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Social Esteem versus Social Stigma: the role of anonymity in an income reporting game.

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Abstract

When the phenomenon of tax evasion is discussed, both scholars and authorities agree on the fact that, although essential, classical enforcements are not enough to ensure tax compliance: some other forms of incentives must be adopted.

The paper's aim is to experimentally test the role of different non-monetary incentives for tax compliance: participants have been treated with different experimental conditions, which differ in the role played by anonymity. Indeed, subjects have been informed on the possibility of revealing their identity and their choices through the publication of their pictures, as a consequence of the result of the auditing process.

As expected, anonymity plays an important role in the decision to pay taxes; in addition, we find that negative non-monetary incentive increases tax compliance more effectively than positive non-monetary incentive. We find also that the effect of these non-monetary incentives is mitigated, when too many information are made available.

Finally, results show that, when evasion is made public, tax-dodgers are willing to pay in order to keep secret their cheating behavior and avoid public shame.

Keywords: Tax Evasion, Non-monetary incentives, Anonymity, Experimental Economics.

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1 Introduction

Allingham and Sandmo's (1972) model is the starting point of almost all studies on tax evasion, and it has been extensively criticized from the real beginning (for example, Yitzhaki, 1974): lines of both empirical and experimental research have deeply analyzed the model's variables; this in order to better understand the role of income, tax rate, audit probability and fine rate¹. Findings, in some cases, are contrasting. If there is not a general consensus on the role played by tax rate and income (e.g., see the contradictory conclusions of Pommerehne and Weck-Hannemann, 1996; Park and Hyun, 2003; Baldry, 1987; Alm et al., 1995; Anderhub et al., 2001), literature agrees on the deterrent impact of the "audit scheme": audit probabilities, sequences of audits, endogenous or exogenous audits, fine rates (see, for example Alm et al., 1993; Slemrod et al., 2001; Kastlunger et al., 2009).

Regardless the consensus or the disagreement on the effect of some of these variables, it is important to notice that researchers agree on the fact that is necessary to consider other variables when studying tax compliance. If based only on economic (dis)incentives, not only the model fails in describing the taxpayers' behaviours, but also poses, paradoxically, the question of why people pay taxes rather than evade them (Alm et al., 1992). Therefore, other branches of research have moved towards the analysis of some aspects considered by other social sciences: such as gender-role orientation (Kastlunger et al., 2010), fairness perception (Wenzel, 2003), communication (Hasseldine et al., 2007), social norms (Fortin et al., 2007; Torgler, 2007) and tax ethics (Alm and Torgler, 2011; Maciejovsky et al., 2012).

It is our opinion that not enough effort has been spent on the role played by social pressure (not only intended with a negative feature) on tax compliance. Only recently, many years after a pioneer work on blame of Bosco and Mittone (1997), some studies have started to fill this gap (Coricelli et al., 2010; Maciejovsky et al., 2012; Coricelli et al., 2013).

¹see, for example, Andreoni et al. (1998); Kirchler (2007) for more comprehensive reviews.

This is not the situation in public good games literature, where social pressure has been studied first by Masclet et al. (2003) and it has been followed by a large literature². In public good literature, Rege and Telle (2004) is an example of study centered on sustaining cooperation without monetary punishments, with the introduction of both social approval and social disapproval.

Here we want to stress what, basically all, studies on tax compliance have in common: the emphasis on tax evasion and the idea that taxpayers are, by definition, potential criminals. The focus point is to prevent a potential crime, instead of on pursuing tax compliance through promoting and easing correct behaviors of taxpayers. Contrary to Rege and Telle (2004), in tax compliance literature, cooperation (compliance) is rarely supported by the idea that taxpayers can also be honest and seldom social approval has been used to rise compliance.

In a recent paper, Alm and Torgler (2011) suggest, among other alternatives, to “publicize tax evasion convictions in the media as an alternative, non-monetary type of penalty” (Alm and Torgler, 2011, 646). This disincentive perfectly fits what has been implemented in UK where, in 2012 and in 2013, the Her Majestys Revenue and Customs (Hmrc) has posted, on its official web-page, the pictures of the most-wanted tax dodgers, asking for citizens’ help for their identification and localization.

On the other hand, if it is true that social stigmatization can sustain compliance since taxpayers anticipate negative emotions like shame and blame (Coricelli et al., 2010, 2013), it is also plausible to expect that they also anticipate positive emotion, like respect and esteem, which can be induced with positive non-monetary incentives.

Following the same line of reasoning, mass-media could also be used to publicize full contributors and full compliance³, persuading in this way a possible

²Chaudhuri (2011) reviews in details last developments in public good experiments.

³In March 2012, the Italian tax authority has begun to consider the possibility of introducing a sort of “certificate of fiscal conformity”: the businesses which result to have complied with their fiscal duties, will receive the certificate; these businesses can use the certificate to publicize their status among the public.

double result: sustaining compliance via the anticipation of positive emotions and triggering the idea that tax compliance is a widespread phenomenon in the society (Alm and Torgler, 2011).

Our paper originally contribute in a twofold manner into research of social pressure on tax compliance: first, we study the impact on tax compliance of both negative and positive non-monetary incentives (linked to different kind of social pressure), and second, we try to understand the value (if any) that taxpayers (in particular, tax-dodgers) associate to the loss of anonymity when asked to pay taxes.

The questions obviously arising are: which kind of non-monetary incentives (and, as a consequence, which kind of social pressure) does better sustain tax compliance? Do people care about how their tax behaviour is judged by other members of the community? Which is the value that taxpayers attribute to social blame and stigmatization in cheating behavior?

In section 2, we present the experimental protocol used to answer these questions. Section 3 contains experimental data, analysis and tests. Finally, Section 4 concludes with a discussion of the results.

2 Method

2.1 Participants and procedures

The Experiment was run in Trento (Italy) at the Cognitive and Experimental Economics Laboratory (CEEL) of the University of Trento. The participants were mainly students⁴ of University of Trento. The computerized experiment was programmed and conducted using the z-Tree software (Fischbacher, 2007).

A total of 208 participants took part in the experiment, divided into 13 sessions of 16 participants. The experiment consists in 7 treatments: *Baseline* (*B*), *Control* (*C*), *Esteem* (*E*), *Public* (*P*), *Stigma* (*S*), *Anonymous Stigma* (*AS*) and *Curiosity* (*CU*). Each treatment had 2 sessions, except treatment *B*

⁴Nine participants declared to be not a student.

which had 3.

Treatment *B* was the only one with a “traditional” enrolment: participants were recruited via an announcement through the laboratory mailing list. In treatments *C*, *E*, *P*, *S*, *AS* and *CU*, participants were required to come to the laboratory for the enrolment (one week before the experiment); once in the laboratory, they were informed that they should authorize the experimenter to take a picture that could be used during the experiment⁵. Participants were not informed about the purpose of the picture, they were only informed about the possibility to use the picture during the experiment. Participants were also ensured that, after the experiment, all pictures would be deleted.

The day of the experiment, instructions (according to the treatment) were distributed, participants were left time to read them individually. To establish and ensure common knowledge, instructions were also read aloud, and a questionnaire was submitted, before starting, to check the understanding of the experimental rules.

The experiment lasted about 60 minutes and average earning was €11.5. For their participation, each subjects received in addition and regardless the result achieved in the experiment, a show-up fee of €2.5.

2.2 Design

We investigate behavior in a income reporting game, and test the effect of non-monetary incentives on tax compliance. Non-neutral terms have been used both in instructions and in softwares.

Non-monetary incentives consist in public announcements on the behavior of audited taxpayers via publication of their pictures.

In both treatments *B* and *C*, non-monetary incentives were not implemented. As mentioned in the previous section, treatment *B* differs from treatment *C* in the enrolment process: pictures of participants in treatment *C* were taken, even though these have not been used. Participants were randomly allocated into

⁵None of the participants refused to enrol.

groups of 4 members and received an initial endowment (IE) of 1500 ECU. They were required to declare the endowment: a tax rate ($\tau = 55\%$) was applied to the declared income (DI), and taxes were collected. Participants were informed about the probability to be audited ($p = 20\%$) and the amount of fine for evasion ($\theta = 125\%$ of evaded taxes). Collected taxes were then redistributed among the members, after being multiplied by the factor 1.4 (α).

Therefore, the payoff for the participant, at the end of the round, was equal to:

$$\Pi = \begin{cases} IE - \tau DI + \frac{\alpha \sum_{i=1}^4 \tau DI_i}{4} & \text{if (s)he is not audited} \\ IE - \tau DI + \frac{\alpha \sum_{i=1}^4 \tau DI_i}{4} - \theta(\tau(IE - DI)) & \text{if (s)he is audited.} \end{cases}$$

Each session lasted 20 rounds, and each round followed the same interaction rules. Participants were randomly reallocated in new groups at the beginning of each round.

In addition to these rules, in treatments E , P and S non-monetary incentives were implemented:

- E : audited full contributors were publicly announced, via publication of their pictures, among the members of the group;
- S : audited tax-dodgers were publicly announced, via publication of their pictures, among the members of the group;
- P : all audited taxpayers were publicly announced, via publication of their pictures, among the members of the group.

In treatment AS , the same non-monetary incentive as in treatment S was implemented, but evaders had the possibility of keeping secret their identities, by acquiring the “right of anonymity”. Before running the auditing process, we elicit the evaders’ willingness to pay for the anonymity with a BDM procedure (Becker et al., 1964). In other words, contrary to S , in AS , evaders had the possibility of escaping social stigma.

In treatment *CU* social stigma and social blame were only possible if participants actively decided to discover the identity of the tax-dodgers. In this treatment, participants had to pay a fee in order to know the identity of tax evaders: we elicit their willingness to pay, as in treatment *AS*, via a BDM procedure.

Table 1 resumes the experimental design.

[Table 1 about here]

At the end of each sessions, participants received, privately, their pay-off accordingly to the result of one randomly selected round: the amount in ECU was converted into euro with the exchange rate $\text{ECU}500 = \text{€}1$.

2.3 Behavioral predictions

Considering the game described in the previous section and the adopted parameters ($IE = 1500$, $\tau = 55\%$, $p=20\%$, $\theta = 125\%$ and $\alpha=1.4$), and assuming that participants are rational neutral-risk agents, declaring the full endowment is a dominated strategy.

The public good game structure was introduced not only to emphasize social pressure (of both kinds, i.e., social approval and/or social disapproval), but also to maintain the same system of economic incentives for both honest and dishonest behaviors: on one hand evasion is economically penalized by fines, on the other hand compliance is economically rewarded by the multiplication factor of the public good structure.

Given previous results on emotions related with public disapproval (Coricelli et al., 2010, 2013), we expect that the introduction of negative non-monetary incentives increases compliance. Thus,

Hypothesis 1 *The threat of publicizing tax-dodgers among the members of the group decreases evasion.*

Given the nested public good game into the experimental design, we expect

that also positive non-monetary incentives, like in Rege and Telle (2004), rises tax compliance:

Hypothesis 2 *The promise of publicizing the full contributors among the members of the group and, as a consequence, the anticipation of social approval increase compliance.*

The experimental design permits tax-dodgers to avoid public disapproval by acquiring the “right of anonymity”. At the same time it allows to evaluate the economic value that taxpayers attribute to social blame. Given hypothesis 1:

Hypothesis 3 *The “right of anonymity” can be seen as a sort of insurance against stigmatization. The possibility of avoiding social blame pushes taxpayers to be less compliant.*

Finally, our design not only reduces social distance between participants, which can rise their cooperation (Bohnet and Frey, 1999), but also affect the relationship among the participant and the experimenter. During laboratory experiments, full anonymity is usually ensured in order not to facilitate implausible behaviours. The unusual enrolment process, with the request of a photo of the participant, was needed and, inevitably, it reduced the degree of anonymity between experimenter and participants. As pointed out by Levitt and List (2007), pro-social behaviors can also be induced by the lack of anonymity. For this reason, we introduced a treatment (B) in which anonymity was ensured both within the subjects and in the relation to the experimenter/participant.

Hypothesis 4 *The lack of anonymity between experimenter and participants, given by taking the picture during the enrolment, pushes participants towards pro-social behaviors even when pictures are not used and anonymity between participants remains guaranteed.*

3 Results

We find, overall, a substantial high compliance rate: the use on non-neutral terms, the public good game structure of the game — in public goods experiments, it is not unusual to incur into the phenomenon of overcontribution (Ledyard, 1995) — and our enrolment procedure can have contributed to fuel honest behaviors of participants (Bohnet and Frey, 1999; Levitt and List, 2007).

3.1 Summary statistics and data analysis

Since participants faced the same declaration task 20 times during the session, the first declaration is the only independent observation of our dataset; we then checked for statistical differences in the number of frequencies of full cooperators (i.e., subjects who declared $DI = 1500$) in the first round. The frequency of full cooperation in the first period in treatment B statistically differs with respect to treatment C , S and AS (Pearson's Chi-squared test, p-value= 0.08197, p-value= 0.04355 and p-value= 0.04355 respectively). Statistically, significant difference is also found comparing the frequency of full cooperation in the first period in treatment B , with a pooled sample composed by the other treatments, for which a picture during the enrolment process was required (Pearson's Chi-squared test, p-value=0.04211).

Result 1 *Taking a picture during the enrolment process pushes taxpayers to be more compliant.*

As already introduced, in all the treatments subjects declare a considerable high amount of their initial endowment; this can be emphasized by considering the average declared income at individual level: the maximum reached value is, for each treatment, ECU 1500 meaning that in all treatments there is the presence of *perfect full contributors* (players who declared ECU 1500 in all the 20 rounds). On the other hand, the only treatment with no presence of *perfect full evaders* (players who declared ECU 0 in all the 20 rounds) is treatment

S. As depicted in table 2, treatment *S* shows a tendency of higher average declarations with respect to the other treatments.

[Table 2 about here]

To confirm this, we tested whether the publication of tax dodgers' pictures rises honesty and, as a consequence, compliance. We therefore checked whether the average declaration at the individual level of treatment *S*, statistically differs with the average declarations of the other treatments. The average declaration in treatment *S* is significantly different compared to treatment *B* and treatment *CU* (Wilcoxon rank sum test, p-value = 0.02187 and p-value= 0.01828 respectively) and marginally differs compared to treatments *E* and *P* (Wilcoxon rank sum test, p-value = 0.0864 and p-value = 0.0892 respectively).

Result 2 *Regardless the low variability in the data (probably due to factors such as the framing context of the experiment, feedback between two periods and, above all, the presence of the public good), publicizing tax dodgers has an impact on players' honesty by pushing subjects to be more compliant.*

3.2 Determinants of evasion

Table 3 presents a regression analysis about the determinants of players' tax behavior. We use a generalized linear mixed model, with a dependent variable given by the decision of the subject to evade ($DI < 1500$) or not ($DI = 1500$). Given the dichotomous nature of the dependent variable, we used a logit link function and, since participants made repeated choices during the experiment, we controlled potential dependence by including random effects at the individual level.

For what concerns the independent variables, in addition to treatments, we have some control variables (*Age* measures the age of the subject in years, *Female* controls for gender and *Econ* is a dummy variable which takes into account whether the subject is a student of Economics or not) and the variables *Period*, *Just Checked* and *Count Checked*. The variable *Period* registers the

round of the experiment (from 1 to 20), *Just Checked* captures whether the subject has been caught evading in the previous round and *Count Checked* records the number of audits experienced by the subject.

[Table 3 about here]

Compared to the treatment *B*, where no incentives are applied, both kinds of non-financial incentive, positive (treatment *E*) and negative (treatment *S* and *AS*), reduce the likelihood of cheating. Again, treatment *S* seems to be the most effective (in terms of both impact and significance level), suggesting that stigmatization and social blame rises compliance better than a good publicity as a honest taxpayer. The determinant role of negative emotion, in reducing the likelihood of evasion, is also supported (as fully discussed in Section 3.3) by the reduction in stigmatization’s effectiveness when social stigma is made avoidable (treatment *AS*).

Surprisingly, we found that the effects of the non-financial incentives, which worked quite effectively in isolation, vanish when both incentives are applied at the same time: treatment *P*, in which the pictures of both honest and dishonest taxpayers were displayed, fails to reduce the likelihood of evasion. This phenomenon can be justified by salience (Taylor and Thompson, 1982): information given by the publication of both kinds of taxpayers (cheaters and full-contributors) may have received insufficient attention, since this one was not only focused — like in treatments *E*, *S* and *AS* — on one single characteristic of tax behavior.

The regression also shows that the possibility of becoming aware of the tax-dodgers’ identities (treatment *C*) does not reduce the likelihood of evasion, possibly because participants anticipate the overall small willingness to pay for this opportunity. As a consequence, the threat represented by treatment *CU* is not considered credible and the probability of being exposed to social stigma is perceived very low. In other words, treatment *CU* fails in reducing tax evasion because public disapproval is believed to be very unlikely. This point is recalled

and better discussed in Section 3.3.

The probability of evading taxes in one period increases if the player has been audited in the previous period and, generally, increases as the experiment goes on. Finally, the likelihood of cheating reduces as the number of audits increases. These are confirmations of findings already discussed in the literature (e.g., Mittone, 2006).

Result 3 *Non-financial incentives work in both directions: if honesty is publicized, taxpayers evade less in order to be recognized as a virtuous member of the group; if evasion is publicized, taxpayers evade less in order to avoid social blame. Nevertheless, incentives are more effective with a negative feature: the threat of publicizing tax-dodgers rises the likelihood of compliant behaviours better than the promise to publicize honest taxpayers.*

3.3 Value of Anonymity

Treatments *AS* and *CU* have permitted to investigate more deeply the roles played by negative social pressure on tax compliance and anonymity, having allowed either the chance for tax evaders of avoiding public blame (treatment *AS*) or the chance for taxpayers of blaming cheaters (treatment *CU*).

Contrary to treatment *S*, in treatment *AS* players had the opportunity to buy the certainty of not being publicized as cheaters by acquiring the “right of anonymity”. Each cheater was informed, before the random auditing process, that in case of inspection her identity will be publicized. They had the possibility of making an offer for acquiring the “right of anonymity” via, as mentioned before, BDM procedure (Becker et al., 1964). The offer range was from zero to X_{max} : the maximum allowed amount was related to the evaded amount and the associated fine, and corresponded to the available income before the auditing process subtracted by the potential fine. More precisely it was calculated as follows:

$$X_{max} = IE - \tau DI - \theta(\tau(IE - DI)).$$

After the offer, the program generated a random number between 0 and X_{max} ; if the cheater’s offer resulted to be equal to or higher than the random number, the player acquired the “right of anonymity”: in this case, the program substituted the picture of the cheater with an anonymous picture; the random number had to be paid by the subject as fee for the anonymity. On the contrary, if the offer resulted to be smaller than the random number, cheater’s identity was made public and no fee was subtracted by the income of the player.

In treatment *CU* players had the opportunity to know, with certainty, the identities of the tax evaders of the group. With the same procedure described above (BDM), participants had to state their maximum willingness to pay for knowing the tax dodgers’ identities.

For a perfect comparison with treatment *S*, also in treatment *AS* and in treatment *CU* the number of the audited tax-dodgers were displayed, regardless of how many players succeeded in the BDM procedures. Figure 1 is an example of how identities were publicized in treatment *AS*.

[Figure 1 about here]

The numbers of acts of evasion ($Rd < 1500$) are, in treatment *AS*, systematically higher than the numbers of acts of evasion in treatment *S*. The average proportion of tax-dodgers is 30.31% in treatment *S*, and 43.91% in treatment *AS*. Evasion increases even more in treatment *CU*, where average proportion of tax evaders is around 60%. Figure 2 compares acts of evasion among treatment *S,AS* and *CU*⁶.

[Figure 2 about here]

In treatment *AS*, acts of evasion are accompanied by a high interest in acquiring the “right of anonymity”. Figure 3 resumes the overall interest in anonymity. The right-hand side of figure 3 shows the proportion of positive offers during the periods. On average, around 76% of evaders have shown interest

⁶(Wilcoxon rank sum test, p-value < 0.001) for all comparisons

in avoiding social blame by offering, for their picture, an amount bigger than zero. Not only the majority of cheaters was interested in acquiring the “right of anonymity” but, as depicted by the left-hand side of Figure 3, offers could have been effective, on average, in acquiring the anonymity once every two trials (overall average successful probability = 48.39%).

To better understand the value of anonymity for tax evaders, we have defined four different kinds of tax evaders, according to their number of acts of evasion during the 20 experimental periods⁷.

Taxpayer *Type 1* is a taxpayer who evaded no more than 5 times; Taxpayer *Type 2* evaded more than 5 times but less than 11; a taxpayer who evaded from 11 to 15 times (both included) is classified as taxpayers *Type 3* and, finally, taxpayer *Type 4* evaded more than 15 times. Figure 4 shows the distribution of the average offers⁸ as percentage of the player’s available income at the moment of the offer (X_{max}).

[Figure 4 about here]

Average offers decrease as cheating become more systematic. The average proportion offered by taxpayers *Type 1* is not significantly different compared to taxpayers *Type 2* (Wilcoxon rank sum test, p-value = 0.559) but is significantly different compared to taxpayers *Type 3* and *Type 4* (Wilcoxon rank sum test, p-value = 0.056 and p-value < 0.001). Statistically differences are detected when comparing proportion offered by taxpayers *Type 2* and *Type 3* (Wilcoxon rank sum test, p-value = 0.027), *Type 2* and *Type 4* (Wilcoxon rank sum test, p-value < 0.001) and *Type 3* and *Type 4* (Wilcoxon rank sum test, p-value = 0.007).

Result 4 *The possibility of avoiding social blame leads to an increase in the number of acts of evasion and to a correspondingly number of positive offers for anonymity. Occasional tax-dodgers offer more than frequent cheaters in order*

⁷Identifying a complete taxpayers’ taxonomy is often not easy: example of categorization are Torgler (2003) and Mittone (2002).

⁸Values are calculated at individual level, only when the players have effectively evaded.

not to be publicized when caught evading. Social Stigma has a real impact in sustaining tax compliance and reducing tax evasion, and gives the best results with unsystematic cheaters.

The number of positive offers in treatment *CU* drops with respect to treatment *AS* but seems to remain notable. It is important to notice that the positive offered amounts are, in this case, generally very low: on average around 8% of the offers could be effective for buying the identity of the tax dodgers. Figure 5 resumes offers' behaviours in treatment *CU*.

[Figure 5 about here]

If anonymity is the *status quo*, participants do not show a high interest in knowing the identities of tax evaders and the belief that this is the common sense seems to be widespread. At the end of the experiment, we asked to guess the average offer made by participants during the all experiment⁹: the average guess was 14.58% (SD, 16.08), and half of the subject guessed a value smaller than 10% of the available income, with an actual mean offer equal to 8.29% of available income. Generally speaking, this suggests that participants can perceive as implausible the publication of a tax evader's identity given the combination of the audit probability and the low (perceived) willingness to pay of participants; the combination of these two factors reduce the threat of social stigma and its effect on compliance.

4 Discussion and Conclusion

The aim of this work was to contribute in experimental research on social pressure in tax compliance. Our experimental setting has involved, contrary to recent works, non-financial incentives aimed to rise both negative and positive pressure (social approval and/or social disapproval). As in Coricelli et al. (2010)

⁹This task was incentivized with an additional payment of 1 euro, if the guess was in the range +/-5% of the actual offer.

and Coricelli et al. (2013), social stigma rises tax compliance but also social approval decreases the likelihood of cheating behaviors. Nevertheless negative non-financial incentive has a more effective impact in rising compliance than the positive.

If it is true that both incentives work when applied separately, changes in tax behavior are not statistically detected when applied at the same time. Surprisingly, when both incentives are at work (treatment P) no significant differences are detected compared to the control group: we interpret this phenomenon as a lack of attention on the provided information (Taylor and Thompson, 1982). If stigmatization and/or social approval lose their *appeal*, the related non-monetary incentives fail in sustaining compliance: to understand if this is the case, could be a starting point for further research.

Our experimental design, has permitted not only to test the impact of negative and positive incentives, but also has allowed to understand which is the value that taxpayers give to social disapproval. Avoiding stigmatization and social blame is particularly important for occasional tax-dodgers: for acquiring the “right of anonymity”, taxpayers with less than 5 acts of evasion, offered more than the double (in terms of percentage of available income) than the taxpayers with 16 or more acts of evasion. There are two possible explanations for this phenomenon: (i.) the unsystematic tax-dodgers evade less because they are more risk adverse or (ii.) they are more compliant because their ethic drive their behaviors toward the “right thing to do” or, in other words, toward compliance. If more honest behaviours were only a result of difference in attitudes toward risk, differences in offers for the anonymity would be not observed. This is not the case of our experiment: here, unsystematic tax-dodgers evade less not because they are more risk adverse, but because they recognize evasion as an unethical behavior and, for this reason, they are more than willing to buy the anonymity when there is the risk of being publicly recognized as a dishonest person. When unsystematic tax-dodgers engage evasion, they want to be sure that their acts will be maintained private.

In conclusion, we argue that both non-financial incentives work, if taken separately; the most effective result is given by stigmatization of unsystematic tax-dodgers.

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Tables

Table 1: Experimental design

Treatment	# of subjects	# of sessions	pic. for enrollment	anonymity of audited evaders	anonymity of audited full contributors
<i>Baseline (B)</i>	48	3	NO	YES	YES
<i>Control (C)</i>	32	2	YES	YES	YES
<i>Esteem (E)</i>	32	2	YES	YES	NO
<i>Public (P)</i>	32	2	YES	NO	NO
<i>Stigma (S)</i>	32	2	YES	NO	YES
<i>Anonymous Stigma (AS)</i>	32	2	YES	POSSIBLE	YES
<i>Curiosity (C)</i>	32	2	YES	NOT GUARANTEED	YES

Table 2: Average Declared Income at Individual Level

Treatment	Min	1 st Qu.	Median	Mean	3 rd Qu.	Max
<i>B</i>	0	634	988	934	1365	1500
<i>C</i>	0	838	1292	1121	1473	1500
<i>E</i>	0	525	1015	950	1478	1500
<i>P</i>	0	626	1111	1010	1475	1500
<i>S</i>	75	1069	1348	1210	1490	1500
<i>AS</i>	0	597.8	1195	1015	1500	1500
<i>CU</i>	0	461.5	1003	879	1361	1500

Table 3: Decision of evading (Generalized linear mixed model)

Evasion~	Coeff	Std. Error
<i>(Intercept)</i>	2.24923	1.99521
<i>Control</i>	-1.40101	0.08310 ^o
<i>Esteem</i>	-1.80472	0.81305*
<i>Public</i>	-0.87212	0.79826
<i>Stigma</i>	-2.63513	0.81027**
<i>Anonymous Stigma</i>	-1.63816	0.80554*
<i>Curiosity</i>	-0.83492	0.86667
<i>Age</i>	-0.04565	0.07613
<i>Female</i>	-1.54152	0.46345***
<i>Econ</i>	-0.66809	0.49256
<i>Period</i>	0.08745	0.01496***
<i>Just Checked</i>	1.53581	0.12433***
<i>Count Check</i>	-0.26405	0.06057***
Obs (Subj)	4560 (240)	

*** (0.1%); ** (1%); * (5%) ^o (10%) significance level

Figures

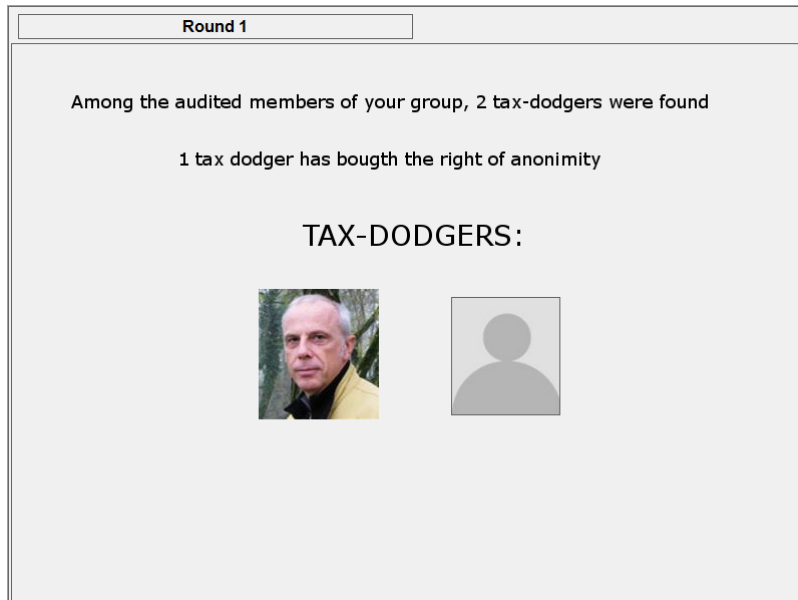


Figure 1: Screenshot example.

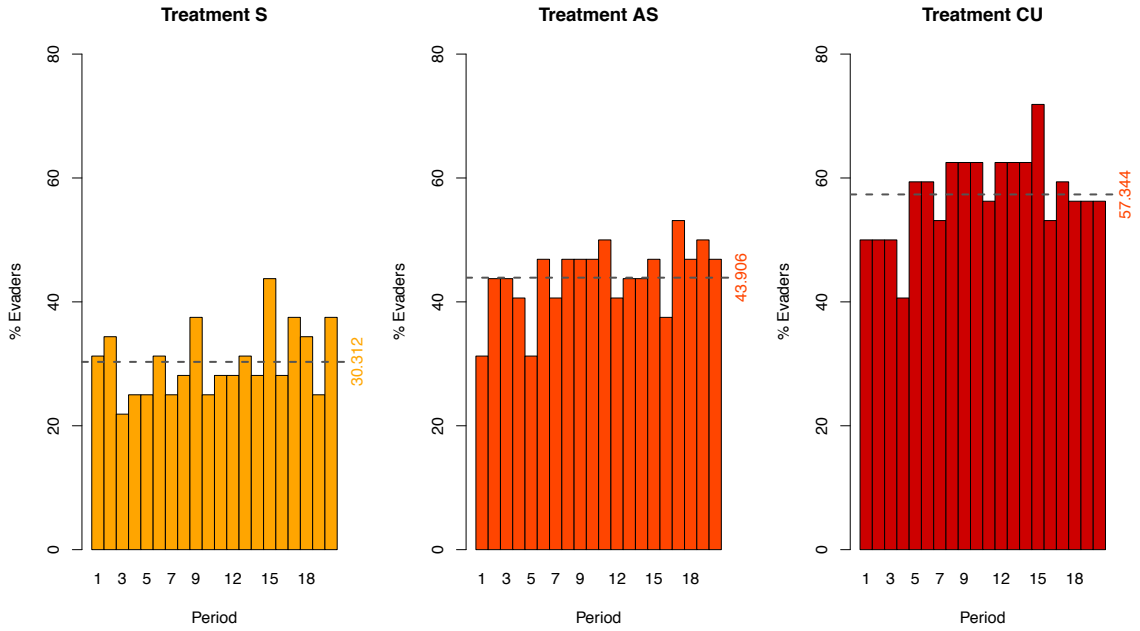


Figure 2: Acts of evasion: Treatments S , AS and CU compared.

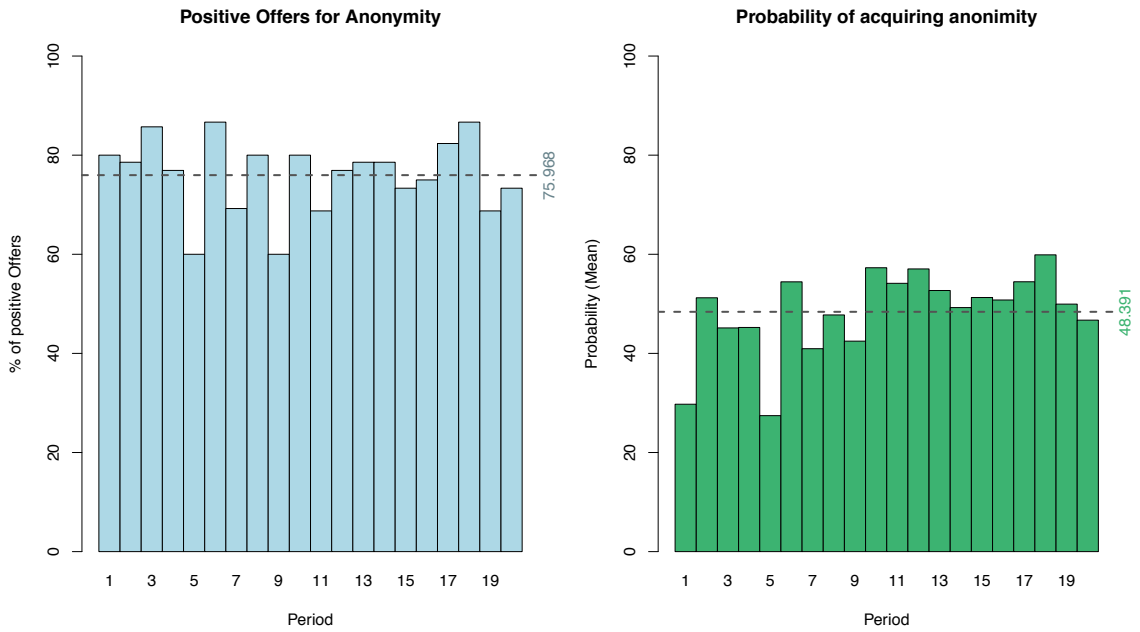
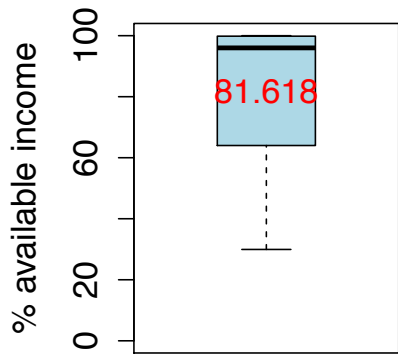
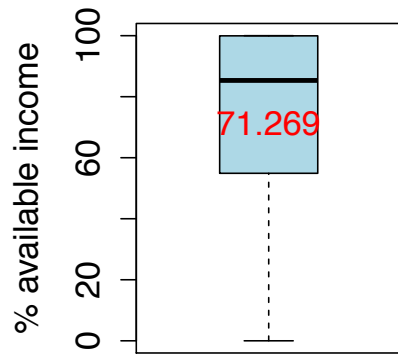


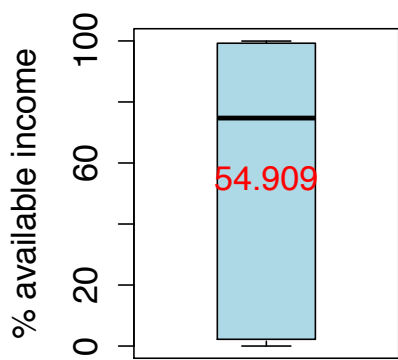
Figure 3: Treatment AS : Positive offers for anonymity and average probability of acquisition.



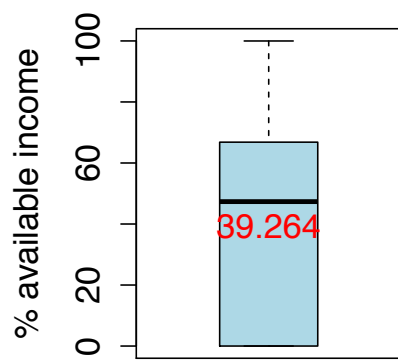
Type 1



Type 2



Type 3



Type 4

Figure 4: Percentage of available income offered for acquiring the right of anonymity.

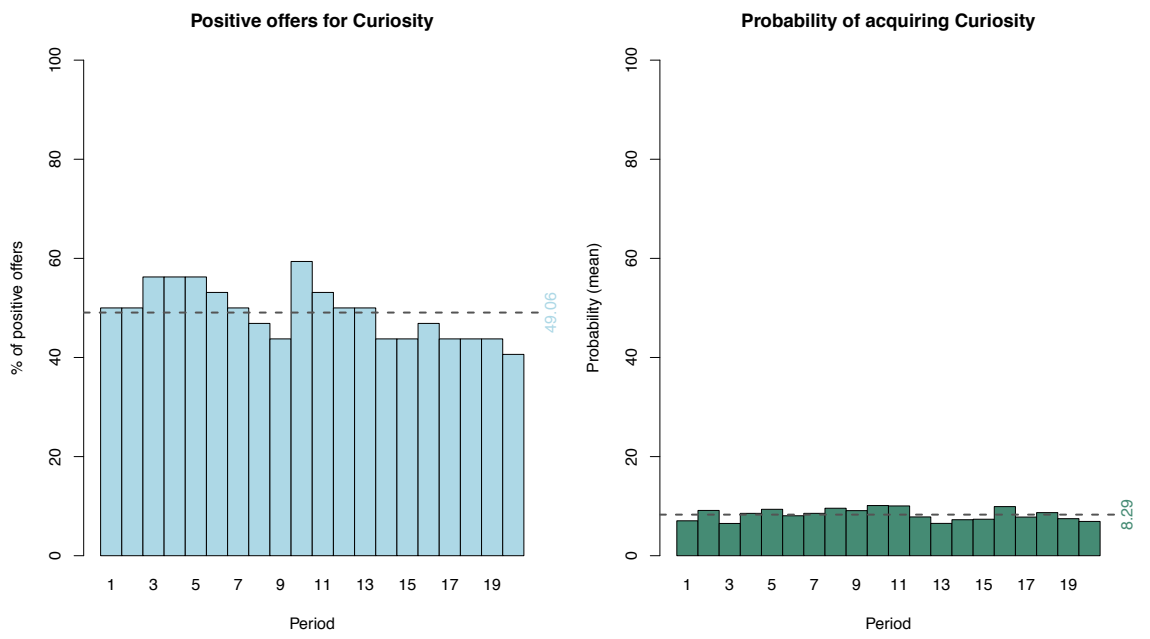


Figure 5: Treatment *CU*: Positive offers for anonymity and average probability of acquisition.