The Propagation of Unethical Behaviours: Cheating Responses to Tax Evasion

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Abstract

We explore cheating in a die roll task in response to information about tax evasion in a large-scale experiment on a representative sample of the Italian population. We thus generalise laboratory findings on conditional behaviours (cooperation, cheating) to uncover their real-world bearing in the context of tax compliance. Cheating is conditioned on information about tax evasion, as is the perceived tax compliance norm. We uncover asymmetries along the income gradient: Conditional cheating responses are driven by information about tax evasion on behalf of top income earners, while perceived tax compliance norms are driven by information about tax evasion among low income earners. Instrumental variable investigations of posterior beliefs about tax evasion strengthen these results, and reveal moreover that information about top income tax evasion erodes social trust, reinforces beliefs that wealth accumulation only occurs at others' expense, and increases beliefs that a fundamental role of the State is that of ensuring an equitable distribution of income.

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1 Introduction

Tax malpractice has been in the focus of news reporting since at least the first "Panama Papers" leaks in 2016.[1] By shining a light on tax evasion and avoidance via international tax havens, these events have dramatically increased the salience of tax malpractice in the past decade (e.g. Garside, 2016). The worldwide Google Trends time series of monthly news searches on keywords "tax evasion" and "tax avoidance" (January 2010 to April 2022) in Figure 1 testifies to the increased interest in the topic of tax evasion following news reports on the data leaks about offshore bank accounts and following the ensuing adoption of major international tax evasion regulations worldwide.[2,3]

Such heightened news, social and political focus, though laudable for bringing socially problematic practices to light and for fostering social discussion and political change, might however bear non-negligible adverse consequences. That individuals condition their behaviours on those of others is well known. This simple yet powerful intuition shapes the way in which people behave in society, from cooperating insofar and inasmuch as others do (e.g. Fischbacher et al., 2001) to adhering to understood or inferred norms of behaviour (e.g. Bicchieri, 2010; Krupka and Weber, 2013; Bursztyn et al., 2020), to the point of being harnessed by policy designers to encourage individuals to conform to or distance themselves from the behaviours of others (e.g., Thaler and Sunstein, 2009; Allcott, 2011).

By eroding beliefs (both normative and empirical) about its incidence in society, high impact news reporting about tax malpractice might ultimately translate into an increased incidence of antisociality, and fraudulent tax practices in particular.

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[1]We will use the term "tax malpractice" in reference to any unethical or antisocial behaviours in tax compliance of either illegal (evasion) or legal though questionable (avoidance) nature, and sometimes use it to refer to evasion more specifically when the context allows us to so without detracting from clarity.

[2]Notice from Figure 1 how though tax evasion and avoidance are in principle two distinct practices, juridically and ethically, news reporting focused predominantly on tax avoidance has nonetheless increased interest in *tax evasion* among the general population.

[3]For trends searches: `https://trends.google.com/trends/?geo=FR`.
For the European Commission's action plan on tax fraud and evasion:
`https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/`
`12233-Tax-fraud-and-evasion-action-plan-on-fraud-evasion-and-simpler-taxation_en`.
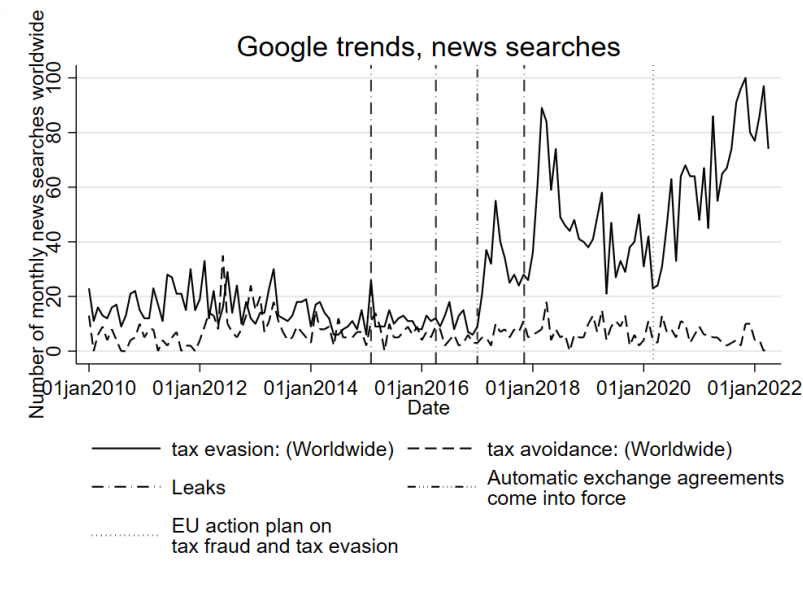For the multilateral agreement on the automatic exchange of financial account information: `https://www.oecd.org/tax/automaticexchange.htm`.

Figure 1: Google trends time series of monthly news searches with keywords "tax evasion" and "tax avoidance". The vertical dash-dot lines mark the dates in which documents on offshore accounts were released in what came to be known as, chronologically, the Swiss leaks, the Panama Papers leaks and the Paradise Papers leaks. The vertical dash-triple dots line indicates the moment in which the international agreements on automatic exchange of financial account information entered into force in most countries. The vertical dotted line marks the date in which the European Commission began the works on the action plan on tax fraud and evasion.

We present the findings from a large scale online experiment investigating the effect of high-visibility, high-impact information about tax evasion on the propensity of the general population to behave unethically. Namely, we randomise information presenting the incidence of tax evasion as relatively high or low, and observe an increase in the incidence of cheating, and an erosion of perceived tax compliance norms and of social trust, among individuals confronted with greater tax malpractice in specific income segments.

We run our experiment on a sample of slightly more than 4000 individuals representative of the Italian adult population along the gender, income, age and geographic dimensions. The exogenous variation in information about the incidence of tax evasion allows us to uncover its causal effect on individuals' behaviours. We can in fact circumvent the pitfalls of investigating behavioural responses to tax compliance in natural settings (Falk and Heckman, 2009): i) the lack of credible exogenous variation in peer behaviours, ii) the numerous confounds (e.g. law enforcement, state capacity, economic fundamentals) and iii) the likely strong response biases (such as social desirability or self-image concerns) induced by the investigation of a sensitive topic like that of tax malpractice.

Further complicating matters, behaviours in the tax compliance domain can hardly be

incentivised within the framework of a large-scale research design. We overcome this hurdle by studying the conditional willingness to engage in unethical practices as proxied by a cheating-towards-the-experimenter task à la Kocher et al. (2018).[4] Cheating behaviours and honesty are widely studied not only because of their intrinsic interest, but also because of their real world economic and distributional consequences and their implications for real world phenomena, such as tax malpractice. Knowledge of the conditions stifling or fostering dishonest behaviours informs us of the conditions, at least in part, preventing or leading to dishonest tax practices. Concretely, the respondents to our survey get to see one video, randomly selected out of six, showing the outcome of a die roll. Mimicking a die roll in real life, each outcome from one to six appears with probability 1/6. The respondents know that they can earn extra payment if the outcome (correctly or wrongly) reported is six.

A further advantage of this approach is that it allows us to observe the incidence of dishonest behaviour in a minimal setup not requiring the imposition of a choice architecture reflecting the environment proper of avoidance or evasion decisions. These practices are in fact available to different population segments, and favouring one over the other would result in loss of generality. The distinction between the two (avoidance and evasion) is moreover not relevant for this investigation.

Tax morale has a strong conditional nature: A large number of individuals are each called upon to contribute their share in the provision of public goods. It is then only natural that each individual will evaluate the group's behaviour (factual or perceived) before deciding how to act herself. This behavioural conditionality works via at least two channels: i) The cooperation component, whereby individuals choose whether to cooperate or not with others in the public's interest, and ii) that of compliance, whereby individuals choose whether or not to comply with the formal or informal rules regulating tax administration. Conditional cooperation (see e.g. Fischbacher et al., 2001; Frey and Meier, 2004; Frey and Torgler, 2007; Kocher et al., 2008; Martinsson et al., 2013; Rockenbach et al., 2021; Martinangeli, 2021) has been argued to constitute an important driver of tax compliance: In a multi-country investigation Frey and Torgler (2007) find for instance tax morale to be negatively associated with the perceived extent with which taxes are evaded in one's own country, with evidence hinting at a causal link between the two.[5]

The second component of tax morale, the propensity and willingness to engage in cheating behaviours (e.g. misreporting, hiding or shifting income), also incorporates a strong conditional element. Information about the dishonesty of others has been argued to increase individuals' propensity to act dishonestly in turn by conveying information about the underlying norms regulating behaviours (e.g. Fortin et al., 2007; Gino et al., 2009; Rauhut, 2013; Diekmann et al., 2015; Kroher and Wolbring, 2015; Le Maux et al., 2021; Isler and Gächter, 2022), though with mixed evidence.

The strong conditional motives underlying tax compliance make it imperative to uncover

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[4]See Fischbacher and Föllmi-Heusi (2013) for the pioneering die-under-the-cup study.
[5]See also Traxler (2010).

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the fall-out of tax malpractice and of the widespread dissemination of information about it in order to gain an insight into the breadth of their consequences on the social fabric: On its behaviours, but also on its perceptions of the norms regulating them and on the propagation of unethical, antisocial and uncooperative practices. Using the cheating paradigm to approach this problem sheds light on the behavioural consequences of tax dishonesty in the compliance domain, thus tapping into the second of the above mentioned components of tax morale.[6] The cheating paradigm offers moreover a generalisation of the (mostly laboratory) findings of the vast dishonesty literature and their application to the real world scenarios they address.[7] We therefore predict that the greater the incidence of tax evasion in the population reported by our information conditions, the greater the incidence of cheating will be among our sample.

Because unethical tax practices are most profitable and common among the highest income earners (Alstadsæter et al., 2019), news reporting on the topic and the consequent political and popular interest have naturally been mainly centred on the upper echelons of the income distribution, while tax dishonesty on behalf of the lower end received much less attention. This one-sided focus might well be consequential for the behavioural responses to tax malpractice throughout society.

Previous economic investigations on conditional behaviours are, to the best of our knowledge, silent on whether the impact exerted by the actions of peers on one's behaviour would differ according to their income. A long-standing literature in evolutionary psychology and biology has however established that high status individuals are capable of altering the cognitive mechanisms of onlookers, increasing the former's ability to attract others' attention and exert influence on their actions (e.g. Henrich and Gil-White, 2001; Zitek and Tiedens, 2012; Koski et al., 2015). Consistently, recent evidence in economics shows that "richer" individuals trigger stronger conditional responses in others' prosociality (Martinangeli, 2021; Rockenbach et al., 2021), and are, broadly speaking, more influential on others' personal choices (Martinangeli and Meiske, 2021). Building on these findings, we hypothesize that conditional responses to tax malpractice might be asymmetric over the income gradient of the perpetrators, with a stronger impact on our sample's dishonesty of the tax behaviours of richer individuals. We therefore augment our design with a second dimension in which we exogenously vary who, between the highest and lowest income groups, are portrayed as engaging in relatively high or relatively low tax evasion. Our design therefore outlines a 2×2 design orthogonally varying the portrayed tax dishonesty (lower vs higher) of the

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[6]The investigation of the cooperative component of tax morale is beyond the scope of this article and is therefore left for future investigation. Notice that an experimental investigation of the cooperative component using our setup and relying, for instance, on an online public good game, would suffer from lack of consonance between the task assigned to the participants and the information against which we investigate individuals' conditionality. Arguably, the strongest conditional response in a public good game is that against the behaviours of the other group members. As a participant cannot readily map the information we distribute as part of our experiment with their group members, nor with their expectations about their behaviours, such an investigation would be scarcely informative.

[7]See Jacobsen et al. (2018) for a review of the literature.

poorest or richest Italians.

As mentioned above, exposure to information about tax malpractice might shift both individuals' beliefs about the incidence of these behaviours and their perceptions about the social norms surrounding it. We thus collect our respondents' *prior* and *posterior* beliefs about the phenomenon of tax evasion. We use these beliefs to investigate whether any behavioural conditionality uncovered can be explained by a shift in individuals' beliefs about others' actions. To gain an insight into the shift in norm perceptions, a second potential mechanisms for our results, we elicit our participants' perceptions of the tax compliance norm using a variant of the Krupka and Weber (2013) method measuring perceived norms at population level. Specifically, we ask the participants to make an incentivised guess of the modal appropriateness rating assigned to the practice of tax evasion by the respondents in the 5th wave World Value Survey in Italy (Inglehart et al., 2014). Higher values stated as their guess by our respondents are unequivocal evidence of a weaker perceived tax compliance norm.

We finally broaden up our insight into the societal consequences of information about tax malpractice by investigating whether it is likely to induce changes in subjective levels of generalised social trust and worldviews on wealth and wealth accumulation. The incidence and extent of antisocial behaviours might in fact affect individuals' willingness to trust others in society to do their share in the pursuit of social welfare, beliefs and attitudes over the social and personal forces driving wealth accumulation (honest work or treachery), and opinions on the role of the formal institutions in regulating over distributional concerns.

We find that cheating rates increase significantly among wealthier respondents whenever tax evasion is presented as more severe among high income than low income individuals. Instrumenting the change in participants' posterior beliefs with the experimental conditions and the gap between prior beliefs and the information provided, we find that greater posterior beliefs about tax evasion among top incomes increases the propensity to cheat, while increases in posteriors about tax evasion among low incomes has no significant effect. Moreover, we observe that the tax compliance norm among less wealthy respondents is perceived as *stronger* whenever low income earners are presented as engaging in *less severe* tax evasion. The instrumental variable investigation of posterior beliefs confirms these findings. Moreover, instrumental variable analyses of posterior beliefs also reveal that: i) social trust declines significantly across the entire sample with posterior beliefs about tax evasion at the top of the income distribution, though ii) posteriors about tax evasion at the bottom of the income distribution decrease social trust only among high income earners.

Section 2 illustrates the experimental strategy, the sample and the implementation, Section 3 describes our hypotheses and the empirical analysis, Sections 4 and 5 present the results while Section 6 discusses and concludes.

2 Experimental strategy

The experimental component of our research design consists of the random provision of information about the estimated incidence of tax evasion in Italy to subgroups of a representative Italian online survey panel. We systematically vary whether respondents receive high vs. low estimates of tax evasion in lower vs. higher portions of the income distribution. To construct our information intervention, we first collected data from a survey of economists based in Italian research departments (our "economists survey" henceforth). The purpose of this survey was that of allowing us to construct information conditions for our experiment which are grounded on the opinions we actually collected from economists. We were able to contact via email 470 out of the top 500 leading economists working in Italy according to the RePEc ranking list on the 11th of November 2019.[8] We provided them with a link to an anonymous Qualtrics survey designed for this purpose, in which we asked them for their personal estimate of the share of total income that remains undeclared by each of the income quintiles of the Italian income distribution, and by the top 10% and 1% income earners.[9,10] We then grouped the responses obtained according to whether they provide relatively high or low estimates of the share of undeclared income for the bottom quintile and the top 10% of income earners.[11] The range of variation in estimated undeclared income is then used to construct the information conditions we provided to the respondents of the main survey. Specifically, to construct a *high* (respectively, *low*) estimate of undeclared total income for a given income quantile we take the mean of the estimates provided by the group of economists estimating a share of undeclared total income *above* (*below*) 50% for that quantile, as summarised in Table 1. This strategy allows us to truthfully inform the respondents that "some of" the surveyed economists estimate that the "bottom" and "top" income earners do not declare the computed average shares of their total income. Crucially, as we provide our respondents with information about estimated undeclared total income for both top and bottom income earners, we ensure that both estimates originate from the same group of economists. As will be clear from what follows, our information conditions cover all configurations of high and low estimates for top and bottom income earners.[12]

The average estimated shares differ across the subgroups of economists. As can be seen from Table 1, however, all high estimates are clustered between 61 and 66%. Similarly,

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[8]https://ideas.repec.org/top/top.italy.html#authors

[9]The response rate was approximately 22% after running our economists survey for three days, totalling 105 responses over 470 contacted economists. We used these responses to construct our information conditions.

[10]The economists' survey, originally administered in English, can be found here: https://taxmpg.eu.qualtrics.com/jfe/form/SV_d1kb3hTKMpkWeX3.

[11]The full economists' survey is reported in Appendix E. The distribution of subjectively estimated proportions of unreported income by quantile is displayed in Appendix B.

[12]We carefully specify in the survey that the information provided originates from a subset of the interviewed economists.

all the low estimates are clustered between 23 and 28%. Therefore, in order to provide all respondents with identical information about high and low estimates, we inform them that the estimated share of undeclared total income is "more than half (around 65%)" or "less than half (around 25%)".

2.1 Sample, sample size and power

We ex-ante aimed at collecting responses from 800 individuals per information condition, totalling 4000 respondents, from a representative sample of the Italian population (representative with respect to gender, age and income). The panel, the distribution of the survey and the payments were administered by the survey company Respondi.[13,14] As further detailed in our pre-registered analysis plan, we restrict our investigation to respondents who had an opportunity to cheat on their reporting task (i.e., their random draw would yield no additional payoff to them unless they falsely report the winning outcome). As the winning outcome occurs with a probability $p=1/6$ we obtain an expected sample size per condition of $5/6*800=666$ respondents with an opportunity to cheat (since only those respondents who do not see the die roll video with outcome six can cheat to receive the extra payment).

Ex-ante power computations (referring to pairwise comparisons of cheating rates across information conditions) yield a minimum detectable upward effect size in cheating behaviour (proportion of winning outcomes reported) of delta=0.07 over an assumed baseline proportion b=0.5 at power $\pi=0.8$.[15]

We collected 4539 complete responses.[16] Once we exclude the respondents who did *not* have an opportunity to cheat, our analysis sample consists of 2487 individuals *excluding* the neutral condition.

2.2 Information conditions

We randomly assign the respondents to one of 4 information conditions in a 2x2 design.[17] The other conditions vary orthogonally the incidence of tax evasion (high or low) among top and bottom income earners to which our respondents are exposed as detailed below:

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[13]https://www.respondi.com/EN/

[14]The English version of the survey can be found in Appendix E. The original survey can be found here: https://taxmpg.eu.qualtrics.com/jfe/form/SV_dnG5Mq9IYttMSai.

[15]Notice that the above assumed baseline proportion allows us to be as conservative as possible in our power computation, as it is the one associated with the largest variance. Fixing the effect size, the resulting power increases for more extreme values of the baseline proportion (or equivalently, the minimum detectable effect decreases for power fixed at $\pi=0.8$).

[16]Our results are robust to the exclusion of the fastest and slowest 5% responses.

[17]In addition to our main experimental conditions, we included a "neutral condition" in which the respondents read a neutral sentence only generically referring to tax evasion. As this condition is only of limited informational value, we exclude it inconsequentially from our main analyses. Summary statistics of our outcomes in Condition Neutral are reported in Table 2.

1. Condition *HH*: a *high* estimated share of undeclared income among both the *top (10th decile) and bottom (1st quintile)* income earners

2. Condition *HL*: a *high* and a *low* share among respectively *top and bottom* income earners

3. Condition *LH*: a *low* and a *high* share among respectively *top and bottom* income earners

4. Condition *LL*: a *low* estimated share among both the *top and bottom* income earners

The economists survey data used to generate the information conditions is presented in Table 1.

Subgroup of surveyed economists	Quantile	Estimated share of undecl. total income	Mean in subgroup	Resulting condition
Subgroup 1:	Top 10%: First quintile:	> 50% > 50%	61.14 62	Condition HH
Subgroup 2	Top 10%: First quintile:	> 50% < 50%	62.19 25.14	Condition HL
Subgroup 3	Top 10%: First quintile:	< 50% > 50%	27.28 66	Condition LH
Subgroup 4	Top 10%: First quintile:	< 50% < 50%	25.63 23.24	Condition LL

Table 1: Shares of total income undeclared by the first quintile and top decile of income earners in Italy estimated by the surveyed economists.

The experimental information is conveyed to the respondents by means of video clips which they visualise in the course of the survey. Stills of the clips are provided in Figures D6 to D10 in Appendix D.

Each of the videos begins with a statement concerning how tax malpractice is a topic recurrently discussed in the media. The videos then continue by informing our respondents of the estimated incidence of tax evasion among top and bottom income earners as described above.

In all information conditions the order in which information about top and bottom income earnings is presented is randomised to control for order effects. Moreover, immediately after having viewed the video clips, respondents are asked to restate the information just received, and must do so in order to proceed with the questionnaire. They are in this case given the opportunity to re-play the video. This way, we both ensure that any inattentive respondents will be pushed to go back to the videos, and we obtain information to be used as a manipulation check.

Condition HH Figure D7 in Appendix D displays the information given to the respondents assigned to Condition HH. This group of respondents are presented with estimates that among top and bottom income earners "more than half (around 65%) of total income remains undeclared". We randomised the order of presentation to control for order effects.

Condition HL Figure D8 displays the information given to the respondents assigned to Condition HL. This group of respondents are presented with estimates that among top income earners "more than half (around 65%) of total income remains undeclared", and that among bottom income earners "less than half (around 25%) of total income remains undeclared". We randomised the order of presentation to control for order effects.

Condition LH Figure D9 displays the information given to the respondents assigned to Condition LH. This group of respondents are presented with estimates that among top income earners "less than half (around 25%) of total income remains undeclared", and that among bottom income earners "more than half (around 65%) of total income remains undeclared". We randomised the order of presentation to control for order effects.

Condition LL Figure D10 displays the information given to the respondents assigned to Condition LL. This group of respondents are presented with estimates that among top and bottom income earners "less than half (around 25%) of total income remains undeclared". We randomised the order of presentation to control for order effects.[18]

3 Empirical strategy

3.1 Outcome variables

Our primary outcome of interest is the relationship between cheating behaviours and our information conditions. Following a large body of recent literature, our behavioural outcome variable measures cheating behaviours towards the experimenter (e.g. Fischbacher and Föllmi-Heusi (2013), Kocher et al. (2018)): After receiving one of the above described information treatments, the respondents have to report the outcome of a "lottery" visualised on screen. The video displays the outcome of a six-faced fair die roll. Respondents are asked to report the visualised outcome and are informed that in case the reported outcome of the die roll is the number "6", they will receive an additional payment of 25 Points (one-third of the baseline participation payment), while any other reported outcome will result in no additional payment.[19] As the additional payment is conditional on the self-reported outcome of the die roll, respondents have a clear incentive to misreport the

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[18]The information provided in the Neutral condition only generically refers to tax malpractice as in the other videos but without then continuing to present the estimated incidence in the population collected from the surveyed economists (see Figure D6 in Appendix D).

[19]The survey company we hired remunerates their panel in Points, where 1 Point=1 Euro cent.

outcome. The distribution of reported outcomes can be ex-post contrasted with the implemented distribution of outcomes displayed (i.e. that of a roll of a fair die) such that the incidence of cheating can be measured and compared across conditions. As we know which outcome was displayed on video, we can detect cheating at the individual level.[20] We can thus construct an indicator taking value 1 if the respondent has cheated and zero otherwise, given that an opportunity to cheat existed (i.e. the displayed outcome of the die roll was not 6). The following text is displayed to the respondents (translated from Italian):

"The video displayed just above was randomly selected by the software among six videos displaying the six possible outcomes of the roll of a six faced die.
The outcome that you can see is therefore obtained as if a die had actually been rolled. You can watch the video again if you wish.

Your task is to tell us the result of the die roll.
You will earn 25 additional points if you tell us that the outcome is 6.
You will not earn additional points if you tell us that the outcome is not 6.

What is the outcome of the die roll?

Further, we elicit norm shifts along the lines of Krupka and Weber (2013) by asking respondents to guess (against additional payments) the modal rate of agreement/disagreement to questions on the appropriateness of questionable behaviours (tax evasion, claim of underserved benefits, free riding on public transport and bribery) elicited in the World Values Survey for Italy, wave 2005. For exact guesses, the respondents receive an extra monetary incentive equal to 15 points (one-fifth of the fixed participation payment).
We moreover elicit the respondents' level of generalised social trust as a response to the question "Generally speaking, would you say that most people can be trusted or that you can't be too careful when dealing with people?", coded from 1 (weakest trust) to 10 (strongest trust).
Finally, we elicit the respondents' unincentivised opinion of commonly debated topics of general interest: whether wealth can be accumulated only at others' expense, the value of hard work for life success, the importance of redistribution, and the perceived size of their own and the general tax burden in Italy.
Worth mentioning is that our respondents are debriefed, at the end of the survey, about the latest official estimates of tax evasion in Italy (approximately 10% over the entire population, as of Albarea et al. (2020)).

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[20]We emphasize at the beginning of the survey that we collect only anonymous data.

3.2 Covariates

We elicit the respondents' standard socio-economic background: their region of residence, education, household income, household size, employment status, age and gender. We moreover elicit, but do not use in our analyses, the respondents' ethnic background, their political orientation and media consumption.

We further elicit the respondents' prior and posterior beliefs about the incidence of income tax evasion among the top and bottom income earners in Italy. These two beliefs together will allow us to gain an insight both into the effectiveness of our experimental conditions on each respondent, and into one of the channels by which the information provided might work, i.e. belief updating (Martinangeli and Windsteiger, 2019; Haaland et al., 2020).

Notice that in our pre-analysis plan we specified that we would use an attention check question to screen out inattentive survey respondents. However, we could not include this question due to technical reasons on the survey company side. Our analysis in Section 4 thus exploits our prior-posterior beliefs elicitation to distinguish those respondents who have paid attention to the information provided (the "treated") and updated their beliefs accordingly from those who did not (the "untreated"). We will perform separate analyses of our experimental conditions on these two groups.

3.3 Hypotheses

Our primary focus is the relationship between the information conditions provided and the rates of cheating in the reporting task. Hence, we formulate hypotheses related to this outcome variable (cheating rate) and investigate the secondary outcome variables in support and generalization of our main findings.

The overarching hypothesis is that exposure to higher estimated tax evasion rates will cause an increase in the cheating rate in the reporting task compared to exposure to lower tax evasion estimates.

Hypothesis 1. *Cheating increases with the reported tax evasion estimates.*

Furthermore, our design allows us to capture asymmetries in the impact of estimated tax evasion rates according to the income bracket for which these rates are reported. Specifically, we hypothesise that the effect on cheating rates will differ according to whether estimated evasion rates increase in high compared to low income brackets.

Two alternative predictions can be formulated. First, cheating rates might be higher if high tax evasion rates are reported for high income brackets compared to low income brackets. This hypothesis rests on the fact that higher income brackets have a greater capacity to contribute to public welfare and public good provision, with a lower relative impact on private consumption. This hypothesis is aligned with the findings in Martinangeli (2021). Second, and conversely, cheating rates might be higher if high tax evasion rates are reported for low income brackets compared to high income brackets. Low income brackets, relying

more heavily on public support and social welfare systems, might be expected to pay their fair contribution to their financing.[21] We can thus formulate two alternative hypotheses.

Hypothesis 2 (Asymmetries)**.**

a. *Cheating rates are higher when high estimated tax evasion occurs in high income brackets compared to low income brackets.*

b. *Cheating rates are higher when high estimated tax evasion occurs in low income brackets compared to high income brackets.*

3.4 Specifications and analysis

Hypotheses 1 and 2 will be tested as follows. Our dependent variable is an indicator taking value 1 if a respondent cheated and zero otherwise, given that a cheating opportunity existed. Denote the event of a winning random draw as D=1 and the complementary outcome of a losing random draw as D=0. We model the probability that respondent i will cheat as a function of the information condition they received and of a number of controls listed in Section 3.2 conditional on D_i=0:

$$Pr(\Lambda_i = 1 | C_{iLL}, C_{iLH}, C_{iHL}, C_{iHH}, X_i, D_i = 0) =$$
$$\Phi(\beta_0 + \beta_{HH}C_{iHH} + \beta_{LH}C_{iLH} + \beta_{LL}C_{iLL} + \beta'X_i + \varepsilon_i)$$
(1)

where Λ_i is an indicator variable equal to 1 if respondent i has cheated given that the random draw resulted in no additional payoff (scope for cheating exists). The indicators $C_{i..}$ represent our experimental conditions, with C_{iHL} serving as excluded category, and where C_{iHH} takes value 1 if respondent i was in Condition HH and similarly for the other conditions. X_i represents a vector of individual and regional covariates. We fit the model using the cumulative distribution function Φ of the standard normal distribution.
We can then test for our Hypotheses as follows:

Hypothesis 1

$$H0 : \beta_{LL} < \beta_{HH} \qquad\qquad H1 : \beta_{LL} \geq \beta_{HH}$$

Hypothesis 2a

$$H0 : \beta_{LH} > 0 \qquad\qquad H1 : \beta_{LH} \leq 0$$

Hypothesis 2b

$$H0 : \beta_{LH} < 0 \qquad\qquad H1 : \beta_{LH} \geq 0$$

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[21] All these hypotheses are pre-registered at the AEA RCT registry, report number AEARCTR-0005459.

4 Results

Table 2 displays summary statistics of our main outcome variables in our analysis: The proportion of declared sixes, the stated perceived tax norms, and generalised social trust (weaker for more negative values).

	Condition HH		Condition HL		Condition LH		Condition LL		Condition N	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
% Rolled 6	0.41	0.49	0.43	0.49	0.40	0.49	0.40	0.49	0.40	0.49
Tax norm	4.04	3.35	3.95	3.34	4.31	3.34	3.97	3.15	3.95	3.27
Trust	4.30	2.29	4.35	2.32	4.40	2.29	4.54	2.43	4.49	2.40

Table 2: Summary statistics of the outcome variables by experimental condition. Proportion of sixes declared, perceived tax norm, and generalised social trust.

Figure 2 displays the distribution of prior and posterior beliefs about the proportion of income that remains undeclared by high an low income individuals, respectively. Two things are worth pointing out in these graphs. First, our respondents' prior beliefs about the proportion of income hidden by the two groups are very dispersed: Both bottom and top income earners are estimated to hide the most disparate proportions of their incomes. For both groups, beliefs about the percentage of income that remains undeclared range from 0% to 100%, averaging 44% for bottom and 54% for top income earners (two-sided T-test p-value<0.001), in both cases very far from the current statistical estimates of tax evasion in Italy, ranging between 10% of total gross income at lower income classes and 20% for mid and higher income classes, with an average of around 13% over the entire income distribution (see Albarea et al. (2020)). Noticeably, the dispersion and unrealistically high averages in these belief patterns are also reflected in the dispersion and average of the estimates collected in our economists' survey (see Appendix B).

These observations suggest that information about specific numbers (proportions of hidden income) might have little meaning per se for our respondents, unless reference points allow the observer to interpret them (as "high" or "low") or to rank top and bottom income earners according to the severity of their tax evasion.[22]

Second, while prior beliefs are fairly spread out over the entire support, posterior beliefs are strongly concentrated around the values provided in our experimental conditions (the neutral condition is excluded from this graph because this group did not receive information to update their beliefs), suggesting that our experimental strategy obtained the desired effect.[23]

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[22]It is interesting to see that the vast majority of the respondents (60.3%) reported prior beliefs assigning greater proportions of hidden income to the top income earners than to the bottom income earners. Conversely, 33.2% stated prior beliefs assigning greater proportions of hidden income to bottom earners, and only a small minority (6.4%) stated equal beliefs about the two groups. See Figure B2 in Appendix B.

[23]Appendix A displays analogous graphs to the lower panels of Figure 2 for each experimental condition. In all cases, the posteriors are strongly concentrated around the communicated values for both high and
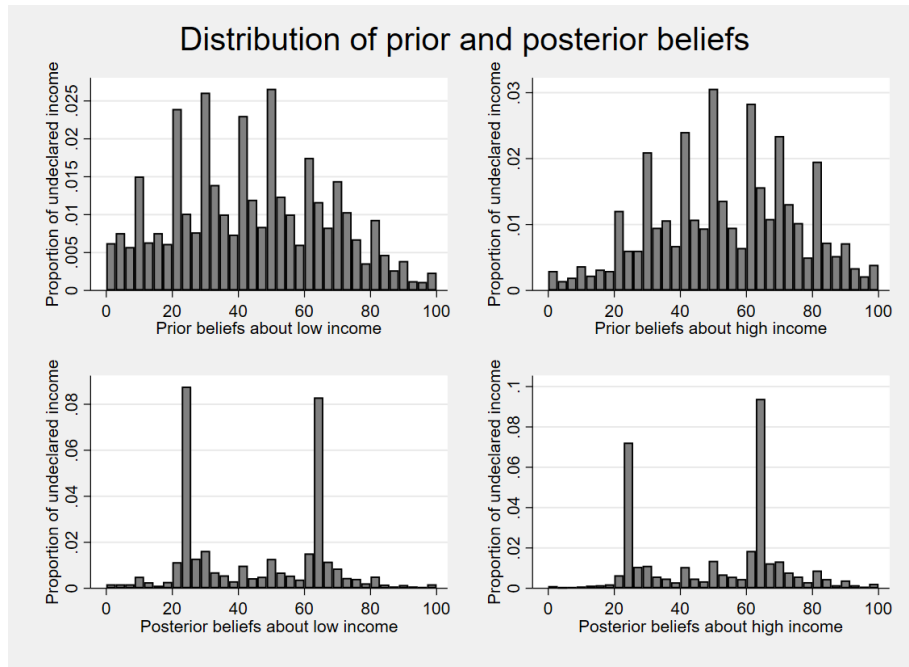
Figure 2: Distribution of prior (top panels) and posterior (bottom panels) beliefs about income undeclared by high and low income individuals.

Our main outcome of interest is the propensity to cheat in the video die-rolling task. We observe a cheating rate slightly short of 30% over the full sample (29.16%) of respondents who had the opportunity to cheat, i.e. visualised a roll different from "6". Slightly less than one-third of our sample misreported the outcome of the die roll they visualised, reporting an outcome of "6" when it was not.

We now formally investigate the determinants of cheating propensity given the opportunity to cheat. In all the analyses performed throughout this article, we restrict our estimations to the subsample of individuals who did not visualise a roll of 6 in the video. The regression controls include age, gender, education level (= 1 if respondents have completed high school), equivalent household income, worker (= 1 if in the labour force) and region fixed effects. Standard errors are clustered at region level.

Our aim is to show that respondents cheat more in HL (where rich hide more income than poor in relative terms) compared to any other situation: i.e. when the top and bottom income earners are estimated to hide roughly equal proportions of their incomes, or when the rich top earners estimated to evade smaller proportions than the bottom earners. We are in this sense broadening our analysis compared to what we declared in our pre-analysis

low incomes, confirming that our manipulation succeeded and that the respondents did not assign more credibility to some conditions than to others.

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plan. There, we only report the hypotheses and tests in Sections 3.3 and 3.4. It appears clear however from looking at the results and at the information display in Appendix D that our HH and LL conditions failed to deliver the intended meaning: It is hard for a non-specialist respondent to interpret the numbers alone without any context or reference point. It is hence unclear to the viewer whether a 65% proportion of undeclared income is a high or a low proportion without having a benchmark to contextualise it. This contextualisation is instead present when the information portrays top and bottom income earners as not declaring different proportions of income. In this case, it is clear which one is the group hiding the greater or the smaller share of income.

Table 3 displays the results of Probit regressions of propensity to report having visualised a roll of 6 and hence of having cheated. In these analyses, as in all those in the remainder of this article, the excluded condition is HL, representing high income individuals as hiding more income than poor income individuals. Though we observe a significantly greater propensity to cheat in the baseline than in Condition HH, no further effects can be uncovered in this analysis. We dig deeper into these findings in Table 3.

VARIABLES	(1)	(2)
	Probability of misreporting	
	given roll $\neq$ 6	
Baseline: HL		
HH	-0.104*	-0.103**
	(0.056)	(0.052)
LH	-0.081	-0.082
	(0.058)	(0.057)
LL	-0.075	-0.068
	(0.089)	(0.087)
Constant	-0.483***	-0.320***
	(0.050)	(0.121)
Controls		✓
Observations	2,847	2,843

Robust standard errors,
clustered at region level, in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 3: Probit regression of the propensity to cheat given the opportunity to do so (didn't visualise a die roll with outcome 6) on condition indicators. Controls include: age, gender, education level (=1 if complete high school), equivalent household income, worker (=1 if in the labour force), political orientation and region fixed effects.

Table 4 displays the results of our analysis splitting the sample according to whether respondents earn incomes above or below median income (columns 1 to 4) and analyses interacting the treatment with an indicator with a dummy distinguishing above from below median income respondents (columns 5 and 6). We see that the effects of our experimental

interventions are strongly singificant for high income respondents. Under the HL condition, high income respondents display a greater propensity to cheat than in any other condition: All coefficients are negative and significant. Notice that the participants in Condition LH received information that one of the two income groups is taken not to report a high proportion of income, just as is the case in condition HL. Even though the respondents could, based on the information they received, unequivocally rank the two groups on the estimated incidence of tax evasion (see the discussion above about the presence of a clear numerical context), we still observe lower cheating propensity than in condition HL. Put differently, high income individuals seem to be more prone to cheating when the "tax scoundrels" have a high income than when they have a low income. Low income individuals so far do not exhibit any evidence for systematic conditional cheating responses to our information. The interacted analyses confirm all of these observations.[24]

	(1)	(2)	(3)	(4)	(5)	(6)
	Probability of misreporting given roll $\neq 6$					
VARIABLES	Low income		High income		Interaction	
Baseline: HL						
HH	0.031	0.043	-0.248***	-0.264***	0.031	0.043
	(0.112)	(0.106)	(0.076)	(0.078)	(0.112)	(0.105)
LH	0.078	0.076	-0.246***	-0.250***	0.078	0.079
	(0.104)	(0.106)	(0.081)	(0.083)	(0.104)	(0.107)
LL	0.052	0.064	-0.205**	-0.192**	0.052	0.061
	(0.138)	(0.135)	(0.080)	(0.077)	(0.138)	(0.134)
High income					0.202**	0.192*
					(0.102)	(0.113)
HH × High income					-0.279*	-0.304**
					(0.156)	(0.149)
LH × High income					-0.324**	-0.316**
					(0.152)	(0.156)
LL × High income					-0.256*	-0.258*
					(0.145)	(0.134)
Constant	-0.584***	-0.379***	-0.382***	-0.726***	-0.584***	-0.543***
	(0.094)	(0.138)	(0.036)	(0.148)	(0.094)	(0.115)
Controls		✓		✓		✓
Observations	1,504	1,501	1,343	1,339	2,847	2,843

Robust standard errors,
clustered at region level, in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4: Probit regression of the propensity to cheat given the opportunity to do so on condition indicators. Controls include: age, gender, education level (=1 if complete high school), equivalent household income, worker (=1 if in the labour force), political orientation and region fixed effects.

We summarise these findings in Result 1:

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[24]We will henceforth present the results of split sample analyses whenever relevant. Interacted regressions yield similar results (available upon request).

Result 1. *Cheating is significantly higher among high income respondents in experimental conditions presenting top income earners as engaging more severely in tax evasion compared to low income earners.*

Result 1 sustains Hypothesis 2a, though for high income respondents only.
Notice that from Table 4, when comparing conditions HH and LL we cannot find evidence in support of Hypothesis 1 (a Wald test for equality of the coefficients on HH and LL does not find a significant difference of the two). This finding should not surprise: As pointed out earlier, respondents in survey have no clear preconceived idea about what a plausible estimate for income under-reporting is. This suspicion is confirmed by the distribution of prior beliefs in Figure 2.

4.1 The impact of belief updating

We now investigate belief updating as a mechanism for the effects observed in Section 4. We adopt an instrumental variable approach to extract the exogenous component of belief updates due to our experimental variation. Following Fuster and Zafar (2022), in the first stage of the two-stages-least-squares approach we regress posterior beliefs on i) the experimental condition indicators, ii) the "perception gap", i.e. the distance between the respondent's prior belief about each income group and the information about the two income groups' proportion of hidden income they received as part of the experimental condition, and iii) their interaction. In the second stage, the posterior predicted values are used as regressor for the cheating indicator in a probit model. In what follows, B_k, with $k \in b, t$ denotes the respondent's posterior belief about the proportion of undeclared income by income group k, while b and t denote respectively bottom and top incomes. For the sake of concision, we report second stage results and include first stage output in Appendix C.1.

	(1)	(2)	(3)	(4)	(5)	(6)
	**Probability of misreporting given roll $\neq$ 6**					
	Full sample		Low income		High income	
B_b	-0.003**	-0.003**	-0.000	-0.000	-0.005**	-0.007***
	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)
B_t	0.003	0.003	-0.000	0.001	0.006**	0.005**
	(0.002)	(0.002)	(0.003)	(0.004)	(0.003)	(0.003)
Constant	-0.556***	-0.387***	-0.515***	-0.100	-0.611***	-0.880***
	(0.126)	(0.142)	(0.135)	(0.131)	(0.168)	(0.246)
Controls		✓		✓		✓
Observations	2,847	2,843	1,504	1,501	1,343	1,339

Robust standard errors, clustered at region level, in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 5: Instrumental variable second stage Probit regression of propensity to cheat given the opportunity to do so. $B_k, k \in \{b,t\}$, denoting beliefs about the income not declared by, respectively, bottom and top incomes, is instrumented by: i) the condition indicators, ii) the "perception gap", and iii) their interaction. Controls include: age, gender, education level (=1 if complete high school), equivalent household income, worker (=1 if in the labour force), political orientation and region fixed effects.

The first and second columns in Table 5 display the puzzling finding that the propensity to cheat *decreases* with upward belief updates about the bottom income earners but appears unaffected by beliefs about the top income earners. Columns 3 to 6 however repeat the analysis by splitting the sample according to income as illustrated earlier. We again see that the relationship observed at aggregate level is driven entirely by the respondents earning incomes above the median. The negative impact of updates about tax evasion at the bottom of the income distribution remains visible and sizeable. We however now also observe the *positive* impact of updates about tax malpractice at the top of the income distribution. Despite not being able to fully account for the negative effect of updates about the bottom of the income distribution, we conjecture that such effect might be an artifact of the concomitant influence of i) the simultaneous shifting of beliefs about the two groups in opposite directions and ii) the different informativeness of the experimental variation in information about tax evasion among the two groups: contextless in HH and LL and contextualised in HL and LH.
We summarise these findings in Result 2.

Result 2. *Cheating rates increase significantly with posterior beliefs about tax evasion of high income individuals.*

Result 2 further strengthens the arguments in support for Hypothesis 2a.

5 Broader impact

In this section we review our findings of the broader impact of our intervention beyond cheating behaviours.

5.1 Perceived norms of tax compliance

To gather information about perceived norms of tax compliance, we adopted and adapted the well-known method proposed by Krupka and Weber (2013) to the data collected in the 5th wave World Value Survey (WVS) in Italy (Inglehart et al., 2014). Each respondent was told that a previous survey of a representative sample of the Italian population asked the participants to rank the appropriateness of 4 actions by assigning them a number between 1 (totally inappropriate) and 10 (totally appropriate). The actions to be evaluated were: "Claiming undue benefits", "Free riding on public transportation", "Evading taxes", "Taking bribes in the exercise of one's duty".

We asked our respondents to provide their best guess of the most frequently assigned appropriateness level in that survey and incentivised correct guesses with 10 additional Points. Given the ordinal nature of the ranking, greater guesses correspond to perceptions of greater acceptance of the action, or conversely perceptions of weaker social norms prohibiting it.

Figure 3 displays the proportion of respondents who correctly identify the norm, for each action, by experimental condition. Because the modal value assigned to all four items in the WVS is 1, the proportion of respondents correctly identifying it is an appealing first, crude measure of norm perceptions: Incorrect guesses can only be assigning greater appropriateness norms. We notice that the proportion of correct guesses is fairly stable across conditions, with the exception of norms about tax evasion where the proportion of correct guesses seems to be lower in condition LH.
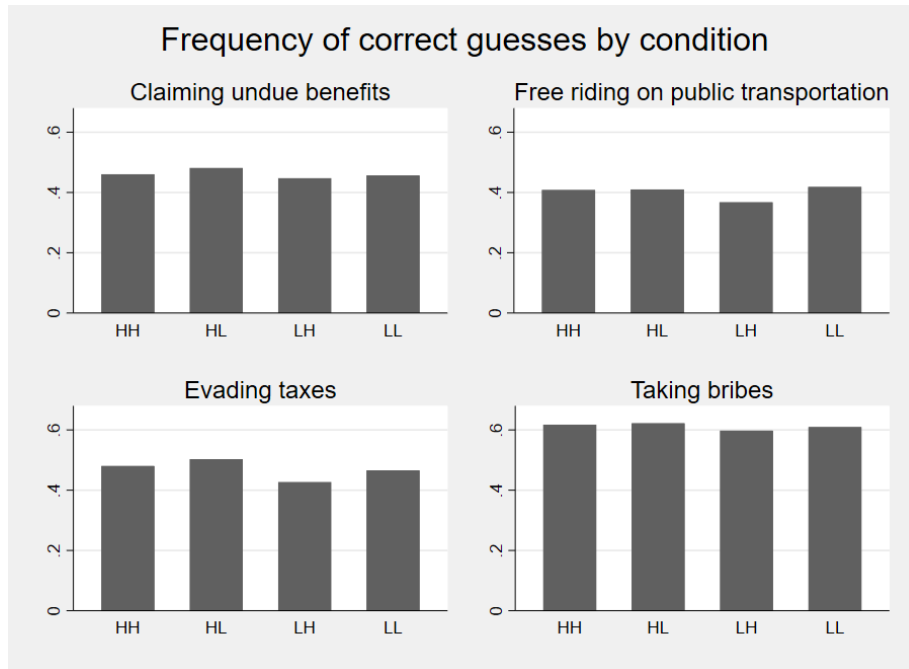
Figure 3: Proportion of respondents correctly identifying the norm (lowest appropriateness rating) for each action, by experimental condition.

We henceforth focus on perceived norms about tax evasion.[25] Table 6 performs an analysis analogous to the one presented in Section 4. Perceived norms of tax compliance seem to weaken with Condition LH. This finding, while at odds with our hypothesis, could be rationalized in light of the specific nature of the outcome measured and suggests that our respondents perceive the "bottom" income earners are a far larger group than the top income earners.[26] As a result, receiving information that the former hide a much larger share of their income than the latter will adversely shift perceptions of tax compliance norms. Alternatively, this finding could be a consequence of (the majority of respondents) identifying more strongly with the group of bottom income earners than with those at the top. In this case, their perceptions of social norms would respond most strongly to what the people at the bottom of the income distribution do. Further evidence for this conjecture comes from the following sample split investigations.

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[25]The analysis of the other items (in Appendix C.2) doesn't yield any insight and is hence not reported. The output is available on request.

[26]We are deliberately vague as to how the two groups (top and bottom income earners) are defined and how big those two groups are in our information conditions. If people think in terms of top and bottom percentiles, they might think that the two groups are of equal size. Should they instead have a skewed income distribution in mind, they might think that "bottom income earners" are a larger group compared to "top income earners".

	(1)	(2)
	Perceived norm	
VARIABLES	of tax compliance	
HH	0.096	0.071
	(0.156)	(0.155)
LH	0.364***	0.369***
	(0.092)	(0.093)
LL	0.021	-0.004
	(0.116)	(0.125)
Constant	3.948***	3.756***
	(0.122)	(0.231)
Controls		✓
Observations	3,421	3,421
R-squared	0.002	0.020

Robust standard errors,
clustered at region level, in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 6: OLS regression of tax compliance norm perceptions. Greater values of the outcome variable denote perceptions of a *weaker* tax compliance norm (greater acceptance of tax malpractice). Controls include: age, gender, education level (=1 if complete high school), equivalent household income, worker (=1 if in the labour force), political orientation and region fixed effects.

We dig deeper into this result by performing split sample and instrumental variables investigations, reported in Tables 7 and C8. We again see strong evidence for income heterogeneity. Condition HL stands out compared to the other conditions among low income respondents.It is associated with perceptions of a *stronger* norm of tax compliance compared to the other conditions (in contrast with the greater incidence of cheating observed earlier). To make sense of this surprising finding, it helps to keep in mind that condition HL is not only the condition presenting top income earners as engaging in more tax evasion than the bottom income earners: It is also the condition presenting the bottom income earners as engaging in *less* tax evasion than the top. This distinction is perhaps consequential in individuals' formation of a norm perception and hints at identity playing a role: The results are consistent with low income respondents' norm perceptions reacting mostly to what people at the bottom of the income distribution do. It is particularly revealing that perceived norms in condition LH (presenting the bottom income earners as engaging in more tax evasion than the top) are (almost) as weak as in condition HH. We advise caution, however in drawing conclusions based on conditions HH and LL because, as cau-

tioned earlier, these are the most problematic in terms of the respondents' understanding of the phenomenon to them presented.

Results for the high income subsample are more nuanced. Notice that while low income respondents display a systematically stronger norm in condition HL than in any other condition, the same is not true for high income respondents. Coefficient comparisons of condition LH with conditions HH and LL reveal however that norm perceptions are indeed weakest in condition LH for these respondents too.

VARIABLES	(1)	(2)	(3)	(4)
		Perceived norm of tax compliance		
	Low income		High income	
HH	0.482**	0.473**	-0.315	-0.346
	(0.215)	(0.207)	(0.212)	(0.215)
LH	0.470***	0.510***	0.258	0.249
	(0.147)	(0.152)	(0.159)	(0.147)
LL	0.381*	0.396*	-0.355	-0.430**
	(0.193)	(0.192)	(0.208)	(0.195)
Constant	3.612***	3.622***	4.300***	3.650***
	(0.142)	(0.178)	(0.187)	(0.490)
Coefficient equality tests (p-val):				
$H_0 : LH = HH$	0.960	0.862	0.014	0.015
$H_0 : LH = LL$	0.577	0.439	0.014	0.006
Controls		✓		✓
Observations	1,787	1,787	1,634	1,634
R-squared	0.004	0.038	0.006	0.026

Robust standard errors, clustered at region level, in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 7: OLS regression of tax compliance norm perceptions by income split. Greater values of the outcome variable denote perceptions of a *weaker* tax compliance norm (greater acceptance of tax malpractice). Controls include: age, gender, education level (=1 if complete high school), equivalent household income, worker (=1 if in the labour force), political orientation and region fixed effects.

Finally, Table 8 reports the output of instrumental variable regressions investigating the mediating role of belief updating on norm perceptions. These regressions reveal that updates on beliefs about the bottom income earners' share of hidden income strongly and significantly weaken perceived norms of tax compliance. Again, this is driven mainly by low income respondents, providing further support for the conjecture that people's norm

perceptions might depend on who they identify with. [27]

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
			Perceived norm of tax compliance			
	Full sample		Low income		High income	
B_b	0.011***	0.010***	0.016***	0.016***	0.006	0.006
	(0.003)	(0.003)	(0.004)	(0.005)	(0.004)	(0.004)
B_t	-0.003	-0.002	-0.006	-0.007	0.000	0.002
	(0.004)	(0.004)	(0.005)	(0.005)	(0.006)	(0.005)
Constant	3.740***	3.533***	3.545***	3.621***	3.915***	3.089***
	(0.215)	(0.311)	(0.325)	(0.405)	(0.313)	(0.596)
Controls		✓		✓		✓
Observations	3,421	3,421	1,787	1,787	1,634	1,634
R-squared	0.002	0.020	0.004	0.037	0.001	0.022

Robust standard errors, clustered at region level, in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 8: Instrumental variable second stage regression of tax compliance norm perceptions. Greater values of the outcome variable denote perceptions of a *weaker* tax compliance norm (greater acceptance of tax malpractice). $B_k, k \in \{b, t\}$, denoting posterior beliefs about the income not declared by, respectively, bottom and top incomes, is instrumented by: i) the condition indicators, ii) the "perception gap", and iii) their interaction. Controls include: age, gender, education level (=1 if complete high school), equivalent household income, worker (=1 if in the labour force), political orientation and region fixed effects.

5.2 Generalised social trust

We elicited the respondents' level of generalised social trust by borrowing the question used in the World Value Survey (Inglehart et al., 2014). We asked the respondents to answer the question "In general, would you say that most people can be trusted or that one can never be careful enough?" on a scale from 1 (complete distrust) to 10 (complete trust).
Table 9 presents the result of an OLS regression of the respondents' stated level of generalised social trust on our condition indicators. We find no robust evidence for our information per se having an effect on stated generalised trust. We thus further explore this channel using the instrumental variable technique used earlier to tie the exogenous component of belief updating to stated trust in Table 10.

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[27]Notice as pointed out earlier, the puzzling sign of updates on beliefs about the top income earners. As mentioned earlier (see Section 4.1), this effect might be an artefact of the simultaneous and opposite belief updating induced by conditions HL and LH, and of the lack of context in conditions HH and LL.

	(1)	(2)	(3)	(4)	(5)	(6)
			Generalised social trust			
VARIABLES	Full sample		Low income		High income	
HH	-0.049	-0.025	0.001	0.037	-0.077	-0.060
	(0.106)	(0.092)	(0.134)	(0.138)	(0.137)	(0.122)
LH	0.055	0.025	0.151	0.139	-0.042	-0.096
	(0.101)	(0.102)	(0.139)	(0.141)	(0.118)	(0.117)
LL	0.186	0.157	0.096	0.071	0.287*	0.254*
	(0.120)	(0.116)	(0.189)	(0.172)	(0.138)	(0.146)
Constant	4.349***	4.586***	4.141***	4.240***	4.567***	5.153***
	(0.105)	(0.157)	(0.131)	(0.215)	(0.117)	(0.379)
Controls		✓		✓		✓
Observations	3,421	3,421	1,787	1,787	1,634	1,634
R-squared	0.001	0.052	0.001	0.053	0.004	0.055

Robust standard errors, clustered at region level, in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 9: OLS regression of generalised social trust. Controls include: age, gender, education level (=1 if complete high school), equivalent household income, worker (=1 if in the labour force), political orientation and region fixed effects.

From Table 10 we observe upward belief updates about the tax evasion of higher income groups significantly eroding social trust among both high and low income respondents. Only high income respondents appear to lower their social trust with upward belief updates about tax evasion at lower incomes.

	(1)	(2)	(3)	(4)	(5)	(6)
			Generalised social trust			
VARIABLES	Full sample		Low income		High income	
B_b	-0.005	-0.004	0.003	0.004	-0.013***	-0.012***
	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)	(0.004)
B_t	-0.017***	-0.015***	-0.020***	-0.019***	-0.016**	-0.013*
	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.007)
Constant	5.507***	5.459***	5.075***	4.894***	6.000***	6.667***
	(0.260)	(0.226)	(0.369)	(0.336)	(0.227)	(0.326)
Controls		✓		✓		✓
Observations	2,847	2,847	1,504	1,504	1,343	1,343
R-squared	0.004	0.061	0.000	0.055	0.005	0.059

Robust standard errors, clustered at region level, in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 10: Instrumental variable regression of generalised social trust. The table displays the second stage regressions in an instrumental variable analysis of generalised social trust. $B_k, k \in \{b, t\}$, denoting beliefs about the income not declared by, respectively, bottom and top incomes, is instrumented by: i) the condition indicators, ii) the "perception gap", and iii) their interaction. Controls include: age, gender, education level (=1 if complete high school), equivalent household income, worker (=1 if in the labour force), political orientation and region fixed effects.

5.3 Worldviews on wealth accumulation

Finally, our last set of outcome variables investigate whether individuals' worldviews on wealth and wealth accumulation.[28] We have asked our respondents to state their degree of agreement with the following three statements:

i) *"Wealth can only be accumulated at the expense of others"* (henceforth labelled "richness"),

ii) *"Hard work is the only way to achieve success in life"* (henceforth labelled "hardwork"),

iii) *"Redistribution is one of the most important functions of a government"* (henceforth labelled "redistrib").

All three questions could be answered on a scale ranging from 1 (complete disagreement) to 10 (complete agreement).

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[28]Our survey also elicited respondents' perception of the appropriateness of their own and the general tax burden in Italy. The results for these questions are available upon request: As we did not find any effect of our experimental conditions on these outcomes, we excluded them from this article for concision.

Table 11 offers a first investigation of the systematic influence of our experimental conditions on individuals' endorsement of these worldviews. Though some patterns seem to emerge, they are weak and hard to interpret: The largest coefficients are those associated with condition LL, which does not allow the respondent to contextualise the information provided in a meaningful way as discussed in Section 4.1. We hence turn to instrumental variable analyses of the effect of belief updating in Table 12.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
				Worldviews on wealth accumulation					
		Full sample			Low income			High income	
VARIABLES	richness	hardwork	redistrib	richness	hardwork	redistrib	richness	hardwork	redistrib
HH	-0.023	0.076	-0.034	0.052	0.094	0.011	-0.073	0.037	-0.040
	(0.138)	(0.131)	(0.118)	(0.187)	(0.187)	(0.173)	(0.199)	(0.164)	(0.175)
LH	-0.035	0.159	0.034	-0.006	0.232	0.342*	-0.043	0.067	-0.279*
	(0.105)	(0.157)	(0.094)	(0.133)	(0.221)	(0.184)	(0.158)	(0.163)	(0.158)
LL	-0.249**	0.263*	0.136	-0.167	0.332**	0.160	-0.327**	0.168	0.134
	(0.095)	(0.127)	(0.079)	(0.135)	(0.155)	(0.159)	(0.125)	(0.188)	(0.132)
Constant	3.927***	5.517***	7.912***	4.240***	5.386***	7.579***	3.573***	5.397***	8.357***
	(0.216)	(0.216)	(0.207)	(0.352)	(0.345)	(0.357)	(0.301)	(0.300)	(0.296)
Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	3,421	3,421	3,421	1,787	1,787	1,787	1,634	1,634	1,634
R-squared	0.018	0.027	0.049	0.023	0.034	0.045	0.020	0.036	0.076

Robust standard errors, clustered at region level, in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 11: OLS regression of individual worldviews about wealth and wealth accumulation. Greater values of the outcome variable denote greater agreement with the statements that i) wealth accumulation comes at the expense of others, ii) success can be achieved only via hard work, and iii) redistribution is among a government's most important functions. Controls include: age, gender, education level (=1 if complete high school), equivalent household income, worker (=1 if in the labour force), political orientation and region fixed effects.

Here we again observe strongly significant effects of upward updating of beliefs about tax evasion at the top rather than at the bottom of the income distribution in two out of the three surveyed worldviews despite the small size of the effect.[29] Notably, greater posterior beliefs about tax evasion at the top increase endorsement of the opinion that wealth can be accumulated only at others' expense (see column 1) and that the government should be entrusted with the fundamental task of redistribution (see column 3). The only unaffected worldview is that of attributing to hard work the key to success in life. Notice the difference between the latter and the two former attitudes: "Success in life" need not necessarily be measured in monetary terms nor need it be in any way linked to the adherence to rigorous tax compliance. Being somewhat more distant than the others from the problem of tax malpractice, it does not appear surprising that it is the sole not being systematically impacted. On the contrary, the other two exhibit effects running in the expected direction: Exposure to information increasing beliefs about tax evasion at the top strengthens agreement with the fact that wealth accumulation necessarily implies

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[29]The results presented in Table 12 are roughly similar across income groups, and therefore omitted for the sake of concision.

subtraction of those resources from others (as is the case when achieved through tax evasion and/or avoidance), and heightens reliance on the government to restore a more equitable state of the world.

VARIABLES	(1) richness	(2) hardwork	(3) redistrib
	Worldviews on wealth accumulation		
B_b	0.005	0.002	-0.002
	(0.003)	(0.004)	(0.003)
B_t	0.013***	-0.008	0.007**
	(0.003)	(0.005)	(0.003)
Constant	2.954***	5.957***	7.647***
	(0.231)	(0.204)	(0.271)
Controls	✓	✓	✓
Observations	3,421	3,421	3,421
R-squared	0.028	0.024	0.051

Robust standard errors,
clustered at region level, in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 12: Instrumental variable second stage regression of individual worldviews about wealth and wealth accumulation. Greater values of the outcome variable denote greater agreement with the statements that i) wealth accumulation comes at the expense of others, ii) success can be achieved only via hard work, and iii) redistribution is among a government's most important functions. $B_k, k \in \{b, t\}$, denoting beliefs about the income not declared by, respectively, bottom and top incomes, is instrumented by: i) the condition indicators, ii) the "perception gap", and iii) their interaction. Controls include: age, gender, education level (=1 if complete high school), equivalent household income, worker (=1 if in the labour force), political orientation and region fixed effects.

6   Concluding remarks

This paper presents large-scale experimental evidence from a representative sample of the Italian population offering an insight into whether systematic conditional shifts in behaviours and in perceived norms of behaviour occur in response to information about population-level tax dishonesty. The 2016 data leaks about tax sheltering via international tax havens have caused the salience of dishonest or otherwise anti-social tax behaviours to rise sharply over the past few years (e.g. Garside, 2016). We have approached the problem of identifying the society-wide consequences of these behaviours and of the social, political

and reporting debate they have sparked. The conditional nature of tax compliance may in fact lead to an accelerated diffusion of unethical practices in the general population due to a worsening of the normative beliefs about compliance on one hand and to the erosion of empirical beliefs about the incidence of dishonesty on the other.

Unethical practices in tax compliance are moreover most profitable and diffuse among the highest income ranks (Alstadsæter et al., 2019). News reporting on the topic has therefore naturally been centred on the upper end of the income distribution. The recent accumulating evidence (Martinangeli, 2021; Rockenbach et al., 2021; Martinangeli and Meiske, 2021) about asymmetries in conditional behaviours, whereby high income individuals are shown to induce stronger conditional responses, implies that the heightened focus received by the dishonesty of higher incomes might well be consequential for the propagation of (un)ethical behaviours society-wide.

We use a 2×2 information design to find that high income respondents' propensity to cheat (towards the experimenter) increases when tax malpractice is presented as more severe among high income than low income individuals. Instrumenting the participants' posterior beliefs with the experimental conditions, their "perception gap" and the interaction between the two, we find that larger beliefs about tax evasion among high income individuals are associated with a greater propensity to cheat among high income respondents. The opposite holds true for norm perceptions: Here, the greater the posterior beliefs about tax evasion among low income individuals, the weaker the norm about tax morale perceived by low income respondents. An analogous instrumental variable investigation confirms this finding. We moreover observe broader effects of information about tax evasion which go beyond the effects on cheating behaviours and norm perceptions. Social trust significantly declines over the entire sample with posterior beliefs about tax evasion on behalf of high income individuals. Wealth accumulation is further increasingly attributed to dishonesty rather than effort with increasing beliefs about the incidence of tax dishonesty among the wealthy.

News reports about the Panama Papers, Paradise Papers and the subsequent waves of leaks are ubiquitous on the web and in traditional outlets. The importance of those revelations cannot be understated, as they exposed widespread tax malpractice on behalf of some of the wealthiest members of our societies, corporate as well as natural persons.

The leaks and the ensuing news reports are shining a bright and broad beacon on behaviours that most common people would find unfair (Pegg, 2017). While such practices should be exposed, doing so might initiate a negative spiral leading to further diffusion of tax dishonesty or of pessimistic normative beliefs. These concerns are made the more cogent by the asymmetric effect of information about tax evasion uncovered in this article: tax dishonesty on behalf of higher income groups mostly affects precisely higher income individuals, these being, as said earlier, the most likely to be able to find and adopt strategies to escape their tax duties.

We're not suggesting that reporting about the leaks and disclosure of their findings should be avoided. On the contrary, we are convinced that reporting and dissemination are crucial

in creating awareness, sparking a political discourse, and in generating momentum for political intervention. However, the consequences should be kept well in mind, as we might push more of the wealthier as well as less wealthy people to try avoiding their contributions being free rode upon by others.

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Appendix

A   Balance and manipulation

Table A1 reports the mean and standard deviation of the sample control variables by experimental condition, and the difference between the mean in each condition with the mean in condition Neutral ($\Delta_{N-..}$) with its p-value. Apart from statistically plausible deviations, our sample is balanced across all conditions.

Variable	(1) N	(2) HH	(3) Δ_{N-HH}	(4) HL	(5) Δ_{N-HL}	(6) LH	(7) Δ_{N-LH}	(8) LL	(9) Δ_{N-LL}
Gender	0.534	0.545	0.012	0.542	0.008	0.538	0.005	0.518	-0.016
	(0.499)	(0.498)	(0.602)	(0.499)	(0.714)	(0.499)	(0.839)	(0.500)	(0.493)
Age	43.285	42.800	-0.485	43.363	0.078	43.855	0.569	43.524	0.238
	(13.080)	(13.111)	(0.415)	(13.194)	(0.896)	(12.913)	(0.342)	(13.593)	(0.693)
H. inc.	1,364.055	1,347.547	-16.508	1,404.261	40.207	1,369.482	5.427	1,427.938	63.883
	(840.944)	(785.166)	(0.657)	(823.500)	(0.287)	(789.406)	(0.886)	(875.427)	(0.101)
High Educ.	0.389	0.379	-0.010	0.380	-0.008	0.406	0.017	0.407	0.018
	(0.488)	(0.485)	(0.667)	(0.486)	(0.707)	(0.491)	(0.438)	(0.492)	(0.415)
Worker	0.646	0.659	0.013	0.662	0.016	0.651	0.005	0.662	0.016
	(0.478)	(0.474)	(0.534)	(0.473)	(0.451)	(0.477)	(0.817)	(0.473)	(0.465)
Pol. spect.	6.365	6.514	0.149	6.415	0.050	6.307	-0.058	6.371	0.006
	(2.406)	(2.479)	(0.179)	(2.437)	(0.651)	(2.439)	(0.600)	(2.448)	(0.958)
reg1	0.023	0.024	0.002	0.022	-0.001	0.017	-0.006	0.020	-0.003
	(0.149)	(0.154)	(0.797)	(0.146)	(0.895)	(0.129)	(0.381)	(0.139)	(0.654)
reg2	0.010	0.009	-0.001	0.009	-0.001	0.015	0.005	0.015	0.005
	(0.099)	(0.096)	(0.882)	(0.095)	(0.856)	(0.120)	(0.359)	(0.122)	(0.307)
reg3	0.042	0.019	-0.023***	0.029	-0.013	0.013	-0.028***	0.028	-0.014*
	(0.200)	(0.135)	(0.004)	(0.167)	(0.122)	(0.115)	(0.000)	(0.165)	(0.100)
reg4	0.110	0.091	-0.019	0.105	-0.004	0.093	-0.016	0.083	-0.026*
	(0.313)	(0.287)	(0.169)	(0.307)	(0.764)	(0.291)	(0.244)	(0.277)	(0.053)
reg5	0.082	0.083	0.000	0.078	-0.005	0.059	-0.023*	0.076	-0.006
	(0.275)	(0.275)	(0.992)	(0.268)	(0.713)	(0.237)	(0.054)	(0.266)	(0.629)
reg6	0.020	0.023	0.003	0.021	0.001	0.022	0.002	0.023	0.003
	(0.140)	(0.151)	(0.613)	(0.142)	(0.914)	(0.146)	(0.773)	(0.151)	(0.621)
reg7	0.109	0.107	-0.002	0.108	-0.001	0.102	-0.007	0.122	0.013
	(0.311)	(0.309)	(0.903)	(0.310)	(0.942)	(0.303)	(0.627)	(0.327)	(0.370)
reg8	0.016	0.027	0.010	0.017	0.001	0.027	0.010	0.024	0.008
	(0.127)	(0.161)	(0.108)	(0.130)	(0.880)	(0.161)	(0.114)	(0.154)	(0.205)
reg9	0.158	0.184	0.026	0.173	0.015	0.193	0.035**	0.198	0.041**
	(0.365)	(0.387)	(0.126)	(0.378)	(0.360)	(0.395)	(0.043)	(0.399)	(0.019)
reg10	0.017	0.027	0.010	0.024	0.007	0.015	-0.003	0.023	0.006
	(0.130)	(0.161)	(0.147)	(0.153)	(0.283)	(0.120)	(0.645)	(0.151)	(0.347)
reg11	0.003	0.002	-0.000	0.005	0.002	0.005	0.002	0.003	0.001
	(0.052)	(0.048)	(0.864)	(0.068)	(0.489)	(0.070)	(0.441)	(0.059)	(0.762)
reg12	0.072	0.069	-0.003	0.072	0.001	0.101	0.029**	0.071	-0.001
	(0.258)	(0.253)	(0.800)	(0.259)	(0.959)	(0.301)	(0.023)	(0.256)	(0.940)
reg13	0.077	0.074	-0.003	0.079	0.002	0.086	0.009	0.073	-0.004
	(0.267)	(0.263)	(0.831)	(0.270)	(0.866)	(0.281)	(0.470)	(0.260)	(0.739)
reg14	0.041	0.035	-0.006	0.034	-0.006	0.027	-0.014*	0.028	-0.013
	(0.198)	(0.184)	(0.500)	(0.182)	(0.460)	(0.161)	(0.095)	(0.165)	(0.121)
reg15	0.084	0.069	-0.016	0.080	-0.004	0.067	-0.018	0.078	-0.007
	(0.278)	(0.253)	(0.198)	(0.272)	(0.745)	(0.250)	(0.152)	(0.268)	(0.595)
reg16	0.047	0.049	0.002	0.058	0.011	0.055	0.007	0.046	-0.001
	(0.212)	(0.216)	(0.858)	(0.235)	(0.261)	(0.227)	(0.459)	(0.210)	(0.938)
reg17	0.012	0.014	0.002	0.013	0.001	0.021	0.009	0.016	0.004
	(0.108)	(0.117)	(0.669)	(0.112)	(0.868)	(0.142)	(0.121)	(0.126)	(0.401)
reg18	0.009	0.009	0.000	0.009	0.000	0.011	0.002	0.010	0.001
	(0.095)	(0.096)	(0.955)	(0.095)	(0.980)	(0.104)	(0.684)	(0.102)	(0.758)
reg19	0.000	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001
	(0.000)	(0.048)	(0.109)	(0.034)	(0.261)	(0.035)	(0.247)	(0.034)	(0.258)
reg20	0.070	0.084	0.014	0.063	-0.007	0.073	0.003	0.060	-0.009
	(0.255)	(0.277)	(0.246)	(0.243)	(0.551)	(0.260)	(0.801)	(0.238)	(0.399)

Table A1: Balance comparisons of covariates in each experimental condition (HH, Hl, LH, LL) with the Neutral (N) condition. The covariates (gender, age, household equivalent income, higher education, worker, political placement and region of residence (dummies reg1 to reg20 denote the 20 Italian regions) are those included in all our regression analyses.

Figure A1 displays the distribution of posteriors in each of the experimental condition, visibly centred around the distributed values. By contrast, posteriors in Condition Neutral are significantly dispersed in a pattern similar to those of the prior beliefs in Figure 2. Further manipulation checks are provided by the first stage regressions of the instrumental variable analyses presented in Section 4. These are reported in Appendix C.1. There we observe posterior beliefs being significantly increased (decreased) by information presenting a high (low) estimate for tax evasion in the relevant income group.

(a) Distribution of posteriors in Condition HH

(b) Distribution of posteriors in Condition HL

(c) Distribution of posteriors in Condition LH

(d) Distribution of posteriors in Condition LL

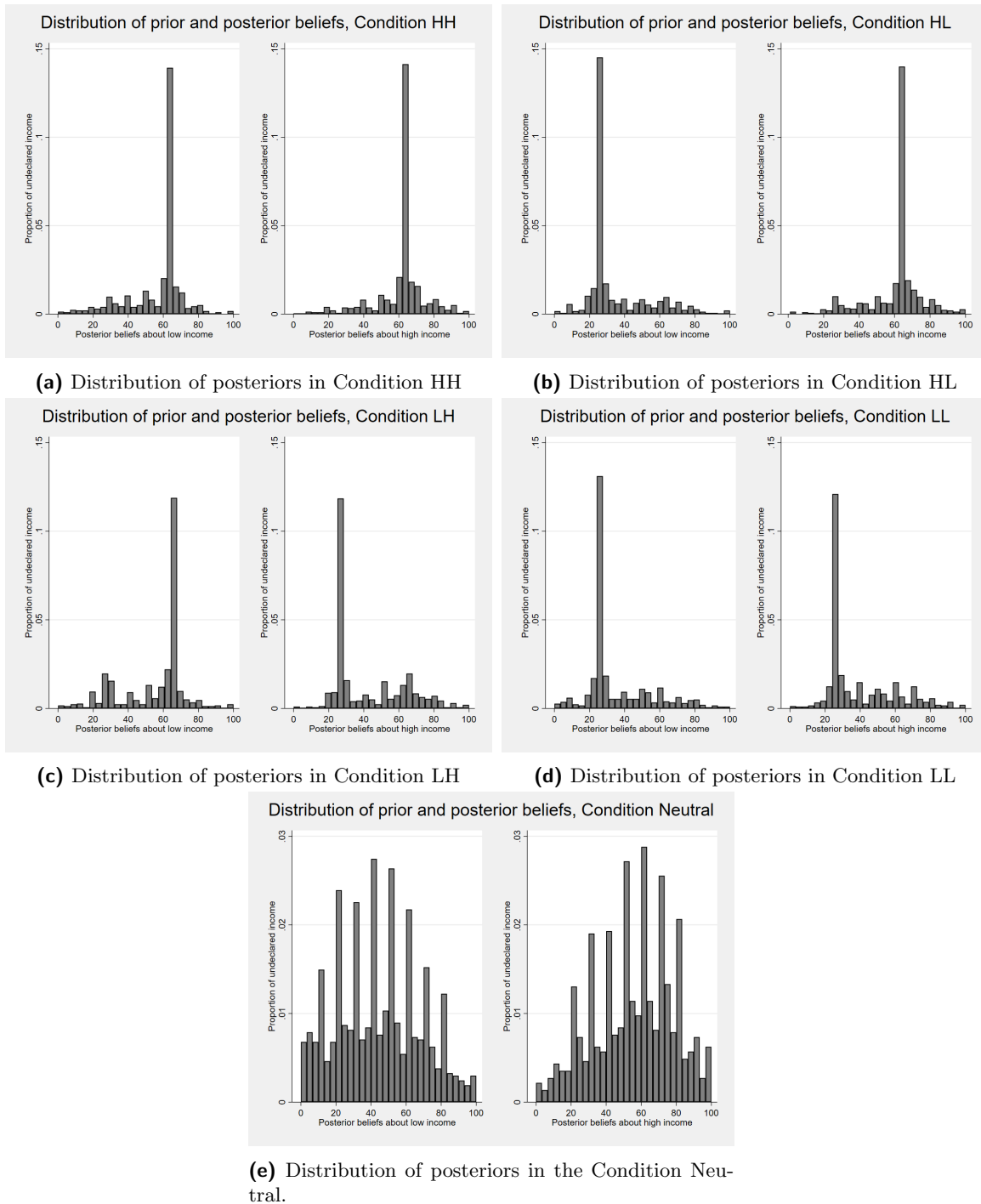**(e)** Distribution of posteriors in the Condition Neutral.

Figure A1: Distribution of posterior beliefs by condition and income group.

B   Graphs

Prior beliefs   Figure B2 shows how the respondents rank top and bottom income earners in terms of their tax behaviours: 60.3% reported prior beliefs assigning greater proportions of unreported income to the top income earners than to the bottom income earners ("Bottom > Top"), 33.2% stated prior beliefs assigning greater proportions of hidden income to bottom earners ("Bottom<Top"), and a small minority (6.4%) stated equal beliefs about the two groups ("Bottom=Top").
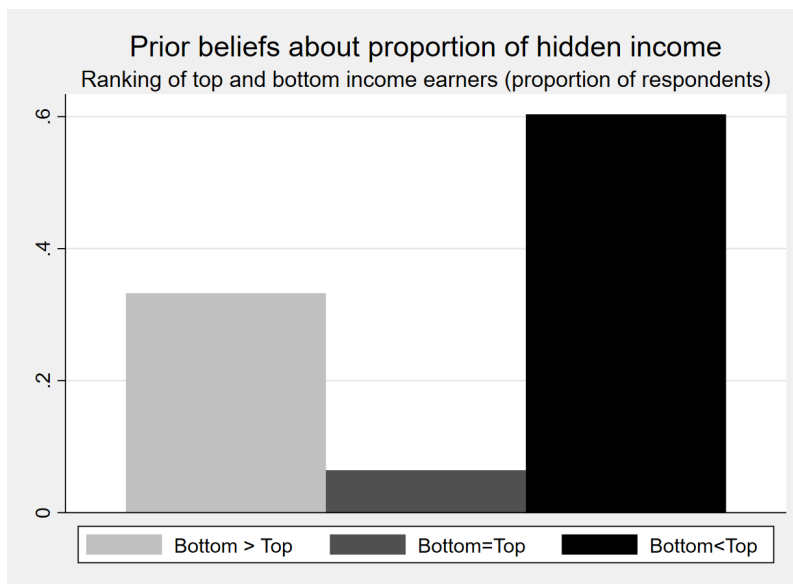

Figure B2: Proportion of subjects ranking top and bottom income earners according to the size of the share of hidden income. prior "Bottom > Top": prior beliefs assign greater proportions of unreported income to top than to bottom income earners; "Bottom < Top": prior beliefs assign greater proportions of hidden income to bottom rather than top income earners; "Bottom=Top": prior beliefs assign equal proportions of unreported income to top and bottom income earners.

Distribution of tax evasion estimates   Figure B3 displays the distribution of the proportions of total income remaining unreported to the Italian tax authorities as subjectively estimated by the economists surveyed via the Economists Survey. As evident from the graphs, while some consensus exists about the proportion of unreported income for low income quintiles (with the modal answer being around 10% of total income being invisible to the authorities in alignment with the estimates reported in Albarea et al. (2020)), economists remain largely in disagreement about what the exact figure is, especially in higher income brackets. In addition to the difficulties in measuring such an elusive phenomenon (by definition unobservable), our purposefully imprecise wording adds to the

difficulty of providing a precise answers. We used the answers provided for Quintile 1 and the Top Decile to generate our information conditions.

Figure B3: Distribution of proportions of total income not reported by each Italian income quantile as subjectively estimated by the respondents to the economists' survey.

The Economists' Survey also collected personal estimates of the unreported proportions of income originating from work and capital gains. These were however not used to generate the experimental conditions for the general population survey, but are reported in Figures B4 and B5 for completeness.

Subjectively estimated proportion of unreported work income income by quantile
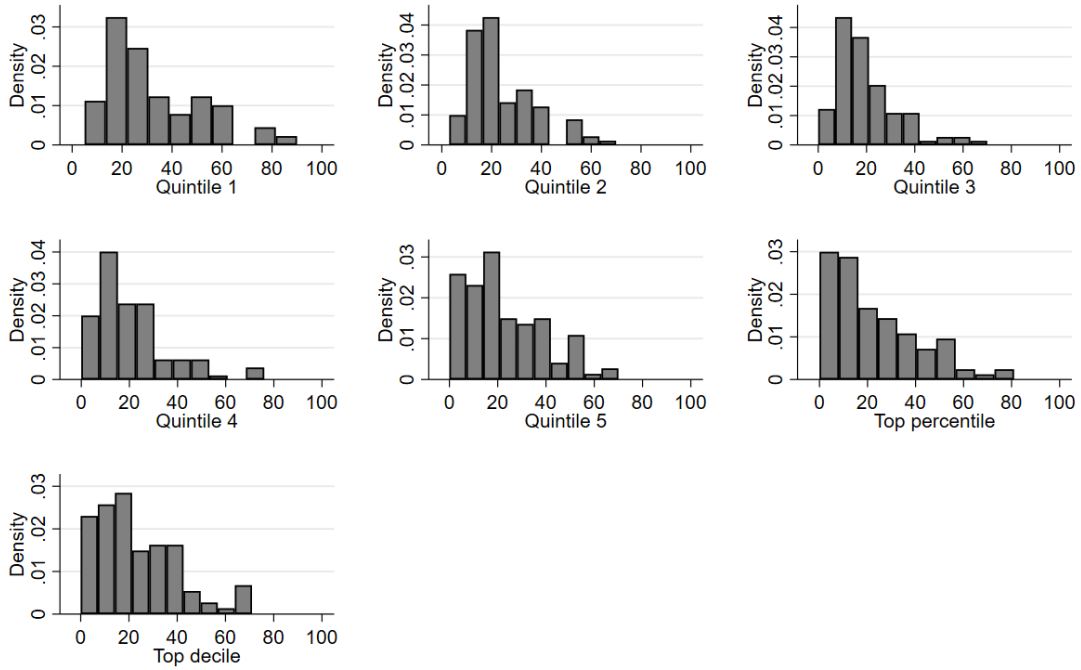
Figure B4: Distribution of proportions of work income not reported by each Italian income quantile as subjectively estimated by the respondents to the economists' survey.
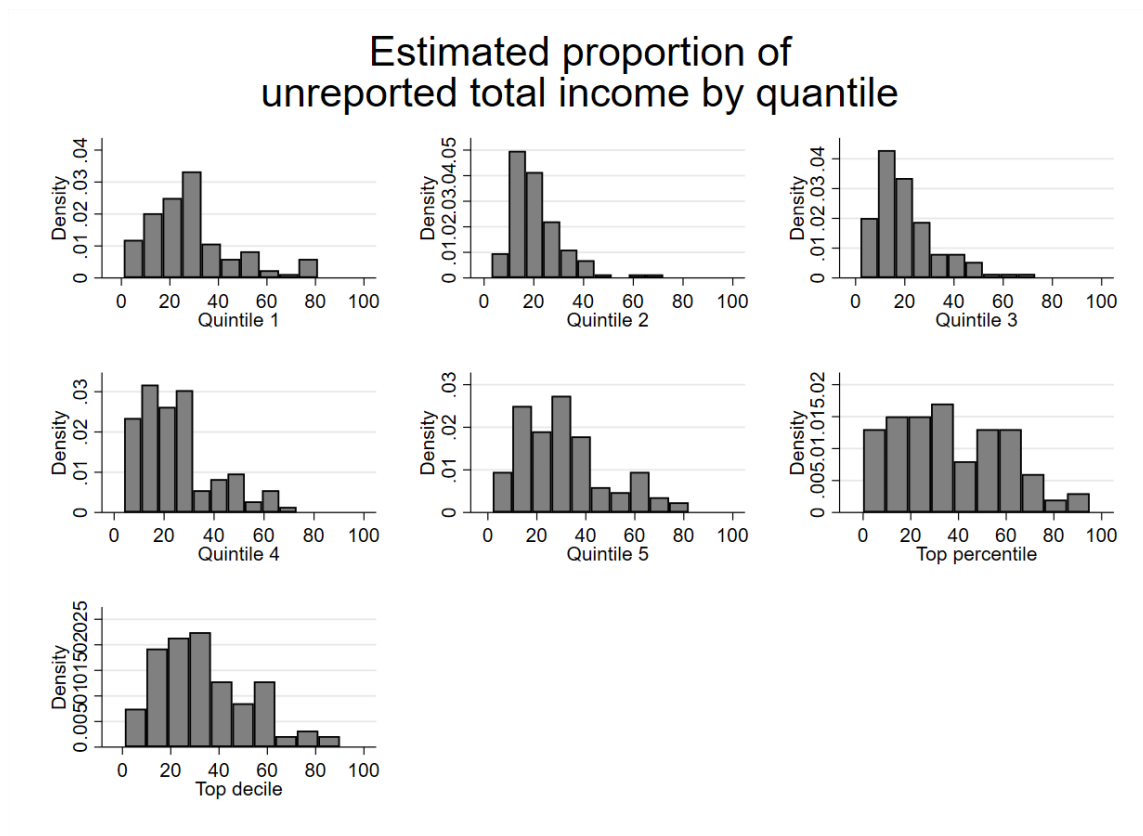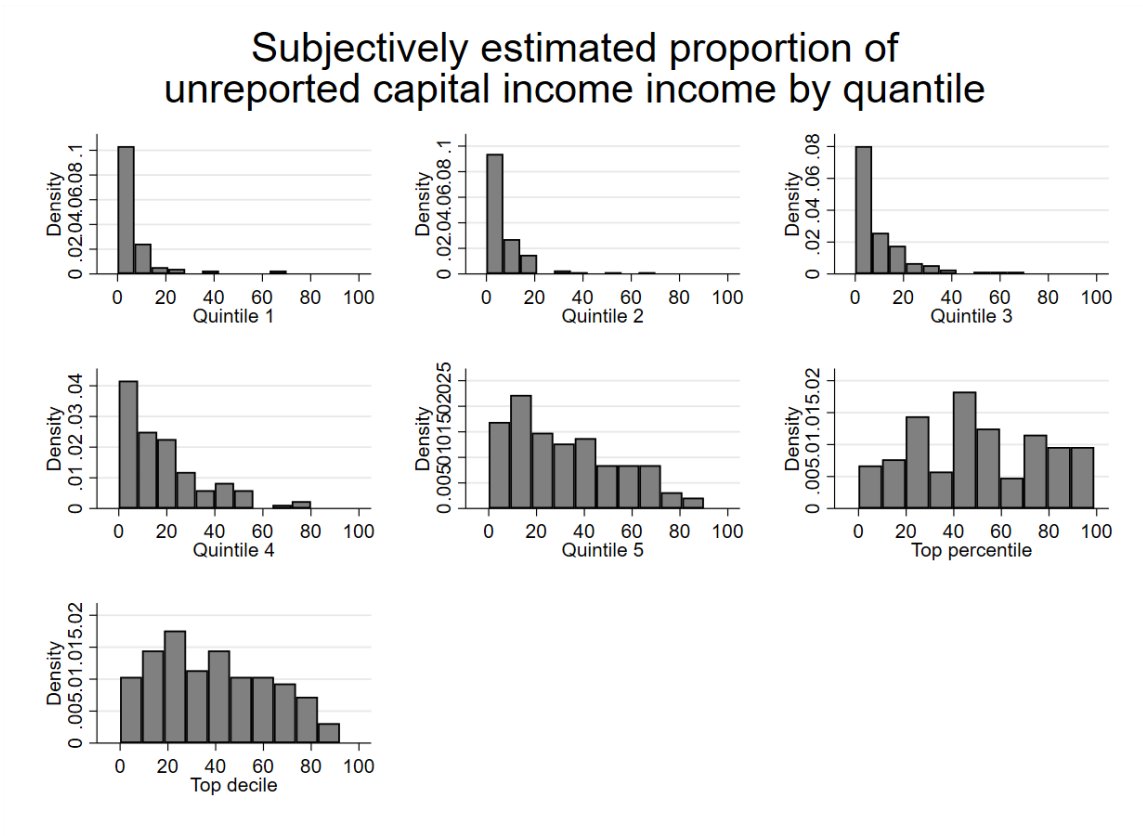
Figure B5: Distribution of proportions of capital income not reported by each Italian income quantile as subjectively estimated by the respondents to the economists' survey.

C   Further analyses

C.1   Instrumental variable regressions: the first stage

This section reports the first stage regression estimates for the instrumental variable analysis of the impact of posterior beliefs reported in Sections 4 and 5 for Tables 5 (cheating propensity in the die reporting task), 8 (perceived tax norms), 10 (generalised social trust) and 12 (worldviews on wealth and wealth accumulation). First stage regressions are the same for all tables: Posterior beliefs about the unreported income by bottom (B_b) and top (B_t) income earners are regressed via standard OLS on the experimental condition indicators, the perception gap about the proportion of income unreported by bottom (PG_b) and top (PG_t) income earners (individuals' prior beliefs minus the information we provided as part of the experimental conditions), their interactions, plus the full set of controls.

For this reason, we report only one set of first stage OLS regression estimates for the full sample and for our income splits, as predicted values from these regressions are then used to produce the second stage IV estimates of all tables reported earlier in this article.

Table C2 shows that our information conditions managed to shift posterior beliefs coherently with the information provided: Posterior beliefs about bottom (top) income earners are much lower whenever the bottom (top) incomes are portrayed as hiding relatively little income.[30] These observations suggest that on average people's prior beliefs are that both income groups hide relatively high amounts of income, and are aligned with the graphs in panel (e) of Figure A1.

Moreover, we can observe how the perception gap about the hidden income of a specific income group is significantly related only with the posterior beliefs about that same income group. That is to say, for instance, that posteriors about bottom income earners is only related to the perception gap about bottom and not top income earners, and vice versa.

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[30]Recall that our labeling convention is to denote, for instance, "LH" the condition in which the top incomes (first term) are portrayed as hiding relatively Low proportions of their income, while bottom incomes (second term) are portrayed as hiding relatively High proportions.

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
		First stage regression				
		Full model specifications for Tables 5, 8, 10, and 12				
	Column 2		Column 4		Column 6	
	(Full sample)		(Low income sample)		(High income sample)	
	B_b	B_t	B_b	B_t	B_b	B_t
HL	-31.368***	-1.230	-30.924***	-1.358	-31.312***	-1.176
	(1.327)	(0.966)	(1.733)	(1.489)	(1.701)	(1.552)
LH	-5.466***	-28.484***	-7.450***	-27.476***	-2.960	-30.202***
	(1.369)	(1.968)	(1.799)	(2.360)	(2.660)	(3.266)
LL	-34.093***	-36.854***	-34.306***	-35.442***	-33.761***	-38.851***
	(1.430)	(1.271)	(1.316)	(1.944)	(2.304)	(1.316)
PG_b	-0.182***	-0.017	-0.191***	0.033	-0.175***	-0.070*
	(0.026)	(0.025)	(0.036)	(0.037)	(0.037)	(0.035)
PG_t	-0.032	-0.289***	-0.031	-0.306***	-0.024	-0.279***
	(0.047)	(0.021)	(0.046)	(0.030)	(0.065)	(0.034)
HL × PG_b	-0.108**	0.031	-0.067	-0.024	-0.141**	0.089*
	(0.042)	(0.035)	(0.061)	(0.050)	(0.067)	(0.049)
LH × PG_b	0.056	-0.163***	0.066	-0.205***	0.055	-0.109
	(0.052)	(0.049)	(0.059)	(0.069)	(0.065)	(0.074)
LL × PG_b	-0.191***	-0.145***	-0.156**	-0.205***	-0.224***	-0.076
	(0.042)	(0.040)	(0.068)	(0.058)	(0.052)	(0.048)
HL× PG_t	-0.029	0.051	-0.052	0.077	-0.023	0.026
	(0.077)	(0.038)	(0.072)	(0.058)	(0.109)	(0.059)
LH × PG_t	-0.028	0.001	-0.087	0.058	0.047	-0.069
	(0.056)	(0.030)	(0.058)	(0.052)	(0.102)	(0.076)
LL × PG_t	-0.005	0.006	-0.005	0.039	-0.021	-0.029
	(0.049)	(0.050)	(0.055)	(0.061)	(0.088)	(0.060)
Constant	63.459***	68.394***	62.798***	66.840***	63.056***	67.661***
	(1.672)	(1.762)	(1.894)	(2.555)	(2.257)	(2.415)
Observations	2,847	2,847	1,504	1,504	1,343	1,343
R-squared	0.361	0.379	0.376	0.369	0.371	0.410

Robust standard errors, clustered at region level, in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table C2: First stage regressions for the instrumental variable investigations in Tables 5 (cheating propensity in the die reporting task), 8 (perceived tax norms), 10 (generalised social trust) and 12 (worldviews on wealth and wealth accumulation). The dependent variables are individual beliefs about the fraction of hidden income by low (B_b) and high (B_t) income groups. These are regressed on the condition indicators, on the perception gap for low (PG_b) and high (PG_t) incomes, and their interactions. Controls include: age, gender, education level (=1 if complete high school), equivalent household income, worker (=1 if in the labour force), political orientation and region fixed effects. Notice that in this table, the reference group is experimental condition HH, different from the other tables reported in Sections 4 and 5.

C.2   Further norms of behaviour

	(1)	(2)	(3)	(4)	(5)	(6)
	Further norms of behaviour					
	Claming		Free riding		Taking bribes	
VARIABLES	undue benefits		on public transport		on duty	
HH	0.103	0.092	-0.060	-0.069	-0.126	-0.155
	(0.207)	(0.204)	(0.164)	(0.143)	(0.114)	(0.110)
LH	0.139	0.166	0.160	0.191	0.025	0.024
	(0.166)	(0.170)	(0.154)	(0.149)	(0.106)	(0.104)
LL	0.011	0.008	-0.058	-0.061	-0.045	-0.064
	(0.110)	(0.110)	(0.141)	(0.128)	(0.122)	(0.112)
Constant	3.979***	3.739***	4.325***	5.216***	3.207***	3.153***
	(0.140)	(0.241)	(0.136)	(0.175)	(0.120)	(0.207)
Controls		✓		✓		✓
Observations	3,421	3,421	3,421	3,421	3,421	3,421
R-squared	0.000	0.036	0.001	0.056	0.000	0.041

Robust standard errors, clustered at region level, in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table C3: OLS regression of norm perceptions. Greater values of the outcome variable denote perceptions of a *weaker* norm (greater acceptance of behaviour). Controls include: age, gender, education level (=1 if complete high school), equivalent household income, worker (=1 if in the labour force), political orientation and region fixed effects.

:

	(1)	(2)	(3)	(4)	(5)	(6)
	**Further norms of behaviour, low income**					
	Claming		Free riding		Taking bribes	
VARIABLES	undue benefits		on public transport		on duty	
HH	0.482*	0.473**	0.312	0.311	0.300	0.249
	(0.242)	(0.224)	(0.220)	(0.197)	(0.187)	(0.173)
LH	0.454	0.497*	0.340	0.389*	0.175	0.183
	(0.264)	(0.277)	(0.230)	(0.214)	(0.162)	(0.163)
LL	0.368	0.369	0.271	0.275	0.408	0.388
	(0.244)	(0.241)	(0.238)	(0.207)	(0.268)	(0.263)
Constant	3.722***	3.599***	4.020***	5.400***	2.868***	3.141***
	(0.189)	(0.351)	(0.195)	(0.237)	(0.144)	(0.271)
Controls	✓	✓	✓	✓	✓	✓
Observations	1,787	1,787	1,787	1,787	1,787	1,787
R-squared	0.003	0.051	0.002	0.086	0.003	0.060

Robust standard errors, clustered at region level, in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table C4: OLS regression of norm perceptions, low income subsample. Greater values of the outcome variable denote perceptions of a *weaker* norm (greater acceptance of behaviour). Controls include: age, gender, education level (=1 if complete high school), equivalent household income, worker (=1 if in the labour force), political orientation and region fixed effects.

	(1)	(2)	(3)	(4)	(5)	(6)
	Further norms of behaviour, high income					
	Claming		Free riding		Taking bribes	
VARIABLES	undue benefits		on public transport		on duty	
HH	-0.312	-0.303	-0.459**	-0.453*	-0.585***	-0.573***
	(0.250)	(0.254)	(0.213)	(0.223)	(0.181)	(0.200)
LH	-0.191	-0.145	-0.027	0.012	-0.127	-0.105
	(0.223)	(0.211)	(0.163)	(0.171)	(0.222)	(0.215)
LL	-0.363	-0.380	-0.402**	-0.406**	-0.521***	-0.546***
	(0.236)	(0.241)	(0.141)	(0.148)	(0.159)	(0.149)
Constant	4.248***	3.441***	4.644***	4.696***	3.562***	3.055***
	(0.210)	(0.371)	(0.113)	(0.360)	(0.210)	(0.401)
Controls	✓	✓	✓	✓	✓	✓
Observations	1,634	1,634	1,634	1,634	1,634	1,634
R-squared	0.002	0.041	0.004	0.047	0.007	0.043

Robust standard errors, clustered at region level, in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table C5: OLS regression of norm perceptions, high income subsample. Greater values of the outcome variable denote perceptions of a *weaker* norm (greater acceptance of behaviour). Controls include: age, gender, education level (=1 if complete high school), equivalent household income, worker (=1 if in the labour force), political orientation and region fixed effects.

	(1)	(2)	(3)	(4)	(5)	(6)
		Low income			High income	
VARIABLES	Undue benefits	Free riding	Taking bribes	Undue benefits	Free riding	Taking bribes
B_p	0.018***	0.010**	0.010***	0.003	-0.000	0.003
	(0.006)	(0.005)	(0.004)	(0.005)	(0.006)	(0.004)
B_r	-0.010	-0.007	-0.003	0.010**	0.005	0.009
	(0.008)	(0.007)	(0.006)	(0.005)	(0.006)	(0.006)
Constant	3.630***	5.514***	3.072***	2.530***	4.147***	2.026***
	(0.578)	(0.384)	(0.420)	(0.531)	(0.518)	(0.509)
Controls	✓	✓	✓	✓	✓	✓
Observations	1,787	1,787	1,787	1,634	1,634	1,634
R-squared	0.036	0.082	0.062	0.049	0.047	0.048

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table C6: Instrumental variable second stage regression of tax compliance norm perceptions. Greater values of the outcome variable denote perceptions of a *weaker* tax compliance norm (greater acceptance of tax malpractice). $B_k, k \in \{b,t\}$, denoting posterior beliefs about the income not declared by, respectively, bottom and top incomes is instrumented by: i) the condition indicators, ii) the "perception gap", and iii) their interaction. Controls include: age, gender, education level (=1 if complete high school), equivalent household income, worker (=1 if in the labour force), political orientation and region fixed effects.

C.3   Robustness: Alternative belief updating analyses

We here explore an alternative way of investigating the impact of belief updating. In building our belief updating measure, we want to weight the observations such that analogous updates are weighted by the size of the posterior they lead to. Concretely, imagine a person i updating their belief about the income hidden by some income group group upwards by 5%. This update is relatively larger if it leads to a posterior belief of 20% (1/4 of the posterior) than if it leads to a posterior of 50% (1/10 of the posterior). For this reason, we construct our measure of belief update (Δ) by dividing the absolute size of update (posterior - prior) by the posterior itself: $\Delta_k = \frac{(posterior_k - prior_k)}{posterior_k}, k \in \{b,t\}$ with p and r denoting respectively beliefs about tax evasion at bottom and top incomes. Notice that Δ_k is positive whenever beliefs are updated upwards (towards a greater proportion of unreported income). In the first stage of the two-stages-least-squares approach we regress our measure of belief updating on the experimental condition indicators, and regress the outcome variables on the first stage predicted belief update values (thus netted out of any endogenous components) in the second stage.

Notice that in first stage regressions, beliefs are updated in the expected direction by experimental conditions: Δ_p is lower in HL and LL and higher in HH and LH, and Δ_r is lower in LH and LL and higher in HH and HL, with $p < 0.01$ in all cases.[31]

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[31]First stage regressions are available upon request.

	(1)	(2)	(3)	(4)	(5)	(6)
	**Probability of misreporting given roll $\neq 6$**					
VARIABLES	Full sample		Low income		High income	
Δ_p	-0.108*	-0.114*	0.061	0.055	-0.304***	-0.334***
	(0.064)	(0.068)	(0.100)	(0.100)	(0.103)	(0.117)
Δ_r	0.052	0.050	-0.070	-0.054	0.163**	0.150*
	(0.077)	(0.076)	(0.096)	(0.107)	(0.082)	(0.080)
Constant	-0.537***	-0.349***	-0.556***	-0.127	-0.479***	-0.607***
	(0.042)	(0.112)	(0.037)	(0.184)	(0.073)	(0.178)
		✓		✓		✓
Observations	2,838	2,834	1,499	1,496	1,339	1,335

Robust standard errors, clustered at region level, in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table C7: Instrumental variable second stage probit regression of propensity to cheat given the opportunity to do so. Our belief updating measure, $\Delta_k = \frac{(posterior_k - prior_k)}{posterior_k}, k \in \{b, t\}$ and p and r denoting respectively bottom and top incomes is instrumented by the condition indicators. Controls include: age, gender, education level (=1 if complete high school), equivalent household income, worker (=1 if in the labour force), political orientation and region fixed effects.

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
			Perceived norm of tax compliance			
	Full sample		Low income		High income	
Δ_p	0.367***	0.370***	0.517***	0.549***	0.128	0.136
	(0.142)	(0.134)	(0.177)	(0.174)	(0.223)	(0.220)
Δ_r	-0.213**	-0.212**	-0.286	-0.343*	-0.030	0.018
	(0.102)	(0.105)	(0.188)	(0.203)	(0.157)	(0.143)
Constant	4.062***	3.747***	3.941***	3.815***	4.213***	3.424***
	(0.072)	(0.207)	(0.106)	(0.176)	(0.127)	(0.482)
Observations	3,410	3,410	1,780	1,780	1,630	1,630
Controls		✓		✓		✓
Observations	3,410	3,410	1,780	1,780	1,630	1,630

Robust standard errors, clustered at region level, in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table C8: Instrumental variable second stage regression of tax compliance norm perceptions. Greater values of the outcome variable denote perceptions of a *weaker* tax compliance norm (greater acceptance of tax malpractice). Our belief updating measure, $\Delta_k = \frac{(posterior_k - prior_k)}{posterior_k}, k \in \{b,t\}$ and p and r denoting respectively bottom and top incomes is instrumented by the condition indicators. Controls include: age, gender, education level (=1 if complete high school), equivalent household income, worker (=1 if in the labour force), political orientation and region fixed effects.

	(1)	(2)	(3)	(4)	(5)	(6)
			Stated social trust			
VARIABLES	Full sample		Low income		High income	
Δ_p	-0.130	-0.113	0.046	0.092	-0.281**	-0.291**
	(0.130)	(0.124)	(0.149)	(0.163)	(0.141)	(0.119)
Δ_r	-0.178*	-0.123	-0.164	-0.122	-0.212**	-0.143
	(0.103)	(0.102)	(0.158)	(0.144)	(0.105)	(0.114)
Constant	4.326***	4.603***	4.158***	4.186***	4.511***	5.236***
	(0.064)	(0.138)	(0.089)	(0.218)	(0.066)	(0.349)
Controls		✓		✓		✓
Observations	3,410	3,410	1,780	1,780	1,630	1,630
R-squared		0.033		0.038		0.010

Robust standard errors, clustered at region level, in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table C9: Instrumental variable second stage regression of stated social trust. Our belief updating measure, $\Delta_k = \frac{(posterior_k - prior_k)}{posterior_k}, k \in \{b, t\}$ and p and r denoting respectively bottom and top incomes is instrumented by the condition indicators. Controls include: age, gender, education level (=1 if complete high school), equivalent household income, worker (=1 if in the labour force), political orientation and region fixed effects.

	(1)	(2)	(3)
		Worldviews	
		Full sample	
VARIABLES	Richness	Hardwork	Redistrib
Δ_p	0.210	0.139	-0.065
	(0.204)	(0.143)	(0.111)
Δ_r	-0.063	-0.119	-0.057
	(0.142)	(0.153)	(0.127)
Constant	3.751***	5.179***	3.082***
	(0.214)	(0.144)	(0.192)
Controls	✓	✓	✓
Observations	3,410	3,410	3,410
R-squared	0.027	0.046	0.040

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table C10: Instrumental variable second stage regression of worldviews. Greater values of the outcome variable denote greater agreement with the statements that i) wealth accumulation comes at the expense of others, ii) success can be achieved only via hard work, and iii) redistribution is among a government's most important functions. Our belief updating measure, $\Delta_k = \frac{(posterior_k - prior_k)}{posterior_k}, k \in \{b, t\}$ and p and r denoting respectively bottom and top incomes is instrumented by the condition indicators. Controls include: age, gender, education level (=1 if complete high school), equivalent household income, worker (=1 if in the labour force), political orientation and region fixed effects.

	(1)	(2)	(3)	(4)	(5)	(6)
			Worldviews			
		Low income			High income	
VARIABLES	Richness	Hardwork	Redistrib	Richness	Hardwork	Redistrib
Δ_p	0.546**	0.396	0.105	-0.176	-0.173	-0.295
	(0.267)	(0.242)	(0.127)	(0.222)	(0.203)	(0.228)
Δ_r	-0.309	-0.267	-0.223	0.231	0.095	0.208
	(0.279)	(0.223)	(0.204)	(0.224)	(0.157)	(0.200)
Constant	3.823***	5.551***	3.235***	3.272***	4.487***	2.799***
	(0.301)	(0.243)	(0.224)	(0.344)	(0.327)	(0.364)
Controls	✓	✓	✓	✓	✓	✓
Observations	1,780	1,780	1,780	1,630	1,630	1,630
R-squared		0.059	0.047	0.008	0.047	0.033

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table C11: Instrumental variable second stage regression of worldviews, split sample analysis. Greater values of the outcome variable denote greater agreement with the statements that i) wealth accumulation comes at the expense of others, ii) success can be achieved only via hard work, and iii) redistribution is among a government's most important functions. Our belief updating measure, $\Delta_k = \frac{(posterior_k - prior_k)}{posterior_k}, k \in \{b, t\}$ and p and r denoting respectively bottom and top incomes is instrumented by the condition indicators. Controls include: age, gender, education level (=1 if complete high school), equivalent household income, worker (=1 if in the labour force), political orientation and region fixed effects.

D Experimental conditions

Condition Neutral Condition Neutral mentions tax malpractice to make the phenomenon salient to the individual, without providing any further information.

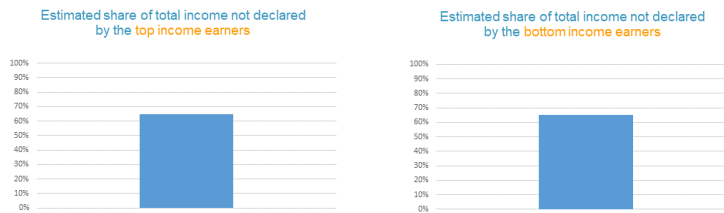**Figure D6:** Information provided in the Neutral condition

Condition HH   Condition HH instead adds information about the proportion of income
which remains undeclared by the top and bottom income earners. The proportion provided
is high (65%) for both groups. We randomised the order of presentation to control for order
effects.

The media usually provide discussions on many topics of
current interest, including tax malpractice.

We have recently surveyed a group of economists in
Italy. Some of them estimate that:

(a)

Among top and bottom income earners
in Italy
more than half
(around 65%)
of their total income
remains undeclared

Estimated share of total income not declared
by the top income earners

Estimated share of total income not declared
by the bottom income earners

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%

(b)

Figure D7: Information provided in Condition HH

Condition HL Condition HL adds information about the proportion of income which remains undeclared by the top and bottom income earners. This time proportion provided is high (65%) for top income earners and low (25%) for low income earners. We randomised the order of presentation to control for order effects.
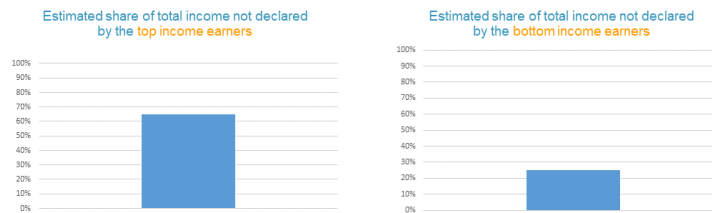
The media usually provide discussions on many topics of
current interest, including tax malpractice.

We have recently surveyed a group of economists in
Italy. Some of them estimate that:

(a)

Among top income earners
in Italy
more than half
(around 65%)
of their total income
remains undeclared

Among bottom income earners
in Italy
less than half
(around 25%)
of their total income
remains undeclared

Estimated share of total income not declared
by the top income earners

Estimated share of total income not declared
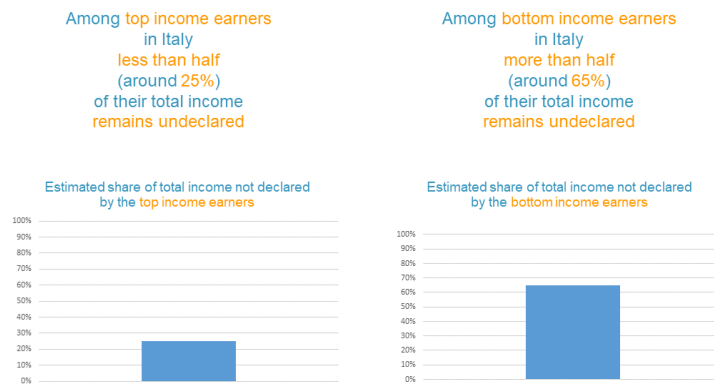by the bottom income earners

(b)

Figure D8: Information provided in Condition HL

Condition LH Condition LH adds information about the proportion of income which remains undeclared by the top and bottom income earners. This time proportion provided is low (25%) for top income earners and high (65%) for low income earners. We randomised the order of presentation to control for order effects.

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The media usually provide discussions on many topics of
current interest, including tax malpractice.

We have recently surveyed a group of economists in
Italy. Some of them estimate that:

(a)

Among top income earners
in Italy
less than half
(around 25%)
of their total income
remains undeclared

Among bottom income earners
in Italy
more than half
(around 65%)
of their total income
remains undeclared

Estimated share of total income not declared
by the top income earners

Estimated share of total income not declared
by the bottom income earners

(b)
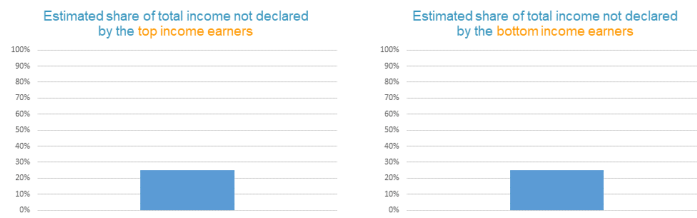
Figure D9: Information provided in Condition LH

Condition LL Condition LL instead adds information about the proportion of income
which remains undeclared by the top and bottom income earners. The proportion provided
is low (25%) for both groups. We randomised the order of presentation to control for order
effects.

The media usually provide discussions on many topics of
current interest, including tax malpractice.

We have recently surveyed a group of economists in
Italy. Some of them estimate that:

(a)

Among top and bottom income earners
in Italy
less than half
(around 25%)
of their total income
remains undeclared

Estimated share of total income not declared
by the top income earners

Estimated share of total income not declared
by the bottom income earners

(b)

Figure D10: Information provided in Condition LL

E   Survey questionnaires

E.1   General population survey

Martinangeli and Windsteiger - Cheating responses to tax evasion

Notes for the reader:
- Below is a transcription of the survey text, translated into English.
- Statements closed into **[…]** are comments included for the reader and were not displayed in the actual survey

We are non-partisan researchers from an independent research institute.
We would like to know your **personal views** on matters of public interest.
It is very important that you provide your **true opinion**, and that you **read all the questions very carefully before answering**. If you do not know the answer to some question, please provide us with your best guess.

It is very important that you **complete the entire survey,** once you've started. Not completing the survey will cause you not to receive your payment. The entire survey should take approximately 10 minutes to complete.

Note: Your participation in this study is purely voluntary. No identifying information will be recorded by the researchers. Results may include summary data, but you will never be identified. The data will be stored on our servers and will be kept confidential. The anonymous data collected may be made available to other researchers for replication purposes.

1.
    a. Yes, I would like to participate
    b. No, I don't want to participate

2. What is your gender? (M/F)
3. Please indicate your age:
4. What is your province of residence?
5. What is your marital status?
    a. Single (Never Married/Widowed/Separated/Divorced)
    b. Married /Civil partnership/Cohabiting
6. Where do you see yourself on the political spectrum, where 1 represents the left and 10 represents the right?
7. Please indicate how many people live in your household (including yourself): Adults… Children…
8. What is the combined **monthly** income of your **household, after taxes**?
[Please include all your household income sources: salaries, scholarships, pension and Social Security benefits, dividends from shares, income from rental properties, child support and alimony etc. We are not interested in the type of income source, only in the total monthly income earned by all the members of your household together.]
    1. <1000
    2. 1000-2000
    3. 2000-3000
    4. 3000-4000
    5. 4000-5000
    6. 5000-6000
    7. 6000-8000
    8. 8000-10000
    9. >10000

The next question is about your household and how you think it compares to other households of the same size across Italy. When we say 'same size' we mean number of people rather than the physical size of a home. As a reminder, you have stated that your household contains **<INSERT FROM TOTAL NUMBER FROM HHSIZE>** people, including any children.
When answering these questions please think about how your household of **<INSERT FROM TOTAL NUMBER FROM HHSIZE>** people, compares to other households of **<INSERT FROM TOTAL NUMBER FROM HHSIZE>** people.

You previously said your monthly household income is <**INSERT**>.

9. What percentage of Italian households of your size, if any, do you think had a **higher** household income than your household income?
If you are unsure, please give your best estimate.

The mass media generally offer debates on many topics, including tax malpractice.

[Prior belief elicitation, randomized order]
10. Please provide your best estimate of the share of total income that remains undeclared in Italy by:
    a. Those who earn the highest incomes
11. Please provide your best estimate of the share of total income that remains undeclared in Italy by:
    a. Those who earn the highest incomes

[Information condition display here *(see Information conditions Appendix)***]**

[Attention questions, randomized order]
    Please re-enter the information you have seen on the previous page.
12. The surveyed economists estimate that those earning the highest incomes don't declare what percentage of their total income?
    a. Around <enter amount>%
13. The surveyed economists estimate that those earning the highest incomes don't declare what percentage of their total income?
    a. Around <enter amount>%

14. Which media do you most frequently get information on world happenings from?
    (If you don't find your preferred outlet, please indicate the one that most closely represents it)
    a. TV News
    b. Social media (social networks, blogs)
    c. Radio/podcasts
    d. Online newspaper/newspaper app
    e. Print newspaper
    f. I don't follow the news

15. What is the highest level of education you have completed?
    a. Primary school
    b. Junior high school (middle school)
    c. Professional education
    d. High school (science/humanities)
    e. Bachelor degree
    f. Master's degree
    g. Doctoral degree

16. Which party would you vote for should national general elections happen next week?
    a. Partito Democratico
    b. Lega
    c. Movimento a 5 Stelle
    d. Forza Italia
    e. Italia Viva
    f. Fratelli d'Italia
    g. Other
    h. I wouldn't vote

17. What is your current employment status?
   a. Employed full-time
   b. Employed part-time
   c. Self-employed/small business owner
   d. Unemployed and looking for a job
   e. Not working and not looking for a job/Long-term sick or disabled
   f. Full-time parent, homemaker
   g. Retired
   h. Student/Pupil

18. Were you born in Italy?
19. Were both of your parents born in Italy?
20. Which party would you vote for if there were elections on Sunday?

21. *Here, participants see the video of a six-faced die roll (showing with probability 1/6 any of the six possible outcomes). Afterwards, they see the following text:*

The video displayed just above was randomly selected by the software among six videos displaying the six possible outcomes of the roll of a six faced die.
The outcome that you can see is therefore obtained as if a die had actually been rolled. You can watch the video again if you wish.

Your task is to tell us the result of the die roll.
You will earn 25 additional points if you tell us that the outcome is 6.
You will not earn additional points if you tell us that the outcome is not 6.

What is the outcome of the die roll?

You can receive an additional payment of 15 points by answering the 4 questions below correctly. Read the instructions carefully.

In a previous survey study conducted in Italy, a representative sample of the resident population was asked for their opinion about a number of actions. In particular, for each of the following actions they were asked on a scale from 1 to 10 whether they thought it can always be justified (10), never be justified (1), or something in between.
Your task is to guess which evaluation was provided most frequently in that survey.

One of the four questions will be **randomly selected** once you've completed the questionnaire.
If your answer to the selected question will turn out to be correct (that is, if you've correctly guessed which evaluation was most frequently assigned to it in the previous survey), you will receive an additional payment of 15 Points.

Because you don't know which question will be selected, you should answer each question as if that question will be the one determining your payment.

22. Claiming government benefits to which you are not entitled.
   The most frequent answer in the previous survey was that "claiming government benefits to which you are not entitled" is:

23. Avoiding a fare on public transport.
   The most frequent answer in the previous survey was that "avoiding a fare on public transport" is:

24. Cheating on taxes if you have a chance.
   The most frequent answer in the previous survey was that "Cheating on taxes if you have a chance" is:

25. Someone taking a bribe in the course of their duty.

The most frequent answer in the previous survey was that "Someone taking a bribe in the course of their duty" is:

Now we would like to ask you for your opinion on the following statements. Please rate them on a scale from 1 to 10, where 1 means you completely disagree and 10 that you completely agree.
26. People can only get rich at the expense of others.
27. Hard work is one of the most important values to succeed in life.
28. Redistribution is among the most important tasks for a government.

29. Would you say your tax rate is too high, somewhat high, correct, somewhat low or too low? [The answers were randomly flipped]
    a. Too high
    b. Somewhat high
    c. Correct
    d. Somewhat low
    e. Too low

30. More generally, would you say that the tax rate in Italy is too high, somewhat high, correct, somewhat low or too low? [The answers were randomly flipped]
    a. Too high
    b. Somewhat high
    c. Correct
    d. Somewhat low
    e. Too low

Now we would like to ask you for your opinion on the following statements.
31. Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people? *(1=most people can be trusted/10=Need to be very careful)*
32. Do you think most people would try to take advantage of you if they got a chance, or would they try to be fair? *(1= most people would take advantage/10=people would be fair)*

[Posterior belief elicitation, randomized order]
33. Please provide your best estimate of the share of total income that remains undeclared in Italy by:
    a. Those who earn the highest incomes
34. Please provide your best estimate of the share of total income that remains undeclared in Italy by:
    b. Those who earn the highest incomes

Not long ago you saw a video with the outcome of a die roll and you were asked to report the outcome.
With an outcome of 6, you would receive an additional payment.

35. Did you realise that you could have lied without consequence?
    (That is, that you could have reported an outcome of 6 independent of the outcome actually displayed, and thus receiving the additional payment without any consequence?)
    a. Yes, I had realised
    b. No, I hadn't realised

36. Still in the question about the die roll, we are able to check the truthfulness of the report by matching the report with the video displayed (though without being able to identify who made the report).

    Regardless of whether you had realised you could have lied, did you realise we could have checked the truthfulness of the report?
    a. Yes, I had realised
    b. No, I hadn't realised

[Debriefing information, displayed to all participants]
The information you received during this survey are based solely on **subjective** estimates provided by a group of economists on the proportion of undeclared income among different income segments of the Italian population.
These estimates do not reflect the opinion of all the interviewed economists, nor the opinion of the researchers who designed this survey.
Moreover, these estimates are not based necessarily on scientifically or statistically sound evidence.

There is a great deal of uncertainty among the scientific community about the actual incidence of tax evasion or avoidance in Italy, and a lively debate is ongoing on how to correctly measure it. Official estimates and evidence are hence hard to gather.
Nonetheless, plausible estimates based on scientific and statistical evidence place the proportion of undeclare income in Italy **between 10 and 20% of total income.**

E.2 Economists' survey

Dear Madam or Sir,

We are economists from the Max Planck Institute for Tax Law and Public Finance conducting a research project on perceived levels of tax compliance in Italy.

We are surveying a group of leading economists (selected via RePEc) from Italian research departments on **three short questions** requiring no more than **two minutes to answer.**
The survey is **completely anonymous**. Aggregate answers will be used in following parts of our study.
Your input will be an important contribution to our research.

Some of the questions might be outside of your direct field of expertise.
In such cases, please provide us with your **best guess** about the correct answer.

We hope you will want to contribute your input to our project by clicking on this link.

Sincerely,

Andrea Martinangeli and Lisa Windsteiger

- Please provide your best estimate of the share of total income that remains undeclared by the following income categories:
    1. The fifth quintile (bottom 20% lowest income earners).
    2. The fourth quintile.
    3. The third quintile.
    4. The second quintile.
    5. The first quintile (top 20% highest income earners).
    6. The top 10% income earners.
    7. The top 1% income earners.

- Please provide your best estimate of the share of **capital** income (also including capitals moved to offshore or otherwise European fiscal havens and rents from immovable properties) that remains undeclared by the following income categories:
    1. The fifth quintile (bottom 20% lowest income earners).
    2. The fourth quintile.
    3. The third quintile.
    4. The second quintile.
    5. The first quintile (top 20% highest income earners).
    6. The top 10% income earners.
    7. The top 1% income earners.

- Please provide your best estimate of the share of **work** income (also including income generated from black market or unreported work from self-employment or employment of family members in family run small enterprises) that remains undeclared by the following income categories:
    1. The fifth quintile (bottom 20% lowest income earners).
    2. The fourth quintile.
    3. The third quintile.
    4. The second quintile.
    5. The first quintile (top 20% highest income earners).
    6. The top 10% income earners.
    7. The top 1% income earners.