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Abstract

This paper presents empirical evidence that "tax morale" - taxpayers' intrinsic motivation to pay taxes - constitutes a new determinant of happiness, even after controlling for several demographic and socioeconomic factors. Using data on Italian households for 2004, we assess the strength of tax morale by relying on single items as well as composite multi-item indices. Our main result that fiscal honesty generates a higher hedonic payoff than cheating is in line with Harbaugh et al. (2007)'s neuroeconomic finding. Further, it sheds light on the well-known "puzzle of compliance", that is the fact that many individuals pay taxes even when expected penalty and audit probability are extremely low: tax compliance is less puzzling once we show that not only it is materially costly, but also provides sizeable non-pecuniary benefits that make it rewarding in itself.

Keywords: Happiness, Tax Morale, Tax Compliance

1. Introduction

It is hardly deniable that investigating morality is important for economics. As Harsanyi (1980) points out, a relevant branch of economic theory such as welfare economics can be seen as an endeavor to understand how to apply certain moral principles (i.e. Pareto-optimality, distributive justice and individual freedom) to economic activities. As to political economy, Tabellini (2008) observes that morality - viewed as conceptions of what is right or wrong, and of how one ought to behave in specific circumstances - is bound to exert a strong influence on voters' demands and expectations, on citizens' participation in group activities, on the extent of moral hazard inside public organizations and on the willingness of individuals to provide public goods. His empirical analysis indicates that values consistent with generalized morality are widespread in societies with well-functioning institutions and instrumental variable estimation suggests a causal effect from values to institutional outcomes. However, despite the relevance of personal values and attitudes towards public issues, economists so far have mainly neglected their potential impact on individual happiness (or subjective well-being)[1].

Our paper extends this area of research by making a first attempt to study a new potential determinant of self-reported happiness within developed economies: people's fiscal morality. Our focus is on an economically relevant form of morality such as individuals' moral attitude towards taxation - the so called *tax morale*. To our knowledge, the impact of the extent and variety of tax morale on happiness has never been empirically tested, so far. We do this by addressing the following questions: do people differ in their moral attitude towards taxation? What are the main determinants of their tax morale? Do public-spirited individuals experience different happiness levels, compared to less morally concerned ones? As we will show in the next sections, the dataset we use allows us to operationalize different moral attitudes towards taxation, identify the main variables affecting citizens' moral attitudes and subsequently assess their happiness levels. Our main finding that individuals with higher levels of tax morale are also significantly happier is in line with the well-known neuroeconomic experiment on taxation run by Harbaugh et al. (2007), where even mandatory, tax-like transfers to a charity elicit neural activity in areas related to reward processing.

This paper lies at the crossroads of two lines of research. One is the economics of happiness literature. Fiscal morality is to be added to a growing list of non-pecuniary determinants of happiness such as political participation (Frey and Stutzer, 2000), volunteering (Thoits and Hewitt, 2001), marriage (Stutzer and Frey, 2006), relational goods (Bruni and Stanca, 2008) and religiosity

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[1]Even though we are aware that the two notions are not conceptually identical, we use the terms 'happiness' and 'subjective well-being' interchangeably.

(Clark and Lelkes, 2009). Moreover, a positive and strong correlation between happiness and tax morale allows us to gain further insights on the so called "hedonistic paradox", stating that *homo economicus*, who seeks happiness for himself, will not find it, while the person who helps others will.

The second line of research is the literature on tax compliance and in particular the studies focusing on the relationship between tax morale and tax compliance (see, among others, Andreoni et al., 1998). In the last years, several empirical studies have shown that taxpayers are more honest than classic deterrence models inspired by the economics of crime approach would predict (see, e.g., Allingham and Sandmo, 1972). But why are many people willing to pay taxes even when penalties and audit probability are extremely low? Recent work in the area suggests that individuals' tax morale may provide the "missing link" that makes it possible to bridge the gap between theory and data and finally contribute to solve the so called "puzzle of compliance". The rationale behind the relationship between tax morale and tax compliance is that insofar as citizens are driven by a positive moral attitude towards taxation (i.e. a high degree of tax morale), the level of compliance – other things being equal – will turn out to be higher.

However, even though this argument is intuitively appealing, it is important to note that, on empirical grounds, the current emphasis on tax morale and its supposed relevance for the economics of tax compliance is misplaced unless a positive correlation between tax morale and tax compliance can be established. In his survey, Halla (2010a) observes that in the last years, several studies, by means of both direct and indirect approaches, document a positive relationships between tax morale and tax compliance. The direct approach mainly relies on evidence from laboratory experiments which allow researchers to obtain from a single sample not only behavioral data on tax compliance (from the experiment itself) but also self-reported data on tax morale (from post-experiment questionnaires) as, for instance, in Torgler et al. (2007). A first limitation of this approach is that it needs to be carefully checked whether the answers in the questionnaire are independent from the behavior in the experiment. A second drawback has to do with the artificial nature of the environment in which the data are generated: even though such experiments are typically run by using non-neutral, tax language to make the setting more realistic, it is not possible to rule out that subjects would behave differently when dealing with real tax authorities, rather than with experimenters. Hence, the importance of integrating data from laboratory experiments with evidence from other environments. In an artefactual field experiment, Cummings et al. (2009) were able to provide further support for the hypothesis that tax morale exerts a positive impact on tax compliance.

A different (indirect) approach, by working at a more aggregate level, looks at tax evasion estimates for a large set of countries and years and match them with country-averages of tax

morale from international surveys. A series of recent papers report a negative correlation between average levels of tax morale and the size of the shadow economy in Latin America, the U.S. and Europe, and in several transition countries (see the survey by Halla, 2010a). In the last years some papers based on this indirect approach took a step further and directly dealt with the causality issue, addressing then the identification problem and suggesting an instrumental variable approach to disentangle a causal effect (Torgler and Schneider, 2009; Halla, 2010b). They find a statistically significant negative effect of tax morale on the size of the shadow economy. To sum up, despite the fact that each approach has strengths and weaknesses, the methodologies described above send a convergent message about the connection under study.

Even though a significant relationship between tax morale and tax compliance can be established, so far the notion of tax morale has often been treated 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" (Feld and Frey, 2002). Our main result - virtuous taxpayers reporting higher happiness levels than less virtuous ones - helps shedding light on the concept of tax morale and contributes to our understanding of why the levels of compliance are generally higher than the standard theory predicts. Insofar as we concentrate on the key relationship between tax compliance and tax morale and morally concerned people experience a high degree of subjective well-being, a relatively high level of compliance turns out to be far less paradoxical than it seems to be at first glance: it can be plausibly argued that an important reason why people comply with their fiscal duties is that they perceive the act of paying taxes as rewarding in itself.

Using a dataset on Italian taxpayers' opinions on civicness and taxation, we carry out an empirical analysis on tax morale and its relationship with happiness that sheds light on a crucial issue within a distinct and relevant area of research such as the economics of tax compliance. As anticipated above, our main finding is that virtuous taxpayers are significantly happier than less virtuous ones, even if a long list demographic and socioeconomic factors is controlled for, and a number of robustness checks are undertaken. Instrumental variable estimation suggests that this correlation reflects an independent causal effect of tax morale on happiness. We reach this conclusion with regard to both tax morale indices and single aspects of tax morale.

The remainder of the paper is structured as follows. In Section 2 we outline several varieties of tax morale and illustrate our data analysis and regression results on its determinants. Section 3 explores the relationship between happiness and tax morale, with regard to both fiscal morality indices and single items. Section 4 concludes with a discussion of our major finding.

2. Tax morale

Different aspects of tax morale can be sorted through thanks to the 2004 wave of the Survey of Italian Households' Income and Wealth (SHIW) run by the Bank of Italy. The dataset includes approximately 8,000 households for a total of 20,581 individuals[2]. Besides the available data on social, demographic and economic characteristics, we use information from the section on "Opinions on public spirit and taxation", which is unique to the 2004 wave. Since only household heads born in odd years are interviewed in this section, our dataset consists of 3,795 observations. Descriptive statistics on these variables as well as on the demographics can be found in Table 1. As for the demographic profile of the sample, about 60% are males, overall only 8.6% of household heads have been awarded a college degree ("Laurea") and an additional 30% hold a high school diploma. Households with 2 to 4 components amount to almost 70% of the sample, in half of the households there is only one income earner and in an additional 40% of the households we observe two income earners. Only 11.5% of household heads are self-employed and slightly less than 3% are unemployed. Our measure of income is given by net disposable income. We also use data on financial wealth and real assets holdings. Financial wealth is defined as the sum of cash holdings, bank deposits (including certificates of deposit, deposit books and saving certificates), government securities, mutual funds holdings, shares of stocks, life insurance premia and pension funds. Real assets are obtained as the sum of real estate, precious objects and business equity minus financial liabilities.

Our focus is on some questions in the section on public spirit and taxation, which aim at identifying the respondent's opinions both on different aspects of the taxation principles and on the Italian tax system, including tax evasion and tax amnesties. The interviewed are asked to what extent they agree with each statement (in a list) according to the scale: not at all, very little, so-so, quite a lot, very much. Given that each question is informative on different aspects of the stance on fiscal morality and that it may be viewed as an inherently multifaceted notion, differently from major existing studies where the level of fiscal morality is assessed by considering a single statement only (see, e.g., Frey and Torgler, 2007; Bruni and Stanca, 2008; Verme, 2009), we have the opportunity to investigate multiple dimensions of respondents' tax morale. Further, we shall also build aggregate tax morale indices averaging the responses to the single items. Tax morale indices should be less sensitive to measurement errors and outliers in the single response and, therefore, they provide a more thorough view of the individual's intrinsic attitude towards taxation.

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[2]The SHIW dataset is described in detail in the Supplements to the Statistical Bulletin issued by the Bank of Italy and available at http://www.bancaditalia.it/statistiche/indcamp/bilfait/boll_stat/en_shiw04.pdf.

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2.1. Varieties of tax morale

Tax morale comes in various forms. As we shall see, the questionnaire allows us to keep its multifaceted nature into account.

The first statement we focus on is

Kantian: Paying taxes is one of the basic duties of citizenship.

which clearly identifies a strong commitment to paying taxes: regardless of whether taxes are perceived as too high, of how the Government spends the money raised through taxes, of whether the fiscal system is (perceived as) fair and so on, those who answered "very much" reveal that for them paying taxes is a fundamental moral duty. In terms of moral philosophy, we see this view as naturally connected with the classic notion of Kant's categorical moral imperative "Act only on the maxim that you would at the same time will to be a universal law". The Kantian view is an example of the "theories of unconditional commitment" (Sugden, 1984) according to which individuals are supposed to pursue their self-interest subject to moral constraints.

The statement:

Community: Not paying taxes is one of the worst crimes a person can commit as it harms the whole community.

explores a related aspect of tax morale where a direct connection with the consequences of cheating on taxes on the community where the individual lives is postulated. Next, we consider

Redistributive: It is right to pay taxes because it helps the weak.

which attempts to recover the respondents' attitude towards justice and the degree of accordance with the redistributive role that the State plays through taxation. An important reason to pay taxes is that the tax revenue might be used to improve the living conditions of the poor and the weak. It is natural to relate this intrinsic motivation to the notion of inequity aversion. Alesina et al. (2004) observe that, in modern democracies, where governments redistribute to a significant extent, it is very likely that not only the poor but even the net losers from redistributive schemes support them insofar as poverty and inequality are perceived as socially harmful. A redistributive motive may emerge as a mix of genuinely unselfish concerns and self-interest, to the extent that inequality breeds crime and threats to property rights.

The fourth statement captures the dimension of what we label as vertical equity, as it deals with the relationship between Government and taxpayers:

Vertical: People try to avoid paying taxes because they know the Government spends the money badly.

Leviathan's behavior may turn out to be unsatisfactory and some citizens may be sensitive to this, in defining their moral attitude towards taxation. Spicer and Lundstedt (1976) and Smith (1992) set up models in which a taxpayer will feel 'cheated' if she believes that her money is not well spent, and may reciprocate by refusing to pay her full tax liability. Next, we have

Fairness: It is right not to pay taxes if you think they are unfair.

According to this statement paying taxes crucially depends on the perceived fairness of the tax system. An unfair tax system could lead people to 'rationalize' cheating (Andreoni et al., 1998). The Vertical and Fairness motives coincide with the two dimensions according to which, in Spicer and Lundstedt (1976)'s analysis, a taxpayer could judge the fairness of the terms of trade offered to him by the state: first, he may perceive his terms of trade with Government as unfair because the quantity and/or quality of goods received are considered inadequate with respect to his tax payment; second, he may perceive the distribution of the tax burden across taxpayers as unfair, either because the tax structure is considered unfair or because the other taxpayers cheat.

Further insights on respondents' tax morale can be gained by looking at the opinions on tax evasion and tax amnesties, collected in

Tax evasion: Generally speaking, among the problems facing the Government, that of tax evasion is: Very serious, Serious, The same as any other, Marginal, Non-existent.

Tax amnesty: What is your opinion of the practice of granting amnesties? (1) Amnesties are a good system and should be granted as often as possible to recover some of the lost revenue; (2) Amnesties are a good system, but should be used sparingly so as not to encourage tax evaders; (3) Amnesties are an unfair but necessary method of balancing the national accounts; (4) Amnesties are a very unfair system because they discourage honest citizens.

As we know, it is often the case that statutory tax rules are being violated to a large extent by tax evasion: this generates an unjust disparity in the payments by honest and dishonest citizens, so that citizens may be sensitive to this, in their decision-making process over compliance. Views on tax amnesties provide further evidence on respondents' tax morale. Given that Italy has experienced quite a long list of tax amnesties, it is interesting to investigate people's perception about this practice.

The percentage of respondents for each category of the selected questions on tax morale is tabulated in Table 2-4. As a first step in the descriptive analysis, we examine the correlations among the answers to these statements. The ordinal nature of the opinions on fiscal morality suggests the use of polychoric correlations which are computed under the assumption that there exists a latent continuum for the ordinal responses (i.e., the 5-point scale) and that the observed response can be interpreted as a respondent's view above a given number of latent threshold points (defined on the latent continuous unobservable variable). Table 5 reports the polychoric correlations among the seven items. Apart from the moderate correlation between the Kantian and the Community questions (0.59), which may indicate that they point to a common aspect of tax morale, correlations are in general weak (less than 0.4) or very weak (less than 0.2) and, in general, there is no clear pattern of correlation among these variables. Then, it seems that the questionnaire is indeed able to identify different aspects of fiscal morality and that an analysis by item is meaningful.

More descriptive statistics are provided in Table 6, where we condition on different characteristics of the sample. The preliminary analysis based on descriptive statistics about these statements makes clear that four variables play a key role in affecting people's moral attitude towards taxation, namely (1) macro-regional area of residence, (2) occupational status, (3) gender and (4) town size. More specifically, with regard to a macro-regional area effect, it turns out that, in general, Southerners are less morally concerned towards taxation than citizens living in the rest of the country, as they are driven by a lower degree of Kantian, Community-oriented and Redistributive morality and more prone to justify cheating depending on both the perceived fairness of the tax system and the way the Government uses the money raised. A possible explanation for these macro-regional differences in terms of tax morale might be related to the well-known differences in the stock of social capital between South and rest of Italy. A clear North-South duality, with regard to the level of social capital in Italy, emerges in several studies (Putnam, 1993), in line with Banfield (1925)'s well-known argument that the backwardness of Southern Italy has to do with a lack of trust outside the family circle (a phenomenon that he termed "amoral familism"). Moreover, it is very likely that a direct experience of misuse of tax revenues in Southern Italy plays a role in accounting for the lower level of Vertical morality in this area. Further, the descriptive evidence on tax evasion and tax amnesties indicate that Southerners are less prone to view tax evasion as a "very serious/serious" problem, compared to respondents from other parts of the country. As to occupational status, self-employed display a stronger Vertical morality compared to employed people, being more sensitive to whether the Government spends the money raised badly or not. This result is consistent with Frey and Torgler (2007)'s finding, showing that self-employed exhibit lower tax morale. With respect to gender, females turn out to be less morally concerned than males, in the sense of a lower degree of Kantian morality, and driven by a weaker redistributive

motive towards taxation[3].

Tax morale indices

On the basis of the economic and philosophical interpretation of these questions and the preliminary empirical evidence, we consider two multi-item, aggregate indices of fiscal morality. A first natural aggregation (TM_1) is obtained by averaging the categorical response to all questions, which are recorded on a 1-5 scale[4]. The second index (TM_2) is obtained from the aggregation of five items (Kantian, Community, Redistributive, Tax evasion and Tax amnesty) thereby excluding the Vertical and Fairness motives. This latter choice can be supported on empirical and theoretical grounds. Firstly, even though the moderate/weak polychoric correlations among the items do not provide a clear indication on how to proceed in the aggregation, Vertical displays a low correlation with all questions but Fairness (and viceversa). This would suggest to consider an aggregation which excludes these two items from a tax morale index, as in TM_2. Secondly, in the existing literature, tax morale is usually assessed by considering a single simple question asking (on a 1-10 scale as in the World Value Survey) whether cheating on taxes is never justifiable (score 1) or always justifiable (score 10). This statement captures a clear unconditional moral commitment towards paying taxes. Analogously, both our first three items (Kantian, Community and Redistributive) and the tax evasion and amnesty questions reflect an unconditional moral attitude towards taxation based on a principle requiring each agent to make whatever contribution he would wish others to make - irrespective of whether the others actually make this contribution. By contrast, the Vertical and Fairness questions are driven by a form of conditional morality, that is by a genuine but less morally demanding individual attitude towards taxation. A similar distinction between unconditional and conditional cooperators can be found in Knack and Keefer (1997)'s paper on trust and its relationship with economic growth. In general, as these composite indices are obtained from the aggregation of answers to the different questions, they may provide more representative, precise and robust descriptions of the individual standing towards fiscal issues, compared to responses from single items. Figures 1-2 report the empirical distribution of the two tax morale indices and summary statistics can be found at the top of Table 1.

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[3]This evidence contrasts with Cadsby et al. (2006) who, in their experimental work on tax compliance, found that that males exhibit less compliance than females, and with Frey and Torgler (2007)'s finding based on EVS data that women exhibit higher tax morale than men.

[4]Answering "Very much" (resp., "Not at all") to the questions capturing Kantian, Community and Redistributive questions yields 5 (resp., 1), whereas answering "Not at all" (resp., "Very much") to the questions capturing Vertical and Fairness yields 5 (resp., 0) points. Answering "Very serious" (resp., "Non-existent") to the question related to Tax evasion yields 5 (resp., 1) points. Finally, answering "Very unfair" (resp., "Good and often") to the question related to Tax amnesty yields 5 (resp., 1) points.

Further, these indices are useful to shed light on the important issue mentioned in the Introduction of whether self-reported tax morale can be safely used as an indicator of actual tax morale. Following the so-called indirect approach, by which the size of the shadow economy (or tax evasion) is taken as an indicator of actual tax morale, we compute the average of the broader tax morale index TM_1 at the NUTS 2 regional level and match it with the corresponding estimates (at NUTS2 regional level) of the shadow economy from Herwartzy et al. (2010, Table 8). The strong negative correlation between the size of the shadow economy and the tax morale index is evident from Figure 3 (the slope coefficient is -1.94 and t-ratio based on robust standard errors is equal to -6.61). We interpret this result, which is in line with evidence from other countries (Halla, 2010b), as a strong support of the use of self-reported tax morale as a reliable indicator of actual tax morale.

2.2. Determinants of tax morale: regression results

In order to explore the black box of tax morale, we undertake an investigation of its determinants. Given the ordinal nature of the answers to these questions, the regression analysis is carried out using an ordered probit model. Opinions about taxation can be viewed as a latent continuous variable, say y_i^*, modeled as a linear regression of some measurable factors, say $\boldsymbol{x}_i$, plus an error term, u_i to account for unobserved factors. Accounting for the intensity of the agreement with the given statement, the ordinal response variable y_i takes integer values $j = 0, \ldots, J$ according to whether $\mu_{j-1} < y_i^* \leq \mu_j$, where $\mu_0 < \mu_1 < \cdots < \mu_{J-1}$ (with $\mu_{-1} = -\infty$ and $\mu_J = +\infty$). In our data, the y_i's are available on the scale: not at all, very little, so-so, quite a lot, very much. Under the assumption of a Gaussian error term, the probability of observing a particular response is given by

$$\text{Prob}(y_i = 0|\boldsymbol{x}) = \Phi(\mu_0 - \boldsymbol{x}_i'\boldsymbol{\beta})$$
$$\text{Prob}(y_i = j|\boldsymbol{x}) = \Phi(\mu_j - \boldsymbol{x}_i'\boldsymbol{\beta}) - \Phi(\mu_{j-1} - \boldsymbol{x}_i'\boldsymbol{\beta})$$
$$\text{Prob}(y_i = J|\boldsymbol{x}) = 1 - \Phi(\mu_{J-1} - \boldsymbol{x}_i'\boldsymbol{\beta})$$

where $\Phi(\cdot)$ is the distribution function of the Standard Normal random variable. Estimation results are reported in Table 8 where the reference group is given by single males blue collar workers, living in Northern Italy in a city with less than 40.000 inhabitants. We recall that only the direction of the change in the probability of choosing the farthest categories can be recovered from the sign of the coefficient estimates. Regression results are reported in Table 7 for the tax morale scores and in Table 8 for the individual components of the indices.

The set of explanatory variables includes the usual demographic characteristics such as age, gender, marital status, education, employment status, household size and composition, town size as well as regional macro-area dummies. We use the log of net disposable income, say y, and,

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following Ferrer-i-Carbonell (2005), we also work with the log of a reference income level, say y_R, computed as the average income in a group composed by all household heads in the same age bracket, defined using a moving window of ± 5 years centered at the age of the individual, with the same educational qualification and living in the same macro-region (North, Center, South). If individuals make comparisons within their own reference group, the difference between household's own income and reference income becomes relevant and the larger this difference the stronger may be the effect on respondents' views on the tax system. In addition, we use information on two dimensions of social behavior (categorized as two dummy variables): interest in politics and active participation in associations involved in social, environmental, union policy, religious, cultural, sports or recreational, professional or voluntary activity. In fact, it can be argued that interest in politics and active participation in associations are clear signals of the respondent's consciousness of the relevant issues for the society as a whole and of her willingness to contribute to the common good of the society, respectively.

Several general remarks apply to our regression results. First, we find that education is an important determinant of tax morale. It seems that schooling provides an important channel through which ethical principles can be disseminated in the community and the magnitude of this effect increases with the educational level attained. For instance, considering the "Kantian" statement, probably the most demanding one from an ethical viewpoint, we can clearly reject the null hypothesis of no effect of education (F test equal to 40.95) and of no differential effect of higher educational attainments (F test equal to 32.37). We can also reject the null hypothesis of no differential effect of junior high school over primary school (t-test equal to 2.80) and of no differential effect of high school degree over junior high school (t-test equal to 4.07), whereas no significant differences can be found between high school and college degree. This result suggests that legislation enforcing compulsory schooling up to the high school level may be effective not only for the accumulation of (private) human capital, but also in promoting civicness.

Secondly, the significant coefficients on self-employment indicate that occupational status matters and the correlation with tax morale is negative. Unfortunately, the available data do not allow us to address the interesting causality issue of whether people with lower intrinsic motivation to pay taxes self-select into the self-employment or self-employed people develop a lower tax morale because of their work status. Third, there are interesting effects related to town size and regional area. Living in Southern Italy exerts a negative effect too. Also, it turns out that Southerners are the least motivated regional group in terms of the commitment to paying taxes[5]Further, in

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[5]It is surprising that Southerners agree less with the "Redistributive" aspect of tax morale given the well-known higher poverty rate observed in the South (European Commission, 2003) and the fact that most redistributive transfers

line with our descriptive analysis, with regard to Kantian, Community and Redistributive, a town size effect emerges, as citizens living in big towns are less morally concerned than citizens living in small towns. This seems to indicate that people living in smaller towns develop a greater sense of community, leading to greater civicness. This finding is in line with Olson (1965)'s thesis that small groups are qualitatively different from large ones. According to Olson, in many cases small groups are more efficient and viable than large ones and, other things equal, free riding is more likely to emerge in the latter than in the former environments. Finally, the positive and significant estimated coefficient on log income suggests that the "Kantian" attitude is a normal good. Income and reference income are both significant for the Vertical motive: people with higher income are less likely to agree with the statement while as the reference income increases (and hence there is a worsening in the relative position of the individual) the probability of choosing the answer "Very much" increases. Thus, it seems that the only aspect in which relative income matters is when evaluating the government behavior in terms of efficient use of the tax revenue.

Estimation results for the two indices are quite similar. Age is significant and exerts a positive influence on tax morale, while the effect of gender is unclear given that it is significant for TM_1 and not for TM_2. As expected, the effect of education is important in determining tax morale, with higher educational levels raising tax morale[6]. Besides the specific stock of human capital accumulated at each educational level, attending school provides an important positive, independent effect on the opinions on public spirit and taxation: this suggests that, apart from the private return to schooling, there might be a social (difficult to measure though) return to schooling given by the increased civicness it might induce. Self-employment has a significant negative effect on both tax morale indices and living in a big town weakens one's moral attitude towards taxation, as well as living in the South of Italy. Individual income is an important determinant of the views on fiscal morality (while the negative coefficient on reference income is not significant) supporting the view that tax morale behaves like a "normal good". Finally, the intrinsic motivation to be interested in political life or to act as to improve the general well-being of a society induces a higher tax morale.

3. Happiness and tax morale

Now that we have a better sense of the key determinants of tax morale, we can explore its effects on self-reported happiness. Over the centuries, the link between ethics and happiness has often

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from the central government are indeed in favor of these regions.

[6]F-tests reject both the null hypothesis of no effect of education ($F = 15.19$) and of no differential effect across educational levels ($F = 16.89$). The null hypothesis that a junior high school degree provides no further effects with respect to primary school is rejected (t-test equal to 4.31) as is the null hypothesis that a high school degree induces no additional effects over junior high school (a t-test of equality is equal to 4.20).

captured the attention of philosophers (including classical thinkers like Aristotle and St. Thomas Aquinas, the leading figures within the framework of the so called "eudaimonistic tradition"). While according to the hedonistic approach happiness is identified with the individual pleasure associated with the attainment of a private outcome, the eudaimonistic one relates happiness and human flourishing to virtuous behavior.

With a few exceptions, so far happiness studies have not empirically focused on the connection between happiness and ethics. For instance, James (2003) derives explicitly from a theoretical model a causal link from ethical judgments to happiness and, using data from the 1995-97 wave of the World Value Survey, provides some evidence that ethics affects happiness. However, he does not explore an economically relevant form of morality such as tax morale. Bruni and Stanca (2008), in their work on TV consumption, relational goods and happiness, also present evidence that honesty and happiness are positively correlated. Similarly, Verme (2009), in his empirical investigation on happiness and freedom of choice, finds that individuals who have an indulgent attitude towards tax cheating are more unhappy.

The commonsense view about happiness and individual fiscal behavior is that (successfully) cheating on taxes is what makes you 'happy', as you save money and get access to public (and therefore non-excludable) goods. Since undetected tax evasion yields pecuniary benefits to the free rider, such behavior appears to be fully consistent with the utility maximizing behavior of a selfish economic man. As a consequence, the economic literature on tax compliance has always considered 'puzzling' the relatively high levels of compliance systematically observed in the Western world (see Andreoni et al., 1998). However, there exists sizeable empirical evidence suggesting that several non-pecuniary factors turn out to be significant determinants of happiness. The set of questions discussed in the previous section gives us the opportunity to investigate the effect of the two tax morale scores as well as of the different aspects of fiscal morality on happiness. The happiness question contained in the SHIW 2004 questionnaire, offering ten response categories, is given by:

> **Happiness**: Looking at every aspect of your life, how happy would you say you are? Please answer on a scale of 1 to 10, where 1 is "Very unhappy", 10 is "Very happy" and the figures in between indicate various degrees of response.

Summary statistics and the empirical distribution of happiness are reported in Table 1 and in Figure 4. Apart from minor differences in wording, this happiness question is similar to the one present in the German Socio-Economic Panel (GSOEP), which has happiness data on a scale from 0 to 10, whereas in the General Social Survey carried out by the National Opinion Research Center in the U.S. only three response categories are present. Finally, a four-part life satisfaction question in the

Euro-Barometer Survey Series for 1975-1992 has been used by Di Tella and MacCulloch (2005)[7].

The happiness equation we estimate is given by

$$H_i = \alpha + \beta_0 TM_i + \boldsymbol{x}_i'\gamma + \epsilon_i \tag{1}$$

where H_i stands for the stated happiness level of individual i and TM_i is the tax morale of individual i (it could be either the score from an aggregate index or the response in a single question). The parameter β_0 captures the effect of tax morale on subjective well-being. Our main interest is in testing the null hypothesis that tax morale exerts no influence on happiness, i.e., $\beta_0 = 0$. Rejection of the null hypothesis would then provide some evidence that tax morale impacts on happiness. As in the previous section, a set of demographics and economic controls, $\boldsymbol{x}_i$, is also included in the regression. In more detail, we include age, gender, marital status, education, employment status, household size and composition, town size, regional macro-area and both log income y and log reference income y_R. The coefficient on reference income is expected to be negative because of the negative correlation with happiness. In fact, if reference income increases the individual would experience a worsening in relative terms (with respect to the reference group). Hence, insofar as he is concerned not only with absolute income but also with relative income his happiness level is expected to fall (Ferrer-i-Carbonell, 2005).

Even though we posit that the standing on tax issues could be a determinant of stated happiness, in principle we cannot rule out that one's happiness level also affects the moral attitude towards taxation. In other words, like for other non-pecuniary determinants of happiness such as political participation, volunteering, marriage , relational goods, and religiosity a positive correlation between happiness and tax morale could reflect reverse causation. Therefore, it is natural to explicitly address the following question: does honesty make taxpayers happy, or are happier people more likely to report honestly? Because of this endogeneity problem, OLS would yield inconsistent estimates and we need to resort to estimation by instrumental variables (IV).

Finding appropriate instruments is, in general, a difficult task. Given our dataset, an instrumental variable might be obtained considering the respondents' view about the role of Government in providing public services. This is captured by the following question:

> **Role of Government**: Considering the Government's need to guarantee public services, please say which statement is closest to your own opinion: (1) The Government's duty is to provide all citizens with as many public services as possible (e.g. school,

health care, pensions, transport, etc.) even if it means heavy taxes; (2) The Government has some unavoidable expenses for social welfare, which should be covered by taxes and duties, increasing these as and when necessary; (3) Taxation is too high, so if there is not enough money, expenses should be reduced by cutting back services; (4) The Government should raise the bare minimum in taxes and duties to cover absolutely essential public services (e.g. defence, justice, the police, etc.) and leave the rest to private initiative.

In general, most people may be averse to paying taxes, but they may like what they get in return for it: local and national public services such as education, health care, public transport, pensions and, more so, police protection, justice, national defense, and so on. It follows that respondents more favorable than the others to a larger (resp., smaller) Government size, so that the aforementioned public services are provided even though this entails heavy taxes, might be driven by a high (resp., low) degree of tax morale. As for the exclusion restriction, in a cross-country study of 40 nations for the period 1980-1990, Veenhoven (2000) finds no significant connection between the (objective) size of the welfare state and the level of happiness within the state. The size of social security expenditure and changes in the social security schemes are not related to higher or lower levels of citizens' happiness and do not determine changes in the dispersion of happiness among citizens. This evidence supports our intuition that it would be difficult to justify some association between the perceived level of happiness and a respondent's answer to a normative and specific question requiring a rational answer about the desired role of Government in the provision of public services. Moreover, the empirical literature on happiness provides additional support to justify our estimation strategy, given that our instrumental variable does not appear in the long list of determinants of happiness which have been found in more than two decades (see, e.g., the survey by Dolan et al., 2008). In principle, one might object that the classic left-right ideological divide plays a major role in driving people's answers to the above question and that political preferences are in turn correlated with happiness. However, in this respect, it is worth emphasizing that in Italy the left-right division is far more blurred and less precisely associated with citizens' preferences about Government size than in other countries like, e.g., the U.S.. As to the distinction between private and public initiative, with regard to socially relevant services, in Italy it is the case that being a supporter of a heavy welfare state (resp., of a 'minimal state') does not necessarily mean to be ideologically a left-winger (resp., a right-winger). In the light of this, we chose the above question capturing respondents' view about the role of Government as our instrument.

The validity of the instruments is assessed using some diagnostic tests. First, we test the identifying power of the instruments using the LM statistic, robust to the presence of heteroskedasticity, proposed by Kleibergen and Paap (2006). A rejection of the null hypothesis of under-identification

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implies that the model is identified. Secondly, it is well-known that instrumental variable regressions must pay great attention to the issue of the relevance of instruments because weak instruments may introduce both severe bias in estimators and size distortion in test statistics. Following the approach in Stock and Yogo (2005), we use the first-stage F-statistics to test the null hypothesis of weak instruments. The null hypothesis is formulated as "the bias of two-stage least squares (TSLS) or Fuller-k estimators as fraction of the OLS bias is greater than 10%" and "the actual size of the TSLS or limited information maximum likelihood (LIML) t-test as a fraction of OLS bias is greater than 10%". In our settings with three instruments, from Stock and Yogo (2005) the appropriate critical values for the first-stage F-statistic at the 5% significance level are given by 13.91 (TSLS bias), 9.61 (Fuller-k bias), 22.30 (TSLS size) and 6.46 (LIML size). Thus, for example, if the first-stage F-statistic is greater than 13.91 (9.61) the relative bias of TSLS (Fuller-k) as a fraction of the OLS bias is no greater than 10%. Finally, we consider the usual Hansen's J statistic to test the overidentifying restricions (given that we have three instruments and one endogenous variable). A failure to reject the null hypothesis suggests that the orthogonality conditions are valid and the instruments are exogenous.

Estimation results are given in Table 9. First, we consider the diagnostic tests for TM_1, the broader tax morale index. Kleibergen-Paap's LM test of the null of under-identification, which has a χ^2_3 asymptotic distribution, is equal to 82.65 allowing us to reject the null. It follows that the model is identified. The first-stage F-statistic is equal to 29.18, well above the critical values indicating that the instruments are not weak and that TSLS estimates are reliable. Finally, our assumption of instruments exogeneity finds statistical support in Hansen's J test of the overidentifying restrictions equal to 0.17 with a p-value of 0.91, and the endogeneity of tax morale is confirmed by Hausman's H test equal to 10.37.

The TSLS (and LIML) estimate of the causal impact of the tax morale index TM_1 on happiness is given by 0.20 which is significant at the 1% level. The 95% confidence interval based on TSLS heteroskedasticity robust standard errors, given by $(0.096, 0.301)$, is quite close to the confidence interval based on the Conditional Likelihood Ratio (CLR) proposed by Moreira (2003), which guarantees confidence intervals with the correct size even in the presence of weak instruments, given by $(0.102, 0.311)$. Neither confidence intervals contain the value of zero, therefore providing statistical evidence that the tax morale index TM_1 has a positive causal effect on happiness. Considering the TSLS estimate, moving from one standard deviation below the mean to one standard deviation above the mean of the empirical distribution of the tax morale score TM_1 generates an average increase in stated happiness of approximately $0.20 * (3.94 * 2) = 1.58$, which is about 90% of one standard deviation of the empirical distribution of happiness. While this effect is strongly significant from a statistical viewpoint, it is also significant from an economic perspective, making tax morale

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an important determinant of subjective well-being. As for the TM_2 index, the Kleibergen-Paap's LM test is equal to 77.91 which allows rejection of the null of under-identification. The first-stage F-test is equal to 27.39, well above the critical values reported by Stock and Yogo (2005), and Hansen's test of the overidentifyng restriction supports the validity of the orthogonality conditions. The coefficient on TM_2 is 0.26, larger than the previous one and highly significant. Again, neither the TSLS nor Moreira's confidence intervals contain the value of zero. As for the economic impact of TM_2 on happiness, standard calculations indicate that as we move from one standard deviation below the mean to one standard deviation above the mean of the empirical distribution of TM_2, the effect on happiness is given by $0.26 * (3.08 * 2) = 1.60$, about 90% of one standard deviation of happiness, testifying that for both tax morale indices we have evidence that tax morale significantly affects happiness.

The role of additional determinants of happiness can also be assessed from Table 9. In accordance with other studies on happiness, happiness is decreasing with age (though at a decreasing rate) and married people are happier than the others. As expected, unemployed people are less happy than employed, retired, non-working people and homeowners feel better off than the others and, finally, people living in Northern Italy are happier than those living in Center or South. As customary in happiness studies, income is a significant determinant of happiness while, contrary to Ferrer-i-Carbonell (2005), in this dataset we do not find evidence of a significant role for reference income.

Similar remarks apply to the results for the single morality items presented in Table 10. Estimation results confirm that the effect of tax morale on happiness is statistically significant and economically relevant for each of the seven items that we have examined. Therefore, we provided evidence of a causal impact of tax morale on happiness not only by considering items reflecting an unconditional committment towards paying taxes (such as Kantian, Community, Redistributive, Tax evasion and Tax amnesty), but also by examining statements (such as Vertical and Fairness) where a form of conditional morality seems to be at work.

In summary, the econometric analysis carried out in this paper reveals that honesty and cheating generate markedly different hedonic consequences: it turns out that either non-pecuniary costs are associated with cheating (e.g. psychological costs such as anxiety, guilt or a reduction in self-image, or social costs such as shame or reputation loss) or, symmetrically, non-pecuniary benefits are associated with honest behavior (e.g., social custom utility) - or both, consistently not only with models of tax compliance such as Gordon (1989), Bordignon (1993), Erard and Feinstein (1994) and Myles and Naylor (1996), where these possibilities are considered on theoretical grounds but also partially with Allingham and Sandmo (1972) who allude to the role of non-pecuniary factors affecting adversely a cheater's reputation as a citizen of the community. Our results, obtained

using real-taxpayers' opinions on real-world taxes, are in line with the well-known neuroeconomic experiment on tax compliance run by Harbaugh et al. (2007) who found that even mandatory, tax-like transfers turn out to elicit neural activity in the volunteers' ventral striatum, a key part of the brain's reward system.

In the next paragraphs, we assess whether our results are robust to the adoption of a different approach to aggregate the single items and to alternative measures of material well-being.

Sensitivity analysis: factor analysis

We evaluate the robustness of our results with respect to the aggregation used to obtain the tax morale indices following a factor analysis approach. In fact, it might be the case that the seven single questions capture one or two (or even more) different latent aspects of tax morale and that our economic aggregation approach is not completely justified on empirical grounds. Briefly, let y be a (7×1) vector containing the response of the ith individual (in deviation from the sample mean) on our questions. Then, factor analysis posits that $y = \Lambda f + \epsilon$, where Λ is a $7 \times p$ matrix of factor loading (where $p < 7$), f is a p-vector of orthogonal common factors and ϵ is a vector of (seven) error terms. The generic element of Λ, say λ_{ij}, gives the importance of the jth factor for the ith variable in y. Thus, each variable can be expressed as a linear combination of some common factors (with unit variance) plus an error term which accounts for the part of the variable not in common with the others. It follows that the covariance matrix of the observables can be written as $\Sigma = \Lambda\Lambda' + \Psi$, where Ψ is the diagonal variance-covariance matrix of ϵ. The standard assumption of no correlation between the ϵs implies that the common factors explain all the correlations among the observables (for a general exposition of factor analysis see Rencher, 2002).

Estimation of the factors is carried out using the principal factor method starting from the polychoric correlation matrix in Table 5, say R, thus factoring $R - \hat{\Psi}$ in practice, and using $(1 - 1/r^{ii})$ as initial estimate of the diagonal elements of Ψ, where r^{ii} is the ith diagonal element of R^{-1}. Next, a choice has to be made about the number of factors. Even though there exist several criteria that can be used as guidance in this decision, such as the number of eigenvalues greater than 1 (or zero when $R - \hat{\Psi}$ is used), the scree test, and parallel analysis[8], this is a rather subjective step, exacerbated by the fact that in many datasets the number of relevant factors may

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[8]The scree plot is a plot of the eigenvalues. The idea is to select the number of eigenvalues before the last sharp drop in the graph. In the parallel analysis, the idea is to compare the observed eigenvalues with those obtained under no correlation. Thus, a factor analysis on a matrix of independent random data is carried out for a large number of times and the eigenvalues stored. Then, when the eigenvalue that corresponds to the 95th of the distribution of eigenvalues derived from the random data is larger than the eigenvalues from the factor analysis, the corresponding factor is retained.

not be obvious. In our case, looking at the eigenvalues of $\boldsymbol{R} - \hat{\boldsymbol{\Psi}}$, the scree plot, and the output from the parallel analysis seem to suggest that two latent common factors can be kept (see Figure 5). The resulting matrix of factor loadings is reported in Table 11. Inspection of the entries in this table reveals that the first factor is important for the first four questions (and marginally important for the fifth) and that the second factor is relevant for the last two items. However, the variance unique to each variable is large indicating that the common factors explain little of the variation of the variables. This result is hardly surprising given the absence of a well structured pattern of correlations in the matrix of polychoric correlations.

The structure of the first factor is in accordance with our definition of the aggregate tax morale index TM_2 but for the last question. Therefore, we estimate the happiness equation (1), again by IV methods, using a tax morale index, say TM_2^*, obtained aggregating the four questions Kantian, Redistributive, Community and Tax evasion. Results are reported in Table 12. According to the LM test, which rejects the null of under-identification, the model is identified. Instruments are not weak (F-test well above the critical values) and they pass Hansen's exogeneity test. The TSLS estimate of the coefficient on tax morale is given by 0.24, it is statistically significant and slightly lower but not substantially different from the previous estimate of 0.26 obtained using the index TM_2. Therefore, estimation results obtained using TM_2^* indicate that our aggregation approach based on economic grounds is robust to the aggregation suggested by factor analysis.

Sensitivity analysis: Measures of material well-being

We now repeat our instrumental variable estimation using two alternative measures of the material well-being of the household. Table 13 reports estimation results when income is replaced by financial and real wealth (Panel A), an alternative objective measure of material well-being, and by the answer to the question "Is your household's disposable income enough for you to get through the month?" (Panel B), a subjective assessment of the general living conditions of the household (answers are on a scale from 1, great deal of difficulty, to 6, very easily). We notice that the estimates of the tax morale scores (both TM_1 and TM_2) are little affected by the choice of income, financial and real wealth, and living conditions as measures of the material well-being. Instrumental variable confidence intervals robust to the weak instruments issue do not include the value of zero, allowing us to reject the null hypothesis of no influence of tax morale on happiness. The estimated coefficients on financial wealth quintile are increasing with financial wealth, at a decreasing rate though, as the coefficients on real wealth. Financial and real wealth exert a positive influence on happiness, with respondents in the first quintile of the distribution being significantly less happy than those in higher quintiles. The same pattern is observed in Panel B where we are using a perceived measure of material well-being: as disposable income allows the household to get

through the month more easily, a higher effect on happiness is observed.

The effect of the single components of the tax morale scores can also be assessed using this approach. In all cases, we shall consider a binary endogenous regressor for the single tax morale item, built using as cut-off point either the answer "Very much" or "Not at all" according to which has the highest morality content. In Table 10, we report for each tax morale motive the first-stage F-statistic for testing the null hypothesis of weak instruments. Given that the F-statistic is smaller than the critical values, we are not able to reject the null hypothesis for the Vertical motive and for Tax Amnesty. Point estimates for these tax morale items are reported for completeness but should be interpreted with great care and robust confidence intervals based on CLR approach are so wide that any meaningful economic interpretation is hazardous.

However, when the null of weak instruments can be rejected, estimation results are interesting. First of all, the effect generated by a Kantian moral attitude comes out neatly. The positive estimated coefficient indicates that Kantian-like, unconditionally committed individuals are happier than the others and that a behavioral shift towards such a moral attitude might induce a substantial increase in self-reported happiness. The coefficient is highly significant from a statistical viewpoint, the 95% TSLS (or CLR) confidence interval does not contain the value of zero. The effect is economically important given that the increase in stated happiness is estimated in 1.949, which is about one standard deviation of the empirical distribution of happiness. From Hansen's J test of overidentification we find supporting evidence in favor of our assumption of instruments exogeneity while Hausman's H test corroborates our decision not to rely on OLS estimation.

Table 14 reports estimation results using alternative measures of material well-being with respect to income, as done for the tax morale scores. Again, results obtained using financial and real wealth or the subjective perception of own living conditions are similar to those obtained using disposable income confirming the robustness of our findings.

4. Conclusion

In philosophy, important classical contributions, mainly in the Aristotlean tradition, have argued that a relevant nexus exists between human morality and happiness. Within the eudaimonistic school, virtuous people are considered happier because they perceive the beauty of virtuous actions and acting virtuously increases their degree of happiness. Morality there is viewed as the science of the roads (the virtues) leading man to the achievement of the major goal of life, that is true happiness. However, surprisingly, the recent and growing psychology and economics literature on happiness has not investigated a philosophically well-known and significant determinant of happiness such as human morality. Our work aims at filling this gap, with regard to an economically

relevant form of morality such as tax morale, and points to a causal link from tax morale to happiness: we have adduced strong evidence that people with higher tax morale are happier than the others, even after controlling for the main demographic and socioeconomic determinants of happiness. We obtain this result by considering two composite indices of fiscal morality as well as several single tax morale items.

This connection also contributes to address the central puzzle in the literature on tax compliance, by shedding light on the motives at the basis of the seemingly irrational willingness of many taxpayers to comply even when measures of enforcement aimed at deterring evasion (such as audit rates and expected penalties) are weak or absent. The puzzle is that many people pay taxes even when the chance to be monitored and sanctioned is extremely low. Why do they do it? Why are so many households honest, and why don't cheaters cheat more (Andreoni et al., 1998, p. 821)? Despite last decades' numerous attempts to solve this puzzle, the answer remains elusive. The standard models of tax compliance assuming that individuals are driven by material self-interest only cannot account for such behavior, as tax cheating has traditionally been modeled as an independently-made amoral gamble, as if it were just adding one more risky asset to a household's portfolio. By contrast, empirical evidence (including experimental studies) unambiguously indicates that the levels of tax compliance are far higher than simple risk-return models predict.

Our results suggest that people pay taxes also because they like it: due to a sense of moral obligation, they feel intrinsically motivated to do it and this generates positive hedonic effects, in line with the classic eudaimonistic argument recalled above. As Gintis et al. (2008) observe, "Because of our nature as moral beings, humans take pleasure in acting ethically and are pained when acting unethically" (p. 1). In turn, the discovery that paying taxes is rewarding in itself helps explain why some people developed a moral preference for honest reporting.

More generally, our major result is consistent with the view of human morality emerging from last decades' behavioral experiments - run both with students in advanced societies and people from small-scale developing societies: these studies systematically indicate that most individuals treat moral values as ends in themselves (Gintis et al., 2008). Despite rapid advances in the last years, much work remains to be done if we are to achieve a satisfactory understanding of the sources of subjective well-being within developed economies. Identifying non-material determinants of happiness like human morality seems to be a crucial step to be taken along this ambitious path.

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Figure 1: Empirical distribution of TM_1
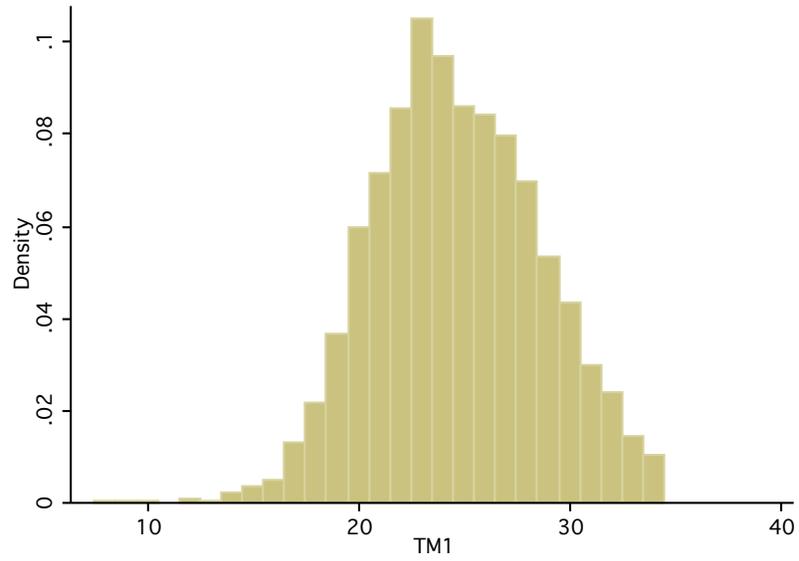
Figure 2: Empirical distribution of TM_2
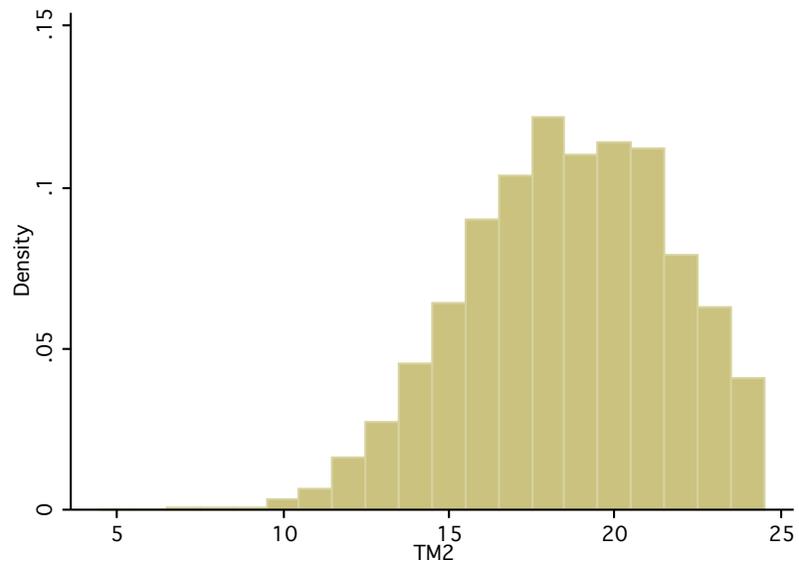
Figure 3: Self-reported Tax Morale and Shadow Economy by region
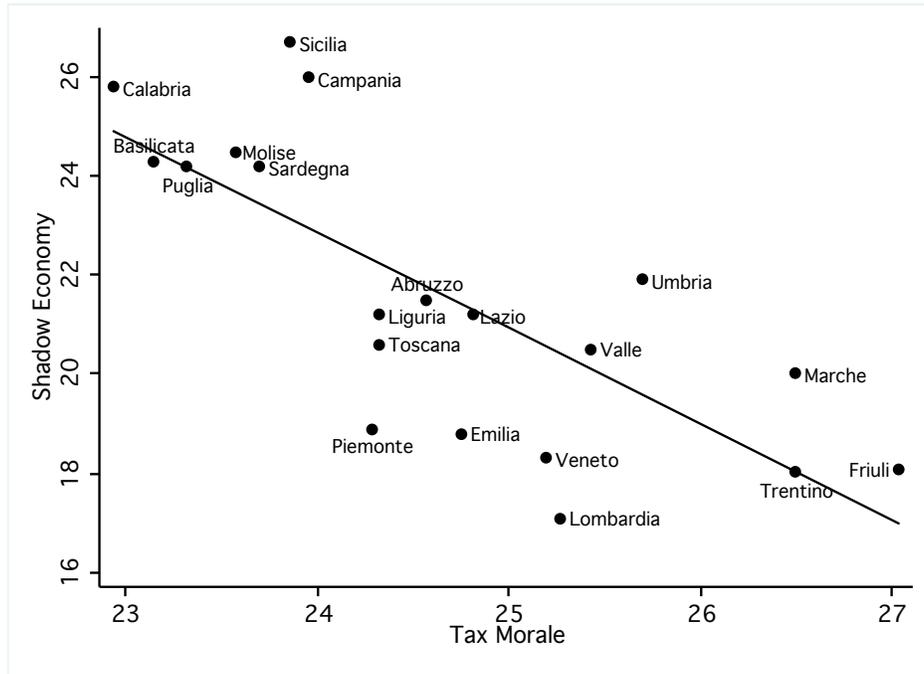
Figure 4: Empirical distribution of Happiness
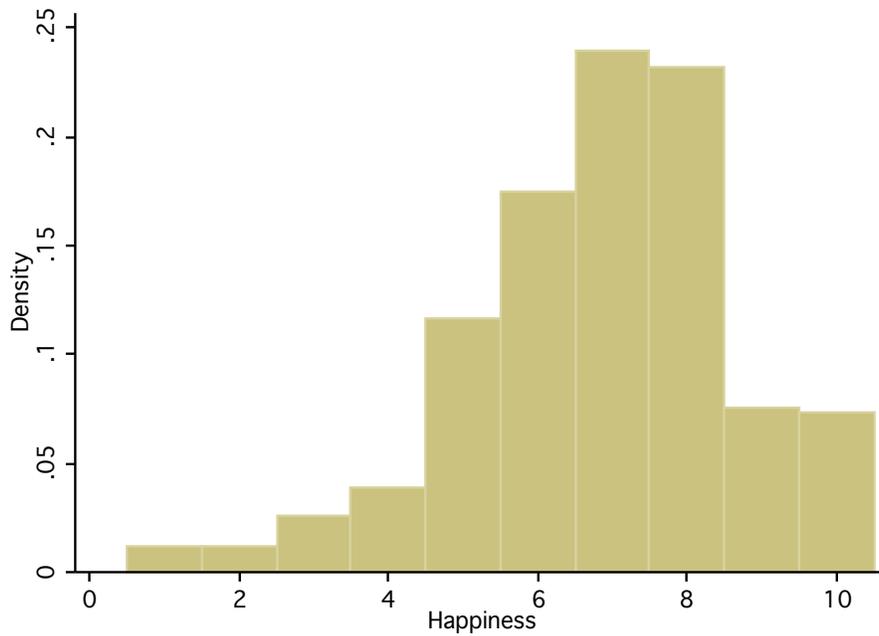
Table 1. Summary statistics.
Data are from SHIW 2004, household heads born in odd years. The table reports means and standard deviations for the main variables used in the paper. Income and wealth are in thousand euros. The sample size is 3795. Summary statistics for amounts invested in the different forms of savings are computed using data on households holding these assets.

Variable	Sample mean	Standard Deviation
Happiness	6.842	1.823
TM_1	24.672	3.944
TM_2	18.552	3.082
Male	0.615	0.48
Age	55.04	16.44
Education		
None	0.065	0.24
Primary	0.259	0.43
Jr.High	0.291	0.45
High Sch.	0.298	0.45
College	0.085	0.28
Marital status		
Married	0.616	0.48
Single	0.136	0.34
Household size		
= 1	0.251	0.43
≥ 2 but ≤ 4	0.680	0.46
> 4	0.067	0.25
Income earners		
One	0.493	0.50
Two	0.396	0.48
More than two	0.109	0.31
Occupational status		
Employed	0.375	0.48
Self-employed	0.114	0.31
Unemployed	0.026	0.16
Retired	0.400	0.49
Income	32.34	29.15
Financial assets	24.15	59.00
Real assets	218.00	341.33
Currency and savings accounts (n=3134)	13.40	39.39
Government bonds (n=327)	29.25	47.54
Other bonds (n=269)	25.32	41.64
Stocks (n=283)	24.68	42.27
Mutual funds (n=388)	36.53	61.67
Pension funds (n=339)	14.58	18.86
Life insurance (n=472)	15.62	18.10
Is your household's disposable income enough for you to get through the month?		
With a great deal of difficulty	0.107	
With difficulty	0.131	
Not easily	0.383	
Fairly easily	0.298	
Easily	0.067	
Very easily	0.010	

Table 2. Tax Morale

	Kantian	Community	Vertical	Fairness	Redistributive
Not at all	0.87	2.40	11.02	19.52	4.65
Very little	4.66	8.56	16.79	23.87	10.36
So-so	15.56	23.35	27.15	28.82	24.56
Quite a lot	41.32	34.23	30.57	19.77	39.21
Very much	37.63	31.46	14.47	8.01	21.22

Table 3. Tax Evasion

Very serious	31.70
Serious	45.61
The same as any other	19.50
Marginal	2.48
Non-existent	0.71

Table 4. Tax Amnesties

Good system and should be granted as often as possible to recover some of the lost revenue	12.41
Good system, but should be used sparingly so as not to encourage tax evaders	23.87
Unfair but necessary method of balancing the national accounts	18.71
Very unfair system because they discourage honest citizens	31.30
Don't know	13.70

Table 5. Polychoric correlation matrix
Data are from SHIW 2004, household heads born in odd years. The table reports the polychoric correlations between pairs of questions. The sample size is 3277.

	Kantian	Community	Redistributive	Tax evasion	Tax amnesty	Vertical	Fairness
Kantian	1						
Community	0.594	1					
Redistributive	0.412	0.337	1				
Tax evasion	0.372	0.414	0.208	1			
Tax amnesty	0.229	0.171	0.118	0.204	1		
Vertical	0.118	0.038	0.034	0.123	0.057	1	
Fairness	0.232	0.194	0.054	0.188	0.103	0.357	1

Table 6. Tax Morale by groups (Columns sum to unity)

	Male	Female	Employed	Self-employed	Unemployed	Small Town	Medium Town	Big Town	North	Center	South
Paying taxes is one of the basic duties of citizenship											
Not at all/Very little	5.24	5.99	5.52	5.60	9.38	4.40	7.08	4.83	5.38	4.39	6.52
So-so	13.84	18.73	14.46	15.82	16.67	13.72	16.80	22.36	12.51	13.88	21.42
Quite a lot	39.84	43.26	39.89	45.01	39.58	42.62	40.03	38.07	40.94	36.65	44.52
Very much	41.08	32.02	40.13	33.58	34.38	39.27	36.10	34.74	41.17	45.08	27.54
Not paying taxes is one of the worst crimes a person can commit because it harms the whole community											
Not at all	2.36	2.45	1.95	3.16	4.17	2.72	2.19	1.51	2.98	2.02	1.85
Very little	8.25	9.06	8.29	10.22	12.50	7.54	9.59	9.67	9.77	5.81	8.78
So-so	21.57	26.16	23.40	26.52	26.04	21.78	23.68	30.82	20.18	20.17	29.87
Quite a lot	33.65	35.15	34.12	34.31	28.12	34.82	34.04	31.72	32.46	37.37	34.54
Very much	34.16	27.18	32.25	25.79	29.17	33.14	30.50	26.28	34.62	34.64	24.96
People try to avoid paying tax because they know the Government spends the money badly											
Not at all	11.26	10.29	13.81	9.49	12.50	10.58	11.58	9.37	9.82	12.81	11.03
Very little	17.06	16.55	18.36	13.38	13.54	15.55	18.60	16.31	19.06	15.42	14.81
So-so	25.23	30.45	23.48	24.57	18.75	28.17	25.61	29.61	26.73	28.11	27.38
Quite a lot	31.50	29.29	30.38	33.09	34.38	30.63	30.95	29.31	31.29	30.96	29.55
Very much	14.95	13.42	13.97	19.46	20.83	15.08	13.26	15.41	13.10	12.69	17.23
It is right not to pay taxes if you think they are unfair											
Not at all	20.67	17.44	23.88	18.00	13.54	18.95	20.40	17.52	20.94	19.57	17.23
Very little	23.59	23.64	22.34	25.79	16.67	22.41	25.23	22.96	26.20	24.79	19.24
So-so	27.85	30.99	27.78	27.25	28.13	30.99	26.51	29.91	27.25	29.54	31.24
Quite a lot	19.34	20.57	18.12	18.98	28.13	18.53	20.66	23.26	17.54	20.17	22.71
Very much	8.55	7.36	7.88	9.98	13.54	9.11	7.21	6.34	8.07	5.93	9.58
It is right to pay taxes because it helps the weak											
Not at all	4.38	4.90	5.36	6.57	5.21	4.66	4.44	4.83	4.21	3.20	6.04

Table 6: Tax Morale by groups (continued)

	Male	Female	Employed	Self-employed	Unemployed	Small Town	Medium Town	Big Town	North	Center	South
Very little	10.06	10.63	11.13	11.68	12.50	9.32	10.81	13.29	9.88	8.42	12.08
So-so	22.99	27.66	22.66	24.82	21.88	25.34	24.20	24.47	21.11	25.39	29.47
Quite a lot	40.35	37.47	40.37	37.23	38.54	38.38	39.70	41.99	41.64	39.26	35.91
Very much	22.22	19.35	20.47	19.71	21.88	22.30	20.85	15.41	23.16	23.72	16.51
Generally speaking, among the problems facing the Government, that of tax evasion is:											
Very serious	34.04	28.00	32.98	24.57	31.25	31.88	32.24	28.10	29.65	40.33	28.66
Serious	45.29	46.12	45.74	48.18	37.50	45.65	46.20	42.60	49.42	42.70	42.35
The same as any other	17.96	21.93	18.28	23.11	28.13	18.85	19.11	25.08	17.89	14.12	25.36
Marginal/Non-existent	2.71	3.95	3.01	4.14	3.13	3.61	2.45	4.23	3.04	2.85	3.62
Tax Amnesties:											
Good and often	13.92	15.21	11.75	14.21	24.39	13.14	16.24	12.31	10.69	14.25	19.74
Good if rare	27.10	29.27	29.10	26.81	20.73	24.70	30.91	31.34	24.55	28.63	32.08
Unfair but necessary	21.00	22.28	20.57	23.86	20.73	21.52	20.28	26.87	25.03	16.48	19.84
Very unfair	37.99	33.24	38.58	35.12	34.15	40.63	32.56	29.48	39.72	40.64	28.33

Table 7. Opinions on Taxation - Tax Morale Indices

The sample consists of household heads born in odd years. The excluded group is given by single male blue collar workers, living in a city with less than 40.000 inhabitants located in Northern Italy with financial wealth and real assets holding in the first quintile of the corresponding empirical distributions. The sample size is 3275.

TM_1: a tax morale index index built using all items in Table 2-4.

TM_2: a tax morale index including the Kantian, Redistributive, Community, Tax Evasion and Tax Amnesty items.

[+]: significant at 10%; [*] significant at 5%; [**]: significant at 1%.

	TM_1		TM_2	
	Coeff.	S.E.	Coeff.	S.E.
Age	0.112**	0.033	0.079**	0.025
Age^2/100	-0.070*	0.028	-0.046*	0.022
Female	0.221*	0.173	0.025	0.136
Married	0.045	0.282	0.168	0.221
Divorced	-0.351	0.317	-0.365	0.258
Widowed	-0.320	0.285	-0.341	0.230
Primary School	0.389	0.302	0.337	0.256
J.High School	0.961**	0.342	0.576*	0.284
High School	1.864**	0.373	1.117**	0.302
College	2.028**	0.476	1.160**	0.374
Selfemployed	-1.245**	0.221	-0.748**	0.174
Retired	0.223	0.228	0.182	0.181
Unemployed	-.7320	0.459	-0.282	0.369
Not Working	-1.138**	0.284	-0.825	0.228
Income Earners ≥ 2	-.1432	0.235	-0.106	0.181
Household size= 2	-.3232	0.238	-0.308	0.194
Household size> 2	0.026	0.287	-0.049	0.231
Kids ≤ 5	0.017	0.274	-0.005	0.216
Home Owner	0.013	0.180	-0.086	0.146
Medium Town	-0.275*	0.139	-0.451**	0.111
Big Town	-0.890**	0.244	-0.750**	0.191
Area: Center	0.205	0.171	0.229[+]	0.132
Area: South	-0.920**	0.184	-0.693**	0.149
$\ln(y)$	0.447**	0.148	0.257*	0.117
$\ln(y_R)$	-0.299	0.285	-0.047	0.221
Politics	0.849**	0.164	0.479**	0.126
Associations	0.979**	0.192	0.777**	0.144
Intercept	18.393**	20.622	13.246**	2.0644
n	3275		3275	
F-test	18.15		15.43	
Adj. R^2	0.123		0.105	

Table 8. Opinions on Taxation - Tax Morale Items
The sample consists of household heads born in odd years. The excluded group is given by single male blue collar workers, living in a city with less than 40.000 inhabitants located in Northern Italy with financial wealth and real assets holding in the first quintile of the corresponding empirical distributions. The sample size is 3813. $^{+}$: significant at 10%; * significant at 5%; **: significant at 1%.

	Kantian		Community		Redistributive		Vertical		Fairness		Tax Evasion		Tax Amnesty	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
Age	0.006	0.009	0.015^{+}	0.009	0.031**	0.009	-0.026**	0.009	-0.016^{+}	0.009	0.012	0.009	0.020*	0.010
Age^2/100	0.003	0.008	-0.004	0.008	-0.021**	0.008	0.015^{+}	0.008	0.007	0.008	-0.010	0.008	-0.017^{+}	0.009
Female	-0.035	0.047	-0.065	0.045	0.075^{+}	0.045	-0.163**	0.044	-0.096*	0.045	-0.045	0.046	-0.017	0.051
Married	0.042	0.075	0.121^{+}	0.073	0.029	0.073	0.092	0.072	-0.063	0.072	0.144^{+}	0.074	-0.000	0.083
Divorced	-0.073	0.085	-0.156^{+}	0.083	-0.213**	0.083	0.060	0.082	0.047	0.082	0.150^{+}	0.085	0.035	0.092
Widowed	0.025	0.078	-0.054	0.076	-0.154*	0.075	0.060	0.074	-0.090	0.074	0.107	0.077	0.028	0.086
Primary School	0.215**	0.082	0.278**	0.081	0.146^{+}	0.080	-0.163*	0.080	-0.080	0.079	0.256**	0.082	0.143	0.102
J.High School	0.378**	0.096	0.501**	0.094	0.076	0.092	-0.323**	0.092	-0.310**	0.092	0.187*	0.095	0.152	0.112
High School	0.582**	0.103	0.564**	0.101	0.192^{+}	0.100	-0.522**	0.099	-0.503**	0.099	0.284**	0.102	0.225^{+}	0.119
College	0.528**	0.132	0.546**	0.129	0.177	0.126	-0.546**	0.126	-0.612**	0.126	0.074	0.130	0.206	0.146
Selfemployed	-0.179**	0.061	-0.239**	0.059	-0.189**	0.058	0.182**	0.058	0.126*	0.058	-0.332**	0.060	-0.196**	0.063
Retired	0.139*	0.067	0.078	0.065	0.125*	0.063	0.046	0.063	-0.024	0.063	0.066	0.066	0.026	0.070
Unemployed	0.181	0.119	0.053	0.115	0.151	0.114	0.127	0.114	0.300**	0.112	-0.075	0.117	-0.207	0.131
Not Working	-0.064	0.077	-0.048	0.075	-0.262**	0.074	0.117	0.074	0.219**	0.074	-0.035	0.077	-0.138	0.085
Income Earners $\geq$ 2	-0.133^{+}	0.069	0.089	0.067	-0.243**	0.065	-0.016	0.065	0.105	0.065	-0.006	0.068	0.036	0.072
Household size= 2	0.108^{+}	0.065	-0.129*	0.063	-0.120^{+}	0.063	-0.022	0.062	-0.032	0.062	0.119^{+}	0.065	0.074	0.072
Household size> 2	0.183*	0.079	-0.139^{+}	0.076	-0.081	0.075	-0.009	0.075	-0.115	0.075	0.105	0.078	0.014	0.086
Kids $\leq$ 5	0.065	0.074	-0.053	0.071	0.161*	0.071	-0.109	0.070	-0.049	0.070	0.014	0.074	0.128	0.078
Home Owner	-0.109*	0.049	-0.020	0.047	-0.051	0.046	-0.065	0.046	0.007	0.046	-0.029	0.048	-0.029	0.053
Medium Town	-0.176**	0.044	-0.113**	0.043	-0.022	0.042	-0.095*	0.041	-0.010	0.041	-0.111**	0.043	-0.216**	0.046
Big Town	-0.248**	0.057	-0.221**	0.055	-0.156**	0.055	-0.030	0.054	-0.035	0.055	-0.026	0.057	-0.284**	0.062
Area: Center	-0.038	0.050	0.027	0.048	0.035	0.047	-0.140**	0.047	-0.082^{+}	0.047	-0.146**	0.049	-0.194**	0.053
Area: South	-0.231**	0.051	0.001	0.049	-0.188**	0.049	0.011	0.048	0.119*	0.048	0.029	0.051	-0.249**	0.055
ln(y)	0.145**	0.042	0.048	0.041	0.029	0.040	-0.074^{+}	0.040	-0.026	0.040	0.059	0.042	0.044	0.045
ln(y_R)	0.081	0.080	0.028	0.078	-0.005	0.076	0.250**	0.076	0.088	0.076	0.087	0.079	0.038	0.086
Politics	0.151**	0.046	0.120**	0.045	0.127**	0.044	-0.234**	0.043	-0.245**	0.044	-0.010	0.045	0.152**	0.047
Associations	0.322**	0.059	0.244**	0.056	0.127*	0.054	-0.104^{+}	0.054	-0.109*	0.054	0.081	0.056	0.232**	0.059
Cut1	1.407^{+}	0.737	-0.075	0.714	-0.407	0.702	-0.840	0.699	-1.356^{+}	0.700	0.211	0.725	0.276	0.782
Cut2	2.235**	0.738	0.567	0.714	0.233	0.702	-0.209	0.699	-0.692	0.699	0.750	0.725	1.164	0.783
Cut3	3.450**	0.739	1.394^{+}	0.714	0.994	0.702	0.531	0.699	0.092	0.699	1.481*	0.725	1.689*	0.783
Cut4			2.288**	0.715	2.056**	0.703	1.386*	0.699	0.855	0.700	2.353**	0.725		
n	3814.000		3814.000		3814.000		3814.000		3814.000		3814.000		3272.000	
Pseudo R^2	0.043		0.023		0.018		0.016		0.020		0.014		0.022	

Table 9. Happiness and Tax Morale - TSLS Estimation.
The sample consists of household heads born in odd years taken from SHIW 2004. The excluded group is given by single male blue collar workers, living in a city with less than 40.000 inhabitants located in Northern Italy with financial wealth and real assets holding in the first quintile of the corresponding empirical distributions. Dependent Variable: Stated Happiness. Tax Morale indices are defined in Table 7. The sample size is 3275. Instruments: Dummy variable defined on opinions on the following statements: The Government's duty is to provide all citizens with as many public services as possible (e.g. school, health care, pensions, transport, etc.) even if it means heavy taxes; The Government has some unavoidable expenses for social welfare, which should be covered by taxes and duties, increasing these as and when necessary; Taxation is too high, so if there is not enough money, expenses should be reduced by cutting back services; The Government should raise the bare minimum in taxes and duties to cover absolutely essential public services (e.g. defence, justice, the police, etc.) and leave the rest to private initiative.
LM: Kleibergen and Paap (2006)'s LM test of under-identification, , distributed as a χ^2_3; F (first stage): first stage F-test statistics; J (overidentification): Hansen's test of overidentifying restriction, distributed as a χ^2_2; H: Hausman's test of endogeneity, distributed as a χ^2_1; CLR confidence interval: weak instrument robust 95% confidence interval for β_0 based on the Conditional Likelihood Ratio (CLR) test, Moreira (2003); CLR (p-value): p-value of the weak instrument robust CLR test of the null hypothesis $H_0 : \beta_0$, Moreira (2003).
$^+$: significant at 10%; * significant at 5%; **: significant at 1%.

	TM_1		TM_1	
	Coeff.	S.E.	Coeff.	S.E.
TM_1	0.199**	0.052	0.260**	0.068
Age	-0.087**	0.017	-0.086**	0.017
Age^2/100	0.061**	0.015	0.059**	0.015
Female	0.073	0.079	0.111	0.079
Married	0.716**	0.137	0.681**	0.140
Divorced	-0.027	0.163	-0.002	0.165
Widowed	-0.28*	0.147	-0.263$^+$	0.150
Primary School	-0.119	0.169	-0.129	0.174
J.High School	-0.047	0.192	-0.005	0.192
High School	-0.003	0.216	0.077	0.209
College	-0.154	0.258	-0.052	0.249
Self-employed	0.121	0.112	0.067	0.107
Retired	-0.062	0.109	-0.065	0.110
Unemployed	-0.669**	0.224	-0.741**	0.225
Not working	-0.055	0.148	-0.067	0.148
Income Earners ≥ 2	0.086	0.105	0.085	0.105
Household size$= 2$	0.066	0.123	0.082	0.125
Household size> 2	-0.147	0.142	-0.129	0.145
Kids ≤ 5	0.070	0.127	0.075	0.131
Home owners	0.388**	0.089	0.413**	0.090
Medium town	-0.073	0.068	-0.010	0.073
Big Town	0.115	0.124	0.133	0.126
Area: Center	-0.205**	0.083	-0.224**	0.083
Area: South	-0.188*	0.098	-0.191*	0.100
$\log(y)$	0.159**	0.077	0.181*	0.076
$\log(y_R)$	0.002	0.133	-0.047	0.135
Politics	0.023	0.089	0.067*	0.083
Associations	0.067	0.098	0.060	0.099
Intercept	2.717	1.570	2.936	1.544
LM [p-value]	82.65	[0.00]	77.91	[0.00]
F	29.18		27.39	
J [p-value]	0.17	[0.91]	0.04	[0.99]
H [p-value]	10.37	[0.00]	12.14	[0.00]
CLR	$(0.102, 0.311)$		$(0.133, 0.409)$	

Table 10. Happiness and Tax Morale Items - TSLS estimates.

The sample consists of household heads born in odd years taken from SHIW 2004. The excluded group is given by single male blue collar workers, living in a city with less than 40.000 inhabitants located in Northern Italy with financial wealth and real assets holding in the first quintile of the corresponding empirical distributions.

Dependent Variable: Stated Happiness.

Kantian: 1, if "Very much" in the Kantian question, 0 otherwise;

Community: 1, if "Very much" in the Community question, 0 otherwise;

Redistributive: 1, if "Not at all" in the Redistributive question, 0 otherwise;

Instruments and Tests: see Table 9.

Following the approach in Stock and Yogo (2005), the null hypothesis of weak instruments is expressed as "the bias of TSLS (Fuller-k) as fraction of the OLS bias is greater than 10%" and "the actual size of the TSLS (LIML) t-test as a fraction of OLS bias is greater than 10%". The critical values for the first-stage F-test at the 5% significance level and with three instruments are given by 13.91 (TSLS bias), 9.61 (Fuller-k bias), 22.30 (TSLS size) and 6.46 (LIML size).

$^+$: significant at 10%; * significant at 5%; **: significant at 1%.

	Kantian		Community		Redistributive		Vertical		Fairness		Tax Evasion		Tax Amnesty	
	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
Tax Morale Score	1.949**	0.534	1.894**	0.517	2.143**	0.645	6.436*	2.560	3.781**	1.280	1.705**	0.465	3.423**	1.281
Age	-0.085**	0.017	-0.079**	0.016	-0.082**	0.017	-0.092**	0.025	-0.058**	0.018	-0.074**	0.016	-0.100**	0.025
Age^2/100	0.059**	0.014	0.055**	0.014	0.056**	0.014	0.068**	0.021	0.038*	0.016	0.052**	0.014	0.079**	0.022
Female	0.165*	0.080	0.148$^+$	0.079	0.102	0.080	-0.010	0.119	0.066	0.095	0.120	0.078	0.155	0.108
Married	0.650**	0.127	0.624**	0.127	0.725**	0.130	0.618**	0.175	0.719**	0.151	0.614**	0.126	0.669**	0.174
Divorced	-0.016	0.151	-0.012	0.151	-0.011	0.153	-0.148	0.207	-0.053	0.177	-0.155	0.149	-0.128	0.201
Widowed	-0.274*	0.131	-0.290*	0.130	-0.171	0.138	-0.358*	0.181	-0.252	0.156	-0.299*	0.130	-0.363*	0.181
Primary School	-0.177	0.145	-0.160	0.143	0.050	0.140	-0.165	0.198	-0.102	0.165	-0.143	0.141	-0.062	0.207
J.High School	-0.027	0.180	0.032	0.173	0.355*	0.162	-0.108	0.269	0.003	0.211	0.155	0.161	0.214	0.232
High School	-0.033	0.219	0.123	0.195	0.439*	0.173	-0.314	0.389	-0.038	0.265	0.262	0.179	0.318	0.245
College	-0.235	0.268	-0.045	0.241	0.283	0.222	-0.408	0.420	-0.262	0.327	0.110	0.225	0.130	0.307
Self-employed	0.104	0.118	0.075	0.114	-0.044	0.108	0.254	0.198	0.180	0.154	0.107	0.117	0.038	0.151
Retired	-0.011	0.107	-0.004	0.107	0.037	0.109	0.116	0.155	-0.011	0.126	-0.027	0.106	-0.069	0.143
Unemployed	-0.773**	0.201	-0.748**	0.200	-0.779**	0.204	-0.835**	0.280	-0.522*	0.246	-0.766**	0.200	-0.824**	0.270
Not working	-0.165	0.129	-0.147	0.129	-0.071	0.139	0.065	0.213	-0.020	0.168	-0.148	0.129	-0.131	0.183
Income Earners $\geq$ 2	-0.006	0.110	-0.086	0.111	0.064	0.115	0.228	0.182	0.005	0.131	-0.044	0.110	-0.029	0.149
Household size= 2	0.086	0.111	0.059	0.110	0.081	0.113	0.056	0.152	0.016	0.131	0.022	0.109	-0.043	0.152
Household size> 2	-0.091	0.133	-0.093	0.132	-0.104	0.135	-0.116	0.183	-0.252	0.169	-0.118	0.132	-0.166	0.180
Kids $\leq$ 5	0.007	0.131	0.077	0.130	-0.035	0.134	0.179	0.187	0.102	0.155	0.005	0.130	-0.018	0.176
Home owners	0.449**	0.085	0.420**	0.083	0.454**	0.087	0.407**	0.114	0.423**	0.099	0.364**	0.082	0.364**	0.113
Medium town	-0.047	0.067	-0.075	0.065	-0.091	0.066	-0.100	0.089	-0.147$^+$	0.077	-0.109$^+$	0.064	0.116	0.126
Big Town	-0.004	0.118	0.008	0.119	0.029	0.124	0.061	0.173	-0.025	0.138	-0.068	0.113	0.302	0.206

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Table 10: Happiness and Tax Morale (continued)

	Kantian		Community		Redistributive		Vertical		Fairness		Tax Evasion		Tax Amnesty	
	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
Area: Center	-0.246**	0.083	-0.156*	0.079	-0.163*	0.080	-0.380**	0.142	-0.114	0.094	-0.327**	0.092	-0.183$^+$	0.105
Area: South	-0.121	0.101	-0.180$^+$	0.093	-0.182$^+$	0.095	-0.474**	0.131	-0.299**	0.100	-0.355**	0.084	-0.049	0.166
$\log(y)$	0.268**	0.070	0.302**	0.068	0.349**	0.070	0.100	0.129	0.174$^+$	0.095	0.258**	0.070	0.238**	0.092
$\log(y_R)$	-0.043	0.136	-0.084	0.134	-0.109	0.136	0.164	0.218	-0.124	0.159	-0.106	0.133	-0.005	0.181
Politics	0.008	0.090	0.099	0.079	0.038	0.089	-0.110	0.157	0.010	0.108	0.061	0.083	-0.015	0.125
Associations	-0.010	0.115	0.060	0.104	0.119	0.100	0.124	0.135	0.099	0.119	0.090	0.100	0.062	0.139
Intercept	6.108**	1.224	6.070**	1.221	5.755**	1.243	6.131**	1.683	7.143**	1.498	6.693**	1.229	5.489**	1.675
n	3796		3796		3796		3796		3796		3796		3275	
LM [p-value]	58.22	[0.00]	64.56	[0.00]	59.27	[0.00]	11.19	[0.01]	19.05	[0.00]	74.23	[0.00]	14.44	[0.00]
F	19.96		22.16		20.25		3.724		6.339		25.42		4.81	
J [p-value]	0.14	[0.93]	0.09	[0.95]	0.833	[0.70]	0.88	[0.644]	1.48	[0.47]	0.20	[0.90]	1.48	[0.47]
H [p-value]	11.41	[0.00]	12.36	[0.00]	13.13	[0.00]	13.08	[0.00]	12.87	[0.00]	13.92	[0.00]	12.87	[0.00]
CLR	(0.969, 3.195)		(0.942, 3.081)		(1.020, 3.799)		(2.906, 21.471)		(1.775, 8.291)		(0.846, 2.751)		(1.658, 9.770)	

Table 11. Factor loadings. Factor loadings and unique variance from principal factor analysis.

	Factor 1	Factor 2	Uniqueness
Kantian	0.736	-0.147	0.494
Community	0.695	-0.147	0.494
Redistributive	0.452	-0.175	0.764
Tax evasion	0.526	0.022	0.722
Tax amnesty	0.294	0.017	0.912
Vertical	0.206	0.442	0.761
Fairness	0.339	0.416	0.711

Figure 5: Factor Analysis: Scree plot (solid line) and 95th percentile of the empirical distribution of eigenvalues from Parallel Analysis (dashed line)
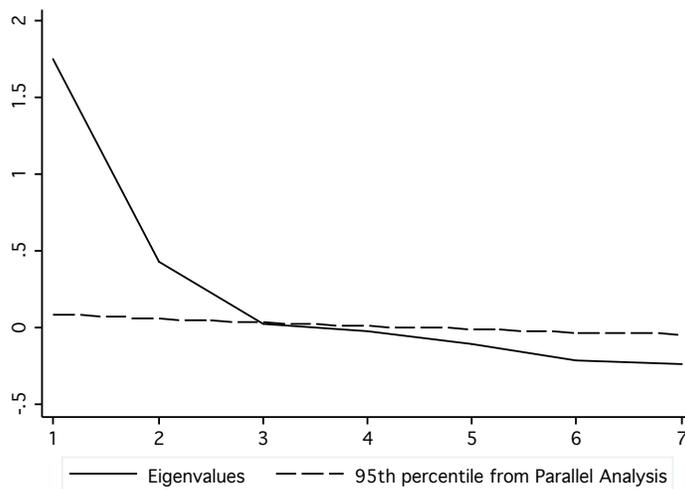
Table 12. Happiness and Tax Morale Indices - Sensitivity Analysis (Factor analysis)

TM_2^* aggregates the Kantian, Community, Redistributive and Tax evasion items. We only report the TSLS and LIML estimates for the coefficient on TM_2^* and related test statistics. See Table 9 for a description of the estimation output.

TM_2^* [s.e.]	0.2412** [0.064]
n	3796
LM [p-value]	108.34 [0.00]
F	38.40
J [p-value]	0.558 [0.756]
H [p-value]	10.045 [0.001]
CLR	[0.120, 0.377]
LIML TM_2^* [s.e.]	0.2421 [0.0645]

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Table 13. Happiness and Tax Morale Indices - Sensitivity Analysis (Material well-being)
The sample consists of household heads born in odd years taken from SHIW 2004. The excluded group is given by single male blue collar workers, living in a city with less than 40.000 inhabitants located in Northern Italy with financial wealth and real assets holding in the first quintile of the corresponding empirical distributions. Dependent Variable: Stated Happiness.
Tax Morale Indices TM_1 and TM_2 are defined in Table 7.
All regressions include socio-demographic dumies, town size dummies and regional dummies.
Instruments and Diagnostic Tests: see Table 9.
$^{+}$: significant at 10%; * significant at 5%; **: significant at 1%.

A. Wealth	TM_1		TM_2	
	Coeff.	SE	Coeff.	SE
Tax Morale Index	0.199**	0.049	0.264**	0.066
Fin.Wealth II quintile	0.220*	0.107	0.204**	0.123
Fin.Wealth III quintile	0.265*	0.112	0.294**	0.125
Fin.Wealth IV quintile	0.256*	0.110	0.303**	0.124
Fin.Wealth V quintile	0.385**	0.123	0.427**	0.133
Real Assets II quintile	0.226*	0.114	0.269^{+}	0.122
Real Assets III quintile	0.199	0.125	0.263^{+}	0.136
Real Assets IV quintile	0.446**	0.130	0.478**	0.140
Real Assets V quintile	0.407*	0.135	0.449*	0.144
n	3277		3277	
LM (underidentification) [p-value]	86.69	[0.00]	80.02	[0.88]
F (first stage)	30.80		28.249	
J (overidentification) [p-value]	0.354	[0.83]	0.01	[0.99]
H (endogeneity) [p-value]	10.534	[0.00]	12.59	[0.00]
CLR confidence interval	$(0.106, 0.306)$		$(0.141, 0.409)$	
B. Living conditions	TM_1		TM_2	
	Coeff.	SE	Coeff.	SE
Tax Morale index	0.193**	0.051	0.264**	0.0673
With difficulty	0.602**	0.130	0.728**	0.130
Not easily	0.974**	0.113	1.135**	0.115
Fairly easily	1.329**	0.121	1.461**	0.121
Easily/Very easily	1.388**	0.154	1.507**	0.154
LM [p-value]	82.01	[0.00]	77.31	[0.00]
F	28.922		27.16	
J [p-value]	1.296	[0.52]	0.665	[0.717]
H [p-value]	10.343	[0.00]	12.11	[0.00]
CLR	$(0.099, 0.306)$		$(0.133, 0.405)$	

Table 14. Happiness and Tax Morale Items - Sensitivity Analysis (Material well-being)

The sample consists of household heads born in odd years taken from SHIW 2004. The excluded group is given by single male blue collar workers, living in a city with less than 40.000 inhabitants located in Northern Italy with financial wealth and real assets holding in the first quintile of the corresponding empirical distributions.

Dependent Variable: Stated Happiness.

Kantian: 1, if "Very much" in the Kantian question, 0 otherwise;

Community: 1, if "Very much" in the Community question, 0 otherwise;

Redistributive: 1, if "Not at all" in the Redistributive question, 0 otherwise;

All regressions include socio-demographic dummies, town size dummies and regional dummies.

Instruments and Tests: see Table 9.

[+]: significant at 10%; [*] significant at 5%; [**]: significant at 1%.

A. Wealth	Kantian		Community		Redistributive		Vertical		Fairness		Tax Evasion		Tax Amnesty	
	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
Morale Item	1.993**	0.540	1.951**	0.524	2.141**	0.647	6.734*	2.691	3.868**	1.291	1.743**	0.470	3.560**	1.331
Fin.Wealth II quintile	0.198*	0.099	0.166[+]	0.100	0.310**	0.103	0.220	0.139	0.249*	0.118	0.213*	0.098	0.068	0.167
Fin.Wealth III quintile	0.301**	0.102	0.313**	0.101	0.423**	0.105	0.180	0.156	0.265*	0.123	0.325**	0.100	0.233	0.157
Fin.Wealth IV quintile	0.367**	0.106	0.301**	0.105	0.363**	0.107	0.161	0.162	0.134	0.140	0.292**	0.105	0.185	0.164
Fin.Wealth V quintile	0.411**	0.114	0.464**	0.113	0.513**	0.116	0.171	0.196	0.218	0.156	0.433**	0.113	0.354*	0.168
Real Assets II quintile	0.321**	0.109	0.343**	0.110	0.295**	0.110	0.216	0.153	0.319*	0.130	0.272*	0.107	0.361*	0.164
Real Assets III quintile	0.359**	0.124	0.390**	0.126	0.372**	0.127	0.029	0.190	0.301*	0.144	0.210[+]	0.120	0.296[+]	0.179
Real Assets IV quintile	0.502**	0.126	0.580**	0.129	0.562**	0.131	0.465**	0.176	0.630**	0.161	0.404**	0.124	0.709**	0.218
Real Assets V quintile	0.521**	0.134	0.506**	0.133	0.552**	0.137	0.322[+]	0.193	0.497**	0.158	0.358**	0.133	0.586**	0.203
n	3798		3798		3798		3798		3798		3277		3277	
LM [p-value]	60.56	[0.00]	64.84	[0.00]	62.61	[0.00]	12.16	[0.00]	20.02	[0.00]	76.09	[0.00]	15.34	[0.00]
F	19.530		21.520		19.982		3.561		6.317		24.931		4.614	
J [p-value]	0.227	[0.89]	0.042	[0.97]	2.67	[0.26]	0.74	[0.69]	0.78	[0.67]	0.27	[0.87]	1.16	[0.55]
H [p-value]	11.709	[0.00]	12.764	[0.00]	12.052	[0.00]	13.718	[0.00]	13.636	[0.00]	14.325	[0.00]	13.331	[0.00]
CLR	(1.007, 3.264)		(0.987, 3.158)		(1.032, 3.844)		(3.066, 23.215)		(1.846, 8.396)		(0.877, 2.806)		(1.692, 9.987)	

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Table 14: Happiness and Tax Morale Items - Robustness (continued)

A. Living conditions	Kantian		Community		Redistributive		Vertical		Fairness		Tax Evasion		Tax Amnesty	
	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
Morale Item	2.022**	0.547	1.991**	0.511	2.237**	0.693	7.579*	3.307	4.118**	1.331	1.806**	0.468	3.875**	1.435
With difficulty	0.850**	0.149	0.789**	0.143	0.888**	0.158	0.708**	0.196	0.559**	0.169	0.857**	0.146	0.733**	0.201
Not easily	1.103**	0.127	1.172**	0.131	1.241**	0.146	1.015**	0.174	0.880**	0.150	1.201**	0.132	1.194**	0.184
Fairly easily	1.452**	0.132	1.573**	0.138	1.613**	0.148	1.453**	0.190	1.321**	0.159	1.555**	0.136	1.599**	0.197
Easily/Very easily	1.494**	0.167	1.690**	0.177	1.617**	0.174	1.356**	0.251	1.199**	0.220	1.589**	0.169	1.715**	0.246
n	3798		3798		3798		3798		3798		3277		3277	
LM [p-value]	57.39	[0.00]	64.39	[0.00]	59.93	[0.00]	10.73	[0.01]	19.23	[0.00]	73.24	[0.00]	22.88	[0.00]
F	19.656		22.120		20.506		3.571		6.397		25.088		4.741	
J [p-value]	1.119	[0.572]	0.220	[0.896]	4.277	[0.118]	1.409	[0.494]	0.228	[0.892]	0.174	[0.917]	0.768	[0.681]
H [p-value]	12.335	[0.00]	13.654	[0.00]	11.531	[0.00]	13.539	[0.00]	16.372	[0.00]	15.416	[0.00]	15.031	[0.00]
CLR	(1.040, 3.279)		(1.048, 3.173)		(1.032, 3.819)		(3.274, 26.305)		(2.003, 8.354)		(0.950, 2.848)		(1.749, 9.442)	