

## RUSSIAN ATTITUDES TOWARD PAYING TAXES – BEFORE, DURING, AND AFTER THE TRANSITION

James Alm, Jorge Martinez-Vazquez, and Benno Torgler\*

### Abstract

This paper examines citizens' attitudes toward paying taxes – what is sometimes termed their “tax morale”, or the intrinsic motivation to pay taxes – focusing on the experience of individuals in the Russian Federation. A unique aspect of our analysis is our ability to study tax morale before (1991), during (1995), and shortly after (1999) the transition of the Russian economy from a centrally planned economy to one based on market reliance. Our empirical analysis uses data from the World Values Survey and the European Values Survey. The results show decay in tax morale in the first four years of the transition from 1991 to 1995, and a small recovery in 1999. These results are consistent with the relevance of social norms in tax compliance, where the widespread perception of tax evasion and of a corrupt and inefficient state led initially to a decline of tax morale. However, the results also suggest that the restoration of a higher level of trust in the state, after some progress in the transition to a market economy, positively influenced tax morale. Using disaggregated data for Russian regions, we also find significant regional differences in tax morale, reflecting the degree of trust different regions have toward Moscow's institutions and policies.

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*I have worked in the power structures for three decades, so I speak with authority – forceful methods are one of the mechanisms that must be utilized by the state, but not the main mechanism.*

Viacheslav Soltaganov, former director of the Russian tax police (cited in Easter 2003, p. 44).

## **I. INTRODUCTION**

Fundamental changes in the role and effectiveness of the public sector have occurred during the transition years of the 1990s in the Russian Federation. In November 1991, the Soviet Union ceased to exist, and the Russian Federation was born after Russia and other former Soviet republics refused to remit tax revenues to the Soviet government (Martinez-Vazquez and Boex 2001). Many difficult policy choices had to be faced in this new era in such areas as the role of the public sector in general and the structure of the tax system in particular. Indeed, two of the biggest challenges were to reinvent the state, which had had during Soviet times mostly a record of ineffectiveness and corruption, and to convince citizens who had not paid taxes directly under the Soviet regime to start complying voluntarily with their new tax obligations.

The dynamic changes in Russia during the transition decade of the 1990s offer an excellent opportunity to examine citizens' attitudes toward paying taxes – what is sometimes termed their “tax morale”, or the intrinsic motivation to pay taxes – and especially to analyze the ways in which these attitudes are affected by (or reflected in) changes in government policies and institutions. This is the purpose of this paper. We use micro-level data for Russia from the World Values Survey and the European Values Survey for the years 1991, 1995, and 1999 to examine how these attitudes have changed during the tumultuous events of the 1990s.

The 1990s were a transforming decade for Russia. This period begins with the dissolution of the Union of Soviet Socialist Republics in December 1991. It spans the presidency of Boris Yeltsin, who was elected President by popular vote in June 1991 and who

served until December 1999, when he resigned and Vladimir Putin became acting President. Putin was elected president shortly after with considerable popular support and authority to carry out a backlog of reforms.

The 1990s is also a period during which major legislation was enacted that transformed the Russian Federation: the Law on Basic Principles of the Tax System in the Russian Federation (December 1991), the new Constitution of 1994, the Law on the General Principles of Organization of Local Self-government in the Russian Federation (August 1995), and the introduction in 1997 and 1998 of important reforms based on the draft Tax Code, the Budget Code, the Law on Financial Foundations of Local Self-governments, and the Concept of Reform of Intergovernmental Fiscal Relations in the Russian Federation. Even aside from these legal changes, there were many other events that shaped the view of ordinary citizens of the new state, including the August 1991 coup attempt, the political struggle and final victory of Yeltsin over the communist-dominated parliament, the centrifugal separatist forces in ethnic regions from Chechnya to Tatarstan to Bashkiria, the massive privatization of state assets and the rise of the Russian oligarchs, the questionable alliance of the oligarchs with the Kremlin for Yeltsin's reelection, the financial crisis and debt default of August 1998, and the beginning of the economic recovery and the consolidation of power in Putin's hands the next year.

The main issue that we examine in this paper is the impact of these events on citizens' attitudes toward paying taxes. We therefore test the importance for voluntary compliance of social norms and taxpayer's perceptions of government institutions.

In addition, our data allow us to examine the evolution of tax morale in the regions of Russia. The Russian Federation is characterized by strong ethnic, economic, and fiscal disparities between the regions, including some sorts of secessionist forces (Polishchuck 1996). In general, the relationship between the Kremlin and the regions during the 1990s went from laissez faire in the early Yeltsin years, to open conflict and full defiance in the middle of

decade when many of the regions maintained secret bilateral treaties with Moscow, to recentralization and the imposition of more uniform discipline toward the end of the decade, especially after Putin took power. However, the relationship between Moscow and the 89 regions varied considerably across regions. Richer, better-off regions have pushed for higher retention rates of tax revenues collected within their borders, while poorer, transfer-dependent regions have been supportive of more centralized finances. Many of the heavily ethnic regions have been supportive of more autonomy from Moscow, while those regions with heavy Russian populations have been more identified with the Russian state. The dominant political color of the regions has also played a role, and those regions with a high level of communist party support have been traditionally more antagonist toward Moscow (Martinez-Vazquez 2002). Because of these differences, it seems quite likely that attitudes toward paying taxes differ across these regions during the transition years, and our data sets for 1995 and 1999 allow us to analyze the different levels of tax morale in 11 different territories of the Russian Federation.

Our results show decay in tax morale in the first four years of the transition from 1991 to 1995, and a small recovery in 1999. These results are consistent with the relevance of social norms in tax compliance. The widespread perception of tax evasion along with the economic convulsions revealed inadequate social institutions, and led to an initial crowding out of the intrinsic motivation to pay taxes from 1991 to 1995. Our results also suggest the restoration of a higher level of trust in the state in 1999 after some progress in the transition to a market economy had been made, a transition that positively influenced individual attitudes toward paying taxes. The analysis of disaggregated data for Russian regions also shows significant regional differences in tax morale, reflecting self-interest and the degree of trust different regions have toward Moscow's institutions and policies.

In the next section we discuss the role of tax morale in tax compliance. We then examine factors specific to the evolution of tax morale in Russia, followed by our empirical analysis. The last section offers some conclusions.

## **II. THE ROLE OF TAX MORALE IN TAX COMPLIANCE**

There is much evidence that tax evasion is widespread in transition countries (Martinez-Vazquez and McNab 2000; Alm and Martinez-Vazquez 2003). For Russia in particular, Easter (2003) reports that in 1994 less than 6 percent of citizens in the labor market filed income tax statements; in 1996 only 16 percent of the taxpayers paid their taxes fully and in time, and 34 percent did not pay at all. Martinez-Vazquez and Wallace (1999) also report a personal income compliance rate of approximately 50 percent and a VAT compliance rate in the range of 38 and 55 percent. A high level of tax evasion jeopardizes government's ability to provide fundamental services. Evasion also affects the taxes that compliant taxpayers face and their perception of the fairness of the fiscal system.

However, tax evasion is very difficult to measure. Schneider and Enste (1998, 2002) have utilized a variety of methods in an attempt to estimate the size of the "shadow economy", which may be expected to be highly correlated with overall tax evasion. Others have resorted to experimental methods to examine the factors that determine why people pay taxes (Lewis 1982; Pommerehne, Hart and Frey 1994; Frey 1997, 2003; Alm, McClelland and Schulze 1992, 1999; Frey and Feld 2002; Feld and Tyran 2002; Torgler 2002). Still others have examined a concept that is, in some sense, a prior notion for tax evasion: "tax morale".

Tax morale can be defined as the "intrinsic motivation to pay taxes" (Torgler 2003). There is a growing recognition that there are notable differences across countries in their levels of tax compliance and that standard economic models of taxpayer compliance are unable to explain these differences. In the face of these difficulties, many researchers have suggested that the intrinsic motivation for individuals to pay taxes differs across countries and

that it is these differences in tax morale across countries that may explain much of the differences in observed compliance behavior (Pommerehne and Frey 1994; Alm, Sanchez, and De Juan 1995; Frey 1997; Cummings, Martinez-Vazquez, McKee, and Torgler 2004).

Isolating the reasons for these differences in tax morale is not an easy task. However, the existence of several data sets, the World Values Survey (WVS) and the European Values Survey (EVS), allows us to empirically examine at the individual level some of the factors that may affect citizens' attitudes toward paying taxes. The WVS data set is a worldwide investigation of socio-cultural and political attitudes that contains comparative data on values and belief systems among people around the world. For Russia, the data set is available for 1991 and 1995; the EVS data set is a similar survey that focuses only on European countries, and provides the 1999 data set. Both surveys have been widely used by political scientists (Inglehart 1997, 2000) and also by economists (Knack and Keefer 1997; Slemrod 2003; Torgler 2005a, 2005b).

Both surveys ask a question that can be used to develop a proxy for the intrinsic motivation to pay taxes:

*“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”.*

The question leads to a ten-scale index of tax morale with the two extreme points “never justified” and “always justified”. The scale has been recoded into a four-point scale (0, 1, 2, 3), with the 0 value denoting “always justified” and the 3 value standing for “never justifiable”; that is, a higher numeric score indicates a higher intrinsic motivation to pay taxes and so a higher tax morale. The points 4 to 10 have been combined in the value 0 due to a lack of variance.

It should be noted that our tax morale variable is not free of biases. Subjective surveys are always prone to significant reporting errors. A taxpayer who has engaged in some illegal behavior in the past may tend to excuse (even justify) this kind of behavior and so declare a

high tax morale. Furthermore, people might overstate their willingness to pay taxes, as there are no sanctions involved; similarly, individuals may be reluctant to respond honestly to a survey question given the delicate nature of tax compliance. However, the way by which we generate the tax morale variable is less intrusive than if we would ask more directly whether a person has or has not evaded taxes. A further advantage of our approach is that both the WVS and EVS data sets cover a wide variety of questions on different topics, which helps reduce framing effects that may be present in surveys based only on tax compliance questions.

If, as many suggest, tax morale helps explain tax compliance, it is important to analyze what shapes tax morale. Surprisingly, very little evidence is available. For example, Feld and Frey (2002, 88) point out that "...Most studies treat 'tax morale' as a black box without discussing or even considering how it might arise or how it might be maintained. It is usually perceived as being part of the meta-preferences of taxpayers and used as the residuum in the analysis capturing unknown influences to tax evasion. The more interesting question, then, is which factors shape the emergence and maintenance of tax morale". In this paper we examine the determinants of tax morale, thereby contributing to a better understanding of this issue in the tax compliance literature, especially in transition countries.

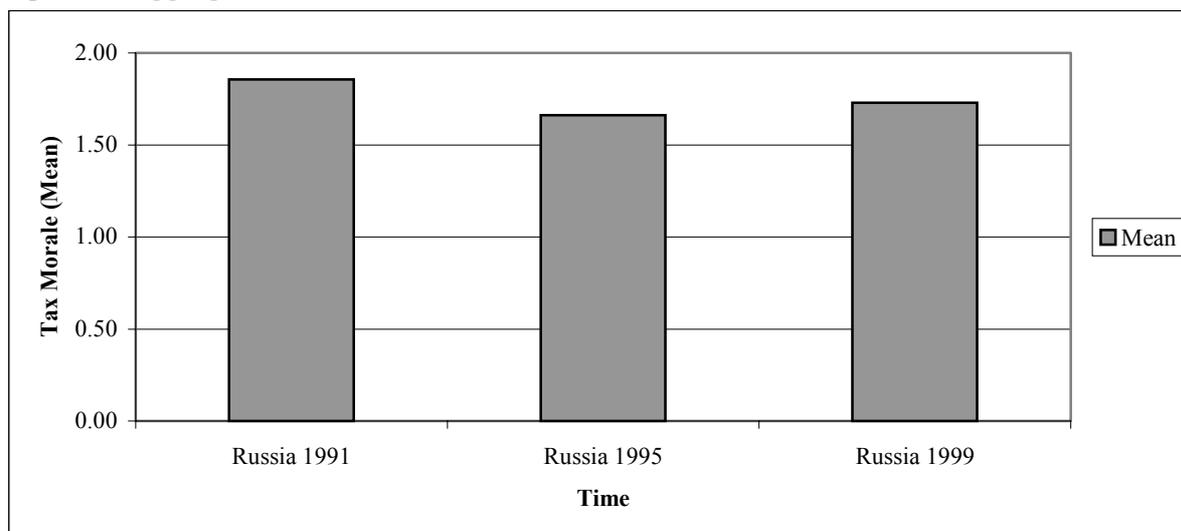
### **III. WHAT SHAPES TAX MORALE IN RUSSIA?**

Citizens' attitudes toward paying taxes depend on a wide range of factors. Social norms and citizens' perceptions of government institutions and performance clearly play an important role. In addition, citizens' attitudes toward paying taxes depend also on a battery of specific factors, such as personal, demographic, and attitudinal characteristics. Fortunately, the World Values Survey (WVS) and European Values Survey (EVS) data sets allow us to analyze the impact the role of social norms and government institutions/performance, controlling for those personal factors in a multiple regression analysis where tax morale is the dependent variable.

### A. The Evolution of Aggregate Tax Morale Attitudes over Time

Before conducting the multiple regression analysis to disentangle all the factors affecting tax morale, it is instructive to examine the distribution of aggregate tax morale scores in Russia for the years 1991, 1995, and 1999. *Figure 1* presents the mean values in these three time periods, calculated as the simple average across all individuals in the data sets. We observe a significant decay of tax morale between 1991 and 1995, from 1.86 to 1.66. (Recall that a higher number indicates higher tax morale.) In the next four years tax morale recovered, with an increase from 1.66 to 1.73. Thus, we observe on average a decline in the willingness to pay taxes during the first 4 years of the transition and a less than full recovery in the following 4 years.

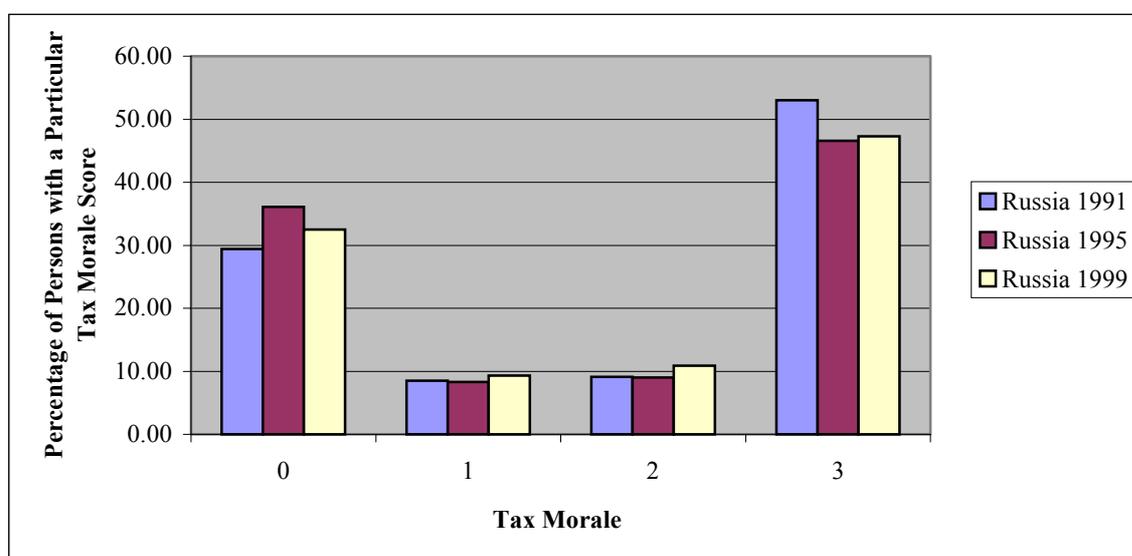
*Figure 1.* Aggregate Tax Morale in the Russian Federation – 1991, 1995, and 1999



To get a better idea of what is behind the different tax morale scales, in *Figure 2* we present a histogram with the distribution of tax morale scores in each of the three different years. The results indicate large differences between the percentage of individuals with a high tax morale (a score of 3) and those with the lowest scores across these years; the distributions for score values 1 and 2 are quite stable. The deterioration in tax morale in Russia from 1991

to 1995 was strongly affected by a reduction in the share of those citizens who believe that tax evasion is never justifiable (the score of 3), and an increase in the share of individuals who believe that tax evasion is justifiable (the score of 0). The tax morale improvement between the 1995 and 1999 is based mainly on the reduction of the share represented by those who believe that tax evasion is justifiable (the score of 0) and also on steady but small increases in the share of individuals in the other three categories.

*Figure 2.* The Distribution of Aggregate Tax Morale in the Russian Federation – 1991, 1995, and 1999



Further evidence on the nature of these changes is presented in *Table 1*, which tests whether the different samples have the same distribution using the Wilcoxon rank-sum (Mann-Whitney) test. The results indicate that there is a significant difference between 1991 and 1995 and also between 1991 and 1999, with higher z-values for the year 1991. However, the differences between 1995 and 1999 are not statistically significant at conventional levels. These results indicate that, once tax morale was crowded out in the early years of the transition, it recovered only slowly toward the end of the period. In fact, our data for 1999 may be too close to the financial crisis of 1998 and other recent negative experiences for a marked improvement in tax morale to take hold.

*Table 1. Two-sample Wilcoxon Rank-sum (Mann-Whitney) Tests*

<b>Hypothesis</b>	<b>z-value</b>	<b>Prob &gt;  z </b>
H <sub>0</sub> : Tax Morale Russia 1991 = Tax Morale Russia 1995	-4.330	0.0000
H <sub>0</sub> : Tax Morale Russia 1991 = Tax Morale Russia 1999	-3.216	0.0013
H <sub>0</sub> : Tax Morale Russia 1995 = Tax Morale Russia 1999	1.467	0.1423

Nevertheless, these broad swings in tax morale in the aggregate data parallel quite well what was happening to and around Russian citizens at those different periods during the transition. Although government was still providing many basic services just before the beginning of the transition process in 1991, the overall performance of the public sector was poor and corruption levels were high. From the very start of the transition at the end of 1991 and through the early months of 1992, the socio-economic conditions confronting Russian citizens suddenly deteriorated, on a massive scale, as the level and quality of public services declined even further. The rapid collapse of institutional structures produced a vacuum in the country, followed by worsening income inequality and poverty rates. Quite likely, taxpayers reacted adversely to the economic and tax policy changes that were necessary for the transition from a centrally controlled to a market economy.

Further, citizens in planned socialist economies like that in the Soviet Union were not aware of directly paying taxes (Kornai 1990). Indeed, during the Soviet times, “taxpayers” were large in size and small in number, and the state had many other levers of control besides taxes (Martinez-Vazquez and Wallace 1999). However, in a shift from a centrally controlled to a market economy, the fiscal system needed to be reformed. These changes represented significant shocks to ordinary citizens. In particular, individuals were faced for the first time with the direct payment of taxes, including being asked to file different tax returns. However, voluntary compliance and self-filing, two important pillars in a modern tax system, were completely absent just after the planned socialism (Martinez-Vazquez and McNab 2000). Following the early transition, tax evasion and avoidance reached very high levels, as the new tax administration was not prepared to enforce taxes in a market-based economy with large

numbers of taxpayers. Further, the connection between the payment of taxes and the provision of public goods had been largely concealed under socialism, which might have reduced the identification with the state and thus the willingness to pay taxes. Easter (2003) reports the findings of a poll conducted by the tax administration in the Tambov region in the early years of the transition, which indicates that only one-third of the respondents argued that paying taxes to the state would provide any benefit to themselves.

Overall, then, in the first years of the transition, Russia did not succeed in designing tax systems, tax administrations, or other government structures and institutions (especially improved public service delivery) that would have helped to maintain tax morale. Further, as Kasper and Streit (1999) stress, law and order were strongly violated in the former Soviet Union and later in Russia. The lack of a “rule of law” tradition did not help with the institutional transformation process or the improvement of tax morale, at least in the first phases of the transition. Corruption also increased in the early years, which reduced citizens’ trust in government authority (Levin and Satarov 2000), and corruption was likely heightened by a privatization process that lacked effective legal regulation and impartial oversight.<sup>1</sup>

The evolution of tax reform also likely played a role on the behavior of tax morale. Despite the declared federal objectives for decentralization of the public finances, the system remained highly centralized as regional shares and local revenues or expenditures were dictated by a higher level of government (Lavrov, Litwack, and Sutherland 2000). As Levin and Satarov (2000) point out, the suspicious processes imbedded in the centralized structure of the tax system, where the taxes collected regionally had to go first to the central

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<sup>1</sup> Levin and Satarov (2000) calculate that the level of corruption in the early years of the Russian transition exceeded the total expenditures on science, education, health care, culture, and art and that, in some industrial branches, criminal groups spent up to 50 percent of their revenues to bribe officials. They also report that in 1995 there were 270 cases of illegal tax inspector activities that were exposed.

government before returning to the regions in the form of transfers, contributed little to local citizens' beliefs that their preferences counted at all.<sup>2</sup>

Even so, there was a trend toward an improvement in tax morale from 1995 to 1999. There are several factors that may explain this improvement. The increase may have been influenced by the start of reforms related to the draft Tax Code and the Budget Code, which were approved in later years, and also by some new initiatives such as the Law on Financial Foundations of Local Self-government and the Concept of Reform of Intergovernmental Fiscal Relations in the Russian Federation, both of which had the goal of increasing revenue autonomy at the subnational level.

Changes in tax morale over time are also likely to be related to the performance of the economy. If taxpayers can relate poor economic performance to poor government policy decisions, then this will affect negatively voluntary compliance with the taxes; conversely, taxpayers may credit improved economic performance to improved government performance, and thereby increase their willingness to pay taxes. In this respect, several authors have contrasted the relative economic performances Russia and China during the 1990s. Stiglitz (1999) emphasizes that, over the decade beginning in 1989, China's gross domestic product (GDP) doubled while Russia's GDP almost halved. Different explanations have been offered for these two performances. For example, Blanchard and Shleifer (2000) explain China's better performance on the basis of the existence of strong central control of the economy by the Communist Party, which kept centrifugal forces under check; in contrast, they claim that a weak federal government in Russia was unable to control destructive behaviors of the regions. Similarly, Fisher and Sahay (2000) argue that Russia lagged in the implementation of structural reforms and failed to solve its fiscal problems, which led to large fiscal deficits and ultimately to the financial collapse in August of 1998. Shleifer and Treisman (1999) blame

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<sup>2</sup> Several authors (Bahl and Wallich 1995; Martinez-Vazquez and Boex 2001) criticized the lack of transparency in the fiscal system and the failure to provide sub-national governments with adequate resources to meet their responsibilities.

Russia's poorer performance on the common pool incentive problem created in Russia by the revenue sharing of all main taxes between the federal government and the regions. In contrast, Montinola, Qian, and Weingast (1995) and Qian and Weingast (1996) argue that China's revenue assignments were "market preserving" (unlike Russia's) in that the Chinese assignments stimulated local governments to become entrepreneurial and to seek the growth of their local economies.

Whatever the explanation for the poorer economic performance of Russia, the fact is that large proportions of the Russian population suffered income declines during much of the 1990s. For example, Graham and Pettinato (2002) use data from the Russia Longitudinal Monitoring Survey, and find that 77 percent of the population sampled had income declines from 1995 to 1998. Interestingly, at the time of the third Longitudinal Survey in 1999 the Russian economy experienced positive rates of growth.

The analysis above provides information about the *aggregate* effects of political events and economic policies on tax morale, but do not help us identify the determinants of tax morale at the *individual* level. In the next section we analyze factors that shape these individual attitudes toward paying taxes in the different years.

## **B. Individual Determinants of Tax Morale**

In this section we analyze the changes in tax morale at the individual level controlling for the determinants of tax morale. The observed differences over time might be explained in terms of other factors that can be controlled in a multivariate regression analysis, including a possible time effect.

The pooled estimation results covering all years are presented in *Table 2*. We also present the individual years 1991, 1995 and 1999 in *Tables 3, 4, and 5*. Individual year estimations are of interest because some relevant variables are not available for all three years. Recall that the 1991 and 1995 estimation results are based on the WVS, and the 1999 results

use the EVS. The 1995 and 1999 data sets also allow us to measure also regional differences by using regional dummy variables (*Tables 4 and 5*).

Our dependent variable is TAX MORALE, as defined by the survey question and scaled from 0 to 3. Because of the ranking nature of the scaled dependent variable, we use an ordered probit approach in the estimation. In addition, we use weighted ordered probit estimation to correct for sample composition and thus to get a better reflection of the national distribution. 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 calculate 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”).

We include a wide range of independent variables as determinants of TAX MORALE; all variables are defined in Appendix *Table A1* (including the survey questions on which the variables are based).<sup>3</sup> One of our key independent variables in all years is trust in societal institutions, broadly defined. One of the major institutional failures of countries in transition has been a weak legal system (Levin and Satorov 2000). Higher trust in the state might improve taxpayers’ positive attitudes and commitment toward paying taxes, with a positive effect on overall tax compliance. Indeed, there is now some evidence that institutions that taxpayers perceive as fair and efficient might have a positive effect on tax morale (Alm, Jackson, and McKee 1993; Pommerehne, Hart, and Frey 1994; Frey 1997). Much of this work also suggests that, aside from trust, satisfaction with the current political process might have a positive impact on tax morale. When the political system works well, and people are satisfied with the government, then their intrinsic motivation to pay taxes tends to increase will increase. Taxpayers are also sensitive about the ways in which the government uses their taxes. Individuals’ tax compliance might be influenced by the benefits received from the government in form of public goods compared to the price (e.g., the taxes) that they pay for

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<sup>3</sup> Summary statistics are presented in *Table A2*, and the correlation matrix of the independent variables is provided in *Table A3*.

them. Individuals might feel cheated if taxes are not spent efficiently. Taxpayers perceive their relationship with the state not only as a relationship of coercion but also as one of exchange. Taxpayers are more inclined to comply with the law if the exchange between the paid tax and the performed government services are found to be equitable. Thus, if taxpayers trust the government, the legal system, the justice system, and/or the public officials, they are more willing to be honest in the payment of their taxes.

These effects of trust are captured in the 1991 and 1995 estimations with an index composed of the variables based on individuals' trust in government and trust in the legal system. Because these variables have the same units, the simple average has been used for the combined variable TRUST IN GOVERNMENT AND LEGAL SYSTEM. For 1999, we are only able to include the variable TRUST IN THE JUSTICE SYSTEM. These variables allow us to analyze trust at the constitutional level, thereby focusing on how the relationship between the state and its citizens is established.

We also control for the effects of NATIONAL PRIDE on tax morale. With the exception of Boulding (1992), aspects of pride have been largely neglected in the economic literature. National pride can often be observed in international sport events. From the perspective of tax morale, national pride might positively contribute to cooperative behavior to participate in the financing of public services.

The existence of social norms suggests that citizens will comply as long as they believe that compliance is widespread and thus the accepted social norm. If individuals notice that many others evade taxes, their willingness to pay taxes may decrease, crowding out their intrinsic motivation to comply with taxes; that is, taxpayers may believe that they can be opportunistic, and any moral costs of evading taxes decrease (Alm and Martinez-Vazquez 2003; Frey and Torgler 2004). Thus, we hypothesize that tax morale will decrease if people perceive that others are in general not compliant; the variable PERCEIVED TAX EVASION is included to capture this effect, but it is available only for 1999.

The 1995 and 1999 data sets allow us to examine citizens' attitudes toward paying taxes in the different regions in the Russian Federation by using regional dummy variables. The reference group is the Central area, which is dominantly Russian, includes Moscow, and represents 20 percent of the Russian population. Since the formation of the Russian Federation, there have been strong sovereignty and separatist tendencies in some regions (Martinez-Vazquez 2002). The existence of significant ethnic differences, diverse economic endowments (e.g., industrial development, natural resource deposits), and large fiscal disparities have created during the transition strong centrifugal tendencies in some regions and different levels of comfort with Moscow's policies in others. Our conjecture is that the different regional attitudes toward the center might manifest themselves in differences in tax morale across the regions.

We also include other control variables to reflect demographic factors (e.g., the age, sex, and education status of the individual), marital status (e.g., married, divorced, separated, and widowed), employment status (e.g., part-time employed, self-employed, unemployed, at home, student, retired, and other), and the economic situation of the individual measured as the self-identified income class of the individual. Because these variables are not always available for all three years of our data, the specifications vary somewhat over the different years.

The pooled estimation results are presented in *Table 2*. We first examine the time effect, using the YEAR 1991 as the reference group. The regression results are comparable to the findings obtained in *Table 1* conducting a Wilcoxon rank-sum (Mann-Whitney) test. We can observe a significant decay of tax morale over time between 1991 and 1995. Inhabitants of Russia had a lower probability of reporting the highest tax morale in 1995 than in 1991, with high marginal effects of 8.9 percentage points. However, tax morale increased between 1995 and 1999. There is statistically significant lower tax morale in 1999 compared to 1991, with marginal effects of 6.8 percentage points. The results remain robust after controlling also

for trust and national pride, with both variables having a strong impact on tax morale. An increase in TRUST IN GOVERNMENT AND LEGAL SYSTEM by one unit raises the probability of stating that tax evasion is never justifiable by 3.3 percentage points. Further, an increase in NATIONAL PRIDE by one unit raises the share of persons with the highest tax morale by 4 percentage points. The Wald-test for joint significance of these two variables also indicates that these factors play a significant role in the determination of tax morale (at the 0.01 significance level).

As for the other control variables, a higher age leads to higher tax morale. The level of education has a statistically significant effect on tax morale in the first estimation, but once trust and pride are included, the coefficient loses its statistical significance. The coefficient on SELF-EMPLOYED, or the proportion of the self-employed who report the highest tax morale, is around 15 percentage points lower than for full-time employees, and is statistically significant at the 10 percent level. This result is not surprising, especially in transition countries where self-employed individuals are confronted with many restrictions and face high transaction costs from inefficient government activities.<sup>4</sup> The sex of the individual (FEMALE) and the individual's marital status (MARRIED, DIVORCED, SEPARATED, WIDOWED) are not significant determinants.

The individual estimation results of 1991, 1995 and 1999 are presented in *Tables 3 to 5*. Looking first at the trust variables, we find that trust has a statistically significant impact on tax morale across all three years, with marginal effects between 1.6 and 5 percentage points. The strongest impact is found for the 1991 data. All three years indicate that trust seems to be a key determinant of tax morale in Russia.

There is also a statistically significant positive effect of NATIONAL PRIDE on tax morale across all three years. The marginal effects vary between 2.9 (for 1999) and 5.0 (for

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<sup>4</sup> Djankov et al. (2002) use data from 75 countries to show that heavier regulation of entry is associated with higher corruption and a higher shadow economy, while countries with more democratic and limited governments have less entry regulations.

1991) percentage points. The strength of trust and pride has also been evaluated using a Wald-test for joint significance. For all three years, the chi-squared statistics indicate that these factors play a strongly significant role in the determination of individuals' tax morale (at the 0.01 significance level).

As shown in *Table 5*, the variable PERCEIVED TAX EVASION has a strong, negative, and statistically significant impact on tax morale in 1999. An increase in the perceived tax evasion scale by one unit reduces the share of persons stating that tax evasion is never justifiable by more than 7.5 percentage points. This result supports the conjecture that taxpayers' judgments about the compliance of others have a strong impact on their intrinsic motivation to pay taxes. Also, the Wald-test for joint significance of perception, trust, and pride is significant at the 0.01 level.

Looking at the other control variables, we find that a higher age leads to higher tax morale in all three years. Women also exhibit a higher tax morale (for 1991 and 1999 data), while marital status has little impact across the years. It is also of some note that people in higher economic classes tend to have lower tax morale than the reference group (*Table 4*). The impact of education is somewhat variable over the three years.<sup>5</sup> The estimated coefficient on education is positive and statistically significant in one specification in 1991; it is not significant in the 1995 specifications; and its coefficient is negative but insignificant in 1999. One reason for these results might be that, as discussed above, people were not used to paying taxes at the beginning of the transition in 1991, but they were well aware of the benefits and services that the state provided for the citizens. Only more educated citizens may therefore have believed that paying taxes was appropriate in 1991. Over the next eight years of the transition citizens (regardless of their education) likely developed a stronger perception of the tax burden, and all might also have become more aware of the many difficulties that the

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<sup>5</sup> The education variable for 1991 and the pooled estimations is not coded the same way as for the years 1995 and 1999. See *Table A1* in the Appendix.

government had faced over the transition process, including a better understanding of the opportunities for evasion.

The negative coefficient for the variable SELF-EMPLOYED is statistically significant with high marginal effects (more than 20 percentage points) for the year 1999; its coefficient is not statistically significant in 1995.<sup>6</sup>

*Table 4* and *5* allow us to see examine the important issue of whether there are regional differences in citizens' attitudes toward paying taxes in the years 1995 and 1999. We introduce regional dummy variables in some of the estimations, with Central Area as the reference group. The Pseudo-R<sup>2</sup> increases after considering the regional dummies, especially for 1995. Similarly, the chi-squared statistics of the Wald-test consistently demonstrate the joint significance of the regional dummies.<sup>7</sup> From the results for 1995 (*Table 4*), people in the Northwest, Volgo-Vyatsk, West-Siberian, and Far East areas have a significantly higher tax morale than those living in the Central Area. In contrast, these same regions exhibit a somewhat lower tax morale compared to the Central area for 1999 (*Table 5*). Only the North area, which is especially dependent on special transfers from Moscow, reports an improvement of tax morale in relation to the Central Area in 1999. Also, in 1999 the Central-Black Earth region, which has a much heavier representation of Communist Party sympathizers, now shows a decline in tax morale vis-à-vis the Central area. The West-Siberia region consistently exhibits higher tax morale than the Central area, but this difference is not always statistically significant. Overall, the results suggest a slight decline in regional differences in tax morale over time; that is, the 1999 results indicate less statistically significant differences among regions compared to 1995.

In general, then, these findings imply that regions that dislike Moscow for political reasons (e.g., the Communist Party sympathizers in the Central-Black Earth area), that have

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<sup>6</sup> There are no individuals who claimed to be SELF-EMPLOYED in 1991.

<sup>7</sup> For 1995, the Wald-test for joint significance of the regional dummies is significant at the 0.01 level. For 1999, the level of significance is somewhat lower in the three specifications with the dummy variables, but is always at least at the 0.10 level.

strong separatist sentiments due perhaps to large non-Russian ethnic populations, and that believe that the central government has taken excessive amounts of their natural resources are likely to have a lower tax morale.

Interestingly, trust and national pride continue to have a positive impact on tax morale, and PERCEIVED TAX EVASION retains its negative impact when the regional dummy variables are included. Income also appears to affect tax morale in these specifications. The results for 1999 show some tendency for regions with a higher gross regional product per capita (e.g., West-Siberia due to oil and gas resources) or a higher regional personal income per capita (e.g., the Northwest) to have a higher tax morale than regions with lower incomes (e.g., Central-Black Earth, North Caucasus, and Volgo-Vyatsk).<sup>8</sup>

<sup>8</sup> Gross regional product (GRP) and regional person income per capita in the various regions are as follows

	Gross Regional Product Per Capita 1998		Regional Personal Income Per Capita	
	GRP Per Capita	Ratio to Mean	Ratio to Mean 1995	Ratio to Mean 1999
Russian Federation	16,330	1.00	1.00	1.00
Northern Area	19,081	1.17	1.17	1.04
North-Western Area	15,880	0.97	1.07	0.93
Central Area	20,764	1.27	1.54	1.74
Volgo-Vyatsk Area	11,663	0.71	0.67	0.58
Central-Chernozem Area	11,198	0.69	0.67	0.66
Povolzhsk Area	14,214	0.87	0.71	0.75
North-Caucasia Area	8,395	0.51	0.57	0.61
Ural Area	14,997	0.92	0.78	0.78
West-Siberia Area	23,617	1.45	1.15	1.12
East-Siberia Area	17,481	1.07	1.01	0.87
Far-Eastern Area	20,954	1.28	1.24	1.07

See Martinez-Vazquez (2002).

Table 2. Determinants of Tax Morale over Time: Pooled Results

<b>Weighted Ordered Probit</b>	<b>Coefficient</b>	<b>z-value</b>	<b>Marginal Effect</b>	<b>Coefficient</b>	<b>z-value</b>	<b>Marginal Effect</b>
<b>Time</b>						
YEAR 1995	-0.225***	-4.66	-0.089	-0.225***	-4.49	0.089
YEAR 1999	-0.173***	-3.61	-0.068	-0.175	-1.24	0.020
<b>Demographic Factors</b>						
AGE	0.019***	6.54	0.008	0.016***	5.26	0.006
FEMALE	0.018	0.29	0.007	0.026	0.40	0.010
EDUCATION	-0.012**	-2.15	-0.005	-0.009	-1.49	-0.004
<b>Marital Status</b>						
MARRIED	0.044	0.45	0.017	0.053	0.54	0.021
DIVORCED	-0.214	-1.58	-0.084	-0.192	-1.38	-0.075
SEPARATED	-0.068	-0.36	-0.027	-0.067	-0.34	-0.026
WIDOWED	-0.076	-0.57	-0.03	-0.051	-0.37	-0.020
<b>Employment Status</b>						
PART-TIME EMPLOYED	-0.149	-1.15	-0.059	-0.129	-1.00	-0.051
SELF-EMPLOYED	-0.375*	-1.65	-0.143	-0.395*	-1.66	-0.150
UNEMPLOYED	-0.105	-0.92	-0.042	-0.146	-1.25	-0.058
AT HOME	-0.107	-0.68	-0.042	-0.128	-0.82	-0.051
STUDENT	-0.272	-1.39	-0.105	-0.322	-1.63	-0.124
RETIRED	0.026	0.25	0.01	0.061	0.56	0.024
OTHER	-0.249	-0.75	-0.097	-0.272	-0.83	-0.105
<b>Trust and Pride</b>						
TRUST IN GOVERNMENT AND LEGAL SYSTEM				0.082**	2.36	0.033
NATIONAL PRIDE				0.102***	3.04	0.040
Number of Observations	5842			5465		
Prob > chi2	0.000			0.000		
Pseudo R2	0.041			0.044		

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). In the reference groups are YEAR 1991, 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 3. Determinants of Tax Morale in Russia 1991

Weighted Ordered Probit	Marginal			Marginal		
	Coefficient	z-value	Effect	Coefficient	z-value	Effect
<b>Demographic Factors</b>						
AGE	0.024***	6.41	0.010	0.021***	5.31	0.008
FEMALE	0.274***	3.63	0.108	0.287***	3.60	0.114
EDUCATION	0.020	1.29	0.008	0.028*	1.68	0.011
<b>Marital Status</b>						
MARRIED	-0.004	-0.04	-0.002	-0.030	-0.25	-0.012
DIVORCED	-0.064	-0.34	-0.025	-0.100	-0.50	-0.040
SEPARATED	-0.239	-1.34	-0.095	-0.241	-1.29	-0.096
WIDOWED	-0.049	-0.17	-0.020	-0.023	-0.08	-0.009
<b>Employment Status</b>						
UNEMPLOYED	-0.163	-0.51	-0.065	-0.280	-0.90	-0.111
AT HOME	0.055	0.39	0.022	-0.020	-0.12	-0.008
STUDENT	-0.329*	-1.96	-0.131	-0.255	-1.46	-0.101
RETIRED	0.115	0.81	0.045	0.092	0.63	0.036
OTHER	-0.434	-1.22	-0.171	-0.470	-0.96	-0.184
<b>Trust and Pride</b>						
TRUST IN GOVERNMENT AND LEGAL SYSTEM				0.132**	2.34	0.052
NATIONAL PRIDE				0.127***	2.79	0.050
Number of Observations	1628			1430		
Prob > chi2	0.000			0.000		
Pseudo R2	0.060			0.069		

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). In the 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 4. Determinants of Tax Morale in Russia 1995

Weighted Ordered Probit	Marginal			Marginal			Marginal			Marginal		
	Coefficient	z-value	Effect									
<b>Demographic Factors</b>												
AGE	0.018***	5.76	0.007	0.016***	4.86	0.006	0.018***	5.86	0.007	0.016***	4.96	0.006
FEMALE	0.028	0.43	0.011	0.036	0.53	0.014	0.028	0.42	0.011	0.039	0.56	0.016
EDUCATION	0.001	0.08	0.001	0.012	0.63	0.005	-0.006	-0.34	-0.002	0.005	0.25	0.002
<b>Marital Status</b>												
MARRIED	0.089	0.87	0.035	0.093	0.88	0.037	0.081	0.78	0.032	0.087	0.82	0.034
DIVORCED	-0.175	-1.22	-0.069	-0.141	-0.95	-0.056	-0.169	-1.17	-0.066	-0.139	-0.93	-0.055
SEPARATED	-0.058	-0.29	-0.023	-0.065	-0.31	-0.026	-0.068	-0.35	-0.027	-0.068	-0.33	-0.027
WIDOWED	-0.027	-0.19	-0.011	-0.045	-0.31	-0.018	-0.034	-0.24	-0.013	-0.047	-0.32	-0.019
<b>Economic Situation</b>												
UPPER CLASS	-0.666*	-1.90	-0.239	-0.670*	-1.91	-0.240	-0.720**	-2.06	-0.255	-0.718**	-2.06	-0.255
UPPER MIDDLE CLASS	-0.163*	-1.72	-0.064	-0.174*	-1.78	-0.069	-0.152	-1.58	-0.060	-0.170*	-1.71	-0.067
LOWER MIDDLE CLASS	-0.060	-0.81	-0.024	-0.072	-0.93	-0.029	-0.055	-0.73	-0.022	-0.060	-0.75	-0.024
<b>Employment Status</b>												
PART-TIME EMPLOYED	-0.149	-1.06	-0.058	-0.124	-0.88	-0.049	-0.151	-1.05	-0.059	-0.123	-0.85	-0.048
SELF-EMPLOYED	-0.324	-1.36	-0.125	-0.363	-1.47	-0.139	-0.295	-1.23	-0.114	-0.326	-1.31	-0.126
UNEMPLOYED	-0.130	-1.07	-0.051	-0.190	-1.54	-0.074	-0.123	-1.00	-0.048	-0.173	-1.39	-0.068
AT HOME	-0.137	-0.83	-0.054	-0.129	-0.76	-0.051	-0.127	-0.78	-0.050	-0.122	-0.72	-0.048
STUDENT	-0.229	-1.07	-0.089	-0.237	-1.09	-0.092	-0.204	-0.94	-0.080	-0.205	-0.92	-0.080
RETIRED	0.019	0.18	0.008	0.045	0.40	0.018	0.005	0.04	0.002	0.026	0.23	0.010
OTHER	-0.282	-0.78	-0.109	-0.238	-0.65	-0.093	-0.326	-0.93	-0.125	-0.273	-0.77	-0.106
<b>Trust and Pride</b>												
TRUST IN GOVERNMENT AND LEGAL SYSTEM				0.093**	2.12	0.037				0.101**	2.26	0.040
NATIONAL PRIDE				0.109***	3.08	0.043				0.123***	3.42	0.049
<b>Regions</b>												
NORTH							-0.129	-0.56	-0.051	0.008	0.03	0.003
NORTHWEST							0.308**	2.59	0.122	0.341***	2.73	0.135
VOLGO-VYATSK							0.508***	3.58	0.199	0.515***	3.33	0.201
CENTRAL-BLACK EARTH							0.114	0.88	0.046	0.075	0.56	0.030
POVOLZHSK							0.145	1.38	0.058	0.161	1.45	0.064

NORTH CAUCASUS			0.168	1.36	0.067	0.185	1.48	0.074
URALS			0.066	0.65	0.026	0.031	0.29	0.012
WEST-SIBERIA			0.412***	3.73	0.163	0.431***	3.73	0.170
EAST-SIBERIA			-0.055	-0.33	-0.022	-0.047	-0.27	-0.019
FAR EAST			0.322**	2.46	0.128	0.338**	2.52	0.134
Number of Observations	1772	1643	1772			1643		
Prob > chi2	0.000	0.000	0.000			0.000		
Pseudo R2	0.038	0.042	0.046			0.050		

The dependent variable is TAX MORALE, defined on a four point scale (0 to 3). Marginal effects are calculated at the highest tax morale score (3). In the reference groups are MALE, SINGLE/LIVING TOGETHER, FULL TIME EMPLOYED, WORKING CLASS/LOWER CLASS, and CENTRAL. Significance levels are denoted as: \*  $0.05 < p < 0.10$ , \*\*  $0.01 < p < 0.05$ , \*\*\*  $p < 0.01$ .

Table 5. Determinants of Tax Morale in Russia 1999

Weighted Ordered Probit	z- Marginal														
	Coefficient	value	Effect												
<b>Demographic Factors</b>															
AGE	0.019***	7.39	0.008	0.019***	7.07	0.008	0.018***	6.36	0.007	0.020***	7.45	0.008	0.019***	7.14	0.008
FEMALE	0.132**	2.48	0.052	0.128***	2.33	0.051	0.116**	2.05	0.046	0.126**	2.36	0.05	0.122**	2.2	0.048
EDUCATION	-0.025*	-1.79	-0.01	-0.021	-1.41	-0.008	-0.018	-1.16	-0.007	-0.022	-1.56	-0.009	-0.018	-1.21	-0.007
<b>Marital Status</b>															
MARRIED	-0.037	-0.44	-0.015	-0.026	-0.31	-0.01	-0.035	-0.4	-0.014	-0.015	-0.18	-0.006	-0.009	-0.11	-0.004
DIVORCED	-0.224**	-2.19	-0.087	-0.176*	-1.68	-0.069	-0.159	-1.48	-0.062	-0.200*	-1.95	-0.078	-0.157	-1.49	-0.062
SEPARATED	-0.218	-1.36	-0.085	-0.239	-1.42	-0.092	-0.277	-1.59	-0.106	-0.228	-1.44	-0.088	-0.249	-1.5	-0.096
WIDOWED	-0.054	-0.48	-0.021	-0.011	-0.09	-0.004	0.023	0.19	0.009	-0.02	-0.18	-0.008	0.017	0.15	0.007
<b>Employment Status</b>															
PART-TIME EMPLOYED	-0.042	-0.38	-0.017	-0.033	-0.29	-0.013	-0.064	-0.55	-0.025	-0.048	-0.42	-0.019	-0.036	-0.31	-0.014
SELF-EMPLOYED	-0.689***	-3.35	-0.244	-0.620***	-2.98	-0.223	-0.566***	-2.72	-0.203	-0.698***	-3.38	-0.247	-0.638***	-3.05	-0.228
UNEMPLOYED	-0.105	-1.22	-0.041	-0.076	-0.85	-0.03	-0.07	-0.78	-0.028	-0.095	-1.1	-0.037	-0.073	-0.82	-0.029
AT HOME	-0.091	-0.69	-0.036	-0.045	-0.33	-0.018	-0.04	-0.29	-0.016	-0.093	-0.71	-0.037	-0.052	-0.39	-0.021
STUDENT	-0.375**	-2.44	-0.143	-0.425***	-2.64	-0.159	-0.420***	-2.61	-0.156	-0.359**	-2.31	-0.137	-0.405**	-2.49	-0.153
RETIRED	-0.083	-0.94	-0.033	-0.098	-1.08	-0.039	-0.085	-0.9	-0.033	-0.088	-0.99	-0.035	-0.103	-1.13	-0.04
OTHER	-0.286	-1.12	-0.11	-0.186	-0.65	-0.072	-0.035	-0.12	-0.014	-0.272	-1.07	-0.105	-0.175	-0.6	-0.068
<b>Trust, Pride, and Perceptions</b>															
TRUST IN JUSTICE SYSTEM				0.079***	2.73	0.031	0.050*	1.67	0.02				0.071**	2.44	0.028
NATIONAL PRIDE				0.079***	2.76	0.031	0.087***	2.9	0.034				0.074**	2.57	0.029
PERCEIVED TAX EVASION							-0.193***	-4.62	-0.076						-0.197***
<b>Regions</b>															
NORTH										0.256*	1.73	0.102	0.236	1.52	0.094
NORTHWEST										-0.056	-0.55	-0.022	-0.105	-1	-0.041
VOLGO-VYATSK										0.039	0.35	0.015	-0.008	-0.07	-0.003

CENTRAL-BLACK EARTH				-0.338*** -3.02 -0.129	-0.294** -2.42 -0.113	-0.234* -1.75 -0.09
NORTH CAUCASUS				0.034 0.36 0.014	0.024 0.24 0.01	-0.013 -0.13 -0.005
VOLGA				-0.061 -0.66 -0.024	-0.074 -0.78 -0.029	-0.107 -1.1 -0.042
URALS				0.004 0.04 0.002	0.021 0.23 0.008	-0.008 -0.08 -0.003
WEST-SIBERIA				0.138 1.43 0.055	0.127 1.29 0.051	0.136 1.35 0.054
EAST-SIBERIA				0.177 1.54 0.071	0.164 1.39 0.065	0.173 1.44 0.069
FAR EAST				-0.148 -1.27 -0.058	-0.136 -1.14 -0.053	-0.151 -1.23 -0.059
Number of observations	2370	2198	2062	2370	2198	2062
Prob > chi2	0	0	0	0	0	0
Pseudo R2	0.044	0.046	0.049	0.048	0.05	0.053

The dependent variable is TAX MORALE, defined on a four point scale (0 to 3). Marginal effects are calculated at the highest tax morale score (3). In the reference groups are MALE, SINGLE, FULL TIME EMPLOYED, and CENTRAL. Significance levels are denoted as: \*  $0.05 < p < 0.10$ , \*\*  $0.01 < p < 0.05$ , \*\*\*  $p < 0.01$ .

## IV. CONCLUSIONS

The collapse of the planned socialist economies, a situation close to a quasi-natural experiment, offers an excellent opportunity to analyze the evolution of citizens' attitudes toward paying taxes during the transition from a communist state to a market system. In this paper we analyze tax morale in Russia over the years 1991, 1995, and 1999, using survey data from the World Values Survey and the European Values Survey. Our estimation results support the conjecture that during this time Russia did not succeed in designing tax systems, tax administrations, or government structures that encourage high tax morale, even though some improvements in tax morale seemed to emerge by 1999 as economic conditions started to turn around and a change in political leadership from Yeltsin to Putin was eminent.

We also find other factors that are important determinants of tax morale. For example, a major determinant of tax morale is trust in government and the legal institutions: tax morale is positively affected by people's trust in the government/legal and justice system. Also, a taxpayer's judgment of the compliance of others has a strong impact on their willingness to pay taxes; that is, citizens seem more willing to comply as long as they believe that compliance is widespread and thus an accepted social norm. Another important factor is national pride, a variable that has not to our knowledge been shown previously to be a determinant of tax morale. Finally, there are significant regional differences in individuals' attitudes toward paying taxes. There are strong ethnic, economic, and fiscal disparities across the Russian regions. Each region generally shows a diverse picture, with significant changes between 1995 and 1999 in tax morale. The newest data suggest a tendency for wealthier regions to have a higher tax morale than poorer ones, and for regions that dislike Moscow for political reasons, that have strong separatist sentiments, and that believe that they have been exploited by the central government to have a lower tax morale.

There are several possible reasons for this evolution in attitudes and the relevance of factors such as trust, pride, social norms, and location in tax morale. The transition imposed a

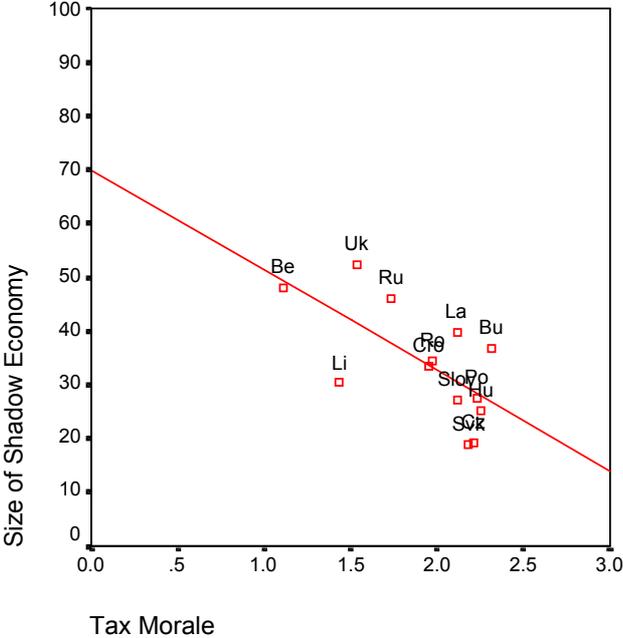
higher and more visible tax burden at a time that a crumbling economy meant that many public services had to decline in quality and coverage. Meanwhile, a nescient tax administration adopted highly repressive and antagonistic policies toward taxpayers, even those who wanted to comply with the tax laws. During the 1990s, the Russian tax enforcement strategy was strongly based on coercion methods, mainly increasing the mandate of law enforcement agents. The tax police gained increased power, and grew into a bureaucracy with around 50,000 employees, or one third of the size of the tax administration. As a consequence, the number of criminal investigations by the tax police increased from 2,500 in 1994 to 16,000 in 1999, a number that represents four times more investigations than in the United States in 1999 (Easter 2003). It took time for the federal tax authorities to realize that a strategy that emphasizes enforcement and punishment alone cannot be the only solution to improving voluntary tax compliance. Indeed, it is likely that such a strategy had a counter-productive effect. If the majority of taxpayers are not treated as responsible persons with an intrinsic motivation to pay taxes, they may soon feel that they can as well be opportunistic. Even so, such strict enforcement policies are not expected to crowd out the tax morale of honest taxpayers if honest taxpayers perceive the stricter policy to be directed mainly against dishonest taxpayers (Frey 1997). In general, our results indicate that tax morale in Russia strongly decreased between 1991 and 1995, with a small recovery between 1995 and 1999. These results suggest that, once tax morale is crowded out, it is difficult to raise very quickly back to previous levels.

It might well be asked if there is any consequence that stems from low (or falling) tax morale. *Figures 3 and 4* show the correlation between tax morale in a country and the size of the country's shadow economy, using a sample of countries for which estimates of the informal sector as a percent of official GDP are available from Schneider and Klinglmair (2003). *Figure 3* measures the values based on data sets for the years 1999 and 2000. The results indicate a strong negative correlation between both variables (-0.657), significant at

the 0.01 level. In order to increase the number of observations, in *Figure 4* we include countries that are not included in the WVS 1999-2000 but that were part of WVS 1995-1997 (19 observations in total). We observe also in *Figure 4* a strong negative correlation (Pearson  $r = -0.551$ ), significant at the 0.01 level. Thus, countries with low tax morale show a clear tendency to have a large shadow economy. Indeed, a simple linear regression in both figures suggests that a decrease of tax morale by 1 unit would lead to an increase of the shadow economy of roughly 20 percentage points.

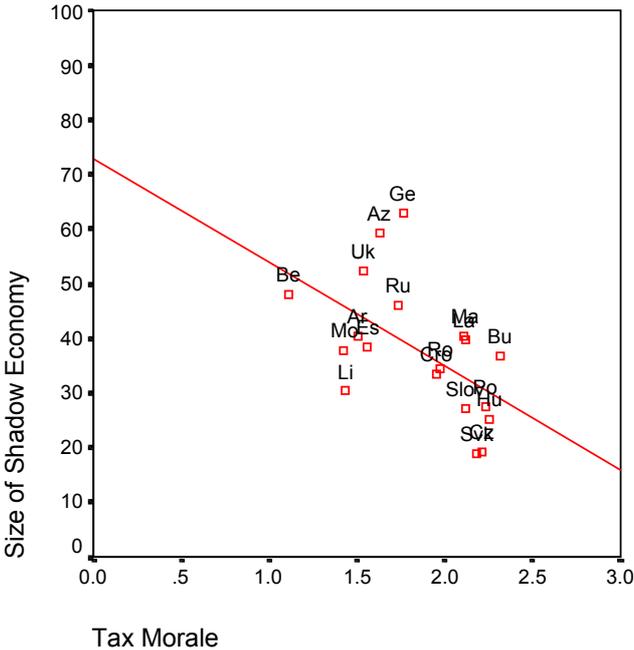
In sum, a more transparent tax system, a reduction in public corruption and public waste, a stronger involvement of individuals in the political process, a more modern role of the tax administration as a provider of services, and, especially, an increase in trust in government and the legal/justice system would likely improve the compliance norm in Russia's society.

*Figure 3.* Correlation between Tax Morale and the Size of Shadow Economy in Transition Countries (1999-2000)



Notes: Be – Belarus; Bu – Bulgaria; Cr – Croatia; Cz – Czech Republic; Hu – Hungary; La – Latvia; Li – Lithuania; Po – Poland; Ro – Romania; Ru – Russia; Skv – Slovak Republic; Slo – Slovenia; Uk – Ukraine.

Figure 4. Correlation between Tax Morale and the Size of Shadow Economy in Transition Countries (1994-1997 and 1999-2000)



Notes: Countries are denoted as in Table 1 together with: Az – Azerbaijan; Ar – Armenia; Es – Estonia; Ge – Georgia; Ma – Macedonia; and Mo – Moldova.

## APPENDIX

Table A1. Definition of Variables

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 (4=never and 1=always)
CLASSES	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: <ol style="list-style-type: none"> <li>1. Upper class</li> <li>2. Upper middle class</li> <li>3. Lower middle class</li> <li>4. Working class (reference group)</li> <li>5. Lower class (reference group)</li> </ol>
EDUCATION	1991 and pooled estimations: At what age did you or will you complete your full time education, either at school or at an institution of higher education? Please exclude apprenticeships. 1995: What is the highest educational level that you have attained? <ol style="list-style-type: none"> <li>1. No formal education</li> <li>2. Incomplete primary school</li> <li>3. Completed primary school</li> <li>4. Incomplete secondary school: technical/vocational type</li> <li>5. Complete secondary school: technical/vocational type</li> <li>6. Incomplete secondary: university-preparatory type</li> <li>7. Complete secondary: university-preparatory type</li> <li>8. Some university-level education, without degree</li> <li>9. University-level education, with degree</li> </ol> 1999: What is the highest educational level that you have attained? <ol style="list-style-type: none"> <li>1. Inadequately completed elementary education</li> <li>2. Completed (compulsory) elementary education</li> <li>3. (Compulsory) elementary education and basic vocational qualification</li> <li>4. Secondary, intermediate vocational qualification</li> <li>5. Secondary, intermediate general qualification</li> <li>6. Full secondary, maturity level certificate</li> <li>7. Higher education – lower-level tertiary certificate</li> <li>8. Higher education – upper-level tertiary certificate</li> </ol>
TRUST IN GOVERNMENT/LEGAL SYSTEM	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	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	How proud are you to be .....? (own nationality) <ol style="list-style-type: none"> <li>1. Not at all proud</li> <li>2. Not very proud</li> <li>3. Quite proud</li> <li>4. very proud</li> </ol>
PERCEIVED TAX EVASION	According to you, how many of your compatriots do the following: Cheating on tax if they have the chance (4 = almost all, 1= almost none).

Sources: Inglehart et al. (2000) and European Values Study (1999).

Table A2. Summary Statistics

<b>Variable</b>	<b>Observations</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Minimum</b>	<b>Maximum</b>
TAX MORALE	6019	1.746	1.349	0	3
AGE	6499	45.509	16.631	18	90
FEMALE	6501	0.583	--	0	1
EDUCATION (in years)	6302	19.439	4.675	7	50
EDUCATION, 1995 (in years)	2040	5.853	2.061	1	9
EDUCATION, 1999 (in years)	2500	5.053	1.874	1	8
MARRIED	6490	0.602	--	0	1
DIVORCED	6490	0.107	--	0	1
SEPARATED	6490	0.036	--	0	1
WIDOWED	6490	0.118	--	0	1
UPPER CLASS	1924	0.009	--	0	1
UPPER MIDDLE CLASS	1924	0.153	--	0	1
LOWER MIDDLE CLASS	1924	0.236	--	0	1
PART-TIME EMPLOYED	6501	0.038	--	0	1
SELF-EMPLOYED	6501	0.011	--	0	1
UNEMPLOYED	6501	0.059	--	0	1
AT HOME	6501	0.044	--	0	1
STUDENT	6501	0.033	--	0	1
RETIRED	6501	0.259	--	0	1
OTHER	6501	0.009	--	0	1
TRUST IN GOVERNMENT/LEGAL SYSTEM	3639	2.222	0.750	1	4
TRUST IN JUSTICE SYSTEM	6265	2.247	0.894	1	4
NATIONAL PRIDE	6204	2.895	0.937	1	4
PERCEIVED TAX EVASION	2298	2.774	0.656	1	4

Table A3. Correlation Matrix for Variables in Pooled Estimation

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
AGE (1)	1.000															
FEMALE (2)	0.088	1.000														
EDUCATION (3)	-0.164	-0.074	1.000													
MARRIED (4)	-0.065	-0.202	0.066	1.000												
DIVORCED (5)	0.069	0.138	0.028	-0.425	1.000											
SEPARATED (6)	-0.023	0.049	0.029	-0.237	-0.067	1.000										
WIDOWED (7)	0.427	0.205	-0.175	-0.450	-0.127	-0.071	1.000									
PART-TIME EMPLOYED (8)	-0.042	0.031	0.064	-0.009	0.017	-0.012	-0.011	1.000								
SELF-EMPLOYED (9)	-0.065	-0.061	0.026	-0.011	0.026	-0.012	-0.025	-0.021	1.000							
UNEMPLOYED (10)	-0.136	-0.080	-0.023	-0.036	0.049	0.001	-0.058	-0.050	-0.026	1.000						
AT HOME (11)	-0.165	0.165	0.000	0.091	-0.033	-0.005	-0.065	-0.043	-0.023	-0.054	1.000					
STUDENT (12)	-0.281	-0.025	0.059	-0.178	-0.056	-0.031	-0.068	-0.037	-0.020	-0.047	-0.040	1.000				
RETIRED (12)	0.742	0.125	-0.231	-0.154	0.019	-0.042	0.412	-0.118	-0.062	-0.149	-0.127	-0.110	1.000			
OTHER (14)	-0.074	0.023	-0.005	0.019	-0.013	-0.019	-0.020	-0.019	-0.010	-0.024	-0.021	-0.018	-0.057	1.000		
TRUST IN GOVERNMENT/LEGAL SYSTEM (15)	0.138	0.057	-0.113	-0.028	0.028	-0.040	0.067	-0.018	-0.025	-0.045	-0.025	-0.013	0.150	0.009	1.000	
NATIONAL PRIDE (16)	0.203	0.028	-0.045	0.012	0.018	-0.029	0.075	-0.002	-0.021	-0.028	-0.028	-0.045	0.162	-0.010	0.187	1.000

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