absence of violence; government effectiveness; regulatory quality; rule of law; and control of corruption. The indexes are based on perceptions and reflect the views of thousands of households, experts, NGOs and public sector agencies (Kaufmann et al. 2009). The World Bank uses all this information to build synthetic indicators that vary only at the country level (unlike the WVS data that varies at the individual respondent level). These indicators are continuous variables ranging from -2.5 to 2.5. Of the six indexes of governance built by the WGI project, we used the *government effectiveness* index. Higher scores represent higher governance effectiveness.

We also used several controls to reduce the risk of omitted variables bias:

- Income. We used a question from the WVS to control for individuals perceived own position in the distribution of income. The question is as follows: "On this card is an income scale on which 1 indicates the lowest income group and 10 the highest income group in your country. We would like to know in what group your household is. Please, specify the appropriate number, counting all wages, salaries, pensions and other incomes that come".

- Age groups. We used dummies for age groups 30-39, 40-49, 50-59, 60-69 and 70 and above. The omitted category in the regressions is below 30.

- Marital status. We included dummies for divorced, separated, widowed and never married. Married is the omitted category.

- Woman. It is a dummy variable that takes value 1 if the respondent is female and 0 otherwise.

- Pride. The interviewer asks "How proud are you to be [nationality]?' and shows respondents a four-point scale, where 1 is "very proud" and 4 is "not at all proud". We recoded this variable to make higher values represent higher pride.

- GDP per capita.

Some other potential controls were not included to ameliorate loss of data. For example, we did not include among the controls some other variables that are commonly included in the tax morale literature like employment status, church attendance and social class.

We weighted data in the WVS taking into account population and standardizing countries' sample size.

2.2 Descriptive statistics

We present in table 1 some basic descriptive statistics of the variables used in the study. Most of them come from the WVS and are measured at the individual respondents level. We also use two variables aggregated at the country level: government effectiveness and GDP per capita.

Insert table 1

People have very different opinions regarding the justifiability of tax evasion. Almost forty percent of respondents justify tax evasion to some degree. The variance of the (recoded) binary variable for justification of tax evasion is 0.49, which is much higher than the variance this variable would have presented if it had a simple Bernoulli distribution with probability 0.39 (the corresponding Bernoulli variance is $0,24 = 0.39(1 - 0.39)$).

There are also remarkable differences across countries in justification of tax evasion. In order to assess this variability, we computed in each country the proportion of individuals whose answers lie at or below each point in the 10-point scale of the original WVS variable. The higher this proportion the lower is individuals tolerance to tax evasion at a given point. This is the empirical cumulative distribution function of the variable (empirical CDF).

Using this index, we find considerable heterogeneity regarding justification of tax evasion among the World Bank (WB) regions and country income groups (figures 1 and 2).[4] Middle East and North Africa

[4]Notice however that the countries included in the WVS are not necessarily fully representative of each region. Countries by region (World Bank classification): East Asia & Pacific: Australia, China, Hong Kong, Japan, Malaysia, Philippines, Singapore, South Korea, Taiwan and Thailand. Europe & Central Asia: Armenia, Azerbaijan, Belarus, Cyprus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Netherlands, Poland, Romania, Russia, Slovenia, Spain, Sweden, Turkey, Ukraine and Uzbekistan. Latin America & Caribbean: Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, Peru, Trinidad and Tobago, and Uruguay. Middle East & North Africa: Algeria, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Palestine, Tunisia and Yemen. North America: United States. South Asia: India and Pakistan. Sub-Saharan Africa: Ghana, Nigeria, Rwanda, South Africa and Zimbabwe. (3) Countries by income group (World Bank classification): High income: Australia, Chile, Cyprus, Estonia, Hong Kong, Japan, Kuwait, Netherlands, Poland, Russia, Singapore, Slovenia, South Korea, Spain, Sweden, Taiwan, Trinidad and Tobago, United States and Uruguay. Upper middle income: Algeria, Argentina, Azerbaijan, Belarus, Brazil, China, Colombia, Ecuador, Iraq, Jordan, Kazakhstan, Lebanon, Libya, Malaysia,

(MENA) is the region that justifies tax evasion to a larger extent in most of the scale. Only at point 1 in the 10-point scale, does the empirical *CDF* of MENA lie above that of other regions. Unexpectedly, Latin America and the Caribbean is the region with the lowest declared tolerance of tax evasion, close to and below that of North America (comprised of only the United States in our sample).

Insert figures 1 and 2 about here

Tolerance of tax evasion is on average lower in high than in middle income countries (see figure 2). This ranking remains the same irrespective of the tolerance threshold we consider. In turn, low income countries are more tolerant of tax evasion than the other three groups if tolerance is computed using the most extreme threshold ("never justifiable") but less tolerant than middle income countries if any other threshold is used.

Most of cross-country variation in justification of tax evasion occurs at the bottom of the 10-point scale: the proportion of respondents who say that evading is never justifiable ranges from a low 23 percent in India to a top 87 percent in Japan. This stylized fact provides some foundation for recoding the original 10-point scale into a binary variable that separates individuals who never justify evasion from all the other.

Table 1 also presents some basic information regarding the proxies we used for institutional quality. The mean confidence in government, civil services and justice lie between 2.4 and 2.6, which are not far from the midpoint of the WVS four point scale variables (2.5). Between 0.47 and 0.55 of respondents asserted they had "a great deal" or "quite a lot" of confidence in these institutions. As in the case of justification of tax evasion, the observed variance is high compared to a simple Bernoulli distribution. Unlike the "confidence in..." variables, "government effectiveness" is aggregated at the country level and is a continuous variable ranging from -2.5 to 2.5. Its mean in our database is 0.22, with a standard deviation of 0.93.

Finally, table 1 also presents information regarding the controls we use in various regressions. The average of individuals perceptions of their belonging to income deciles is 4.9. By construction, the average of individuals true belonging to income deciles is 5.5, so individuals on average underestimate the decile they belong to. Although not shown in the table, we also computed the distribution of individuals perceptions and found that the percentiles close to the median are larger and the percentiles

Mexico, Peru, Romania, South Africa, Thailand, Tunisia and Turkey. Lower middle income: Armenia, Egypt, Georgia, Ghana, India, Kyrgyzstan, Morocco, Nigeria, Pakistan, Palestine, Philippines, Ukraine, Uzbekistan and Yemen. Low income: Rwanda and Zimbabwe. Data is not weighted by the population of each country (all countries have the same weight).

close to the extremes are smaller than in the real distribution.[5] Close to half of the respondents are women, about one half is 39 years old or younger and 0.62 are married. The observed mean of the 4-point scale variable "pride" is 3.5. Average per capita GDP at purchasing power parity is 20.8 thousand US dollars.

2.3 Methods

Each wave of the WVS database is a cross section with two levels: the individuals (subindex i) are the level 1 and the countries (subindex j) are the level 2. We present simple panel and full two-level models, as well as country by country models.

We specified the level 1 model as follows:

$$ln\left(\frac{Pr(justifiable_{ij}=1 \mid z_{ij})}{Pr(justifiable_{ij}=0 \mid z_{ij})}\right) = \eta_{1j} + \eta_2' z_{ij},$$

where z_{ij} is the vector of level 1 covariates, i.e. covariates that vary at the level of survey respondents.

We present first panel estimations in which we do not model η_{1j} and simply treat them as country random effects. We begin by the simplest specifications in which we compute logistic regressions of our binary dependent variable on respondents perceptions of quality of institutions without further controls. We then add the set of controls described in section 2. We also present estimations using the "high confidence in ..." binary indicators. This recoding provides starker and easier to interpret results in terms of high versus low perception of institutional quality. As with the 4-point scale regressors, we run logistic regressions without and with a set of controls.

We then model the individual country effects to have full two-level models. The level 2 model is a linear equation of the country effects on our country-level variables, which are government effectiveness (ge_j), from WGI, and per capita GDP (gdp_j):

$$\eta_{1j} = \gamma_{11} + \gamma_{12} ge_j + \gamma_{13} gdp_j + \zeta_j$$

where ζ_j is a normally distributed zero mean random component.

We get a reduced form model substituting the level 2 into the level 1 equation:

$$ln\left(\frac{Pr(justifiable_{ij}=1 \mid z_{ij})}{Pr(justifiable_{ij}=0 \mid z_{ij})}\right) = \beta_0 + \beta_1 ge_j + \beta_2 gdp_j + \beta_3' z_{ij} + \zeta_j \quad (1)$$

[5] Cruces et al. (2013) show evidence of systematic biases in this regard, and explain them in terms of groups of reference.

where $\beta_0 = \gamma_{11}; \beta_1 = \gamma_{12}; \beta_2 = \gamma_{13}; \beta_3 = \eta_2$.

We estimate these models using xtlogit and gllamm in STATA. In the case of the full-fledged two-level model, we approximate the likelihood function with an adaptive Gauss-Hermite quadrature. We choose the number of integration points computing the proportional change in the estimated values of the coefficients. We stop when the estimates do not change more than a threshold after adding more points (Rabe-Hesketh and Skrondal 2012).

3 Results

We present in table 2 the results of running random effects logit models of justification of tax evasion on confidence in government. In columns (1) and (3) we use the four point and the recoded binary regressors for confidence in government, respectively, and include no controls. In both cases, the coefficient of confidence in governance is negative and significantly different from zero at 1 percent. In columns (2) and (4), we add several controls to the specifications in (1) and (3), respectively. With these controls, we get lower point estimates for the coefficients associated to confidence in government. Nevertheless, these coefficients are still negative and highly significant. The controls are also highly significantly different from zero, and in line with previous findings in the literature of tax morale.[6]

Insert Table 2 about here.

In table 3 we extend our results to include other proxies for perceptions of institutional quality and other estimation methods. To facilitate interpretation, we present the odds ratios rather than the estimated coefficients, so we do not present the standard deviation of the coefficients, but we provide the usual significance levels. The three panels correspond to our three proxies for individuals perception of institutional quality, i.e. confidence in government, in civil service and in justice.[7]

Insert Table 3 about here.

Columns (1) and (2) present the logit panel regression models, without and with controls, respectively. These estimations yield odds ratios lower than one, which correspond to negative coefficients, statistically significant at 1 percent in all but one case in which it is significant at 5 percent. Associated

[6]The regressors "Income" and "Pride" are not standard in this literature, though.

[7]Columns (1) to (4) in the first panel are just the odds ratio version of the regressions in table 2. Because the WVS is an unbalanced panel, the observations included in a regression may vary when a regressor is added. To avoid this sort of missing data effects in our estimations, we estimated all models in each panel using the same sample, i.e. the largest sample that contains all the regressors used in any estimation in each panel.

to a one point increase in the perception of institutional quality in the WVS four-point scales there is between 2.3 and 7.5 percentage points drop in the odds that citizens justify tax evasion, depending on the proxy used. Confidence in justice presents the largest drop, among the three proxies. According to the estimation with controls (column 2), the odds that a respondent who expresses "a great deal of confidence" in justice justifies tax evasion is 0.83 ($= 0.941^3$) the odds that a respondent who expresses no confidence "at all" in justice does.

We obtain similar results when we use a 2-point rather a 4-point scale for the variables measuring perception of institutional quality (columns 3 and 4). For example, taking the results of the regression on the confidence in justice with controls, the odds that a respondent who asserts that the justice has "high quality" justifies tax evasion is 0.88 the odds that a respondent who asserts that the justice has "low quality" does.

The two-level models yield less clearcut results (columns 5 and 6 in table 3). While the point estimates are quite similar, the precision of the estimations drop so that it is no longer possible to reject the null hypothesis that the odds ratios of confidence in government and civil service are one (or that the coefficients are zero). Only the odds ratio of confidence in justice remains significantly lower than one at 5 percent.

With the two-level models, we have estimations of the correlation between country level indexes of institutional quality and justification of tax evasion (column 6). The point estimates of the odds ratios are smaller than one and quite similar in the three panels, but only when the individual level proxy for institutional quality is justice does the country level index of confidence in government yield a significantly lower than one odds ratio (significant at 1 percent).

In table 4, we present the results of running our two-level model by group of countries defined according to the World Bank country income group. We do not include within country invariant regressors in these estimations because the number of countries in each group is too small. With this disaggregation, the results tend to be less clear than in the pooled database. While most odds ratios point estimates are lower than one, as expected, only a few are significantly different from one.

Insert table 4 about here

We also explored the correlation between our proxies for perceptions of institutional quality and justification of tax evasion country by country. We did it running logit models with the same set of controls we used in the pooled database. In figures 3 to 5, we present caterpillar plots of the odds ratios for our three proxies for institutional quality.

Insert figures 3, 4 and 5 about here

As it is apparent from the plots, the odds ratios are not significantly different from one in most countries and for the three proxies of perceptions of institutional quality. Only for a few countries do the confidence intervals of the odds ratios associated with institutional quality lie below 1. There are even a few cases in which the odds ratios are larger than one.

In table 5, we present the ten smallest and largest values of the point estimates of the odds ratios per country presented in figures 3, 4 and 5. The range is wide and there are several countries that present a positive correlation between justification of tax evasion and confidence in government, civil service and justice. There is a variegated set of countries in the group of ten countries with highest odds ratios (all of them larger than one), including several lower middle, upper middle and high income countries.

Insert table 5 about here

4 Conclusions

We do not find strong evidence to support the hypothesis that better perceptions of institutional quality are associated with lower justification of tax evasion. While we have some results consistent with this hypothesis working with the whole panel and assuming random country level effects, these results do not seem to be robust.

First, the correlations weaken significantly when we run full-fledged two-level models. Point estimates remain mostly unchanged, but the precision of the estimations drop drastically when we run the two-level models. With higher estimated standard deviations of the coefficients, we cannot reject the null hypothesis of zero coefficient when we use confidence in government and in civil service as our measure of perception of institutional quality. Only with the proxy confidence in justice does the coefficient remain significantly negative.

With the two-level models, we also estimate the correlation between justification of tax evasion and a country-level index of government quality built by the World Bank. While point estimates indicate a negative correlation, we can reject the null hypothesis of zero coefficients only when the proxy used for individual perceptions of institutional quality is confidence in justice.

Second, we find no clear patterns at the country level. We run logit models country by country and the coefficients of individuals perception of institutional quality are not statistically significantly different from zero in most countries. Apparently, the (weak) evidence we have of a negative correlation

between perceptions of institutional quality and justification of tax evasion rests on a combination of within and between country variation.

Our negative results suggest that low tax morale is only weakly associated to negative perceptions about the quality of institutions. Skepticism about government, civil service and justice might contribute to high justification of tax evasion, but the estimated contribution is not robust to relatively minor reasonable changes in methods of estimation and controls.

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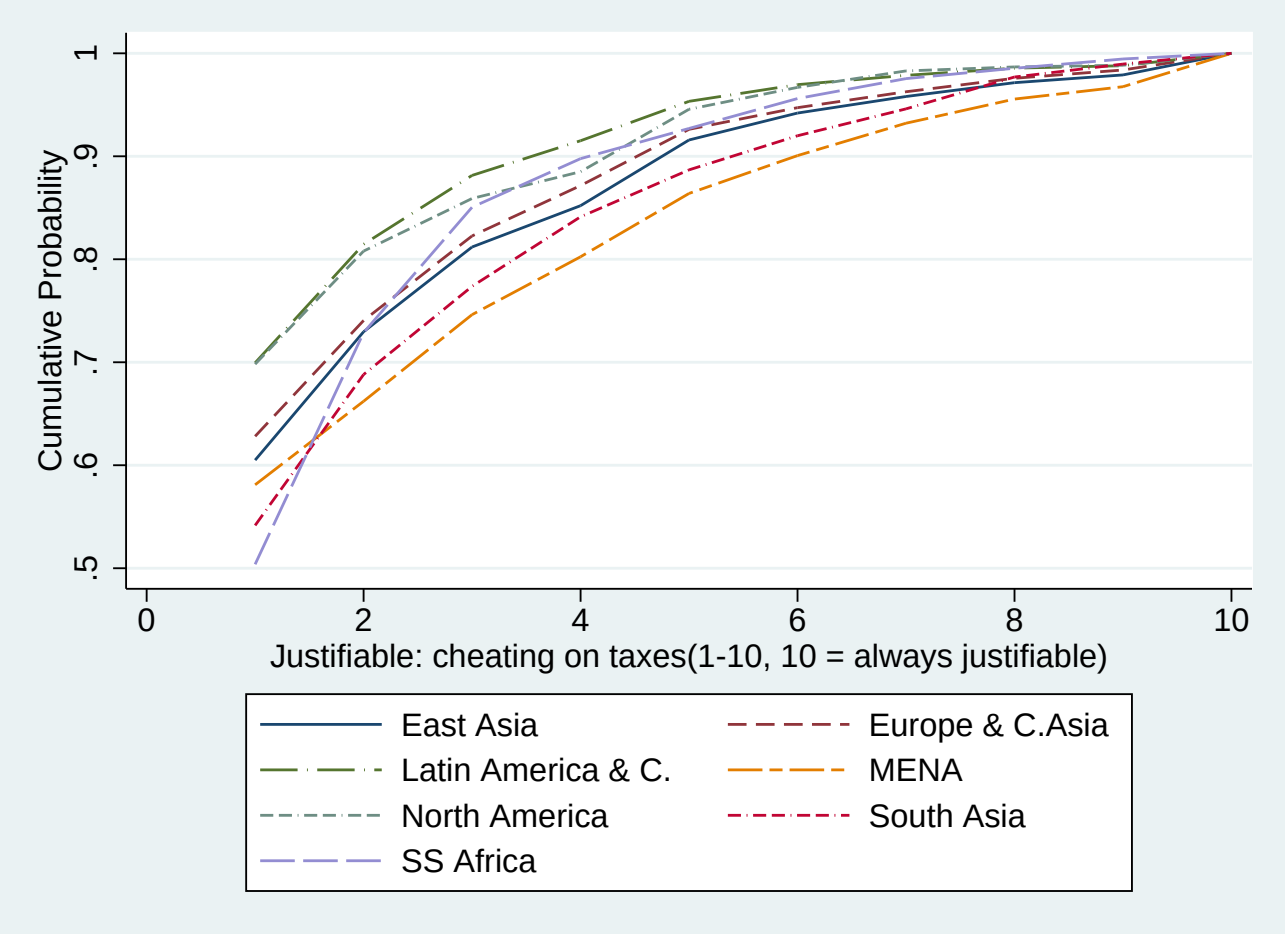
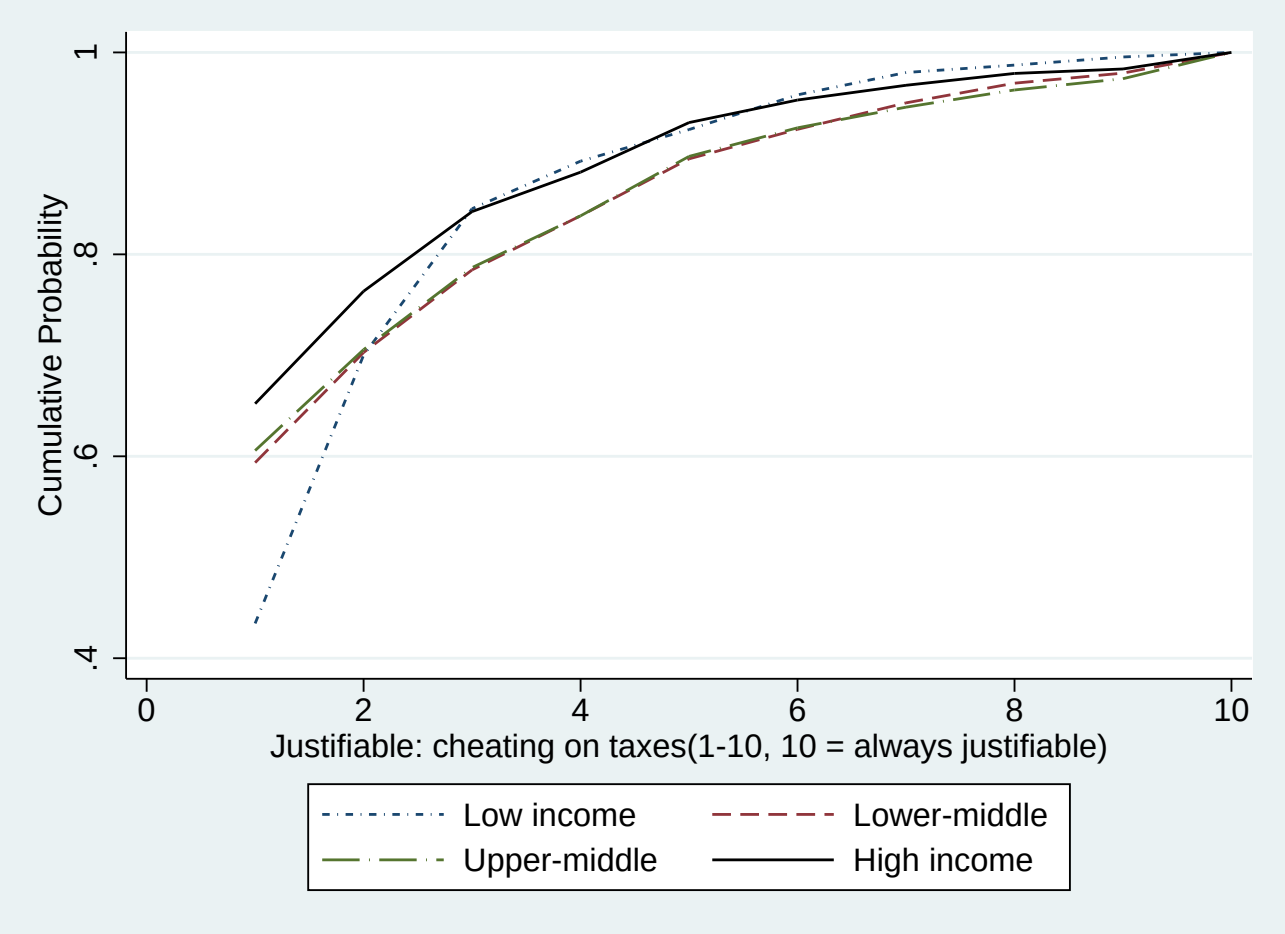
Figures and tables

Figure 1: Justification of tax evasion: Empirical cumulative distribution functions by World Bank region.



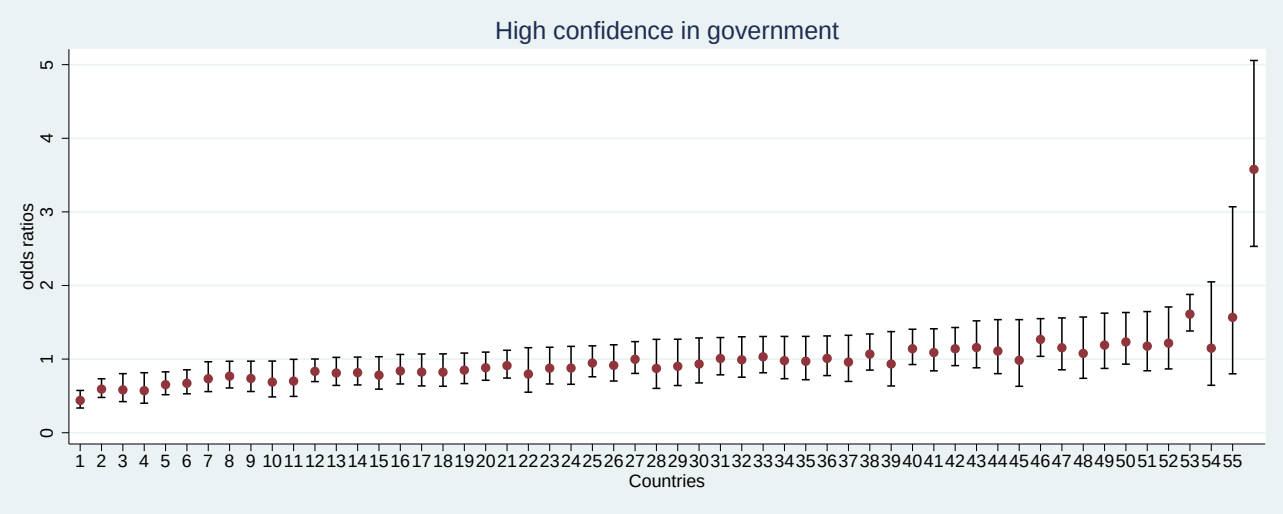
Source: Own computations based on WVS.

Figure 2: Justification of tax evasion: Empirical cumulative distribution functions by World Bank income groups.



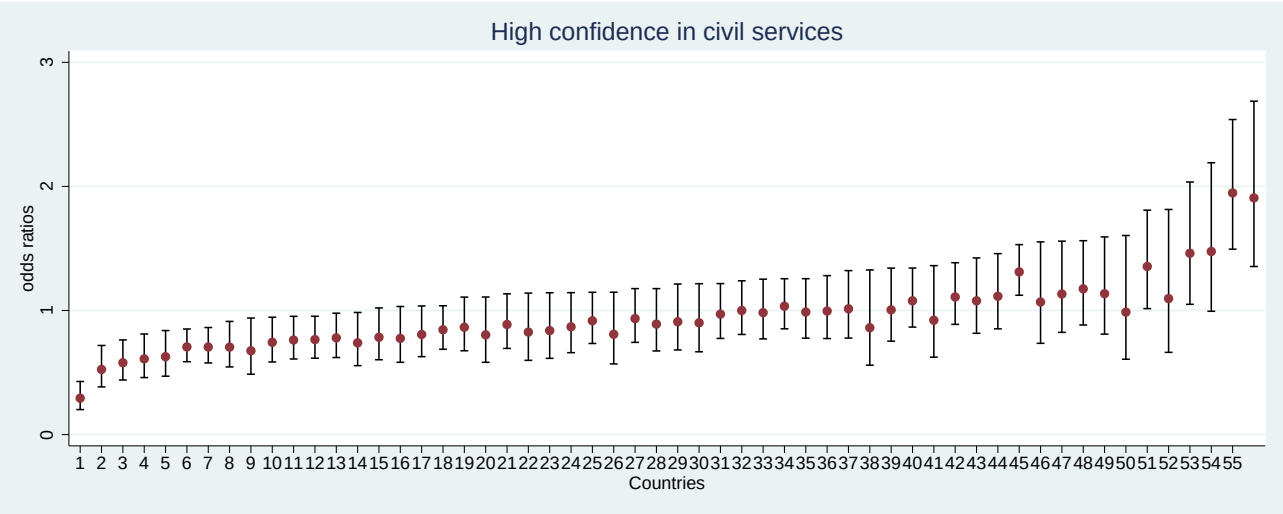
Source: Own computations based on WVS.

Figure 3: Justification of tax evasion and confidence in government country by country.



Confidence intervals at 95 percent.
Source: Own computations based on WVS.

Figure 4: Justification of tax evasion and confidence in civil service country by country.



Confidence intervals at 95 percent.
Source: Own computations based on WVS.

Figure 5: Justification of tax evasion and confidence in justice country by country.

Confidence intervals at 95 percent.
Source: Own computations based on WVS.

Table 1: Descriptive statistics

	Mean	Std. Dev.	Observations
Justifiable tax evasion (1)	0.3923	0.4883	78,964
Perception of institutional quality (2)			
Confidence in government	2.4200	0.9540	76,823
High confidence in government	0.4694	0.4991	76,823
Confidence in civil services	2.4283	0.8903	75,798
High confidence in civil services	0.4837	0.4997	75,798
Confidence in justice	2.5691	0.9386	76,581
High confidence in justice	0.5486	0.4976	76,581
Government effectiveness	0.2162	0.9315	56
Controls (3)			
Income	4.8738	2.0984	76,652
Woman	0.5232	0.4995	78,901
Age 16-29	0.2853	0.4516	78,846
Age 30-39	0.2084	0.4061	78,846
Age 40-49	0.1813	0.3853	78,846
Age 50-59	0.1493	0.3564	78,846
Age 60-69	0.1054	0.3071	78,846
Age 70 and more	0.0703	0.2556	78,846
Married	0.6250	0.4841	78,780
Divorced	0.0390	0.1936	78,780
Separated	0.0188	0.1358	78,780
Widowed	0.0621	0.2413	78,780
Never married	0.2552	0.4360	78,780
Pride	3.4765	0.7112	77,300
GDP	20.7850	16.5404	56

(1) Justification of tax evasion, 0 "Never justifiable" - 1 otherwise.
(2) Perception of institutional quality: Confidence in government, civil services, and justice = 1 if "none at all", = 4 if "a great deal". High confidence in government, civil services and justice = 1 if "a great deal" or "quite a lot", = 0 if "not very much" or "none at all". Government effectiveness is a continuous variable ranging from -2.5 to 2.5.
(3) Controls: Income: "On this card is an income scale on which 1 indicates the lowest income group and 10 the highest income group in your country. We would like to know in what group your household is." Dummies for woman, age groups and marital status. Pride: "How proud are you to be nationality [x]? 1 "not at all proud" - 4 "very proud"." GDP: per capita GDP, purchasing power parity, in thousands of US dollars (Source: IMF).
Source: Own computations based on WVS and Kaufmann et al. (2009).

Table 2: Justification of tax evasion and confidence in government. Coefficients.

	(1)	(2)	(3)	(4)
Confidence in government	-0.054***	-0.023**		
	(0.009)	(0.009)		
High confidence in government			-0.111***	-0.061***
			(0.017)	(0.018)
Income		0.056***		0.056***
		(0.004)		(0.004)
Woman		-0.106***		-0.106***
		(0.017)		(0.017)
Age 30-39		-0.082***		-0.082***
		(0.025)		(0.025)
Age 40-49		-0.164***		-0.164***
		(0.027)		(0.027)
Age 50-59		-0.312***		-0.312***
		(0.029)		(0.029)
Age 60-69		-0.380***		-0.380***
		(0.034)		(0.034)
Age 70 and more		-0.538***		-0.537***
		(0.042)		(0.042)
Divorced		0.133***		0.133***
		(0.043)		(0.043)
Separated		0.212***		0.212***
		(0.059)		(0.059)
Widowed		0.099***		0.099***
		(0.038)		(0.038)
Never married		0.093***		0.093***
		(0.023)		(0.023)
Pride		-0.265***		-0.264***
		(0.013)		(0.013)
Constant	-0.387***	0.369***	-0.465***	0.338***
	(0.093)	(0.104)	(0.091)	(0.103)
Wald chi2	70.49	1259.39	75.99	1268.96
Prob > chi2	0.0000	0.0000	0.0000	0.0000
Observations	73,104	73,104	73,104	73,104
Countries	56	56	56	56

Standard errors in parentheses ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.
Source: Own computations based on WVS and Kaufmann et al. (2009).

Table 3: Justification of tax evasion and institutional quality. Odds ratios.

Proxy for perception of institutional quality: confidence in government						
	(1)	(2)	(3)	(4)	(5)	(6)
Perception of institutional quality	0.948***	0.977**				
High perception of institutional quality			0.895***	0.941***	0.944	0.944
Government effectiveness						0.907
Observations	73,104	73,104	73,104	73,104	73,104	73,104
Proxy for perception of institutional quality: confidence in civil services						
Perception of institutional quality	0.937***	0.956***				
High perception of institutional quality			0.882***	0.912***	0.914*	0.914
Government effectiveness						0.909
Observations	72,263	72,263	72,263	72,263	72,263	72,263
Proxy for perception of institutional quality: confidence in justice						
Perception of institutional quality	0.925***	0.941***				
High perception of institutional quality			0.861***	0.882***	0.869**	0.869**
Government effectiveness						0.883***
Observations	72,892	72,892	72,892	72,892	72,892	72,892
Controls and methods						
Controls	No	Income, age groups, sex, marital status and pride	No	Income, age groups, sex, marital status and pride	Per capita GDP, income, age groups, sex, marital status and pride	Income, age groups, sex, marital status and pride
Multilevel	No	No	No	No	Yes	Yes
Countries	56	56	56	56	56	56

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.
Source: Own computations based on WVS and Kaufmann et al. (2009).

Table 4: Justification of tax evasion and institutional quality by income group (World Bank classification). Odds ratios. (1)

Proxy for perception of institutional quality: confidence in government			
	Low and lower middle income	Upper middle income	High income
High perception of institutional quality	0.967	0.978	0.877***
Observations	19,808	28,982	24,314
Proxy for perception of institutional quality: confidence in civil services			
	Low and lower middle income	Upper middle income	High income
High perception of institutional quality	0.883*	0.914	0.931
Observations	19,668	28,788	23,807
Proxy for perception of institutional quality: confidence in justice			
	Low and lower middle income	Upper middle income	High income
High perception of institutional quality	0.893	0.906	0.790**
Observations	19,660	29,089	24,143
Countries (2)	**16**	**21**	**19**

***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.
(1) Controls: income, age groups, sex, marital status and pride.
(2) Countries by income group (World Bank classification): High income: Australia, Chile, Cyprus, Estonia, Hong Kong, Japan, Kuwait, Netherlands, Poland, Russia, Singapore, Slovenia, South Korea, Spain, Sweden, Taiwan, Trinidad and Tobago, United States and Uruguay. Upper middle income: Algeria, Argentina, Azerbaijan, Belarus, Brazil, China, Colombia, Ecuador, Iraq, Jordan, Kazakhstan, Lebanon, Libya, Malaysia, Mexico, Peru, Romania, South Africa, Thailand, Tunisia and Turkey. Lower middle income: Armenia, Egypt, Georgia, Ghana, India, Kyrgyzstan, Morocco, Nigeria, Pakistan, Palestine, Philippines, Ukraine, Uzbekistan and Yemen. Low income: Rwanda and Zimbabwe. Data is not weighted by the population of each country (all countries have the same weight).
Source: Own computations based on WVS and Kaufmann et al. (2009).

Table 5: Justification of tax evasion and institutional quality by country: ten lowest and highest odds ratios.

Rank place	**Confidence in government**		**Confidence in civil services**		**Confidence in justice**	
	Country	Odds ratio	Country	Odds ratio	Country	Odds ratio
1	India	0.4390	Morocco	0.2933	Morocco	0.3510
2	Morocco	0.5711	Tunisia	0.5253	Kuwait	0.4284
3	Turkey	0.5822	Malaysia	0.5793	Pakistan	0.5384
4	Egypt	0.5926	Thailand	0.6102	Egypt	0.5692
5	Belarus	0.6532	India	0.6278	India	0.6211
6	Kazakhstan	0.6722	Chile	0.6758	United States	0.6218
7	New Zealand	0.6880	China	0.7051	Belarus	0.6470
8	Japan	0.7009	United States	0.7056	Cyprus	0.6582
9	Algeria	0.7334	Russia	0.7067	Libya	0.6681
10	Kuwait	0.7375	Hong Kong	0.7393	Japan	0.6862
47	Georgia	1.1543	Taiwan	1.1147	Azerbaijan	1.1012
48	Libya	1.1574	Iraq	1.1330	Peru	1.1331
49	Spain	1.1766	Poland	1.1355	Netherlands	1.1493
50	Chile	1.1907	Georgia	1.1746	Ukraine	1.1620
51	Tunisia	1.2166	South Africa	1.3111	Philippines	1.1657
52	Armenia	1.2332	Armenia	1.3549	Zimbabwe	1.2174
53	Nigeria	1.2676	Peru	1.4616	Chile	1.2396
54	Uzbekistan	1.5670	Azerbaijan	1.4755	South Africa	1.2813
55	South Africa	1.6109	Uruguay	1.9075	Iraq	1.5951
56	Lebanon	3.5777	Lebanon	1.9481	Lebanon	1.6516

Source: Own computations based on WVS and Kaufmann et al. (2009).