

"IT'S A LOT, BUT LET IT STAY"
HOW TAX EVASION IS PERCEIVED ACROSS ITALY

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“IT’S A LOT, BUT LET IT STAY” HOW TAX EVASION IS PERCEIVED ACROSS ITALY

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Abstract

We analyze the recent data on opinions regarding tax evasion in Italy using the 2004 Survey of Household Income and Wealth. The analysis of determinants of seriousness and size perceptions of tax evasion suggests that age, education, income, area of residence and occupation are all relevant variables. However, combining the analysis of size and seriousness of tax evasion another aspect of Italian duality emerges: notwithstanding its perceived large size, people from the South show a lower tax morale than in the rest of the country. Some possible explanations of these results are discussed.

Keywords: tax evasion, perceptions, tax morale, social norms

JEL Classification: H26, Z13

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1. Introduction

The traditional literature views the individual decision to evade taxes as the result of a process of maximization of expected net income (Allingham and Sadmo 1972, Yitzhaki 1974). However, as stressed by a large tide of research, the paradigm of rational and selfish agent proves to be inadequate to fully understand tax cheating: traditional models are unable to steer tax authority in effectively fighting tax evasion and they tend to predict that taxpayers evade taxes much more than what they actually do. The literature on tax compliance has increasingly stressed the role of psychological costs or social norms in explaining actual tax evasion behaviour. On the theoretical grounds it has been suggested that the “social” dimension of tax evasion, that is the role of morals, ethics and attitudes, is relevant in explaining individual compliance decisions. The taxpayer’s perception of the fairness of the her tax burden relative to others, and therefore the interdependence of individual tax evasion decisions, seems to be especially important in affecting willingness to pay taxes (Cowell 1990, Gordon 1989, Alm et al. 1992). In a broader sense these studies try to investigate individual attitudes towards paying taxes, which can be seen as a proxy for tax morale, that is the intrinsic motivation to comply with individual fiscal obligation. Tax morale is presumably influenced by a large array of different factors including morals and ethics, but also the perception of what others do: people more willing to contribute if they are convinced that the other taxpayers are doing their fair share.

The empirical literature on social or moral dimension of tax evasion has discussed three different issues. The first line of research wonders whether tax morale is relevant to affect actual compliance decisions by individual taxpayers. Wenzel (2005a) shows that tax morale and public spirit constitute true motivations for tax compliance, more than mere rationalizations of self-interest behaviour. The analysis applied on a sample of Australian taxpayers shows a two-way relationship between tax compliance and perception of social norms, especially for people who

strongly identify with some reference group. Using laboratory experiments referred to different countries, Cummings et al. (2005) show that differences in the level of tax compliance, audit probabilities being equal, can be ascribed to differences in the perceived efficiency and trust in tax administration and government. Analogous results are derived by Scholz and Lubell (1998). Wenzel (2005b), on the basis of survey and experiment data, provides evidence for a widespread tendency to distrust taxpaying behaviour and to over-estimate tax evasion of others. A perceived low tax compliance behaviour of other taxpayers is also shown to affect negatively individual compliance decisions. However, once informed of the actual level of under-reporting, individuals tend to modify their own decisions towards higher tax compliance. Torgler (2003) shows in a multivariate analysis for the US that tax morale and tax evasion are strongly and negatively correlated. Other few studies investigate the correlation between tax morale and the aggregate size of shadow economy at the macro level. Weck (1983) finds that among various factors that affect the size of shadows economy, tax evasion has the most significant impact. Integrating European and transition countries, Torgler (2001) observes a significant negative correlation between tax morale and shadow economy.

A second line of research investigates the determinants of tax morale, that is the issue of how citizens form their attitudes towards paying taxes. Torgler (2003) studies the factors that shape tax morale using micro-data from the Taxpayer Opinion Survey collected in the US. Tax morale is positively affected by attitudes towards tax authorities and the tax system. People who have been audited have a lower tax morale than others. A higher perceived probability of audit had a negative, the fear of getting caught a positive effect on tax morale. Trust in public officials and other people has a highly significant positive effect on tax morale. Focusing on Latin America, Torgler (2005) shows that trust in the government and in others' tax compliance, obedience to the law and pro-democratic attitude have a significant positive effect on tax morale. Analogous results are derived by Torgler and Schneider (2005) in the case of Austria. In a way this issue is connected with how serious tax evasion is perceived with respect to other offences. Along this line of research, Evans e Kelly (2001), building on data collected by a

survey in 29 different countries, show that the taxpayers' perception of the seriousness of tax evasion relative to other offences largely depends on the socio-economic milieu. Similarly, Burton et al. (2005) compare the perceived seriousness of tax evasion among twenty other offences by US taxpayers and find that non-compliance is viewed as only somewhat serious regardless of most socio-economic factor, such as age, gender, education and income level.

A third strand of the literature analyzes the citizens' perception of the size of tax evasion, of how widespread tax evasion is and the factors that affect that perception. Using Swedish individual survey data, Hammar et al. (2005) show that trust in politicians has a major impact on the perceived amount of evaded tax evasion, even if this effect differs widely across different categories of taxes.

Although these three lines of research on tax evasion perceptions are most likely strongly connected, at best of our knowledge, no paper has attempted to analyze them jointly, almost certainly because data did not allow such an analysis. The 2004 Survey of Household Income and Wealth collected by the Bank of Italy, which we use in this paper, includes a special section on personal attitudes about tax evasion, allowing us to fill this gap in the case of Italy. In this data set, perceptions about size of tax evasion, its seriousness with respect to other offences, possible motivations or justifications of tax evasions, as well as individual and household characteristics are recorded. Perceptions are likely to be informative, as one's perception derives from her own personal experience, from the knowledge of the phenomenon within the neighbourhood, the group of colleagues, the family and group of friends, which are environments where information is more easily shared. Although hidden to tax authorities, tax evaders might be known by their neighbours and colleagues. Perceptions are also determinants of political support, which is crucial for public policies addressing tax evasion.

Moreover, as far as tax evasion is concerned, Italy turns out to be an interesting case study even for an international reader, at least for its peculiarity in the European scenario. The size of hidden economy in Italy is over 20% of GDP, the double of what found in Europe (Bernardi and Franzoni 2004, Schneider and Enste 1998 among others). Evaded personal income tax is largely

differentiated across occupation types and regions of residence. According to recent estimates, on average less than 10% of employment income is hidden but, at some income deciles, over 60% self-employment income is evaded (Bernardi and Bernasconi 1996, Fiorio and D'Amuri 2005); on average 60% of income in Southern Italy is not reported, three times more than in the North (Bordignon and Zanardi 1997, Secit, 1997).

The remaining of the paper is organized as follows. In Section 2, we present the data set and in Section 3 a descriptive analysis of the perception about seriousness and size of tax evasion is undertaken. A cross-analysis of results shows that, in general, the perception of seriousness and of size of tax evasion are positively correlated: if people with a given group of the population believe that tax evasion is not large, they also believe that is not a serious problem, and vice versa. There is, however, a notable exception with respect to the area of residence. In particular, residents in Southern Italy are more likely to perceive tax evasion as large but tend to address it as a minor problem. In Section 5 a simple model of perceived seriousness of tax evasion as a function of perceived size and tax morality is developed and estimated. Results highlights a specific aspect of the stark disparities between the northern and southern areas of the country and some possible explanations of this apparent contradiction are discussed below. Section 6 concludes and discusses results.

2. The data set

The data set used in this paper is the 2004 Survey of Household Income and Wealth, SHIW (Banca d'Italia 2006). The last issue of the SHIW presents an original section, collecting a number of opinions about public spirit, social capital, social networks of interviewees, tax evasion, public spending and taxation, tax amnesties. Although the bulk of the questionnaire is asked to each member of the interviewed households, this section is submitted to a random

sample of about half of the total sample of householders only. The information provided by this data set, besides presenting a picture which is representative of the Italian population, can be analyzed considering the individual and household characteristics of interviewees, which are collected in the main part of the questionnaire. In this paper we only focus on their opinions about the relevance, dimension and possible causes or justifications of tax evasion.

The sample considered includes 3,798 householders, selected among all householders in the sample as those who were born in an odd year. The resulting sample, although representative of the resident population of householders, does present some characteristics which are different from that of the national adult population. In fact, while the distribution of the sample for the main geographical areas is satisfactory, males are strongly over-represented with respects to females (62.3% and 38.7%, respectively) and the age distribution of the sample shows a bias towards older cohorts.¹

Hence, the first issue we address is to correct the sample to check whether perceptions of this sample greatly differs from that of the national population by using a standard post-stratification method to compute a weight which would make some sample characteristics consistent with the national population. In brief, the methodology allows one to compute a weight that minimizes the distance between the marginal distribution of the sample and of the population with respect to the same variable (for details about the methodology, see Hollenbeck 1976 and Atkinson et al. 1988). The variables considered here are sex, four age groups, three main geographical areas and dimension of the town of residence, taking the population information directly from the Italian Statistical Institute.

The use of the post-stratified weight presents a main advantage in our analysis: it allows us to correct the frequency distribution of householders opinions in order to make it representative of the frequency distribution of the whole national adult population. However, the post-stratification procedure has a major cost: it allows one to make some sample marginal

¹ In particular, in the sample considered the age groups 18-30, 30-40, 40-50, 50-65 and over 65 are 4%, 13%, 18%, 32% e 33%, respectively.

distribution consistent with the respective population marginal distribution, but it does not allow one to assess the effect on other marginal distributions, as well as on joint distributions, due to the lack of data.

3. *“In your opinion, how serious and large is tax evasion in Italy?”*

Looking at the data, about three out of four of the interviewees are convinced that tax evasion is a serious or very serious problem, while only a minority (about 3%) considers it a marginal or non-existent problem and the remaining part (about 20%) regards it as a problem as serious as any other (Table 1).

[Table 1 about here]

As for the size of tax evasion, less than four out of ten respondents believe that the percentage of lost tax revenue due to tax evasion is between 20% and 30%, about two out of ten that it is smaller (between 10% and 20%), or larger (between 30% and 50%), while one out of ten believe it to be either very small (less than 10%) or very large (over 50%) (Table 2).

[Table 2 about here]

The comparison between post-stratified and non-stratified figures show that the perceptions of seriousness and size of tax evasion do not differ much between householders and total population, hence we might reasonably agree that the householders' perceptions is a good proxy of population perceptions about size and seriousness of tax evasion.²

Previous tables only show unconditioned distribution of perceptions. However, it is possible to check whether there is some regularity about perceptions among different groups of the population. In other words, we might investigate the determinants of perceptions of

² Notwithstanding this result, because of the unpredictable bias that the grossing-up procedure might cause on some marginal and joint variable distribution, as discussed at the end Section 2, from now on we will only use the original sampling weights provided in the SHIW for the econometric analysis that follows.

seriousness and of size of tax evasion and see whether they are totally random or there is some common feature across different groups of respondents. As perceptions are not continuous but ordered variables, we apply an ordered probit model according to which we assume that the perception of individual i ($i=1, \dots, 3783$) is normally distributed and independent from that of j ($i \neq j$), and that we do not observe its true value (y_i^*) but only whether y_i^* falls in a given interval.

$$y_i^* = x_i' \beta + \varepsilon_i \quad \text{with} \quad \varepsilon_i \approx NID(0,1)$$

$$y_i = j \quad \text{if} \quad \gamma_{j-1} < y_i^* \leq \gamma_j$$

As dependent variable we use either the perception of the seriousness of tax evasion, divided into “very serious or serious” ($y=1$), “the same as any other problem” ($y=2$), “marginal or non-existent” ($y=3$), or the perception of the size of hidden tax revenues, divided into “less than 10%” ($y=1$), “between 10% and 20%” ($y=2$), “between 20% and 30%” ($y=3$), “between 30% and 50%” ($y=4$), “over 50%” ($y=5$).

Tables 3 and 4 report estimation results for respectively the seriousness and the size of tax evasion referred to a range of models, which include as explanatory variables a set of individual and household characteristics, area of residence, income, subjective happiness variables as explanatory variables, including some interaction terms. Regardless of the specification used, education, income quintile, area of residence, occupation and age are consistently statistically significant for models of both perceived seriousness and perceived size of tax evasion. In particular, the higher is the level of education and the income level and the older is the respondent, the more serious and the larger tax evasion is perceived. Self-employed workers tend to downgrade the seriousness and the size of tax evasion. Households with rented dwelling regard tax evasion as a serious issue but as for perceived size of tax evasion, they have no significative difference with respect to homeowner. Looking at the area of residence, results

show that residents in Southern Italy think that tax evasion is less of a serious issue compared to people who live in other areas of the country. However, it is interesting to notice that residents in the South also perceive tax evasion as a relatively large phenomenon. Finally, people who live in larger towns tend to see tax evasion as smaller in size (the coefficient for the seriousness of tax evasion are negative for mid-sized and positive for large-sized towns, although for the former the significance level is not very large).

[Table 3 and 4 about here]

There might be a bundle of causes of one's perception about tax evasion. Since it is often found, as referred in Section 1, that Italian self-employed workers are less tax compliant than employees and that tax evasion is larger in the South, it is likely that self-employed workers and southerners tend to be more forgiving with themselves, and that self-serving beliefs provide a justification to their anti-social behaviour. Neighbourhood effects are also likely to play an important role, as people form their perception based on their own behaviour as well as on the behaviour of people they know. Actually, Cannari et al. (1995) and Fiorio and D'Amuri (2005) find that tax evasion is more concentrated at low levels of income, however their methodology is unable to consider tax avoidance, which is very likely to be concentrated among high income people hiring good tax consultants.

Beside providing an analysis of determinants of perceived seriousness and size of tax evasion, our results stress an additional finding. Focusing on consistently statistically significant explanatory variables only, perceived size and perceived seriousness of tax evasion are always positively correlated except for residents in the Southern Italy. For instance, well educated people believe that tax evasion is large and that it is also perceived as a serious problem. Self-employed people are more forgiving: they think tax evasion accounts for not a large share of total tax revenues and they also believe that tax evasion is a minor issue. Although a smaller breakdown of geographical areas is not possible because of sample representativeness, even dividing the sample in four geographical areas, the South variable maintains its peculiarity. In other words, southerners perceive a larger size of underground

economy, although they tend to see it as not a not-so-serious issue. Looking at marginal effects (Table 5), *ceteris paribus* for a resident in the Southern Italy the probability of considering tax evasion a serious issue is 4.6% smaller and the probability of perceiving tax evasion as large (over 30%) or very large (over 50%) is larger by 3.3% and 2.8% respectively, with respect to a resident in the Northern Italy.

[Table 5 about here]

There might be a number of reasons why this duality between the South of Italy and the rest of the country arises. For instance, it might be due to self-serving beliefs, as mentioned previously. It might be that, as economic conditions in the South are truly different from that in the North, southerners believe that it is often the only way to stay on the market and make ends meet. It might be that some neighbouring effects are playing a role in perception formation. It might be that we should look deeper into a model of perceived tax evasion seriousness.

4. A simple model of perception of tax evasion seriousness

How do people form their beliefs about the seriousness of tax evasion? What are the main factors that determine how serious tax evasion is perceived? We assume that one turns a worried eye on tax evasion the larger is the size of the phenomenon she perceives and the higher the blame, the negative value, or the price she gives to it. This price could be interpreted as the tax morale, or the attitude of individuals towards tax evasion. Then we expect that the larger is the perceived size, the more likely is that she declares tax evasion a serious issue. The more she is concerned about tax evasion, i.e. the larger is the value she gives to tax evasion, the more she declares tax evasion a serious issue. For simplicity, we can think that perception of tax evasion is produced according to a Cobb-Douglas production function where idiosyncrasies enter as a multiplicative term. Let G be the perception of tax evasion seriousness, A a constant term, M the

price attached to tax evasion, Z the perceived size of tax evasion and ν the error term, and $\alpha > 0$ and $\beta > 0$, hence we can write:

$$G = AM^\alpha Z^\beta \nu \quad (1)$$

While the questionnaire includes an explicit question about the perceived size and perceived seriousness of tax evasion (although only divided in ordered categories, as the underlying continuous variables are latent), there is no direct question about the price given to tax evasion.

Assuming that M is equal to a multiplicative model of individual and household characteristics ($M_1 M_2 \dots M_R$) and ξ is an error term, we can write (1) as:

$$G = A(BM_1^{\gamma_1} M_2^{\gamma_2} \dots M_R^{\gamma_R} \xi)^\alpha Z^\beta \nu \quad (2)$$

Taking logs, equation (1) can be written as follows, where small roman letters are logs of respective capital letters:

$$g = a + \alpha b + \alpha \gamma_1 m_1 + \alpha \gamma_2 m_2 + \dots + \alpha \gamma_R m_R + \alpha \log(\xi) + \beta z + \log(\nu)$$

that is:

$$g = \delta_0 + \delta_1 m_1 + \delta_2 m_2 + \dots + \delta_R m_R + \beta z + \varepsilon \quad (3)$$

where:

$$\begin{aligned}\delta_0 &= a + \alpha b \\ \delta_i &= \alpha \gamma_i \quad i = 1, \dots, R \\ \varepsilon &= \alpha \log(\xi) + \log(\nu)\end{aligned}$$

As g is a latent variable and we only observe whether it falls into a given interval, equation (3) is estimated using maximum likelihood (ML) with an ordered probit model. The variable z is included as a dummy variable as it is also a latent one. As G is coded from most to least serious and $\alpha > 0$, then if $\delta_i > 0$ it means that the characteristic m_i contributes to make G larger, i.e. to reduce the perceived seriousness of tax evasion. In other words, if $\delta_i > 0$ tax evasion is given a smaller price, which is reflected in a smaller seriousness of tax evasion.

Before looking at estimation results, a major econometric problem should be pointed out. As the perceived size of tax evasion is strongly dependent on individual idiosyncrasies, it is very likely that it is correlated with the error term ε through ν . Hence, because of endogeneity problems, the model cannot be regarded as a causal model. Interpreting the model as a conditional expectation, the *ceteris paribus* condition only refers to the included variables. For instance, the ML estimation for δ_{south} would reflect the difference in the expected wage of two arbitrary people with the same observed characteristics and different unobservable component, where one lives in the South and one in the North. However, we regard endogeneity as a minor problem for our aims. In fact, we are not interested to know what happens to individual perceptions of seriousness of tax evasion if a respondent moves from South to North or vice versa, but only whether there is any significant and sizable difference between northerners and southerners.

Table 6 shows that, an individual living in the South gives, *ceteris paribus*, a smaller price to tax evasion ($\hat{\delta}_{south} = 0.18$) than one living in the North, hence she is more likely to regard tax evasion as a smaller issue compared to others.

[Table 6 about here]

A positive and statistically significant value for $\hat{\delta}_{South}$ might be due to different characteristics of the socio-economic conditions of the Southern Italy. It is a matter of fact that the South of Italy presents lower average income and firms density, higher unemployment rate and rate of criminal activities than the rest of the country. A positive coefficient might incorporate all these structural regional peculiarity of the South that contribute forming individual perceptions. However, also subjective judgments of the tax system are important, as southerners are more likely to think that people evade taxes in order to their business to survive, because the tax rate is too high, because the tax system is too complicated, because there is little risk of being caught and because there is a low level of reciprocity in tax compliance (Table 7).

[Table 7 about here]

Indeed, including some subjective judgments about tax evasion in (3) (Table 8) the coefficient δ_{South} reduces to less than 10%, although it is still significantly different from zero at 10% .³

[Table 8 about here]

5. Conclusions

Using an original data set, this paper provides some evidence about the determinants of citizens' perceptions of the size and the seriousness of tax evasion in Italy. In particular, age, education, income, occupation type and area of residence prove to be all relevant variables in explaining how people gauge how serious and widespread tax evasion is. Each but one of these individual characteristics influence with the same sign the perceived size and the perceived seriousness of tax evasion, meaning that those convinced that tax evasion is a serious problem also believe that it is large, and vice versa. The only exception is the area of residence: although residents in

³ Only the most relevant subjective judgments about the tax systems were included as they tend to be highly correlated, hence reducing the significance level of most coefficients of the regression.

Southern Italy, the poorest area of Italy, perceive tax evasion as a widespread phenomenon, they do not see it as a primary concern.

We explore this issue by looking at the price of tax evasion. The econometric analysis shows that those who live in the South assign a lower value to tax evasion than residents in the North Italy. This difference across geographical areas may be ascribed to the stark economic disparities characterizing Italian regions. We try to catch these geographically differentiated effects by explicitly considering the causes/justifications of tax evasion that are reported as most relevant by citizens. However, even after controlling for these differences in perceived motivations for tax evasion, a statistically significant peculiarity of Southern Italy perception of seriousness of tax evasion remains.

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Table 1. “Generally speaking, among the problems facing the Government, that of tax evasion is ...” (% values)

	very serious	serious	the same as any other	marginal	non-existent
non- stratified freq.	27.01	47.67	21.26	3.49	0.57
post-stratified freq.	31.67	45.60	19.54	2.47	0.71

Source: our calculation on 2004 SHIW data

Table 2 “In your opinion, what percentage of the total amount of tax due from the population does the Government lose as a result of tax evasion?” (% values)

	< 10%	10% - 20%	20% - 30%	30% - 50%	> 50%
non- stratified freq.	9.48	23.13	37.47	21.06	8.86
post-stratified freq.	9.22	24.99	36.20	20.46	9.14

Source: our calculation on 2004 SHIW

Table 3 Ordered probit “Generally speaking, among the problems facing the Government, that of tax evasion is:” Very serious/Serious (g=1);The same as any other (g=2), Marginal or Non-existent (g=3)

	Pr(g=i)	p-val	Pr(g=i)	p-val	Pr(g=i)	p-val	Pr(g=i)	p-val
<i>Demographic and household characteristics</i>								
age	-0.031***	0.001	-0.031***	0.001	-0.030***	0.001	-0.032***	0.001
age^2	0.000**	0.016	0.000**	0.017	0.000**	0.017	0.000**	0.012
female	0.106**	0.041	0.106**	0.041	0.105**	0.042	0.107**	0.040
educ: 5yrs	-0.091	0.345	-0.095	0.323	-0.047	0.629	-0.064	0.509
educ: 8yrs	-0.335***	0.002	-0.341***	0.002	-0.290***	0.008	-0.306***	0.005
educ: 13yrs	-0.449***	0.000	-0.454***	0.000	-0.402***	0.001	-0.426***	0.000
educ: 16+yrs	-0.593***	0.000	-0.598***	0.000	-0.538***	0.000	-0.574***	0.000
hh size: 2	0.044	0.553	0.048	0.526	0.062	0.408	0.046	0.545
hh size: 3+	-0.028	0.752	-0.024	0.786	0.000	0.996	-0.030	0.731
kids<5yrs	-0.046	0.584	-0.048	0.570	-0.045	0.594	-0.058	0.491
student at home	-0.047	0.486	-0.044	0.517	-0.042	0.531	-0.049	0.470
rented dwelling	-0.158**	0.011	-0.156**	0.012	-0.152**	0.014	-0.134**	0.034
<i>Area of residence</i>								
40k<town size<500k	-0.106*	0.057	-0.112**	0.044	-0.108*	0.054	-0.101*	0.072
town size>500k	0.262***	0.000	0.279***	0.000	0.259***	0.000	0.266***	0.000
area3: Center	0.003	0.963			0.056	0.562	0.004	0.944
area3: South	0.152***	0.007			-0.051	0.573	0.148***	0.009
area4: North-East			0.095	0.168				
area4: Center			0.041	0.549				
area4: South			0.192***	0.003				
<i>Income variables</i>								
II quintile	-0.118	0.171	-0.119	0.170	-0.086	0.325	0.100	0.649
III quintile	-0.099	0.267	-0.102	0.253	-0.066	0.463	-0.104	0.623
IV quintile	-0.258***	0.004	-0.257***	0.004	-0.218**	0.016	-0.079	0.695
V quintile	-0.296***	0.002	-0.293***	0.003	-0.277***	0.005	-0.125	0.546
self-employed	0.262***	0.000	0.263***	0.000	0.249**	0.016	-0.145	0.673
not working	-0.162**	0.033	-0.158**	0.038	-0.261***	0.005	0.032	0.876
# inc. in hh: 2+	-0.049	0.401	-0.050	0.388	-0.065	0.264	-0.039	0.506
<i>Subjective happiness</i>								
happy	-0.054	0.345	-0.051	0.367	-0.058	0.310	-0.043	0.452
<i>Interaction terms</i>								
II quintile x self-empl							0.324	0.438
II quintile x not working							-0.299	0.213
III quintile x self-empl							0.444	0.274
III quintile x not working							0.052	0.826
IV quintile x self-empl							0.545	0.140
IV quintile x not working							-0.333	0.135
V quintile x self-empl							0.388	0.279
V quintile x not working							-0.268	0.234
area3: Center x self-empl					-0.126	0.493		
area3: Center x not work.					-0.061	0.642		
area3: South x self-empl					0.157	0.354		
area3: South x not work.					0.343***	0.003		
Observations	3783		3783		3783		3783	

* significant at 10%; ** significant at 5%; *** significant at 1%

p values in parentheses

Note: omitted variables: male, area3: North, area4: North-West, I quintile, number of income receivers in hh: 1, no education, employee, no kids<5yrs, no students at home, owned dwelling, unhappy, quintiles x employee, area3 x employee, area4 x employee.

Table 4 Ordered probit: "In your opinion, what percentage of the total amount of tax due from the population does the Government lose as a result of tax evasion?" (Less than 10% ($z=1$), Between 10% and 20% ($z=2$), Between 20% and 30% ($z=3$), Between 30% and 50% ($z=4$), More than 50% ($z=5$))

	Pr($z=i$)	p-val	Pr($z=i$)	p-val	Pr($z=i$)	p-val	Pr($z=i$)	p-val
<i>Demographic and household characteristics</i>								
age	0.013*	0.090	0.013*	0.082	0.013*	0.083	0.013*	0.079
age ²	-0.000*	0.070	-0.000*	0.064	-0.000*	0.070	-0.000*	0.069
female	-0.052	0.199	-0.052	0.195	-0.057	0.157	-0.060	0.136
educ: 5yrs	-0.015	0.845	-0.018	0.819	0.001	0.985	0.026	0.745
educ: 8yrs	0.179**	0.039	0.176**	0.043	0.194**	0.027	0.233***	0.008
educ: 13yrs	0.188**	0.041	0.185**	0.045	0.211**	0.024	0.230**	0.014
educ: 16+yrs	0.237**	0.025	0.234**	0.027	0.239**	0.025	0.268**	0.012
hh size: 2	-0.072	0.216	-0.071	0.227	-0.067	0.254	-0.081	0.167
hh size: 3+	-0.072	0.296	-0.070	0.307	-0.069	0.315	-0.083	0.231
kids<5yrs	0.021	0.744	0.021	0.750	0.022	0.732	0.032	0.621
student at home	0.118**	0.022	0.120**	0.019	0.127**	0.013	0.115**	0.026
rented dwelling	0.014	0.772	0.015	0.753	0.006	0.892	0.022	0.648
<i>Area of residence</i>								
40k<town size<500k	-0.137***	0.001	-0.143***	0.001	-0.136***	0.001	-0.144***	0.001
town size>500k	-0.177***	0.001	-0.166***	0.003	-0.165***	0.003	-0.166***	0.003
area3: Center	-0.137***	0.003			-0.316***	0.000	-0.128***	0.006
area3: South	0.172***	0.000			0.093	0.178	0.189***	0.000
area4: North-East			0.064	0.212				
area4: Center			-0.111**	0.029				
area4: South			0.200***	0.000				
<i>Income variables</i>								
II quintile	0.081	0.249	0.081	0.251	0.088	0.214	0.478***	0.008
III quintile	0.019	0.798	0.017	0.817	0.022	0.762	0.761***	0.000
IV quintile	0.240***	0.001	0.241***	0.001	0.239***	0.001	0.918***	0.000
V quintile	0.254***	0.001	0.256***	0.001	0.258***	0.001	0.901***	0.000
self-employed	-0.216***	0.000	-0.215***	0.000	-0.309***	0.000	1.005***	0.000
not working	0.133**	0.022	0.136**	0.019	0.033	0.639	0.804***	0.000
# inc. in hh: 2+	-0.018	0.686	-0.019	0.668	-0.020	0.651	-0.002	0.962
<i>Subjective happiness</i>								
happy	-0.045	0.315	-0.044	0.331	-0.038	0.393	-0.052	0.251
<i>Interaction terms</i>								
II quintile x self-empl							-1.189***	0.000
II quintile x not working							-0.356*	0.071
III quintile x self-empl							-1.675***	0.000
III quintile x not working							-0.820***	0.000
IV quintile x self-empl							-1.381***	0.000
IV quintile x not working							-0.760***	0.000
V quintile x self-empl							-1.172***	0.000
V quintile x not working							-0.756***	0.000
area3: Center x self-empl					0.356**	0.015		
area3: Center x not work.					0.269***	0.006		
area3: South x self-empl					0.057	0.678		
area3: South x not work.					0.146*	0.096		
Observations	3783		3783		3783		3783	

* significant at 10%; ** significant at 5%; *** significant at 1%

p values in parentheses

Note: omitted variables: male, area3: North, area4: North-West, I quintile, number of income receivers in hh: 1, no education, employee, no kids<5yrs, no students at home, owned dwelling, unhappy, quintiles x employee, area3 x employee, area4 x employee.

Table 5 Marginal effects for models of seriousness and of size of tax evasion.

	Perceived seriousness		Perceived size			
	dPr(g=1)/dx	dPr(g=3)/dx	dPr(z=1)/dx	dPr(z=2)/dx	dPr(z=4)/dx	dPr(z=5)/dx
<i>Demographic and household characteristics</i>						
age	0.009***	-0.002**	-0.002	-0.003	0.003	0.002
age^2	-0.000*	0.000*	0.000	0.000	0.000	0.000
female	-0.032*	0.007*	0.008	0.010	-0.010	-0.008
educ: 5yrs	0.027	-0.006	0.003	0.003	-0.003	-0.002
educ: 8yrs	0.096**	-0.020**	-0.028*	-0.035*	0.034*	0.029*
educ: 13yrs	0.122***	-0.024***	-0.029*	-0.037*	0.036*	0.032
educ: 16+yrs	0.143***	-0.025***	-0.034**	-0.047*	0.044*	0.043*
hh size: 2	-0.013	0.003	0.012	0.014	-0.014	-0.011
hh size: 3+	0.008	-0.002	0.012	0.014	-0.014	-0.011
kids<5yrs	0.014	-0.003	-0.003	-0.004	0.004	0.003
student at home	0.014	-0.003	-0.018*	-0.023*	0.023*	0.019*
rented dwelling	0.046**	-0.010**	-0.002	-0.003	0.003	0.002
<i>Area of residence</i>						
40k<town size<500k	0.031	-0.007*	0.023**	0.027***	-0.027**	-0.021***
town size>500k	-0.084***	0.021**	0.031**	0.034**	-0.034**	-0.026***
area3: Center	-0.001	0.000	0.024**	0.027**	-0.027**	-0.020**
area3: South	-0.046**	0.011*	-0.027***	-0.034***	0.033***	0.028***
<i>Income variables</i>						
II quintile	0.034	-0.007	-0.013	-0.016	0.016	0.013
III quintile	0.029	-0.006	-0.003	-0.004	0.004	0.003
IV quintile	0.074**	-0.015**	-0.036***	-0.048***	0.046***	0.041**
V quintile	0.085**	-0.018**	-0.039***	-0.050***	0.048***	0.043**
self-employed	-0.084***	0.021**	0.039***	0.041***	-0.042***	-0.030***
not working	0.049*	-0.011*	-0.022*	-0.026*	0.026*	0.021*
# inc. in hh: 2+	0.015	-0.003	0.003	0.004	-0.003	-0.003
<i>subjective happiness</i>						
happy	0.016	-0.004	0.007	0.009	-0.009	-0.007

* significant at 10%; ** significant at 5%; *** significant at 1%

Note 1: omitted variables: male, area3: North, I quintile, number of income receivers in hh: 1, no education, employee, no kids<5yrs, no students at home, owned dwelling, unhappy.

Note 2: dy/dx is for discrete change of dummy variable from 0 to 1

Table 6: Estimation of the simple model of perception of tax evasion seriousness. Ordered probit. "Generally speaking, among the problems facing the Government, that of tax evasion is:" Very serious/Serious (g=1);The same as any other (g=2), Marginal or Non-existent (g=3).

	Pr(g=i)	p-val
<i>Demographic and household characteristics</i>		
age	-0.029***	0.003
age^2	0.000**	0.044
female	0.093*	0.075
educ: 5yrs	-0.102	0.293
educ: 8yrs	-0.311***	0.005
educ: 13yrs	-0.417***	0.000
educ: 16+yrs	-0.552***	0.000
hh size: 2	0.023	0.760
hh size: 3+	-0.055	0.534
kids<5yrs	-0.051	0.550
student at home	-0.023	0.730
rented dwelling	-0.162***	0.010
<i>Area of residence</i>		
40k<town size<500k	-0.138**	0.015
town size>500k	0.222***	0.002
Center	-0.030	0.630
South	0.180***	0.002
<i>Income variables</i>		
II quintile	-0.110	0.207
III quintile	-0.110	0.223
IV quintile	-0.221**	0.014
V quintile	-0.258***	0.009
self-employed	0.221***	0.003
not working	-0.128*	0.095
# inc. in hh: 2+	-0.051	0.390
<i>Subjective happiness</i>		
happy	-0.057	0.319
<i>Perceived size of lost revenues</i>		
Between 10% and 20%	-0.132*	0.092
Between 20% and 30%	-0.517***	0.000
Between 30% and 50%	-0.618***	0.000
More than 50%	-0.749***	0.000
Observations	3783	

p values in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Note: omitted variables are male, North, I quintile, number of income receivers in hh: 1, no education, employee, no kids<5yrs, no students at home, owned dwelling, unhappy, lost revenues < 10%.

Table 7 To what extent do you agree with each of them: not at all or very little (y=1), so-so (y=2), quite a lot or very much (y=3)?

- (1) Not paying taxes is one of the worst crimes a person can commit because it harms the whole community
- (2) People try to avoid paying tax because they know the Government spends the money badly
- (3) Some people are obliged to evade tax in order for their business to survive.
- (4) Some people do not pay tax because the system is too complicated.
- (5) The revenue from taxation should be spent where it was collected.
- (6) People will be more willing to pay tax if they know everyone else does.
- (7) Some people don't pay tax because the rate (%) is too high.
- (8) Some people don't pay tax because they run little risk of being caught

	1	2	3	4	5	6	7	8
	Pr(y=i)	Pr(y=i)	Pr(y=i)	Pr(y=i)	Pr(y=i)	Pr(y=i)	Pr(y=i)	Pr(y=i)
<i>Demographic and household characteristics</i>								
age	0.018**	-0.020**	-0.027***	-0.023***	-0.031***	0.009	-0.015*	0.008
age^2	0	0	0.000**	0.000***	0.000***	0	0	0
female	-0.146***	-0.127***	0.069	0.033	0.039	-0.041	0.012	-0.07
educ: 5yrs	0.226**	-0.092	0.049	-0.121	0.031	0.340***	-0.018	0.168*
educ: 8yrs	0.477***	-0.238**	-0.018	-0.193**	-0.073	0.352***	-0.096	0.163*
educ: 13yrs	0.486***	-0.443***	-0.172*	-0.437***	-0.320***	0.184	-0.142	0.230**
educ: 16+yrs	0.531***	-0.477***	-0.440***	-0.499***	-0.572***	0.233*	-0.259**	0.245**
hh size: 2	-0.064	0.088	-0.004	-0.142**	-0.054	0.045	-0.074	-0.013
hh size: 3+	-0.032	0.058	0.116	0.003	-0.013	0.069	-0.026	-0.146*
kids<5yrs	0.031	-0.017	-0.257***	-0.179**	-0.171**	0.09	-0.039	-0.115
student at home	0.099	0.054	-0.110*	0.023	0.009	-0.02	-0.067	0.109*
rented dwelling	-0.017	0.087*	0.105**	-0.026	-0.018	0.175***	-0.054	0.055
<i>Area of residence</i>								
40k<town size<500k	-0.155***	-0.094**	0.003	0.166***	0.119***	-0.166***	0.022	-0.085*
town size>500k	-0.249***	-0.049	0.136**	0.075	0.219***	-0.542***	0.110*	-0.265***
Center	0.159***	-0.109**	-0.081	0.083	-0.316***	-0.066	0.031	-0.346***
South	0.066	-0.023	0.366***	0.269***	-0.118**	0.153***	0.301***	-0.159***
<i>Income variables</i>								
II quintile	0.184**	-0.154**	0.051	0.029	0.064	-0.004	0.067	0.01
III quintile	0.149*	-0.043	0.143*	0.037	0.166**	0.09	0.073	-0.106
IV quintile	0.253***	-0.052	-0.052	-0.091	0.052	-0.001	-0.053	0.034
V quintile	0.235***	-0.078	0.011	-0.092	0.032	0.240**	-0.03	0.188**
self-employed	-0.208***	0.205***	0.179***	-0.027	0.173***	-0.162**	0.111*	-0.307***
not working	0.141**	0.045	0.024	-0.044	0.169***	0.086	0.119*	0.081
# inc. in hh: 2+	0.061	-0.073	0.06	0.051	0.067	-0.033	0.001	0.04
<i>Subjective happiness</i>								
happy	0.081	-0.183***	-0.043	-0.238***	0.181***	0.283***	0.057	0.036
Observations				3783	3783	3783	3783	3783

p values in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Note: omitted variables: male, North, I quintile, number of income receivers in hh: 1, no education, employee, no kids<5yrs, no students at home, owned dwelling, unhappy.

Table 8 Ordered probit “Generally speaking, among the problems facing the Government, that of tax evasion is:” Very serious/Serious ($g=1$);The same as any other ($g=2$), Marginal or non-existent ($g=3$)

	Pr($g=1$)	p-val	Pr($g=1$)	p-val	Pr($g=1$)	p-val	Pr($g=1$)	p-val
<i>Demographic and household characteristics</i>								
age	-0.027***	0.006	-0.026***	0.006	-0.025**	0.012	-0.026***	0.009
age^2	0.000*	0.057	0.000*	0.059	0.000*	0.093	0.000*	0.079
female	0.083	0.114	0.081	0.124	0.083	0.113	0.083	0.118
educ: 5yrs	-0.101	0.299	-0.101	0.297	-0.090	0.357	-0.072	0.461
educ: 8yrs	-0.307***	0.005	-0.306***	0.005	-0.291***	0.008	-0.280**	0.011
educ: 13yrs	-0.397***	0.001	-0.395***	0.001	-0.361***	0.002	-0.349***	0.003
educ: 16+yrs	-0.511***	0.000	-0.503***	0.000	-0.476***	0.001	-0.458***	0.001
hh size: 2	0.028	0.714	0.028	0.713	0.043	0.570	0.045	0.553
hh size: 3+	-0.064	0.473	-0.063	0.478	-0.054	0.547	-0.061	0.500
kids<5yrs	-0.020	0.818	-0.018	0.832	-0.013	0.882	-0.028	0.747
student at home	-0.006	0.924	-0.006	0.936	-0.009	0.901	-0.007	0.921
rented dwelling	-0.176***	0.005	-0.175***	0.006	-0.175***	0.006	-0.173***	0.007
<i>Area of residence</i>								
40k<town size<500k	-0.133**	0.019	-0.134**	0.019	-0.143**	0.012	-0.148***	0.010
town size>500k	0.213***	0.003	0.213***	0.003	0.212***	0.003	0.188***	0.009
Center	-0.027	0.667	-0.029	0.646	-0.043	0.497	-0.076	0.238
South	0.143**	0.014	0.134**	0.021	0.120**	0.041	0.098*	0.096
<i>Income variables</i>								
II quintile	-0.115	0.189	-0.120	0.172	-0.117	0.181	-0.113	0.197
III quintile	-0.127	0.163	-0.131	0.152	-0.127	0.164	-0.137	0.135
IV quintile	-0.216**	0.017	-0.218**	0.016	-0.211**	0.021	-0.211**	0.021
V quintile	-0.267***	0.007	-0.270***	0.007	-0.257**	0.010	-0.235**	0.019
self-employed	0.213***	0.004	0.213***	0.004	0.219***	0.003	0.188**	0.012
not working	-0.131*	0.089	-0.134*	0.081	-0.127	0.100	-0.125	0.108
# inc. in hh: 2+	-0.055	0.355	-0.053	0.373	-0.059	0.322	-0.050	0.404
<i>Subjective happiness</i>								
happy	-0.057	0.324	-0.059	0.302	-0.040	0.491	-0.034	0.556
<i>Perceived size of lost revenues</i>								
Between 10% and 20%	-0.137*	0.083	-0.135*	0.086	-0.126	0.111	-0.119	0.132
Between 20% and 30%	-0.500***	0.000	-0.496***	0.000	-0.488***	0.000	-0.448***	0.000
Between 30% and 50%	-0.591***	0.000	-0.586***	0.000	-0.548***	0.000	-0.473***	0.000
More than 50%	-0.716***	0.000	-0.710***	0.000	-0.683***	0.000	-0.646***	0.000
<i>Tax evasion causes/justifications</i>								
business to survive: so so	0.243***	0.000	0.226***	0.000	0.165**	0.013	0.169**	0.011
business to survive: agree	0.290***	0.000	0.257***	0.000	0.190***	0.003	0.201***	0.002
system is complicated: so so					0.206***	0.001	0.194***	0.001
system is complicated: agree					0.225***	0.000	0.248***	0.000
tax rate too high: so so		0.000	0.067	0.307	0.028	0.671	0.006	0.934
tax rate too high: agree		0.000	0.121**	0.045	0.077	0.209	0.105*	0.093
little risk: so so							-0.066	0.326
little risk: agree							-0.311***	0.000
Observations	3783	3783	3783	3783	3783	3783	3783	3783

p values in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Note: omitted variables: male, North, I quintile, number of income receivers in hh: 1, no education, employee, no kids<5yrs, no students at home, owned dwelling, unhappy, lost revenues < 10%, do not agree with different causes/justifications.