

Tax Morale in Transition Countries

John E. Anderson
Department of Economics
University of Nebraska-Lincoln, USA
janderson4@unl.edu

December 28, 2017

Abstract

In this study I empirically analyze peoples' attitudes on tax evasion and informal payments to government officials in the context of transition countries. I use data from the 2010 Life in Transition Survey (LITS II) and the 2016 Life in Transition Survey (LITS III) to analyze tax morale in these countries. These data sets provide large household survey samples drawn from face-to-face interview across thirty-plus transition countries. The surveys provide information on attitudes toward paying taxes, tax evasion behavior, informal payments to tax officials, corruption among officials, and taxpayer responses to observed corruption. These data sets are used to estimate empirical models of key aspects of tax morale among transition countries, including attitudes on the wrongness of tax evasion and requests for informal payments by tax officials, the prevalence of corruption among officials, and taxpayer responses to observed corruption. Respondent attitudes are modeled as a function of individual characteristics, personal and social norms, and location. The empirical findings reveal that individual characteristics such as education, income, and religious affiliation, along with personal and social norms affect respondent attitudes. Country-specific effects are also observed. Respondents who observe corruption among government officials, but do not report that behavior, indicate that they are afraid of the consequences of reporting, think that corruption is too difficult to prove, believe that nothing will be done if they do report, and may reveal their own complicity if they report. These findings provide insight on the conditions required to improve tax morale in these countries.

JEL codes: H26, P35

Keywords: Tax morale, tax administration, tax evasion, informal payments, bribery, corruption, transition economies

Acknowledgment: This paper has been prepared for presentation at the meetings of the Association for Comparative Economics (ACES) as part of the Allied Social Sciences Association (ASSA) meetings, Philadelphia, PA, January 6, 2018.

1 Introduction and Background

Effective administration of tax systems requires not only compliance and enforcement efforts but also relies on a culture of compliance and the support of social norms contributing to a strong tax morale. Tax morale is generally considered to be a culture of voluntary compliance. The focus of tax morale considerations is on non-pecuniary aspects of tax compliance and other factors outside of the typical expected utility framework of tax evasion analysis. The need for a strong culture of compliance is true not only for advanced industrialized nations but also for emerging markets and the so-called transition countries where a taxpaying culture did not exist in the former regimes. In the former centrally planned economies the government owned the means of production and extracted resources directly from enterprises rather than relying on western-style tax systems. Transition with more liberal economic regimes and political freedoms brought with it the development of explicit tax systems and the need to foster tax morale in order to support effective revenue collection. Experience with transition indicates that the development of strong tax morale has generally improved over time, but significant differences exist across regions and countries. The purpose of this study is to empirically analyze the dynamic changes in tax morale within and among transition countries over the period 2010-2016.

In this paper I investigate the attitudes of people in transition countries regarding tax evasion and requests for informal payments by government officials, both of which directly affect tax morale. Using the Life in Transition (LITS II and LITS III) survey data covering residents of thirty or more transition countries in 2010 and 2016, I estimate empirical models of, (1) attitudes of citizens regarding whether it is wrong to engage in tax evasion, specifically by paying cash with no receipts to avoid paying VAT, (2) attitudes regarding whether it is wrong for government officials to ask for informal payments, specifically asking for a gift or favor in return for service provided, (3) views on the extent of corruption among government officials and, (4) responses to observed corruption. LITS II and LITS III survey responses on these topics are empirically modeled using explanatory variables including individual characteristics, personal and social norms, and location.

1.1 Previous Literature on Evasion and Tax Morale

The original theoretical context for analyzing tax evasion was provided by Allingham and Sandmo (1972). In their framework, an amoral person simply considers the likelihood of detection and the fines or penalties that are applied if detected. Weighing the expected values of income outcomes with and without evasion, the taxpayer makes a decision on how much income to report to tax authorities. Weigel et al (1987), Feige (1989), Cowell (1990), and Slemrod (2007) provide overviews of the economics of evasion, with the later survey incorporating models and approaches broader than the former surveys.

After the seminal work of Allingham and Sandmo (1972) and Yitzhaki (1974)

research as in Gordon (1989) takes into account individual moral aspects of evasion decisions as well as reputational effects. Myles and Naylor (1996) expand to consider group conformity issues, with taxpayers' evasion decisions influenced by social norms of their affinity group. By taking into account social customs, the research on evasion moved into a much broader context. That trend in the literature expanded further with a line of research under the banner of tax morale, as in Frey and Torgler (2007), Alm and Torgler (2006). Torgler (2003a,b), Torgler (2004), Torgler (2004), Torgler (2005), Fortin and Villeval (2007), and Cummings et al (2009). Torgler (2003a) examines tax morale in the specific context of transition economies, unlike the other studies cited.

Luttmer and Singhal (2014) identify five potential tax morale mechanisms:

- intrinsic motivation—a term in the individual's utility function that increases the amount the individual decides to pay in taxes
- reciprocity—a term in the utility function that captures the individual's relationship to the state that affects willingness to pay taxes
- peer effects and social influences—a term in the utility function that affects taxpaying behavior based on the views or behaviors of other people
- cultural factors—characteristics of the culture that affect willingness to pay taxes
- information imperfections and deviations from utility maximization, including misperceived probabilities of detection and enforcement or loss aversion attitudes

Torgler (2003b) has used the World Values Survey and the Taxpayers Opinion Survey and shown that trust in public officials and the legal system has a direct and positive effect on tax morale. Torgler (2006) finds that religiosity is a factor that affects tax morale. He uses the World Values Survey over the period 1995-1997 which includes individual responses across 30 countries, although not exclusively transition countries, finding that measures of religiosity raise tax morale. Alm and Torgler (2006) also use the World Values Survey to examine tax morale across a number of countries, finding that tax morale is highest in the United States, followed by Austria and Switzerland. Furthermore, they find a strong negative association between a country's shadow economy size and its tax morale.

As this brief review indicates, research on tax evasion and tax morale has moved from individualistic approaches where a taxpayer makes a decision in isolation regarding expected outcomes with and without evasion, to a broader context in which moral and social aspects of evasion are also considered important in creating a strong tax morale. Hence, the modeling approach taken in the present paper includes not only variables describing the individual survey respondent, but also variables that reflect social norms, trust, and broader contextual factors to help explain tax morale.

2 Life In Transition Surveys (LITS II and LITS III)

Data employed in this study are from the European Bank for Reconstruction and Development (EBRD) Life in Transition Surveys. I employ the LITS II survey from the year 2010 and the LITS III survey from 2016. Both surveys are cross-section data sets with a wide range of variables covering 29 transition countries plus Kosovo in 2010 and 34 countries in 2016. The LITS II overall sample size is approximately 33,000 with about 1,000 responses per country, varying with country population size. The LITS III survey sample sizes are larger with approximately 1,500 responses from each country and a total of some 52,000 responses. The surveys include a number of questions on a wide range of other topics. Unfortunately, the survey questions relating to tax evasion, informal payments, and corruption are different in LITS II and LITS III. For this reason, I use responses to LITS II questions regarding the wrongness of tax evasion and informal payments and LITS III responses to questions regarding corruption among tax officials and responses to observed corruption. Responses to attitudinal questions that are common to both surveys are also used for controls.

LITS II covers respondents in the following countries: Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, FYR Macedonia, Moldova, Mongolia, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Tajikistan, Turkey, Ukraine, Uzbekistan, and Kosovo. LITS III covers those same countries, with the addition of responses from Cyprus and Greece.

2.1 Summary Statistics

Summary statistics in Table 1 indicate that the mean age of respondents is 50.47 years for LITS II and 48.36 years for LITS III. Education has a mean of 4.15 on a 7-point scale for LITS II and 4.41 on an 8-point scale for LITS III. The mean reported position on the income distribution is between the fourth and fifth rungs of the ten-step income ladder in both surveys, 4.32 and 4.50, respectively. II and 1.57 in LITS III, measured on a scale where one indicates male and two indicates female. In terms of marital status, 60 and 59 percent of respondents are currently married in the two surveys, respectively. Seven to eight percent of respondents are divorced. Widows account for 12 to 14 percent of the respondents. Only five or six percent of respondents are members of the Communist Party. The most common religious affiliation is Orthodox Christian, with 38 and 39 percent claiming this affiliation in the two surveys. The second most common religious affiliation is Muslim, accounting for 27 and 26 percent of respondents in the two surveys, respectively. Urban household location is measured on two different scales in the surveys. In LITS II a three-point scale is used to reflect, city, urban and rural categories of location. Clearly, the

majority of respondents are urban residents in both surveys although there is also substantial representation by non-urban households. In LITS III a two point scale is used to reflect urban and rural locations. The Commonwealth of Independent States (CIS) variable means indicate that 32 percent of respondents were located in those countries in LITS II and 28 percent were so located in LITS III.

2.2 Personal and Social Norms

Social norms and peer influences are also captured through the use of religious affiliation variables, as suggested in Torgler (2004). Respondents identify their religious affiliation as Atheist, Orthodox, Catholic, Jewish, or Muslim. These self-identified affiliations can reflect peer influences, and to some extent also reflect intrinsic motivation that is religiously related.

Given the legacy of communism in many of the transition countries, especially those among the CIS countries, Communist Party affiliation is also used as a control reflecting a cultural factor and a social norm that may influence attitudes toward tax evasion and informal payments to government officials. CIS country location is also used as a control.

Four measures of personal and social norms are also used in the analysis of tax morale as potential tax morale mechanisms, as suggested by Luttmer and Singhal:

- Return wallet: indicates the likelihood that in the respondent's social context a lost wallet would be returned with its contents intact, measured on a scale from 1 to 4 where 1 indicates very likely and 4 indicates not likely at all. LITS II question 323 asks, "Suppose you lost your (purse/wallet) containing your address details, and it was found in the street by someone living in this neighborhood. How likely is it that it would be returned to you with nothing missing?" Responses range from 1 indicating very likely to 4 indicating not likely at all. This variable is transformed to an inverse scale where 4 indicates very likely. LITS III includes the same question (question 4.23). The mean of this variable is 2.95 in LITS II and 2.22 in LITS III. Responses to this question can be used as a measure of trustworthiness in a general social context, reflecting a social norm-peer effects and social influences.
- Trust: indicates that people in society are generally trustworthy, measured on a scale from 1 to 5 where 1 indicates complete distrust and 5 indicates complete trust. The mean of this variable is 2.94 in LITS II and 2.79 in LITS III. LITS II question 302 asks, "Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?" Respondents are asked to answer on a scale of 1 to 5, where 1 indicates complete distrust and 5 indicates complete trust. In LITS III the same question is asked (question 4.03). This measure is an alternative indicator of the social norm in which the survey respondent operates, another indicator a social norm-peer effects and social influences.

- Obey law: indicates the respondent's respect for the law, measured on a scale from 1 to 10 where 1 indicates that people should obey the law without exception and 10 indicates that there are times when people have good reasons to break the law. LITS II question 316, part c, asks about the respondent's view on obeying the law. The variable is coded from 1 to 10 where 1 indicates complete agreement with the statement that people should obey the law without exception and 10 indicates agreement with the statement that there are times when people have good reasons to break the law. In LITS III the same question is asked (question 4.17d). The mean of this variable is 3.39 in LITS II and 3.31 in LITS III. This variable indicates the survey respondent's personal norm regarding law obedience in general, as an indicator of intrinsic motivation.
- Life satisfaction: indicates overall satisfaction or dissatisfaction with life as a whole, measured on a scale from 1 to 10 where 1 indicates completely dissatisfied and 10 indicates completely satisfied. The mean of this variable is 5.28 on a 10-point scale in LITS II and 3.21 on a 5-point scale in LITS III. LITS II question 7.22 asks, "All things considered, how satisfied or dissatisfied are you with your life as a whole these days?" In LITS III the same question is asked (question 4.01e). This measure can be viewed as conditioning the survey respondent's views in general.

2.3 Attitudes toward tax evasion and informal payment requests

Attitudes toward tax evasion and requests for informal payments or bribes by government officials are measured using two questions in the earlier survey. In LITS II, I make use of question 3.22 in the attitudes section of the survey instrument which asks, "Some people think that certain behaviors are always wrong, whereas other (sic) believe that there are occasions when breaking the rules may be justified. How wrong, if at all, do you consider the following behaviors to be?" Among the various potential responses listed, I use responses to (b) Paying cash with no receipts to avoid paying VAT or other taxes, and (e) A public official asking for a favor or gift in return for services. The mean response on the tax evasion question is 2.86 indicating that at the mean respondents believe that it is wrong to engage in tax evasion. Similarly, the mean response on the government official's payment request is 3.36, indicating an average belief that it is wrong. Comparing those means, it appears that respondents think it is more wrong for a government official to ask for an informal payment than it is to engage in tax evasion, however. A statistical test of the difference in means indicates that we can reject the hypothesis that they are identical (at the one percent level). The mean response for government officials' requests for informal payments is larger than that for tax evasion. Hence, respondents clearly indicate that it is more wrong for officials to ask for payments than for them to engage in tax evasion.

The LITS III 2016 survey data includes a richer set of questions regarding tax

morale than that available in LITS II 2010.¹ In LITS III 2016 I use responses to question 8.14 in the governance section of the questionnaire which asks, "How many of the following people do you think are involved in corruption, or haven't you heard enough about them to say?" Among the various responses, I use response (e) Tax officials, like Ministry of Finance officials or Local Government tax collectors. On average, 93 percent of respondents indicate that there is some level of corruption among officials. This is the first corrupt tax officials variable reported in Table 1. a scale from 1 to 4, where 1 indicates none and 4 indicates all of them. Respondents on average report a score of 2.48 which is more than some of them (a score of 2) but less than most of them (a score of 3). Further, I use responses to question 8.15 which asks, "Some people say that many incidents of corruption are never reported. Based on your experience, what do you think is the main reason that many people do not report incidents of corruption when they occur? The top four responses and their means are:

- People are afraid of the consequences, mean 0.26
- Corruption is too difficult to prove, mean 0.16
- Nothing will be done/It wouldn't make a difference, mean 0.13
- Because they would implicate themselves as bribe-givers, mean 0.08

3 Empirical Models

The empirical analysis has two major components, each based on a LITS survey. First, using the LITS II (2010) data, respondents' attitudes regarding tax evasion and informal payment requests by government officials (bribery), as revealed in their survey responses, are modeled using probit and ordered probit models to explain their survey responses. Both respondent characteristics and broader social context characteristics are used as explanatory variables in these models. The probit models explain whether the respondent believes that tax evasion is wrong. In both cases I also report ordered probit models explaining the intensity of their responses. Second, using the LITS III (2016) data, I estimate a Heckman-style selection model, as described above, in which the first stage probit model explains whether the respondent indicated any level of tax official corruption and the second stage equation explains how much corruption, conditional on reporting any corruption. This approach is used in case there is sample selection bias. Finally, I estimate probit models of the top four responses as to why people do not report corrupt tax officials.

In the analysis of tax evasion and bribery attitudes, the dependent variable is categorical taking on value one through four indicating the respondent's strength of attitude regarding the wrongness of evasion or bribery. Hence, the

¹It should be noted once again that while both surveys provide questions that reveal information regarding tax morale, they do not have the same questions. Because of the inconsistency in questions asked on the two surveys, I am not able to provide direct comparisons across time.

empirical models estimated are ordered probit models. Then, to estimate a model of responses on the extent of corruption among government officials, I estimate a selection model. Conditional on a positive response in the first stage indicating that officials are corrupt, a selection model is estimated explaining the intensity of respondents' beliefs regarding corruption. Finally, for the models of respondents' responses to corrupt tax officials, I estimate simple probit models explaining whether they chose each of the top four reasons for non-reporting of corruption. The dependent variables in those models are dichotomous taking on the value one if the respondent chose that reason, zero otherwise.

3.1 Ordered probit models

I estimate ordered probit models to explain survey responses where the dependent variable is categorical. The ordered probit model is based on a latent regression as in the binomial probit model, as described in Greene (1990), starting with

$$y^* = \beta' \mathbf{x} + \varepsilon \tag{1}$$

but the y^* is unobserved. In the survey data we do observe categorical responses, however. In the case where there are four possible responses, we have:

$$\begin{aligned} y &= 1 \text{ if } 0 \leq y^* < \mu_1, \\ y &= 2 \text{ if } \mu_1 \leq y^* < \mu_2, \\ y &= 3 \text{ if } \mu_2 \leq y^* < \mu_3, \\ y &= 4 \text{ if } \mu_3 \leq y^* \end{aligned} \tag{2}$$

Essentially, this situation is a form of censoring with the μ 's being unknown parameters that are estimated jointly with the vector of coefficients β . Survey respondents have their own personal intensities of feeling about the survey question and those depend on measurable factors captured in the vector of explanatory variables \mathbf{x} and unobservable factors ε . Respondents select the survey response most closely representing their opinions.

3.2 Selection model

A standard Heckman-style selection model is employed in the estimation of the model explaining the extent of observed corruption among government officials. The model is designed to account for the fact that there are both respondents and non-respondents in the LITS II survey and there is a selection process that determines who responds positively indicating observed corruption. The model accounts for the possibility that respondents who report observing corruption are systematically different from respondents not reporting observed corruption, and it controls for that contingency. To begin, assume that we have a sample selection criterion defined by the equation

$$z^* = \gamma'w + \mu \quad (3)$$

and that the primary equation of interest

$$y = \beta'x + \varepsilon \quad (4)$$

The sampling context in this model is one where y is only observed when z^* is strictly positive. Error terms ε and μ in the above equations are assumed to follow a bivariate normal distribution with zero means and correlation ρ .

Following Theorem 21.4 of Greene (1990) the standard selection model can be summarized as having the following properties:

$$E[y \mid y \text{ is observed}] = E[y \mid z^* > 0] \quad (5)$$

$$= E[y \mid \mu > -\gamma'w] \quad (6)$$

$$= \beta'x + E[\varepsilon \mid \mu > -\gamma'w] \quad (7)$$

$$= \beta'x + \rho\sigma_\varepsilon\lambda(\alpha_\mu) \quad (8)$$

$$= \beta'x + \beta_\lambda\lambda(\alpha_\mu) \quad (9)$$

where we define the parameter α_μ as

$$\alpha_\mu = \frac{-\gamma'w}{\sigma_\mu} \quad (10)$$

and the Inverse Mills Ratio, denoted $\lambda(\alpha)$, is the ratio of the normal probability density function to the cumulative density function evaluated at $\gamma'w/\sigma_\mu$:

$$\lambda(\alpha) = \frac{\phi(\gamma'w/\sigma_\mu)}{\Phi(\gamma'w/\sigma_\mu)}. \quad (11)$$

Hence, we can write the expected value of y , conditional on its selection, as given by the expression,

$$E[y \mid z^* > 0] = \beta'x + \beta_\lambda\lambda(\alpha_\mu) + v \quad (12)$$

This equation reveals that a simple regression of y on the vector of explanatory variables x would provide an inconsistent set of estimates of the β coefficients. The econometric problem here is essentially that of an omitted variable. Regression of y on the vector of explanatory variables x must also include the inverse Mills ratio λ in order to obtain consistent estimates. If we estimate that the parameter β_λ is positive (negative) we have an indication that unobserved factors that make participation more likely tend to be associated with larger (smaller) effects in the second (selection) equation. The error term in the selection equation and the primary equation are positively (negatively) correlated.

4 Empirical Estimation

In this section three sets of empirical results are provided. First, estimates of survey respondents' attitudes regarding the wrongness of tax evasion are reported. Second, estimates of the reported wrongness of government officials requests for gifts or informal payments, which I will call bribes hereafter, are reported. In each case six model variants are reported; one with no social or individual norm variables, four models each with one of the social or individual norm variables included, and a final variant with all four social and individual norm variables included.²

4.1 Tax Evasion is Wrong

Table 2 reports estimates of ordered probit models for survey responses that tax evasion is wrong. This model is estimated in order to determine what individual or social norm characteristics influence survey respondents' reported degree of wrongness. The dependent variable takes on the values 1-4. Survey responses are coded: 1 (not wrong at all), 2 (a bit wrong), 3 (wrong), and 4 (seriously wrong).

Results reported in Table 2 indicates that higher income respondents believe that tax evasion is less wrong than those with lower incomes.³ Married respondents and widows believe evasion is more wrong than do others. Among the religious affiliation variables, atheists and Catholics report that evasion is significantly less wrong while Muslims report that evasion is more wrong. Urban dwelling households report that evasion is less wrong. Households in CIS countries believe that evasion is less wrong.

In terms of personal and social norms included in the model, the trust, obey law, and life satisfaction variables have positive estimated coefficients that are statistically discernible. The trust variable indicates that respondents living in communities where people are generally trustworthy think that tax evasion is more wrong. In this way the models confirm that social norms have a positive effect on attitudes toward evasion. At the individual level, both the obey law and life satisfaction variables indicate that respondents with greater respect for the law in general, reflecting a strong personal norm, or with greater overall life satisfaction have stronger beliefs that tax evasion is wrong.

The ordered probit model can then used to predict responses 1-4, revealing marginal effects for each of the factors that influence survey responses. Details are available from the author.

²Care has been taken with the inclusion of these variables due to the potential concern of correlations among the social and individual norm variables. Pairwise correlations for these variables are low, however, as indicated in Table 1 of the Appendix. Hence, Model 6 in each case includes all four of these variables.

³While there may be concern that several of the independent variables in these models are highly correlated, that is not the case. Income and education have a pairwise correlation of 0.16. Communist Party membership and atheist have a pairwise correlation of .02, and Communist Party membership and CIS country location have a pairwise correlation of -0.02.

4.2 Government Officials Asking for Informal Payments is Wrong

Table 3 reports estimates of ordered probit models for survey responses that it is wrong for government officials to request informal payments or ask for bribes. The dependent variable takes on the values 1-4. Here again, survey responses are coded: 1 (not wrong at all), 2 (a bit wrong), 3 (wrong), and 4 (seriously wrong).

Results in Table 3 reveal that age is a significant factor, with the estimated age coefficient being positive and significant with its square being negative and significant in some cases. Older respondents report a higher degree of wrongness for bribery, with the marginal effect perhaps declining with age. The education coefficient is positive and significant across models indicating that more highly educated respondents believe bribery is more wrong. The income coefficient is negative and statistically significant revealing that higher income respondents believe bribery to be less wrong than others. Married respondents believe bribery is more wrong than others. Members of the Communist party indicate that bribery is more wrong. The estimated coefficients for religion variables provide paradoxical results. The coefficient for atheists and Catholics is positive and significant indicating that they believe bribery is more wrong, while the coefficient for Muslims is negative indicating that they believe bribery is less wrong. Urban respondents and those in CIS countries believe bribery is less wrong.

In terms of the personal and social norm variables included in the models, the lost wallet variable has a negative and marginally significant coefficient indicating that respondents living in communities where neighbors are more trustworthy indicate that bribery of government officials is less wrong. At the individual norm level, respondents with greater respect for the law in general and those attaining greater life satisfaction indicate that bribery is more wrong.⁴

Similar models are estimated including country fixed effects. Ten countries have significant negative effects for both evasion and informal payments, indicating that respondents in those countries think that these issues are less wrong. Those countries are: Albania, Armenia, Belarus, Kazakhstan, Kyrgyzstan, Lithuania, Poland, Russian, Tajikistan, and Ukraine. Respondents in five countries think that evasion is less wrong, while informal payment requests are more wrong, including Croatia, Czech Republic, Latvia, Slovakia, and Slovenia. Respondents in two countries think that evasion is more wrong while informal payment requests are less wrong: Bulgaria and Moldova. Finally, there is only one country in which respondents think both evasion and informal payment requests are more wrong: Serbia.

⁴Once again, the ordered probit model can be used to predict responses 1-4, revealing marginal effects for each of the factors that influence survey responses. Details are available from the author.

4.3 Corrupt Tax Officials

Using the LITS III 2016 survey responses, I estimate both ordered probit models and a Heckman-type selection model in which the first stage equation is a probit model explaining whether the respondent indicated any level of tax official corruption and the second stage equation explains how much corruption is reported, i.e. the extent of reported corruption. For the dependent variable in the ordered probit models I use responses to Question 8.14e, where responses are coded 1 (none), 2 (some of them), 3 (most of them), and 4 (all of them) and individual characteristics, personal and social norm variables. In the selection model the first stage probit model uses an independent variable coded one if the respondent indicates any degree of corruption among government officials. The second stage model then uses the Question 8.14e responses on the degree of corruption.

Table 4 provides the ordered probit model estimates. The six model estimates reported differ in the inclusion of personal and social norms. Across all models, education has a negative effect indicating that more highly educated respondents report less corruption among government officials. The gender variable is also negative and significant indicating that female respondents report less corruption. Among religious affiliation variables, the Orthodox, Catholic, and Muslim respondents report more corruption than others. Urban residents report less corruption. Respondents living in CIS countries report more corruption. Norms also matter. Social norms reflected in the lost wallet and trust variables have negative signs indicating that in more trustworthy societies respondents report less corruption. Similarly, the personal norm variables, obey law and life satisfaction also have negative signs indicating that stonger personal norms are associated with less reported corruption.

Table 5 provides the Heckman-style selection model estimates. In the first stage probit model, education has a negative and significant coefficient indicating that higher educated respondents are less likely to report any tax official corruption. Income has a positive and significant effect, with higher income respondents more likely to report tax corruption. Members of the Communist Party are less likely to report tax official corruption. Atheists, Orthodox Christians, Catholics, and Muslims are all more likely to report corruption. Urban residents are less likely. All four personal and social norm indicators are significant in the first stage model, but are excluded from the second stage model, in order to fulfill the appropriate exclusion restrictions for a Heckman procedure. The personal norm variables, obey law and life satisfaction have opposite signs with obey law having a positive effect and life satisfaction a negative effect. The social norm variables lost wallet and trust, have significant negative coefficients indicating that respondents living in more trusting communities are less likely to report corruption of any degree.

The second stage equation, explaining the amount of tax official corruption reported conditional on reporting some level of corruption, is also reported in Table 5. Education has a significant negative effect indicating that higher educated respondents report less corruption, conditional on reporting any level

of corruption. Communists, Orthodox, and Muslims all report higher levels of tax official corruption, conditional on reporting any level. countries report more corruption among government officials.

Importantly, the Inverse Mills Ratio, or Lambda, is negative and statistically significant indicating the presence of negative selection bias. Unobserved factors that make respondents more likely to report any level of tax official corruption in the first stage equation tend to be associated with smaller effects in the second stage equation explaining the extent of corruption.

4.4 Responses to Corrupt Tax Officials

How do people respond to corrupt tax officials? That is the question to which I turn in this section, reporting analysis of survey responses from LITS III (2106). Question 815 asks, "Some people say that many incidents of corruption are never reported. Based on your experience, what do you think is the main reason that many people do not report incidents of corruption when they occur?" Since the survey question asks for the main reason, each respondent was able to cite one of twelve listed potential reasons (along with a suggestion of another response, and responses of don't know or refusal to answer). Tabulation of responses reveals the following top four reasons given, along with the frequencies for each response:

- People are afraid of the consequences (26.4%)
- Corruption is too difficult to prove (15.5%)
- Nothing will be done/It wouldn't make a difference (12.6%)
- Because they would implicate themselves as bribe-givers (8.1%)

Together, these responses account for approximately 63% of the total responses. Remaining responses each account for less than 5%.

Given the binary responses to this question, probit models are estimated with Table 6 reporting estimated probit models for each of the top four responses. The dependent variable is dichotomous indicating that the survey respondent chose that response, or not. For the top response that people are afraid of the consequences, the probit results in the first column of Table 6 reveal that higher income respondents are less likely to be afraid. Females are more likely to report being afraid of the consequences than males. Religion seems to matter, although most of the religion variables are marginally significant. Atheists, Orthodox Christians, and Catholics are more likely to report being afraid to report, whereas Muslims are less likely. In terms of personal and social norms, respondents who indicate most people in their societies are trustworthy are less likely to be afraid. Interestingly, those that believe it is important to always obey the law are also less likely to be afraid to report, whereas those who believe that there are times when people have good reasons to break the law are less likely to be afraid of the consequences of reporting corruption.

The difficult to prove response is chosen more frequently by older respondents, with the marginal effect of age declining. Higher income respondents are more likely to choose this response as well. The social context variables in this case have the opposite signs (positive), compared to the previous model (afraid of consequences). Respondents who believe most people are trustworthy in their societies are more likely to indicate they do not report corruption because it is difficult to prove. Also, those who believe it is important to obey the law as less likely to choose this response, whereas those who think it is right to break the law in some circumstances are more likely.

Responding that nothing will be done, so there is no reason to report corruption, is less likely among Muslims and urban households. The social context variables all are significant in this model. The lost wallet variable has a positive and significant coefficient indicating that in communities where a lost wallet would likely be returned with contents intact respondents are more likely to say nothing will be done. Respondents who believe most people in their societies are trustworthy are less likely to be fatalistic and say nothing will be done. Those who believe it is important to obey the law are more likely to indicate that nothing will be done. Finally, respondents living in a context of greater life satisfaction are less likely to not report because nothing will be done.

The fourth model reported in Table 6 provides self-implicating results. Respondents who say they do not report corruption because it would implicate themselves as bribe-givers tend to be higher educated, lower income, and male. Furthermore, Orthodox Christians, Jews, Muslims, and urban households are all more likely to give this reason for not reporting corruption. In this case, none of the broader social context variables are significant.

Finally, Table 7 provides ordered probit estimates of the frequency of unofficial payments or gifts paid to public officials (Question 8.01). Gift frequency is measured on a scale of 1-5 where 1 is never and 5 is always. Older, more highly educated, and female respondents report less frequent gifts made to officials. On the other hand, respondents with higher income, married, and widows report more frequent gifts. Religious affiliation coefficients indicate that atheists and Catholics make less frequent gifts while Orthodox and Muslim respondents make more frequent gifts. There is a clear CIS country effect as respondents in those countries report making more frequent gifts to officials. The social norm variable lost wallet has a negative and significant coefficient indicating that respondents living in communities with greater trustworthiness report lower gift frequencies. Both of the personal norm variables, obey law and life satisfaction, have negative and significant coefficients indicating that stronger personal norms are associated with less frequent gift giving.

5 Summary and Conclusions

In this analysis of tax morale in transition countries, I have used the survey results of the Life in Transition Surveys, II and III, collected in 2010 and 2016, respectively. Using the LITS II 2010 survey I have analyzed household re-

sponses to questions regarding whether it is wrong to engage in tax evasion and whether it is wrong for tax officials to ask for informal payments or bribes. Overall, respondents say that both activities are generally wrong, however, they indicate that it is more wrong for officials to ask for bribes than for themselves to engage in tax evasion. The analysis further identifies factors that explain both whether respondents believe these activities are wrong, and explain how wrong. For tax evasion, the evidence indicates that higher income respondents think that evasion is less wrong. Married and widowed respondents believe it is more wrong. Religious affiliations also affect tax evasion beliefs, with atheists, Orthodox Christians, and Catholics indicating that evasion is less wrong while Muslims indicate it is more wrong. The broader social context affects tax evasion beliefs as well. In societies where respondents think people are generally trustworthy they indicate that tax evasion is more wrong. In social contexts where respondents think it is important to obey the law, they think that tax evasion is more wrong. Furthermore, in social contexts where respondents are generally more satisfied with their lives, they report stronger wrongness for tax evasion.

The LITS II survey data also reveal important factors explaining respondents' beliefs about government officials asking for favors, informal payments, or bribes. Older respondents think that bribe requests by officials are more wrong. Income has a negative effect, with higher income respondents indicating that bribe requests are less wrong. Members of the Communist Party think that bribe requests are more wrong. Religious affiliation has mixed effects on attitudes toward bribery, with atheists and Catholics indicating that it is more wrong and Orthodox Christians, Jews, and Muslims indicating that it is less wrong. Two characteristics of the broader social context also influence reported beliefs about bribery. A stronger regard for obedience to the law generally is associated with stronger beliefs that bribery is wrong. Also, a social context in which respondents report greater life satisfaction is one in which they also indicate that bribery is more wrong.

Using the LITS III 2016 data I begin analyzing tax morale in transition countries by estimating models of the reported degree of tax official corruption. The basic models indicate that more educated respondents think there is less corruption, as do higher income respondents. Those with religious affiliations of Orthodox, Catholic, and Muslim also report a higher degree of corruption. Broader social contexts also affect the perceived levels of corruption. Societies with greater degrees of trust have lower reported amounts of corruption. Respondents living in social contexts in which they experience greater life satisfaction report less corruption. When survey responses are analyzed using a selection mode to account for the possibility of sample selection bias, further insight is gained. Estimating the reported degree of perceived corruption, conditional on respondents reporting any amount of corruption, I find that higher educated respondents report less corruption. Widows and members of the Communist Party report more. Atheists and Catholics report less, but Orthodox and Muslims report more. Sample selection bias is evident, with statistical tests indicating the presence of significant negative bias. Unobserved factors

that make it more likely for survey respondents to indicate that they perceive corruption among tax officials are associated with smaller effects in the second stage equation explaining the extent of perceived corruption.

Finally, models of why survey respondents do not report corruption reveal interesting patterns. I analyze the top four reasons for not reporting corruption revealed in the LITS III survey: (1) respondents are afraid of the consequences, (2) respondents think corruption is difficult to prove, (3) respondents think nothing will be done or it will not make any difference, and (4) respondents do not report because doing so would implicate them as bribe-givers. More highly educated respondents are more likely to say that reporting would be self-implicating. They are also more likely to say that corruption is difficult to prove and not likely to have any result. Higher income respondents are less afraid of the consequences, and less likely to think reporting is self-implicating. But, they are also more likely to report that corruption is difficult to prove. Women are more afraid of the consequences. They also are less likely to think corruption is difficult to prove, and less likely to think that reporting is self-implicating. Religious affiliation has differential effects in this regard. Orthodox Christians and Jews are more likely to not report because doing so may be self-implicating. Catholics are more likely to not report because they are afraid of the consequences. Muslims are less likely to not report because of the anticipation that nothing will be done. These responses reveal important factors that contribute to poor tax morale among transition countries. Progress in improving tax morale must address the reality that in many cases taxpayers are afraid of consequences if they report corruption among officials, or the sense that there is no point in reporting either because corruption is unlikely to be proven or nothing will be done.

Overall, the analysis of LITS II and LITS III survey data reveals systematic factors that either contribute to or undermine tax morale. The LITS II 2010 survey result indicating that people think it is more wrong for government officials to ask for a bribe than for themselves to engage in tax evasion does not portend well for tax morale. Hypocrisy is nothing new, but in this context when the survey results reveal that people hold others to a higher standard than themselves, it is fundamentally difficult to strengthen tax morale. Religious affiliations might be expected to mitigate hypocrisy, but in the context of transition countries there are complicating legacies of religious institutions' complicity with oppressive political regimes, and histories of religious persecution for some groups. Consequently, religious affiliation does not have the straightforward effect that might be expected. The more recent LITS III data provide some encouraging signs, however. Higher income and more educated individuals perceive that there is less corruption in their societies. As transition economies grow and as human capital rises, tax morale may be strengthened. In terms of the broader social context, tax morale is apparently supported in communities where people trust one another, where there is greater respect for the law, and where people are able to achieve greater satisfaction with their lives. Countries wishing to enhance tax morale will do well to heed these social factors and build inclusive, respectful, and transparent institutions.

Variable	LITS II (2010)		LITS III (2016)		Min	Max*
	Mean	Std. Dev.	Mean	Std. Dev.		
Age	50.47	15.40	48.36	17.49	18	85/95
Education	4.15	1.43	4.41	1.62	1	7/8
Income	4.32	1.67	4.50	1.70	1	10
Gender	1.39	0.49	1.57	0.50	1	2
Married	0.60	0.49	0.59	0.49	0	1
Divorced	0.07	0.25	0.77	0.27	0	1
Widow	0.12	0.33	0.14	0.35	0	1
Communist	0.06	0.23	0.05	0.21	0	1
Atheist	0.08	0.27	0.08	0.28	0	1
Orthodox	0.38	0.49	0.39	0.49	0	1
Catholic	0.19	0.39	0.18	0.39	0	1
Jewish	0.00	0.04	0.00	0.03	0	1
Muslim	0.27	0.44	0.26	0.44	0	1
Urban	1.66	0.68	1.42	0.49	1	3/2
CIS country	0.32	0.32	0.28	0.45	0	1
Lost wallet	2.05	0.94	2.22	0.95	1	4
Trust	2.94	1.06	2.79	1.10	1	5
Obey law	7.61	2.73	7.68	2.82	1	10
Life satisfaction	5.28	2.06	3.21	1.12	1	10/5
Evasion wrong	2.86	0.88			1	4
Bribery wrong	3.36	0.76			1	4
Corrupt tax officials			0.93	0.25	0	1
Corrupt tax officials			2.48	0.88	1	4
Afraid of consequences			0.26	0.44	0	1
Too difficult to prove			0.16	0.36	0	1
Nothing will be done			0.13	0.33	0	1
Implicate myself			0.08	0.27	0	1
Frequency of unofficial payments			1.56	0.95	1	5

*Note: Where maxima differ between surveys the LITS II maximum is listed first followed by the LITS III maximum.

Table 2: Evasion is Wrong. Ordered Probit Models						
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.00408 (1.63)	0.00443 (1.73)	0.00362 (1.41)	0.00338 (1.33)	0.00423 (1.69)	0.00293 (1.10)
Age2	0.0000154 (0.63)	0.0000120 (0.48)	0.0000182 (0.72)	0.0000171 (0.69)	0.0000142 (0.58)	0.0000202 (0.78)
Education	0.00667 (1.41)	0.00688 (1.43)	0.00693 (1.43)	0.00344 (0.72)	0.00504 (1.06)	0.00311 (0.62)
Income	-0.0265*** (-6.79)	-0.0254*** (-6.38)	-0.0287*** (-7.09)	-0.0242*** (-6.08)	-0.0331*** (-7.68)	-0.0308*** (-6.70)
Gender	0.00838 (0.61)	0.00327 (0.23)	0.00714 (0.50)	0.0180 (1.28)	0.00921 (0.67)	0.0122 (0.83)
Married	0.101*** (6.31)	0.102*** (6.26)	0.0948*** (5.76)	0.0891*** (5.48)	0.102*** (6.35)	0.0860*** (5.06)
Divorced	0.0152 (0.55)	0.0222 (0.79)	-0.000509 (-0.02)	-0.0101 (-0.36)	0.0209 (0.75)	-0.0132 (-0.45)
Widowed	0.141*** (5.57)	0.139*** (5.38)	0.136*** (5.23)	0.113*** (4.37)	0.145*** (5.72)	0.109*** (4.04)
Communist	0.0185 (0.68)	0.0264 (0.95)	0.0199 (0.70)	0.0142 (0.51)	0.0177 (0.65)	0.0181 (0.62)
Atheist	-0.196*** (-6.42)	-0.216*** (-6.94)	-0.195*** (-6.26)	-0.201*** (-6.49)	-0.199*** (-6.50)	-0.220*** (-6.86)
Orthodox	0.0377 (1.56)	0.0267 (1.08)	0.0376 (1.52)	0.0172 (0.70)	0.0433 (1.79)	0.00947 (0.37)
Catholic	-0.138*** (-5.35)	-0.154*** (-5.85)	-0.130*** (-4.94)	-0.151*** (-5.76)	-0.140*** (-5.43)	-0.161*** (-5.90)
Jewish	0.148 (0.86)	0.0949 (0.54)	0.131 (0.74)	0.154 (0.89)	0.156 (0.90)	0.0968 (0.54)
Muslim	0.169*** (6.67)	0.150*** (5.79)	0.180*** (6.94)	0.173*** (6.71)	0.174*** (6.85)	0.166*** (6.16)
Urban	-0.0440*** (-4.80)	-0.0442*** (-4.72)	-0.0416*** (-4.42)	-0.0452*** (-4.85)	-0.0433*** (-4.71)	-0.0430*** (-4.42)
CIS country	-0.175*** (-11.61)	-0.172*** (-11.15)	-0.185*** (-11.90)	-0.167*** (-10.91)	-0.175*** (-11.61)	-0.172*** (-10.65)
Lost wallet		0.00807 (1.18)				0.00340 (0.47)
Trust			0.0198** (3.21)			0.0159* (2.47)
Obey law				0.0509*** (21.82)		0.0528*** (21.67)
Life satisfaction					0.0127*** (3.64)	0.0110** (2.96)
Cut 1 constant	-1.263*** (-16.94)	-1.249*** (-16.32)	-1.224*** (-15.76)	-0.939*** (-12.15)	-1.221*** (-16.20)	-0.863*** (-10.44)
Cut 2 constant	-0.392*** (-5.27)	-0.379*** (-4.97)	-0.351*** (-4.54)	-0.0536 (-0.70)	-0.349*** (-4.65)	0.0216 (0.26)
Cut 3 constant	0.853*** (11.48)	0.865*** (11.33)	0.887*** (11.45)	1.203*** (15.57)	0.896*** (11.91)	1.270*** (15.34)
N	30,444	29,374	28,855	29,633	30,439	27,159

t statistics in parentheses; * p < 0.05, ** p < 0.01, *** p < 0.001

	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.00674** (2.59)	0.00724** (2.73)	0.00715** (2.68)	0.00604* (2.28)	0.00695** (2.67)	0.00704* (2.54)
Age2	-0.0000463 (-1.82)	-0.0000506 (-1.95)	-0.0000517* (-1.98)	-0.0000436 (-1.69)	-0.0000479 (-1.88)	-0.0000536* (-1.98)
Education	0.0153** (3.11)	0.0130** (2.59)	0.0136** (2.69)	0.0130** (2.59)	0.0122* (2.46)	0.00547 (1.04)
Income	-0.0231*** (-5.69)	-0.0243*** (-5.85)	-0.0240*** (-5.69)	-0.0208*** (-5.03)	-0.0362*** (-8.07)	-0.0368*** (-7.65)
Gender	0.0197 (1.37)	0.0225 (1.53)	0.0207 (1.40)	0.0301* (2.05)	0.0208 (1.44)	0.0344* (2.24)
Married	0.0411* (2.45)	0.0373* (2.19)	0.0442* (2.56)	0.0301 (1.77)	0.0425* (2.53)	0.0308 (1.73)
Divorced	0.0507 (1.74)	0.0380 (1.28)	0.0453 (1.52)	0.0307 (1.04)	0.0622* (2.13)	0.0210 (0.68)
Widowed	0.0160 (0.61)	0.00824 (0.31)	0.0158 (0.59)	-0.00916 (-0.34)	0.0238 (0.91)	-0.00858 (-0.31)
Communist	0.0817** (2.83)	0.0876** (2.96)	0.0778** (2.61)	0.0715* (2.43)	0.0802** (2.77)	0.0712* (2.29)
Atheist	0.203*** (6.20)	0.199*** (5.97)	0.200*** (6.03)	0.208*** (6.28)	0.199*** (6.09)	0.195*** (5.67)
Orthodox	-0.0307 (-1.21)	-0.0415 (-1.60)	-0.0240 (-0.92)	-0.0523* (-2.03)	-0.0196 (-0.77)	-0.0445 (-1.64)
Catholic	0.0689* (2.52)	0.0710* (2.54)	0.0644* (2.31)	0.0429 (1.54)	0.0651* (2.38)	0.0368 (1.27)
Jewish	-0.303 (-1.74)	-0.338 (-1.92)	-0.352 (-1.95)	-0.309 (-1.77)	-0.288 (-1.66)	-0.367* (-2.01)
Muslim	-0.110*** (-4.16)	-0.121*** (-4.47)	-0.106*** (-3.90)	-0.113*** (-4.19)	-0.102*** (-3.83)	-0.111*** (-3.92)
Urban	-0.0565*** (-5.91)	-0.0561*** (-5.74)	-0.0554*** (-5.65)	-0.0504*** (-5.19)	-0.0554*** (-5.79)	-0.0471*** (-4.63)
CIS country	-0.199*** (-12.89)	-0.191*** (-12.02)	-0.206*** (-12.97)	-0.189*** (-12.10)	-0.199*** (-12.90)	-0.189*** (-11.40)
Lost wallet		-0.0146* (-2.05)				-0.0207** (-2.74)
Trust			0.00901 (1.41)			0.00310 (0.46)
Obey law				0.0517*** (21.44)		0.0517*** (20.48)
Life satisfaction					0.0249*** (6.84)	0.0278*** (7.12)
Cut 1 constant	-1.830*** (-23.44)	-1.867*** (-23.27)	-1.806*** (-22.19)	-1.483*** (-18.32)	-1.753*** (-22.20)	-1.442*** (-16.60)
Cut 2 constant	-1.178*** (-15.22)	-1.214*** (-15.26)	-1.156*** (-14.32)	-0.822** (-10.23)	-1.100*** (-14.06)	-0.780*** (-9.04)
Cut 3 constant	0.0657 (0.85)	0.0304 (0.38)	0.0852 (1.06)	0.435*** (5.43)	0.145 (1.86)	0.478*** (5.55)
N	31,549	30,386	29,915	30,704	31,545	28,101

t statistics in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4: Corrupt Tax Officials, Ordered Probit Models						
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.00126 (0.56)	0.000723 (0.31)	0.00118 (0.51)	0.00132 (0.58)	-0.00326 (-1.41)	-0.00309 (-1.31)
Age2	-0.0000432 (-1.92)	-0.0000355 (-1.55)	-0.0000429 (-1.88)	-0.0000433 (-1.90)	0.00000240 (0.10)	0.000000419 (0.02)
Education	-0.0334*** (-7.92)	-0.0334*** (-7.78)	-0.0305*** (-7.14)	-0.0330*** (-7.74)	-0.0240*** (-5.53)	-0.0223*** (-5.04)
Income	0.00142 (0.37)	0.00465 (1.19)	0.00703 (1.79)	-0.00107 (-0.27)	0.0303*** (7.37)	0.0320*** (7.57)
Gender	-0.0353** (-2.76)	-0.0311* (-2.39)	-0.0336** (-2.59)	-0.0290* (-2.25)	-0.0181 (-1.38)	-0.0121 (-0.90)
Married	-0.00301 (-0.16)	0.000457 (0.02)	-0.00582 (-0.31)	0.00223 (0.12)	0.0136 (0.72)	0.0156 (0.81)
Divorced	0.0372 (1.32)	0.0233 (0.81)	0.0277 (0.97)	0.0402 (1.42)	0.00472 (0.16)	0.00170 (0.06)
Widow	0.0274 (1.00)	0.0201 (0.72)	0.0240 (0.86)	0.0277 (1.00)	0.00515 (0.18)	0.00331 (0.12)
Communist	-0.0202 (-0.64)	-0.0263 (-0.81)	-0.0152 (-0.47)	-0.0189 (-0.59)	-0.0145 (-0.45)	-0.00869 (-0.26)
Atheist	-0.0286 (-0.94)	-0.0172 (-0.55)	-0.0370 (-1.20)	-0.0264 (-0.86)	-0.0190 (-0.61)	-0.0271 (-0.86)
Orthodox	0.343*** (14.26)	0.359*** (14.68)	0.321*** (13.16)	0.347*** (14.33)	0.299*** (12.12)	0.286*** (11.36)
Catholic	0.105*** (3.97)	0.130*** (4.88)	0.0995*** (3.74)	0.108*** (4.06)	0.133*** (4.95)	0.127*** (4.67)
Jewish	0.154 (0.75)	0.195 (0.96)	0.166 (0.81)	0.156 (0.77)	0.197 (0.96)	0.203 (0.99)
Muslim	0.167*** (6.57)	0.204*** (7.86)	0.158*** (6.14)	0.177*** (6.89)	0.213*** (8.16)	0.204*** (7.69)
Urban	-0.0845*** (-6.52)	-0.0663*** (-5.00)	-0.0862*** (-6.55)	-0.0878*** (-6.70)	-0.0528*** (-3.95)	-0.0559*** (-4.10)
CIS country	0.186*** (12.54)	0.185*** (12.22)	0.205*** (13.58)	0.186*** (12.43)	0.194*** (12.72)	0.208*** (13.36)
Lost wallet		-0.107*** (15.80)			0.0952*** (13.90)	-0.0906*** (12.85)
Trust			-0.0779*** (-13.15)			-0.0573*** (-9.23)
Obey law				-0.00750*** (3.34)		-0.00559* (2.39)
Life satisfaction					-0.159*** (-25.94)	-0.152*** (-24.11)
Cut 1 constant	-1.358*** (-20.73)	-1.009*** (-14.31)	-1.561*** (-23.01)	-1.331*** (-19.89)	-1.478*** (-20.22)	-1.599*** (-20.73)
Cut 2 constant	0.0374 (0.57)	0.397*** (5.65)	-0.155* (-2.29)	0.0715 (1.07)	-0.0464 (-0.64)	-0.157* (-2.05)
Cut 3 constant	0.947*** (14.50)	1.313*** (18.59)	0.760*** (11.26)	0.983*** (14.72)	0.883*** (12.12)	0.775*** (10.09)
N	30,162	29,159	29,374	29,590	28,906	27,822

t statistics in parentheses; * p < 0.05, ** p < 0.01, *** p < 0.001

Table 5: Heckman-style Selection Model of Corruption		
	(1)	(2)
	Degree of Corruption	Probit Model
Age	-0.00113 (-0.66)	-0.00110 (-0.29)
Age2	-0.0000735 (-0.43)	-0.0000169 (-0.46)
Education	-0.0219*** (-6.84)	-0.0153* (-2.20)
Income	0.00548 (1.87)	0.0188** (2.81)
Gender	-0.00393 (-0.41)	-0.0223 (-1.04)
Married	0.00247 (0.18)	0.00202 (0.06)
Divorced	-0.00335 (-0.16)	0.0415 (0.84)
Widow	0.0324 (1.56)	-0.0663 (-1.46)
Communist	0.0619* (2.54)	-0.160** (-3.23)
Atheist	-0.109*** (-4.67)	0.151*** (3.32)
Orthodox	0.0850*** (4.56)	0.465*** (12.47)
Catholic	-0.0903*** (-4.47)	0.446*** (10.91)
Jewish	-0.0273 (-0.18)	0.391 (1.21)
Muslim	0.169*** (8.60)	0.0747* (1.98)
Urban	-0.0125 (-1.26)	-0.137*** (-6.37)
CIS country	0.193*** (17.19)	0.0255 (1.02)
Lost wallet		-0.130*** (11.97)
Trust		-0.0588*** (-6.06)
Obey law		0.0109** (-3.03)
Life satisfaction		-0.166*** (-16.16)
Constant	2.763*** (55.97)	1.686*** (13.92)
sigma constant		-0.341*** (-11.62)
lambda constant		-0.299*** (-57.45)
N		27,822

t statistics in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

	(1) Afraid of Consequences if Reported	(2) Corruption is Too Difficult to Prove	(3) Nothing Will be Done	(4) Implicate Myself if Reported
Age	0.000671 (0.29)	0.00962*** (3.61)	0.00420 (1.50)	0.000135 (0.04)
Age2	0.0000147 (0.64)	-0.0000930*** (-3.55)	-0.0000484 (-1.76)	-0.0000252 (-0.79)
Education	-0.00471 (-1.07)	0.00658 (1.33)	0.000278 (0.05)	0.0389*** (6.55)
Income	-0.0391*** (-9.09)	0.0321*** (6.68)	0.00536 (1.06)	-0.0207*** (-3.59)
Gender	0.0477*** (3.49)	-0.0332* (-2.17)	0.00282 (0.17)	-0.0964*** (-5.31)
Married	-0.0357 (-1.81)	0.00557 (0.25)	-0.0268 (-1.16)	0.0818** (3.10)
Divorced	-0.0677* (-2.28)	-0.00848 (-0.25)	-0.00744 (-0.22)	0.0908* (2.29)
Widow	-0.0764** (-2.71)	0.00602 (0.19)	-0.0410 (-1.23)	0.00109 (0.03)
Communist	0.0517 (1.64)	-0.0460 (-1.25)	0.0518 (1.39)	-0.000519 (-0.01)
Atheist	0.0502 (1.57)	0.0677 (1.95)	0.0538 (1.45)	0.0543 (1.28)
Orthodox	0.141*** (5.56)	-0.0612* (-2.17)	0.0362 (1.22)	-0.0530 (-1.53)
Catholic	0.102*** (3.77)	0.0549 (1.84)	0.0601 (1.88)	-0.0353 (-0.94)
Jewish	-0.338 (-1.67)	0.216 (1.14)	-0.207 (-0.86)	0.358 (1.75)
Muslim	-0.156*** (-5.66)	-0.0739* (-2.44)	-0.184*** (-5.65)	0.0491 (1.36)
Urban	0.0125 (0.91)	0.0250 (1.62)	-0.104*** (-6.32)	0.00825 (0.45)
CIS country	-0.155*** (-9.58)	-0.220*** (-11.75)	-0.00617 (-0.33)	0.158*** (7.65)
Lost wallet	-0.0184** (-2.59)	-0.0153 (-1.92)	0.0499*** (5.90)	0.000643 (0.07)
Trust	-0.0477*** (-7.67)	0.0296*** (4.21)	-0.0338*** (-4.57)	0.00573 (0.69)
Obey law	-0.0178*** (-7.49)	0.00803** (3.04)	-0.0137*** (-4.82)	-0.000699 (-0.22)
Life satisfaction	0.0156* (2.44)	0.000778 (0.11)	-0.0533*** (-7.10)	0.0253** (2.92)
Constant	-0.349*** (-4.48)	-1.367*** (-15.61)	-0.882*** (-9.58)	-1.459*** (-14.05)
N	42,306	42,306	42,306	42306

t statistics in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 7: Frequency of Unofficial Payments, Ordered Probit Models					
	(1)	(2)	(3)	(4)	(5)
Age	0.000149 (0.07)	-0.000559 (-0.25)	0.000890 (0.40)	-0.00235 (-1.07)	-0.00223 (-0.97)
Age2	-0.0000719** (-3.21)	-0.0000682** (-3.07)	-0.0000737*** (-3.32)	-0.0000487* (-2.20)	-0.0000413 (-1.79)
Education	-0.0196*** (-4.66)	-0.0196*** (-4.68)	-0.0162*** (-3.87)	-0.0140*** (-3.36)	-0.00856* (-1.97)
Income	0.0384*** (10.24)	0.0345*** (9.18)	0.0278*** (7.41)	0.0502*** (13.04)	0.0434*** (10.73)
Gender	-0.0774*** (-6.15)	-0.0761*** (-6.06)	-0.0785*** (-6.27)	-0.0760*** (-6.11)	-0.0700*** (-5.39)
Married	0.0676*** (3.68)	0.0766*** (4.19)	0.0727*** (3.99)	0.0829*** (4.57)	0.0798*** (4.22)
Divorced	-0.0221 (-0.78)	-0.00444 (-0.16)	-0.00765 (-0.27)	-0.0142 (-0.51)	-0.0291 (-1.00)
Widow	0.0806** (2.97)	0.0882** (3.27)	0.0804** (2.99)	0.0801** (2.99)	0.0806** (2.89)
Communist	0.0493 (1.61)	0.0610* (2.00)	0.0595 (1.95)	0.0599* (1.98)	0.0694* (2.20)
Atheist	-0.208*** (-6.59)	-0.204*** (-6.52)	-0.197*** (-6.30)	-0.200*** (-6.41)	-0.205*** (-6.37)
Orthodox	0.0867*** (3.60)	0.0823*** (3.42)	0.110*** (4.61)	0.0582* (2.43)	0.0850*** (3.42)
Catholic	-0.205*** (-7.54)	-0.215*** (-7.94)	-0.196*** (-7.26)	-0.201*** (-7.48)	-0.185*** (-6.65)
Jewish	-0.0275 (-0.16)	-0.0498 (-0.29)	-0.0360 (-0.21)	-0.0501 (-0.30)	-0.0228 (-0.13)
Muslim	0.111*** (4.39)	0.105*** (4.16)	0.113*** (4.48)	0.120*** (4.80)	0.135*** (5.17)
Urban	-0.00975 (-0.76)	-0.0284* (-2.24)	-0.0146 (-1.15)	-0.0176 (-1.39)	0.00381 (0.29)
CIS country	0.566*** (40.42)	0.570*** (40.91)	0.566*** (40.76)	0.581*** (42.02)	0.573*** (39.71)
Lost wallet	-0.0643*** (-9.88)				-0.0652*** (-9.58)
Trust		-0.00573 (-1.02)			0.0103 (1.72)
Obeys law			-0.0446*** (-20.90)		-0.0452*** (-20.41)
Life satisfaction				-0.0911*** (-15.77)	-0.0870*** (-14.29)
cut1 constant	0.354*** (5.44)	0.423*** (6.49)	0.163* (2.49)	0.226*** (3.48)	-0.159* (-2.25)
cut2 constant	0.873*** (13.40)	0.942*** (14.42)	0.691*** (10.57)	0.747*** (11.48)	0.371*** (5.25)
cut3 constant	1.522*** (23.26)	1.590*** (24.22)	1.352*** (20.59)	1.399*** (21.40)	1.031*** (14.54)
cut4 constant	2.110*** (31.77)	2.176*** (32.66)	1.943*** (29.16)	1.992*** (30.05)	1.632*** (22.75)
N	42092	42527	42731	43354	39859

t statistics in parentheses; *p = 0.05, **p < 0.01, ***p < 0.001

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