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An Analysis of Individual Tax Morale for Russia: Before and After Flat Tax Reform

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Abstract

This paper examines individual tax morale in Russia before and after the introduction of flat tax reform in 2001. The World Values (WVS) and European Values Survey (EVS) are used to compare individual tax morale in 1999, 2006 and 2011. An ordered probit regression model is applied to study the effects of socio-demographic and institutional variables on individual tax morale. A new variable for employment sector that appeared in 2006 and 2011 values surveys is included in our model. The probit regression results revealed significant coefficients for income scale and the employment sector variables with negative marginal effects on tax morale. Socio-demographic variables have varying effects on tax morale while institutional variables are positively related to individual tax morale for the three years. To detect linear trend associations, Mantel-Haenszel hypothesis test results indicate that individual tax morale for Russia has not changed in the years before and after flat tax reform.

Keywords: flat tax reform, ordered probit regression, tax morale, employment sector, income level

1. Introduction

1.1 Why We Pay Tax

Taxes are important for a country and its citizens. Tax revenues allow the government to provide public goods and services that support and maintain the economic machine. These public goods and services include infrastructure such as roads, telecommunications, railways, electric power, and government offices and institutions. Tax revenue also supports administrative and policy-making services employed to manage the economy and financial markets, and to educate, protect, and care for its citizens. The US Internal Revenue Service described tax gap components as non-filing, under-reporting and under-payment. In the US, the under-reporting component remains the largest component since 2001. Tax filers who evade taxes by declaring improper deductions, overstating expenses, credits or exemptions, belong to this category. Tax evasion activities are illegal as they reduce tax revenues, create a sense of unfairness, alter income distribution, and impact on public services for citizens.

This paper analyzes individual tax morale in Russia from a social-psychology perspective. The next section of the paper summarizes the literature review on perspectives in tax compliance research. Our interest in Russia stems from the implementation of a flat tax system in 2001, and the impact of flat tax on tax morale in the country. Survey data from WVS (World Values Survey, 2014) for 2006 and 2011 and from EVS (European Values Survey, 2014) for 1999 were analyzed using an ordered probit regression model that included income level, sector of employment, demographics and institutional variables. The dependent variable, tax morale is a ten-scale index with two extreme points, "fully justified" and "always justified". The 10-scale index response to the tax morale question is transformed into a 4-point scale levels based on the variability of responses to the question. The model study includes the new variable on employment sector in surveys completed in 2006 and 2011. EVS survey data for Russia is analyzed for 1999, and then compared with two transition years in 2006 and 2011 using WVS survey data. Our research study builds upon the work of Alm, Vazquez and Torgler (2006) on the attitudes of Russians toward paying taxes during transitioning years from a centrally planned economy to a

market economy during the 1990s. The purpose of our study is to explore the impact of a major tax reform on individual tax morale in a transition economy. The findings from this study may have implications on taxation policies in transition economy countries and developing countries.

1.2 Tax Research

Tax research can be viewed as driven by economic concern for a widening tax gap, the need to collect more tax revenues, and the need to understand the social-psychology and cultural effects on tax compliance behavior. The two broad categories of tax research studies are focused in understanding and explaining tax compliance behavior (Frey, 2003; Torgler & Schneider, 2009; Maksvytienė & Šinkūnienė, 2012; Doerrenberg & Peichl, 2013), and in detection of tax fraud using data mining approach (Farid & Tkiouat, 2012, Gonzalez & Velasquez, 2013). Early tax research literature based on the utility maximizing economic theory has shifted to a growing attention on understanding tax behavior based on social-psychology theories (Devos, 2007)

1.2.1 Deterrent-Focused

Deterrence models based on expected utility maximization to predict tax evasion assume individuals evade tax when expected gain exceeds the cost of detection and penalty. Phillips (2011) described the ideology underlying tax deterrence research paradigm as driven by a belief that "it is an inherent wish of taxpayers to pay no tax liability, and are deterred from evading taxes in the face of risks of tax audit, fraud detection and penalty". Bloomquist (2012) employed agent-based modeling to assess the impact of auditing strategy alternatives on tax compliance behavior in misreporting cases. The approach is based on a 2-stage model of verification and validation testing with assumptions about taxpayer behavior based on knowledge accumulated from field studies, laboratory experiments and random audits. In another computational model application, DeBarr and Harwood (2004) suggested the use of relational data mining to screen tax returns using indicators or criteria endorsed by tax compliance experts. Farid and Tkiouat (2012) proposed a data mining approach in their fraud detection model for improving efficiency in auditing process. They suggested that causes for tax fraud include complexity of the tax system, moral considerations, social and cultural norms, and tax administration. In the Gonzalez and Velasquez (2013) study, different data mining approaches were compared to characterize and detect users of falsified invoices based on information about their tax payments for Chile.

Deterrence models analyze the cost-benefit of maximizing expected utility in tax evasion gamble experiments that are based on "economics of crime" (Becker, 1968). The Allingham and Sandmo (1975) deterrence model is based on the assumption that "a typical individual pays taxes only because of fear of detection and punishment". Empirical and experimental studies however revealed conflicting results. Countries with low tax evasion have relatively low deterrence measures and higher tax rates. Yitzhaki (1974) explained that the inverse relationship between tax rate and evasion exists because of how the penalty is derived. If the penalty is proportional to the tax amount understated as opposed to being proportional to income understated as assumed in Allingham et al. model, then the reward-to-risk ratio remains unchanged as the tax rate increases. Therefore, if the higher tax rate has only an income effect, the higher tax rate will correspond with lower tax evasion for the risk-averse individual.

Frey (2003) proposed a different strategy in studying taxation based on crowding theory and empirical results that predicted high levels of tax evasion with high levels of tax compliance in countries such as the United States and Switzerland. The incongruous empirical results seem to suggest that certain group level effects may have an influence on tax compliance behavior. Tax compliance is described to be a "quasi-voluntary" behavior that "cannot be reasonably enforced by deterrence measures," and that the true cost of tax administration is not just the auditing and related costs, but also the cost of ensuring that taxpayers are willing to pay taxes. The latter cost is based on crowding theory on the effects of incentives or punishments that undermine intrinsic motivation. Thus, the question of "why people pay taxes" as opposed to "why people evade taxes" has been proposed as a direction in tax research (Alm, Martinez-Vazquez & Torgler, 2010).

1.2.2 Tax Morale and Tax Compliance

Tax morale is an individual quality that is associated with compliance behavior. In analyzing the ethics of paying taxes, the deontological view holds that the action is morally good, while the teleological view sees the moral standard as the value in the outcome of such an action. A deontological perspective individual views the moral in paying taxes as simply following the rules. A teleological perspective individual on the other hand views the outcome of paying taxes as the driver for moral action. Overarching cultural and social norms and religious beliefs may therefore have an influence on paying taxes. If public goods and services are viewed as having a positive impact on the quality of life in a civilized society, the individual is more likely to pay taxes.

Tax compliance is a voluntary behavior in which the individual reports all income earned. In general, higher tax compliance is found with third party information reporting or withholding. Tax compliance is described to be influenced by many factors such as disposition towards public institutions, perceived fairness of taxes, prevailing social norms and perceived risks of being caught and punished (Franzoni, 1999). In contrast, evading taxes is an illegal act and is described as failure to report or under-reporting of income and is punishable. This is in contrast to someone who avoids paying taxes legally by exploiting loopholes that exist in tax laws, or by filing for deductions, credits and adjustments to income by proving that the criteria or standards for claims are met.

Cummings, Martinez-Vasquez and Torgler (2009), revealed a significant correlation between tax morale and tax compliance. Tax morale and institutional quality were significant predictors for shadow economy in another study (Torgler & Schneider, 2009).

Cummings et al. (2009) investigated how tax morale affects compliance in Botswana and South Africa, neighboring countries with different social histories. Their study results revealed that while tax compliance increases with individual perception of good governance, a smaller increase is also observed when less good governance is perceived. Perception of good governance indicated by individual responses to enforcement practices in audits and penalties is observed to correlate with tax morale. While enforcement effort has a positive effect on compliance, its effect is reduced by perception of less good governance. In an attitudinal and behavioral survey on tax compliance in Ireland, a high level of tax morale is observed among participants surveyed (Cleary, 2009). However, a significant proportion of the survey's participants perceived that "deliberate tax evasion is on the increase" and "few people report all their incomes". The survey also revealed that at least half of the participants believed that "paying too much taxes", "taxes collected are used poorly", and "not getting paid enough" are reasons why people avoid paying taxes.

Doerrenberg et al. (2013) investigated the effects of progressive taxation on individual tax morale. The cross country analysis using the World Values survey data for 4 waves is a logistic regression model with tax morale as the dependent variable, with explanatory and control variables were tax progressivity, economic indicators, demographic variables, national pride, trust and confidence in government and religiosity variables. Their results showed that women and married people have higher tax morale than men and singles respectively. Other variables that have a positive effect on tax morale were religiosity, patriotism, being retired and being employed. Their findings showed that tax progressivity has a decreasing positive association with tax morale which suggested that "progressive taxes contribute to less tax evasion and higher perceived fairness and equality". Since the causality in the relationship cannot be inferred, it may well be that citizens with higher tax morale support a more progressive tax system.

Maksvytiene and Sikuniene (2012) proposed that tax culture is a concept that encompasses attitudes and behaviors of participants in a tax system, and its tax relations with participants to increase tax revenue. Their proposed tax culture model includes macroeconomic factors such as the country's economic development, social status of citizens, education system level, and participant experience and upbringing.

An empirical study on tax morale for Latin American countries revealed findings that support social factors and institutional factors are significant determinants of tax morale (Taschetti, 2013). However, a comparison of tax morale between Argentina and Chile is inconsistent with the tax compliance estimates for these countries. Further analysis with an added interaction variable for perception of compliance improves the prediction on tax morale for Argentina. An important conclusion from the study is that tax compliance is a function of both tax morale and deterrence, and their interaction in a feedback loop may help to improve understanding of tax compliance. This conclusion is similar to the Torgler (2005) study of tax morale in the same region. His findings revealed that individuals who have knowledge of tax evasion of others have significantly lower tax morale.

The shadow economy has been associated with tax morale in various studies (Tekeli, 2011; Alm & Torgler, 2005; Torgler, 2011; Torgler & Schneider, 2009). Schneider (2007) defined shadow economy as market-based legal goods and services that were produced but were not reported as income. Shadow economy is estimated using the DYMIMIC (dynamic multiple-indicators multiple-causes) model. In this economic model, money supply since activities related to the shadow economy are transacted in cash, and real GNP (Gross National Product) are the main variables.

Frey and Weck (1983) pointed out that results are different from various approaches to derive the hidden economy such as in conducting interviews, experiments on risk aversion, measuring labor participation rate, estimating tax fraud estimation and analyzing currency payments related to tax-avoiding activities. They proposed a shadow economy model that is based on human behavior and institutional characteristics. Their multiple regression model's determinants are taxes and tax regulations, tax morality and perception of tax burden,

and labor participation rate, unemployment rate and working time as labor market variables.

Torgler, Schaffner and Macintyre (2008) employed several models to explore the "puzzle of tax compliance," which refers to the unexpectedly high level of tax compliance predicted using economic models. A multivariate regression model is applied to estimate the shadow economy by regressing tax morale with GDP per capita, share of agriculture in GDP, share of urban population, labor force, marginal tax rate, region and fixed time as control variables. Their results revealed that "substantial growth in the shadow economy can lead to crowding out of willingness to pay taxes", or tax morale. The size of the shadow economy is also found to be negatively correlated with trade, but is positively correlated with agricultural GDP and urbanization. Using experiments to examine the impact of tax morale on tax compliance, tax morale is found to have a strong and positive impact on tax compliance. Females and older individuals are more compliant, higher group transfer has a positive impact on tax compliance and individual wealth has a negative impact on tax compliance. A probit regression analysis on tax morale indicated that institutional quality, trust in the judicial system, gender, status, education and religion variables are significant.

1.2.3 Russia Informal Sector

Ever since the Soviet Union imploded, the former Soviet republics have been having a difficult time collecting the revenue they need to run their governments. However, some republics have done better than others. Estonia, Latvia and Lithuania, which have since joined the European Union, have a relatively strong system of public finance in place, by Soviet standards. Most of the other former Soviet republics and satellite countries in central and Eastern Europe have not fared as well. A large portion of the taxes that is legally owed in these republics is not being collected, for a variety of reasons (McGee, 2012).

Two of the main reasons for the collection problems have to do with a system of public finance that is too weak and inefficient to gather the taxes, and the general attitude of the people, many of whom believe that their government is corrupt and has little or no moral claim on their income.

Several studies have investigated the attitudes of the people in these former Soviet satellites and republics, and the conclusions reached are similar. A study of Armenian opinion found that people evade taxes because it is easy to do so and because of the widespread perception that their government is corrupt and therefore not entitled to the money (McGee, 1999). Studies of Bosnia and Herzegovina (McGee, Basic & Tyler, 2009), Bulgaria (Smatrakalev, 1998, 2012), Estonia (McGee, Alver & Alver, 2012), Poland (McGee & Bernal, 2006), Russia (Vaguine, 1998; Preobragenskaya & McGee, 2004), Slovakia (McGee & Tusan, 2008) and Ukraine (Nasadyuk & McGee, 2008) have reached similar conclusions. Figure 1 shows the public sector's perception of corruption in Russia from 1999 to 2011 from the Transparency International Organization (2014). The Corruption Perception Index (CPI) score range from 1 to 10, with a low score indicating higher level of corruption for the country. Compared to other countries, Russia CPI ranking placed it in the second to the third lowest group of countries in the world during these years.

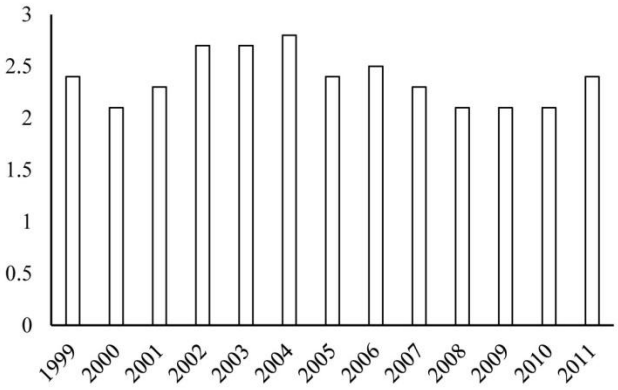

Figure 1. Corruption perception index for Russia

Other reasons found in studies of non-Soviet republics and satellites for why tax evasion is justified is the perception that the government is wasteful in its spending habits, or that the tax system is unfair (Crowe, 1944; McGee, 2012). Such studies have been done for Greece (Ballas & Tsoukas, 1998), Iran (McGee & Ardakani,

2009), and Romania (McGee, 2006).

Working off the books has both positive and negative effects for those who work in the informal sector. The obvious positive effect is that workers get to keep 100 percent of what they earn. Some studies have found that the informal sector provides more flexibility and opportunities for creativity than does the formal sector. However, there is a downside as well. Some negative effects of working in the informal sector include lower wages, less job security and fewer fringe benefits such as insurance and pensions (Ferrel-i-Carbonell & Gërxhani, 2011).

If one applies economic analysis and cost-benefit theory, one might reasonably conclude that reducing the tax rate would increase compliance. More people would find the benefit of evading taxes to exceed the cost when tax rates are high than when they are low. As tax rates decline, fewer people would conclude that tax evasion is worth the risk. However, it is unlikely that reducing tax rates will completely eliminate noncompliance for at least two reasons. Some people will evade taxes regardless of the tax rate because the system allows them to get away with evasion (McGee, 1999; Torgler, 2007, 2010). Others will evade because of the feeling that the government is not morally entitled to a slice of their income, or at least not the size of the slice it is taking (McGee, 2012). Tax morale was found to be negatively correlated with unemployment rate and inflation in Spain (Martinez-Vazquez & Torgler, 2009) and during an economic crisis (Heinemann, 2010).

The informal sector or "shadow economy" comprises a large portion of the total Russian economy with as many as 38 million people working in the shadow economy, according to at least one report (Lysizin, 2013). As a result, much of the taxes raised in Russia are from sources other than the individual income tax, including the value added tax, which is the largest source of tax revenue (Wikipedia, 2014). However, there is some evidence to suggest that reducing the individual income tax rate has had a beneficial effect on the formal economy, as some workers shift from the informal sector to the formal, taxpaying sector (Slonimczyk, 2012).

1.3 Russia Tax Reform

According to the Encyclopedia of the Nations, "Russia's tax system has been historically confusing, inefficient, unwieldy and overbearing." During Russia's transition period from 1992 to 1998, Gregory and Brooke (2000) noted that unreported economic activities for tax assessment was estimated to be around 20% to 40% of GDP in 1995, with over 40% of its monetary assets circulated in the shadow economy. During this period, "tax collected was 40% to 60% of the assessed amount, thus a minimum of 40% of tax due was not collected on known income and economic activities." Not factored into these estimates are shadow economy activities, revenue loss due to an overly-complex tax system, the general lack of tax compliance culture, and political deals on waived tax and non-monetary settlements.

Berenson (2007) compared tax compliance attitudes in three post-communist countries: Poland, Russia and Ukraine using a binomial logit regression analysis. The Tax Compliance Attitudinal Survey incorporated questions related to theories about deterrence and quasi-voluntary tax compliance, and effects of prior experience and interaction with the tax authority. Quasi-voluntary theory on tax compliance is based on the notions that trust in government to provide goods and services for its people and trust in others in paying their fair share of taxes. The comparison revealed differences in attitudes in these countries. In the case of Russia and Ukraine, tax attitudes are found to be more influenced by deterrence measures, with higher significance for Russia.

In 2001, Russia replaced progressive tax rates of 12%, 20% and 30%, with a single tax rate of 13%. The flat tax includes a standard deduction with additional deductions for education, medical and housing expenses. Adoption of the low 13% flat tax rate has been associated with growth in real Personal Income Tax (PIT) revenues of 26% in 2001, 21% in 2002 and 12% in 2003. The charts in Figure 2.1 show Personal Income tax rates before and after tax reform 2001, and in Figure 2.2 Russia Corporate tax rates from 2004 to 2014.

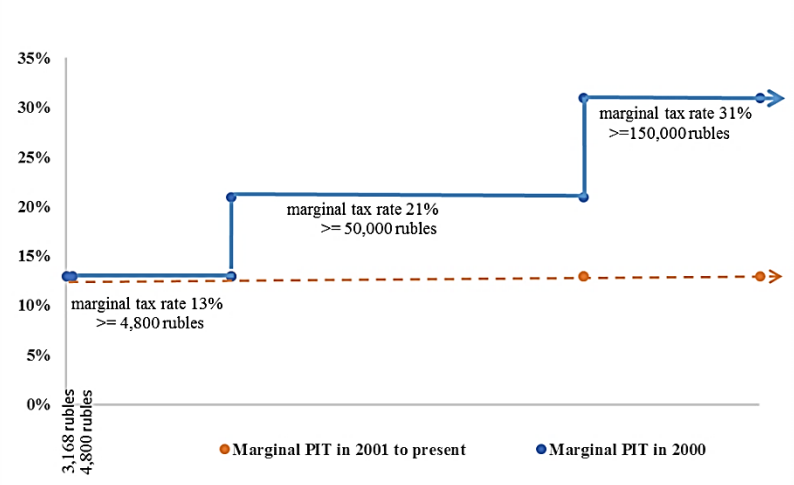

Figure 2.1. Russia personal income tax rate

Source: Duncan, D. (2012, February).

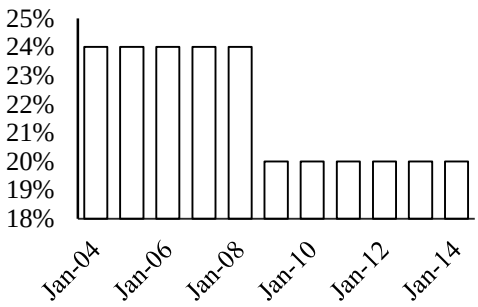

Figure 2.2. Russia corporate tax rate

Source: www.tradingeconomics.com.

Ivanova, Keen and Klemm (2005) investigated the increase in real PIT revenues in Russia after flat tax reform in 2001, and its effect on tax compliance. Their economic analysis indicated that there is an increase in tax compliance with no evidence of a strong supply effect due to tax reform.

The Gorodnichenko, Martinez-Vazquez and Peter (2009) economic analysis is based on a difference-in difference (DID) and regression discontinuity approach using data from the RLMS. Their model included deadweight loss from PIT in the presence of tax evasion based on consumption response. Results from their analysis showed that the tax reform had the effect of decreasing tax evasion by an estimated 9% to 12% in unreported income for households with the reduced marginal tax rate. Moreover, their examination of tax enforcement records from before and after tax reform from 1999 to 2003 found no evidence to support the increase in tax revenues after tax reform due to better enforcement effort by comparing accrued and received tax revenues, number of on-site audits, number of tax charges brought against state individuals and enterprises, individual entrepreneurs, number of blocked accounts and criminal cases. This led to their conclusion that the decline in tax evasion is attributed to an increase in voluntary compliance, and not to greater tax enforcement. Their consumption-income model with tax-evasion-adjusted deadweight loss resulted in at least 30% smaller efficiency gain than the standard method that considered only the income response. The deadweight loss in their model refers to social well-being that is lost due to taxation policy. If the cost of evasion is based on the cost of being caught and fines and not on the real cost of hidden income, the adjustment for deadweight loss in their consumption-income model is likely to be a more accurate reflection of efficiency gain due to tax reform for Russia.

Duncan (2012) suggested that the increase in PIT may be due to factors other than the lower marginal tax rate. Lower tax rates have been empirically associated with behavioral responses such as change in number of hours worked, number of jobs, and income shifting. Duncan and Peter (2010) analyzed the effect of Russia low flat tax

reform on work hours for men and women. Their DID regression analysis indicated that tax reform has resulted in increasing the probability of finding jobs for both men and women, and a significant increase in working hours for men but not for women. Further analysis on working hour distribution for women labor supply effects revealed a positive effect on labor response for part-time and the highest work hour distributions with no effect on the middle work hour distribution. Their conclusions on labor effects due to tax reform is that the small "reform-induced change in labor supply is an unlikely explanation for the amplified PIT revenues following the reform", and the flattening of the tax rate is more likely to benefit countries with high tax non-compliance than countries with high tax compliance.

Pogorletskiy and Söllner (2002) reported that Russia's progressive tax system introduced during its early transition period in 1992 failed in implementation due to then existing informal institutions that are characterized as having a high level of mistrust towards the government, the importance of barter transactions, and taxpayers' and authorities' lack of experience with such a system. Russia's tax reform of 2001 disbanded the progressive tax system and introduced the flat tax system, with one low tax rate of 13% for individuals, and in 2002 introduced a maximum corporate tax rate of 24%, which further dropped to 20% due to the global recession in 2008. Prior to the tax reform, corporations were at a 43% tax rate. Another important feature of the tax reform is the replacement of the four separate social security taxes with a unified regressive social security tax rate. In addition, employees are not required to pay into pension funds. A clear advantage of the low flat tax system is that it is a simplified system that makes "tax evasion less worthwhile and induce taxpayers with high incomes to leave the shadow economy and legalize their incomes". Before the reform, employers paid employees low wages in their books, and paid remaining wages in cash to avoid social security taxes.

So how does a progressive tax system compare to a flat tax system on the subject of tax morale? The Doerrenberg et al. (2013) cross country study on the effects of progressive tax rates on tax morale showed that progressive tax rates correlates positively with the tax morale level, and the positive impact of tax progressivity declines with higher income. Their empirical analysis is based on a model of self-centered inequality aversion (Fehr and Schmidt, 1999) in which individuals dislike inequitable outcomes when comparing themselves to others in payoffs. Their conclusions suggested that "progressive taxes contribute to less tax evasion and higher perceived fairness and equality" while it is also possible that higher tax morale and inequality aversion of citizens may facilitate governments to implement higher tax progressivity.

2. Method

2.1 Dataset and Variables

For our analysis we used survey data from the World Value Survey (WVS) and European Value Study (EVS). The WVS consists of national questionnaire surveys conducted in countries in which their populations in total comprise 90 percent of the world's population. The survey data is compiled into waves, covering periods of five years. The survey is designed to collect individual perceptions, beliefs and attitudes on family, work, environment, religion, values, national identity, democracy, government system, politics, diversity, culture and subjective well-being. Similarly, the EVS provides insights of individual ideas, beliefs, preferences, attitudes, values and opinions all over Europe.

The 1999 (wave 4), 2006 (wave 5) and 2011 (wave 6) year survey data consisted of 2040, 2500 and 2500 data records in total, respectively. In order to compare the results these three waves of data, we use a subset of the data for the following variables: TAX MORALE, as dependent variable, and a set of explanatory variables AGE, GENDER, education (EDUC), marital status (MAR.ST), perceived economic situation (CLASS), employment status (EMPL), trust in government and legal system (TRUST), national pride (NATL.PRIDE), work sector (WORK.SECTOR), and scale of income (INCOME.SCALE) as determinants of TAX MORALE Work sector is a new variable that appeared in the last two waves; wave 5 (2006) and wave 6 (2011). Definitions of all variables, along the survey questions on which the variables are based, can be found in Table A5 in the Appendix section of this paper. To verify the quality of the data, records with missing values in variables considered in our model were dropped.

The TAX MORALE variable, originally on a ten-scale index with the two extreme points "1"-"never justified" and "10"-"always justified", is rescaled to form a variable from 0 to 3, where 3 means "never justifiable" and value "0" means "always justified". On this scale, a higher numeric score indicates a higher tax morale. The points 4 to 10 are combined in the value 0, due to lack of variability and simple interpretation.

Data for the CLASS variable exists only for 2011. This question is not found in 1999 and the question was not asked for 2006. Further, a combined variable TRUST is formed using the average of the two variables (trust in government and legal system) for 2006/2011 and using only trust in legal system for 1999 (no question about

trust in government).

Observations which have missing values are dropped from the original dataset resulting in a total of 2039, 1162 and 1370 records are included in the analysis for 1999, 2006 and 2011 respectively. We excluded records with missing values and/or non-informative response. The data processing and analyses were done using the R programming language (R Core Team, 2012). Descriptive statistics for the variables are shown in Table A3 and Table A4 in Appendix A.

The following sub-sections describe the groups of variables in our model.

2.1.1 Income Level Factor

Bilgin (2014) revealed that both income level and financial satisfaction have significant effects on tax morale among other variables such as age and education level for Spain. Individuals in the top income group with a high level of financial satisfaction have lower tax morale. Another empirical study on effects of financial satisfaction and happiness on tax morale in Asian countries has also indicated that these factors have a positive impact on tax morale (Torgler, 2004).

The income distribution question is asked in WVS in the following way "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 in". Figure 3 shows the income scale distribution for complete observations in our dataset for 1999, 2006 and 2011.

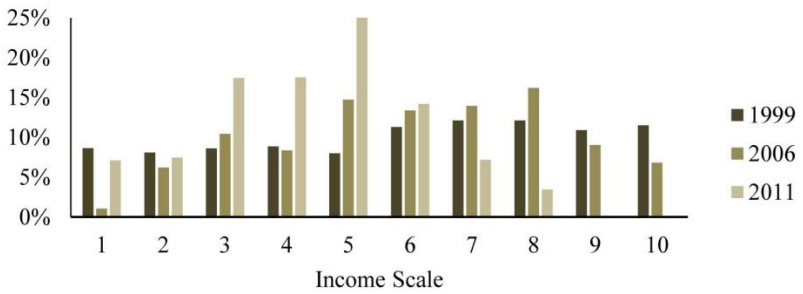

Figure 3. Income scale by year distribution

Figure 4 shows sparklines for the distribution tax morale responses with a collapsed scale for tax morale, "0" for lowest morale and "3" for highest tax morale, and markers for the highest and lowest tax morale levels for each income scale.

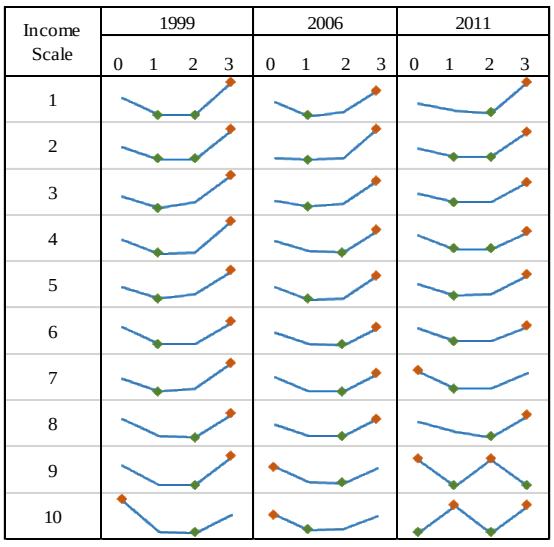

Figure 4. Tax morale distribution by income scale

A study on how inequality affects tax morale in Latin America and Caribbean countries using the Latinobarometro 2005 survey revealed that individuals who are older and have more years of education have a higher probability of tax morale, while individuals with a higher level of incomes and are self-employed have a lower probability of tax morale (Gerstenblüth, Melgar, Pagano & Rossi, 2012). Their results included an analysis of the effects of the Gini index and Corruption Perception Index (CPI) on tax morale. The probability for higher tax morale decreases when the Gini index for countries indicates less income inequality and lower CPI. The tax morale question in the Latinobarometer survey is asked in the following way, "Within 1 to 10 scale, where 1 means "not at all justifiable" and 10 means "totally justifiable", how much justifiable do you think tax evading is?" Responses were collapsed into 2 levels, 0 for low tax binary for all levels 1 through 8 and 1 for two levels 9 and 10 for "not at all justifiable" and "totally not justifiable".

The Global Wealth Report 2013 reported that a high inequality exists with Russian billionaires owning 35% of all personal assets, while it is expected that billionaires worldwide collectively own 1% to 2% of household wealth. The Gini index is a measure of inequality that is obtained by computing the deviation of perfect equality line from the cumulative distribution of income function known as the Lorentz curve. In the case of perfect equality, the Gini index is 0% and at the extreme end, the Gini index for perfect income inequality is 100%. Therefore a low Gini index indicates a more equal distribution of income in the society. Figure 5 shows the GINI index for Russia from 1999 to 2009.

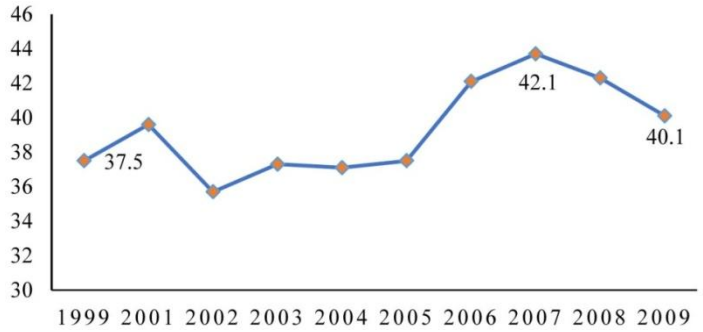

Figure 5. Gini plot for Russia

Data source: World Bank, World Development Indicators.

Last updated April 23, 2013.

The Palma ratio is a relatively new measure of income inequality which is derived by dividing the richest 10% of the population's share of the Gross National Income (GNI) by the poorest 40% of the population's share of GNI. It is observed that the Palma ratio captures about 50% of GNI for any country. The remaining 50% of the country's GNI is shared between the richest 10% and the poorest 40% for which "distributional politics is largely about a battle between the rich and the poor for this remaining 50% of GNI, and who the middle classes side with." A high Palma ratio indicates wide inequality gap, which can be narrowed by "raising the share of GNI of the poorest 40%, and/or reducing the share of the top 10%." The Palma ratio and GINI index produced the similar income inequality outcomes, Russia Palma ratio in 1990 is 0.79, and in 2010, this ratio increases to 1.885 (Cobham and Sumner 2013).

2.1.2 Employment Sector Factor

The survey question in the WVS surveys on individual employment sector is asked with three possible responses in the following way: "Are you working for 1. Government or public institution, 2. Private business or industry, 3. Private non-profit organization". The chart in Figure 6 shows the responses for individuals with complete observations for 2006 and 2011 survey for the Russian Federation.

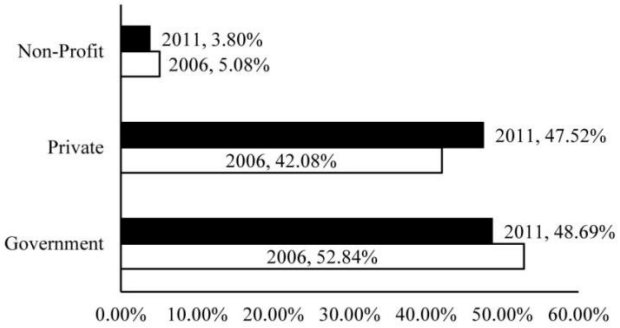

Figure 6. Employment sector distribution

Gorodnichenko et al. (2009) worked on estimating the effects of Russia's tax reform on voluntary tax compliance and using the consumption-income function assumed that public or government sector employees are less likely to be more tax compliant after the tax reform as these individuals are expected to have legitimate incomes from their employers and not have other incomes from bribery or corruption. On the other hand, individuals in the private sector, which includes self-employed individuals, are more likely to be tax compliant due to lower tax rates. This assumption is confirmed by their findings that indicated there is a greater decline in the consumption-income gap after tax reform for private sector than for the public or government sector, with the largest gap decline for white collar or higher skilled workers in the private sector.

The private non-profit sector includes Russia's non-governmental organizations (NGO) such as environmental groups, religious organizations and health-care associations. According to Wikipedia (2014) NGO is funded by governments, foundations, businesses or private individuals.

2.1.3 Socio-Demographics Factor

According to the Organization for Economic Cooperation and Development (OECD) tax and development report (2013), the level of tax morale is affected by socio-demographics and economic variables based on an empirical analysis of individuals in 55 countries who responded to the tax morale question in WVS. Selected variables for comparison in the report shows that support for democracy has marginal effects of 12.4%, age 7.5%, trust in government 5.5%, female 3.5%, religious 2.7% and educational attainment 1.5%. Individuals who declared themselves as having a religious identity have higher tax morale, older people are less likely to cheat, women are more tax complaint than men, part-time workers and self-employed individuals tend to have lower tax morale than full-time employees and more educated individuals have more positive attitudes towards paying taxes.

3. Results

3.1 Hypothesis Test

We tested the following null hypotheses to detect changes in individual tax morale for the years considered:

1) H_0: Distribution of Tax Morale in Russia is the same for 1999 and 2006
2) H_0: Distribution of Tax Morale in Russia is the same for 1999 and 2011
3) H_0: Distribution of Tax Morale in Russia is the same for 2006 and 2011

The conventional chi-square test of independence using $\chi 2$ ignores the ordering information therefore for ordinal variables a trend association test is common (Agresti, 2007). To test whether there is change in the distribution of tax morale between years we performed the Mantel-Haenszel test to detect linear trend association. The test statistic utilizes the correlation in the data and it is defined as $M^2= (n-1)r^2$. Table 4 shows the results of these tests.

Table 4. Mantel-Haenszel test results

Null Hypothesis	p-value
Distribution of Tax Morale in Russia is the same for 1999 and 2006	0.10
Distribution of Tax Morale in Russia is the same for 1999 and 2011	0.72
Distribution of Tax Morale in Russia is the same for 2006 and 2011	0.24

The hypothesis results indicated that tax morale overall has not changed significantly over these three periods.

A distribution for tax morale for the dataset is provided in Figure 7. The chart shows that tax morale levels for 1999 and 2011 are about the same, while year 2006 has the largest proportion of individuals who responded that "tax cheating is never justifiable", which is level "3" for the highest tax morale level.

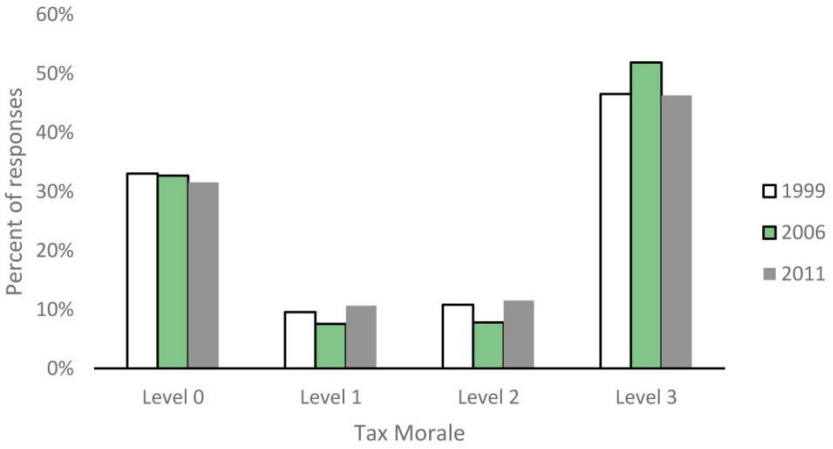

Figure 7. Tax morale distribution by year

Given the nature of the scaled response variable, tax morale, we use an ordered probit approach in the estimation. Because the ordered probit estimation has a nonlinear form, we can interpret directly only the sign of the estimated coefficients and not their size. We calculated the marginal effects of each independent variable on tax morale at the highest value of the dependent variable (e.g., the value 3, or "Tax evasion is never justified").

To relate the tax morale to a set of independent variables, the ordered probit model is expressed in an equation form.

$$probit[P(TAX\ MORALE_i \leq j)] = \alpha_j + \beta_1 \mathrm{AGE}_i + \beta_2 \mathrm{GENDER}_i + \beta_3 \mathrm{EDU}_i + \beta_4 \mathrm{MAR.ST}_i + \beta_5 \mathrm{CLASS}_i + \beta_6 \mathrm{EMPL}_i + \beta_7 \mathrm{TRUST}_i + \beta_8 \mathrm{NTL.PRIDE}_i + \beta_9 \mathrm{INCOME.SCALE}_i + \beta_{10} \mathrm{WORK.SECTOR}_i, \text{ for j} = 0,1,2,3 \quad (1)$$

The model coefficients are estimated with the R-package VGAM (Yee, 2010).

Two scenarios are considered for 2011, one with CLASS variable in the model and one without. The ordered probit for each year is indicated by Table A1 and Table A2. Table A1 results are obtained with inclusion of CLASS variable in the model. This is done to account for the possible confounding effect with other variables. The model is statistically significant, for all three years, $p < 0.001$, in both scenarios for 2011. Here we discuss the variables of the ordered probit model and point out the significant one. Since the estimated coefficients from the ordered probit model do not necessarily lend themselves to a straightforward interpretation, marginal effects of significant coefficients for variables are discussed in the following section. The marginal effects of categorical predictors are computed with respect to a reference level and remaining predictors fixed at the mean (mode) for continuous (categorical) predictors. Marginal effects of continuous variables are computed with respect marginal change from the mean of variable.

3.2 Significant Variables and Their Marginal Effects on Tax Morale

Among demographic variables, AGE proved to be a significant determinant of tax morale for years 1999 and 2011, $p<0.001$. Higher age appears to lead to higher tax morale in both years. The positive estimated coefficients have marginal effects of 0.6% and 0.5%, for 1999 and 2011 respectively. A ten-year increase in age, with respect to the mean age of around 45-46 years for both years, increases the likeliness of high tax morale by 6% and 5%, respectively. AGE is not significant for the 2006 data.

The positive coefficient for the variable GENDER is statistically significant, $p= 0.007$, with a marginal effect of 4.7% for the year 1999. For 2011, $p=0.092$, with a marginal effect of 3.3%. This implies that women have a higher probability of high tax morale than men. The GENDER coefficient is not statistically significant in 2006.

Marital status (MAR.ST) has no significant effect for 1999 and 2011. The p value of the Wald-test for the overall MAR.ST effect is greater than 0.05 for these two waves of data. The model indicates variable significance, $p<0.05$ for year 2006 for the two groups "Married" and "Widowed" with marginal effects of 10% and 12%

respectively.

Individual personal economic situation (CLASS) appears to have an effect on tax morality, data for 2011 only available. The Wald-test for overall CLASS effect has a p value of 0.029. Coefficients for people in the groups "Upper" and "Lower Middle" economic classes are significant, $p<0.05$. These groups exhibit lower tax morale than the reference group, "Working" class (Table 1). The marginal effects for the upper class and lower middle class are -33.6% and -5.1%, respectively. Being in the upper class (lower middle) decreases the probability of high tax morale by 33.4% (5.1%), compared to individuals who identified themselves as belonging to the working class.

Employment status (EMPL) is overall significant only for 1999 with the Wald-test yielding a p value of 0.02. Two employment statuses for this year, "self-employed" and "student" result in lower tax morale compared to the reference group, "full time employed", with marginal effects of -21.8% and -11.5%. Although there was a lack of overall significant effect of employment status for 2006, the status "retired" resulted in higher tax morale with an estimated marginal effect of 9%. There was no employment effect for 2011.

We find that tax morale is higher for respondents with the highest level of trust (TRUST) in the government and justice system. It had a statistically significant, $p<0.05$, impact on tax morale in 1999 and 2011, with marginal effects estimated at 2.0% and 3.9% percentage points. The probability of high tax morale increases by more than 2% (3.9%), with respect to the mean level of trust around 2.1 (2.3), in 1999 (2011), for an extra unit increase in the TRUST variable, assuming all other variables are at the same level(value). The data for 2006 does not indicate a significant effect of the TRUST variable.

There is also a statistically significant positive effect of national pride (NATL.PRIDE) on tax morale for 1999 and 2006, $p<0.05$. The marginal effects are 2.6% in 1999, and 4.6% in 2006. All else being equal, an increase of one unit in NATL.PRIDE variable, with respect to the mean level of 3.0 (3.2) for 1999 (2006), increases the likeliness of high tax morale by magnitude of the aforementioned marginal effects.

The variable is significant at the 0.10 level for 2011, $p=0.068$, with a marginal effect of 2.3%.

Scale of income (INCOME.SCALE) is significant with negative effects for 1999 and 2006, $p<0.05$. Marginal effect are -0.8% and -2.8%, respectively. All else being equal, an increase on one unit in INCOME.SCALE, with respect to the mean level of 5.9 (6.1) for 1999 (2006), decreases the likeliness of high tax morale by the magnitude of the aforementioned marginal effects. The variable is not significant in the presence of the CLASS variable for 2011, but is significant at 0.10 if the CLASS variable is not included in the model. Probit regression results for exclusion of the CLASS variable is provided in Table A2.

WORK.SECTOR, proved to be significant at $p<0.05$ in 2011, with a -4.7% marginal effect for "Private business or industry". People in the private sector are therefore 4.7% less likely to have higher tax morale than those employed in government institutions. For 2006, the estimated coefficient for WORK.SECTOR, "Private business or industry" is not significant, and is positive with a p-value of 0.3.

4. Discussion

The effects of a set of determinants for tax morale are estimated using an ordered probit model for Russia during 1999, 2006, and 2011.

Based on the distribution of tax morale in our dataset, the tax morale level is at its highest level in 1999 before tax reform. The transition to a market economy was tumultuous during the 1990s. A poorly conceived progressive taxation policy introduced in 1992 did not take into account the longstanding informal institution and centrally plan economy (Pogorletskiy & Söllner, 2002). In 1992, a progressive tax system was implemented, but lack of experience in tax administration, a bureaucratic government system, and a society that was deeply entrenched in connections, tax crimes and policing and corruption, led to a financial crisis in 1998. The much simplified flat tax system implemented in 2001 which led to significantly lower marginal tax rates for individuals and businesses have resulted in greater tax revenues for the country. Although it is not clear whether the increase in tax revenue is due to a change in individual tax compliance or to taxes collected from state-owned oil companies, findings from microeconomic analysis of household panel data (Ivanova et al., 2005; Gorodnichenko et al., 2009) provided support for an increase in tax compliance. However, tax compliance is a function of morale and deterrence. Individual knowledge or perception of others evading taxes, societal and tax administration institutions have some role in shaping tax morale. This observation has been concluded in a number of different studies (Torgler, 2005; Taschetti, 2013; Alm & Martinez-Vasquez, 2007). Conditional cooperation theory which recognizes that individuals may be willing to pay their taxes conditionally on the behavior of others in paying taxes, is strongly supported in an empirical study that indicated a strong correlation between perceived tax

evasion and tax morale (Frey & Torgler, 2007). The much simplified tax system is easier to understand compared to the complicated progressive system introduced in 1992, and may have some role in inducing tax compliance.

The Figure 6 distribution chart shows a decline in tax morale in 2006 and 2011 from 1999. Hypothesis test results in Table 4 also indicate that there are no significant changes in tax morale from 1999 to 2006 and from 1999 to 2011. The decline in tax morale may be due to an income inequality effect. Lower taxes reduced tax liability for the wealthy relative to the poor which could lead to an increase in net income inequality, income shifting and real productivity responses that further increase the net income for the rich (Duncan, 2012). Figure 4 shows the available Gini index for income inequality in Russia from 1999 to 2009 from the World Bank (2014). The graph plot revealed that the Gini index for inequality in Russia increased from 2006 to 2007, and declined from 2008 to 2009. In 2009, the Gini index is at 40.1, which is still significantly higher than in 1999 at 37.5.

Private employment is significant for 2011 with a negative marginal effect on tax morale. This may be due to the high level of corruption in the Russian private employment sector. According to a World Bank report (2013) on regulatory burden in doing business in Russia, corruption is cited as a major problem in 2011 by 33.5% of national and regional businesses surveyed in 2011. Although the business climate in general, has improved from 2008 to 2011, the Russia corruption perception index in Figure 1 shows that it is still at a relatively high level.

Our study indicates that a major change in tax structure in 2001 did not have an impact on individual tax morale for Russia in the three years considered. Income inequality and conditional cooperation theory may provide promising directions in exploring tax morale. Our findings in this study have certain limitations. Survey data accessed from WVS and EVS are cleaned by removing observations that have missing values. As a result, the remaining observations in our dataset may not be representative of the population. This may explain the varying effects of socio-demographic variables on tax morale in the probit regression results obtained for different years.

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Appendix

Probit regression

Table A1. Results with class status variable

Weighted Ordered Probit	1999			2006			2011		
	Coefficient	z-value	Marginal Effect	Coefficient	z-value	Marginal Effect	Coefficient	z-value	Marginal Effect
Demographic Factors									
AGE	0.019***	6.789	0.006	0.001	0.265	0	0.017***	5.55	0.005
FEMALE	0.152***	2.682	0.047	0.031	0.404	0.011	0.116*	1.68	0.033
EDUCATION	-0.013	-0.784	-0.004	0.006	0.274	0.002	0.006	0.325	0.002
Marital Status									
MARRIED	-0.004	-0.039	-0.001	0.274***	2.654	0.104	0.11	1.25	0.031
DIVORCED	-0.158	-1.461	-0.049	0.248	1.619	0.094	-0.143	-1.23	-0.045
SEPARATED	-0.254	-1.345	-0.081	0.138	0.412	0.053	-0.227	-0.956	-0.073
WIDOWED	-0.029	-0.234	-0.009	0.34**	2.012	0.127	-0.019	-0.138	-0.006
Economic Situation									
Class Status									
UPPER CLASS							-0.943**	-1.99	-0.336
UPPER MIDDLE CLASS							-0.074	-0.68	-0.021
LOWER MIDDLE CLASS							-0.175**	-2.37	-0.051
Employment Status									
PART-TIME EMPLOYED	-0.039	-0.35	-0.012	-0.081	-0.535	-0.03	-0.084	-0.695	-0.024
SELF-EMPLOYED	-0.619***	-3.02	-0.218	-0.332	-0.739	-0.126	-0.117	-0.78	-0.033
UNEMPLOYED	-0.139	-1.461	-0.043	0.092	0.546	0.032	0.256	0.878	0.062
AT HOME	-0.15	-1.31	-0.047	-0.251	-1.505	-0.095	0.049	0.187	0.013
STUDENT	-0.348**	-2.01	-0.115	0.309	1.064	0.102	0.149	0.376	0.038
RETIRED	-0.139	-1.432	-0.043	0.267**	2.021	0.09	-0.013	-0.11	-0.003
OTHER	-0.284	-0.932	-0.092	0.541	0.714	0.165	0.316	0.8	0.074
Trust and Pride									
TRUST IN GOVT & LEGAL SYSTEM	0.061**	2.079	0.02	0.036	0.743	0.013	0.137***	3.17	0.039
NATIONAL PRIDE	0.079***	2.708	0.026	0.127***	2.854	0.046	0.079*	1.82	0.023
Income Scale	-0.024**	-2.221	-0.008	-0.078***	-4.35	-0.028	-0.026	-1.25	-0.008
Work Sector									
PRIVATE				0.086	1.048	0.03	-0.162**	-2.218	-0.047
PRIVATE NON-PROFIT				-0.019	-0.118	-0.007	-0.112	-0.65	-0.032

Table A2. Results without class status variable

Weighted Ordered Probit	1999			2006			2011		
	Coefficient	z-value	Marginal Effect	Coefficient	z-value	Marginal Effect	Coefficient	z-value	Marginal Effect
Demographic Factors									
AGE	0.019***	6.789	0.006	0.001	0.265	0	0.017***	5.54	0.005
FEMALE	0.152***	2.682	0.047	0.031	0.404	0.011	0.112	1.639	0.034
EDUCATION	-0.013	-0.784	-0.004	0.006	0.274	0.002	-0.004	-0.225	-0.001
Marital Status									
MARRIED	-0.004	-0.039	-0.001	0.274***	2.654	0.104	0.104	1.189	0.032
DIVORCED	-0.158	-1.461	-0.049	0.248	1.619	0.094	-0.145	-1.249	-0.048
SEPARATED	-0.254	-1.345	-0.081	0.138	0.412	0.053	-0.217	-0.913	-0.073
WIDOWED	-0.029	-0.234	-0.009	0.34**	2.012	0.127	-0.021	-0.148	-0.007
Economic Situation									
Employment Status									
PART-TIME EMPLOYED	-0.039	-0.35	-0.012	-0.081	-0.535	-0.03	-0.077	-0.642	-0.023
SELF-EMPLOYED	-0.619***	-3.02	-0.218	-0.332	-0.739	-0.126	-0.156	-1.058	-0.048
UNEMPLOYED	-0.139	-1.461	-0.043	0.092	0.546	0.032	0.267	0.919	0.069
AT HOME	-0.15	-1.31	-0.047	-0.251	-1.505	-0.095	0.084	0.324	0.24
STUDENT	-0.348**	-2.01	-0.115	0.309	1.064	0.102	0.076	0.194	0.021
RETIRED	-0.139	-1.432	-0.043	0.267**	2.021	0.09	-0.016	-0.144	-0.005
OTHER	-0.284	-0.932	-0.092	0.541	0.714	0.165	0.316	0.802	0.08
Trust and Pride									
TRUST IN GOVT & LEGAL SYSTEM	0.061**	2.079	0.02	0.036	0.743	0.013	0.132***	3.066	0.04
NATIONAL PRIDE	0.079***	2.708	0.026	0.127***	2.854	0.046	0.087**	2.026	0.027
Income Scale	-0.024**	-2.221	-0.008	-0.078***	-4.35	-0.028	-0.035*	-1.789	-0.011
Work Sector									
PRIVATE				0.086	1.048	0.03	-0.162**	-2.189	-0.05
PRIVATE NON-PROFIT				-0.019	-0.118	-0.007	-0.13	-0.764	-0.04

Footnotes for Table A1 and Table A2: Total number of observations for complete records with no missing values for any variables in the model are 2039 for the 1999 survey, 1162 for the 2006 survey and 1370 for the 2011 survey. The dependent variable is TAX MORALE, measured on a four point scale (0 to 3). Marginal effects are calculated at the highest tax morale score (3). Reference groups are MALE, SINGLE/LIVING TOGETHER, and FULL-TIME EMPLOYED. Significance levels are denoted as: * 0.05<p<0.10, ** 0.01<p<0.05, *** p<0.01.

Table A3. Frequency table

Categorical Variables	Freq#			Relative Frequency		
	1999	2006	2011	1999	2006	2011
Tax Morale						
- Level 0	674	380	432	0.331	0.327	0.315
- Level 1	195	88	146	0.096	0.076	0.107
- Level 2	221	91	158	0.108	0.078	0.115
- Level 3	949	603	634	0.465	0.519	0.463
GENDER						
- Male	854	534	630	0.419	0.460	0.460
- Female	1185	628	740	0.581	0.540	0.540

Marital Status						
SINGLE/LIVING TOGETHER	286	213	287	0.140	0.183	0.209
MARRIED	1110	719	692	0.544	0.619	0.505
DIVORCED	271	101	195	0.133	0.087	0.142
SEPARATED	47	14	27	0.023	0.012	0.020
WIDOWED	318	115	169	0.156	0.099	0.123
Economic Situation						
WORKING CLASS/LOWER CLASS			672			
UPPER CLASS			8			
UPPER MIDDLE CLASS			197			
LOWER MIDDLE CLASS			493			
Employment Status						
FULL-TIME	975	723	865	0.478	0.622	0.631
PART-TIME EMPLOYED	123	69	106	0.060	0.059	0.077
SELF-EMPLOYED	37	7	71	0.018	0.006	0.052
UNEMPLOYED	195	62	17	0.096	0.053	0.012
AT HOME	72	60	21	0.035	0.052	0.015
STUDENT	63	19	9	0.031	0.016	0.007
RETIRED	559	219	272	0.274	0.188	0.199
OTHER	15	3	9	0.007	0.003	0.007
Work Sector						
GOVERNMENT		614	667		0.528	0.487
PRIVATE		489	651		0.421	0.475
PRIVATE NON-PROFIT		59	52		0.051	0.038

Footnote: Total number of observations for complete records with no missing values for any variables in the model are 2039 for the 1999 survey, 1162 for the 2006 survey and 1370 for the 2011 survey.

Table A4. Descriptive statistics

Continuous Variables		**Age**	**Education**	**Trust in Govt/Legal**	**National Pride**	**Income Scale**
Min	1999	18	1	1	1	1
	2006	16	2	1	1	1
	2011	18	1	1	1	1
1st Quartile	1999	33	4	1	2	3
	2006	31	5	2	3	4
	2011	31	5	2	3	3
Median	1999	45	5	2	3	6
	2006	44	6	2	3	6
	2011	45	6	2	3	5
Mean	1999	46.3	5.1	2.14	2.96	5.88
	2006	43.8	6.46	2.26	3.24	6.08
	2011	45.2	6.57	2.25	3.09	4.37
3rd Quartile	1999	60	6	3	4	8
	2006	54	9	3	4	8
	2011	57	9	3	4	6
Max	1999	90	8	4	4	10
	2006	76	9	4	4	10
	2011	91	9	4	4	10

Table A5. Variable description

Variable	Definition	
TAX MORALE	Please tell me for each of the following statements whether you think it can always be justified, never be justified, or something in between. Cheating on tax if you have the chance (3=never and 0=always)	
CLASSES	Available 2011only: People sometimes describe themselves as belonging to the working class, the middle class, or the upper or lower class. Would you describe yourself as belonging to the: 1. Upper class 2. Upper middle class 3. Lower middle class 4. Working class (reference group) 5. Lower class (reference group)	
EDUCATION	1999: What is the highest educational level that you have attained? 1. Inadequately completed elementary education 2. Completed (compulsory) elementary education 3. (Compulsory) elementary education and basic vocational qualification 4. Secondary, intermediate vocational qualification 5. Secondary, intermediate general qualification 6. Full secondary, maturity level certificate 7. Higher education – lower-level tertiary certificate 8. Higher education – upper-level tertiary certificate	2006/2011: What is the highest educational level that you have attained? 1 No formal education 2 Incomplete primary school 3 Complete primary school 4 Incomplete secondary school: technical/vocational type 5 Complete secondary school: technical/vocational type 6 Incomplete secondary: university-preparatory type 7 Complete secondary: university-preparatory type 8 Some university-level education, without degree 9 University-level education, with degree
MARITAL STATUS	1999: What is your current legal marital status? 1 married 2 widowed 3 divorced 4 separated 5 never married 6 cohabiting 7 single	2006/2011: Are you currently 1 Married 2 Living together as married 3 Divorced 4 Separated 5 Widowed 6 Single
EMPLOYMENT STATUS	1999: Employment status 1 has paid employment: 30h a week or more 2 has paid employment: less than 30h a week 3 has paid employment: self employed 4 if no paid employment: retired/pensioned 5 if no paid employment: housewife not otherwise employed 6 if no paid employment: student 7 if no paid employment: unemployed 8 if no paid employment: other (please specify)	2006/2011: Are you employed now or not? If yes, about how many hours a week? Yes, has paid employment: 1 Full time employee (30 hours a week or more) 2 Part time employee (less than 30 hours a week) 3 Self-employed No, no paid employment: 4 Retired/pensioned 5 Housewife not otherwise employed 6 Student 7 Unemployed 8 Other (write in)
TRUST IN GOVERNMENT/ LEGAL SYSTEM	1999: How much confidence in: justice system? (4 = a great deal to 1 = none at all).	2006/2011: Index (average) of the following two questions: Could you tell me how much confidence you have in the government in your capital: is it a great deal of confidence, quite a lot of confidence, not very much confidence or none at all? (4 = a great deal to 1 =none at all). Could you tell me how much confidence you have in the legal system: is it a great deal of confidence, quite a lot of confidence, not very much confidence or none at all? (4 = a great deal to 1 = none at all).

TRUST IN JUSTICE SYSTEM	1999: How much confidence in: justice system (4 = a great deal to 1 =none at all).	2006/2011: Could you tell me how much confidence you have in the justice system: Is it a great deal of confidence, quite a lot of confidence, not very much confidence or none at all? (4 = a great deal to 1 =none at all).
NATIONAL PRIDE	1999/2006/2011: How proud are you to be …….? (own nationality) 1. Not at all proud 2. Not very proud 3. Quite proud 4. very proud	
WORK SECTOR	2006/2011: Are you working for the government or public institution, for private business or industry, or for a private non-profit organization? 1 Government or public institution 2 Private business or industry 3 Private non-profit organization	
INCOME SCALE	1999: Income household respondent 64301 RU: 350 RUB or less per month 64302 RU: 351-400 RUB 64303 RU: 401-500 RUB 64304 RU: 501-700 RUB 64305 RU: 701-800 RUB 64306 RU: 801-1,000 RUB 64307 RU: 1,001-1,300 RUB 64308 RU: 1,301-1,700 RUB 64309 RU: 1,701-2,500 RUB 64310 RU: more than 2,500 RUB	2006/2011: Please, specify the appropriate number, counting all wages, salaries, pensions and other incomes that come in. 1. Lowest group 2. 3. . . 10 Highest group (1=lowest income group to10=highest income group)