

# Willing to Evade

## An Experimental Study of Italy and Denmark

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### Abstract

Tax evasion varies widely across countries and follows a geographical pattern: Southern European countries such as Italy, Spain and Greece, are plagued by higher evasion rates than Northern European countries. This suggests a testable research question: Can national identity explain North-South discrepancies in European tax compliance? We address this issue by conducting identical laboratory experiments in Denmark and Italy, two countries that lie not only at the opposite ends of the spectrum on tax compliance but also at the extremes of cultural differences and citizen trust in the government. We adopt a double-hurdle model to separate the decision of whether to evade or not (extensive margin), from the decision of how much to evade (intensive margin). This study innovates both theoretically and methodologically. Theoretically, it contributes in two ways to the literature on tax compliance: 1) by showing that taxpayers' attitudes toward evasion are not predictive of behavior; and 2) by showing that tax compliance is not related to trust in government or one's fellow citizens. Methodologically, the paper innovates by being the first to examine tax compliance in Denmark, and by testing the effects of an extended vector of covariates on both the intensive and extensive margins of tax behavior. Empirically, we find that--contrary to expectations-- Danes are more likely to evade tax than Italians; at the same time, Danes are less *tolerant* of tax evasion by others. We find that individual evasion choices are strongly affected by risk aversion and individual perception about others' compliance behavior. We conclude by discussing the implications of our findings for tax policies and future research.

*Keywords:* Tax compliance, tax morale, experimental economics, cross-national analysis.

*JEL Codes:* H2; H3; C9

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### 1. Introduction

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Tax evasion is a large and growing problem in most European countries (e.g., Schneider, 2005; Schneider and Enste, 2013; Schneider et al., 2015; Zucman, 2015). Though tax systems in different Western European countries share many of the formal features (Alm and Torgler, 2006), actual rates of tax compliance vary widely across these states and seem to follow a geographical pattern (Taylor, 1995; Svallfors, 1997; Edlund, 1999; Alm et al., 2004; Torgler and Schneider, 2007; Schneider and Enste, 2013). Problems related to tax evasion are particularly extreme in Southern European countries such as Italy, Spain and Greece, which are plagued evasion rates many times higher than those of Northern European countries (Schneider, 2005; Schneider and Enste, 2013). Which factors can explain this difference?

Recent experimental data and survey analyses revealed that tax compliance is not just a function of wealth level, tax rates, and audit probability.<sup>1</sup> **It also stems from social and cultural norms.** These norms shape individuals' intrinsic motivation to honor fiscal obligations--a phenomenon known in the literature as tax morale (Torgler, 2002, 2007; Hofmann et al., 2008; Torgler and Schneider, 2009; Cullis et al., 2012). This morale, an internal state, is connected to tax compliance--the action of paying taxes owed (e.g., Cummings et al., 2009). When tax morale is high, previous research suggests that tax compliance will be high (e.g., Riahi-Belkaoui, 2004). For this reason, promoting such social norms as trust in public institutions is a desirable policy instrument to complement the standard enforcement options. **In this respect, Northern European countries as Denmark and Norway are known to have higher tax morale with respect to Southern European countries as Italy and Greece, which show lower trust in public institutions and higher acceptance of tax cheating** (Alm and Torgler, 2006).

Cultural explanations of tax behavior have flourished in recent cross-cultural experimental analyses of tax behavior (Torgler et al., 2007; Lefebvre et al., 2015; Andrighetto et al., 2016; Zhang et al., 2016; Alm et al., 2017). The cross-cultural experimental approach applied to tax research is attractive as it offers explanations for different behaviors in response to identical conditions (e.g., same tax system and enforcement rules). However, there is a general tendency among economists and social scientists to consider culture as a collective set of all the factors that cannot be captured by traditional models (Frederking, 2002; Chuah et al., 2009). For example, although experimental studies such as Andrighetto et al. (2016) and Zhang et al. (2016) compared tax behavior between countries (e.g., Italians *versus* Swedes; Italians *versus* Britons), these studies were not able to detect which factors were responsible for variations in evasion choices. Furthermore, there have been very mixed results on the relationship between national identity and individual tax evasion (need some cites here). Thus, the current state of the literature makes it difficult --if not impossible-- to use the concept of cultural diversity to either explain or predict discrepancies in tax behavior between Northern and Southern European

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<sup>1</sup> The first experimental study of tax compliance was conducted by Friedland et al. (1978) and since that study the basic experimental design has not substantially changed (see Alm and McKee, 1998, Fonseca and Myles, 2012, and Hashimzade et al., 2012, for reviews). In a typical tax experiment, a group of student subjects are asked to perform a real-effort task and to choose how much to declare to the tax authority. Several studies have extensively investigated how compliance choices are influenced by variations in the probability of audit, tax rate and fine for non-compliance.

countries, or to formulate tax policies. This paper is specifically intended as a contribution to these issues.

Cross-cultural experimental studies on tax evasion are at their infancy. There is, however, an extended literature which relied upon attitudinal survey-based questions to compare self-reported tax morale between cultures (e.g., Alm and Torgler, 2006; Richardson, 2006). At the national level, survey-based empirical results show that self-reported tax morale is negatively correlated with tax evasion rates (Weber et al., 2014). However, at the individual level, the experimental evidence on the relationship between tax attitudes and tax behavior is still insufficient to derive any general result (Torgler et al., 2007). **Self-reported attitudes towards evasion may be biased and may differ from actual behavior, since individuals do not always report honestly on dishonest or incriminating actions (citations needed).** Whether and to what extent self-reported tax morale can predict actual evasion choices is still an open research question which needs further investigation.

This research seeks to address the controversy and gaps in the literature by using laboratory experiments to examine tax compliance behavior in two very different countries -- Italy and Denmark. We chose Italy and Denmark because previous research shows that they represent extremes of the spectrum in cultural differences and tax compliance rates within Europe. Culturally, Italy appears to have lower levels of generalized interpersonal trust than other European countries (Putnam, 1994; Farrell, 2009; Hooghe et al., 2009). In addition, Italy is ranked very low within Europe in terms of honest behaviors (Mackie, 2001; Andrighetto et al., 2016). **On the other hand, Denmark ranks near at the top in terms of interpersonal trust and honesty** (e.g., Rothstein and Uslaner, 2005; Letki, 2006). Danes are famously happy to pay their high taxes, while Italians are known to be among the biggest tax evaders in the European Union.<sup>2</sup> For example, a 2011 CNN story titled “Tax evasion is a national pastime afflicting southern Europe” captured the common perception about the North-South discrepancy in European tax evasion. . In fact, former Prime Minister Silvio Berlusconi once said of tax that “evasion [is] a natural right” in Italy.<sup>3</sup>

Within the framework of national identity and tax compliance, our research objectives are: 1) to investigate whether and to what extent cultural differences can explain observed North-South discrepancies in European tax evasion rates; and 2) to identify socio-economic, psychological and institutional factors that underlie those discrepancies. To do so, we use a two-stage estimate strategy (namely, double-hurdle models) that allows us to analyze factors which affect the likelihood of evading tax and the amount evaded (Cragg, 1971; Engel and Moffat, 2015; Alm et al., 2017).

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<sup>2</sup> See, for example, the European Commission Press release on VAT gap at the following link: [http://europa.eu/rapid/press-release\\_IP-16-2936\\_en.htm](http://europa.eu/rapid/press-release_IP-16-2936_en.htm) (Last access: August 2017). See also the Local post at the following link: <https://www.thelocal.it/20160907/italians-europe-vat-tax-evasion-dodge-again> (Last access: August 2017).

<sup>3</sup> The CNN post is available at the following link: <http://edition.cnn.com/2011/11/02/opinion/europe-shadow-economies/index.html> (Last access: August 2017).

In this way, our research contributes to the literature on cross-cultural tax compliance with new conceptual insights and evidence on a controversial topic. We seek to advance research by specifying the relationships between tax morale and compliance. Specifically, we show that tax morale should be treated as independent and not predictive of tax compliance. In addition, we approach the topic with a novel empirical focus, a rarely-used methodology, and an unusually broad examination of cultural factors linked to tax morale and compliance.

More specifically, our paper adds three empirical and methodological contributions to the literature. First, no previous cross-national experimental studies have investigated tax behavior in Denmark. Previous cross-national lab experiments on tax compliance have been carried out in the US, the UK, Sweden, and Italy (Andrighetto et al., 2016; Zhang et al., 2016; Alm et al., 2017).<sup>4</sup> This is surprising considering Denmark's robust tax compliance culture and extremely low rates of evasion. For this reason, analyzing Danes' willingness to pay their taxes could help enhance tax compliance in countries plagued by high rates of tax evasion, such as Italy.

Secondly, we contribute a rarely-adopted methodological approach to analyze whether self-reported attitudes towards tax evasion can predict actual evasion choices. To the best of our knowledge, this is the first paper to examine tax compliance differences between European countries by combining a tax experiment with monetary rewards *and* a post-experimental questionnaire on tax morale. This methodological approach has been previously adopted by Torgler et al. (2007) to compare tax behavior between Switzerland, Australia and Costa Rica, but it has never been used between European countries. Torgler et al. (2007) found that self-reported tax morale is negatively correlated to actual evasion decisions measured in the tax experiments: in other words, the higher an individual's tax morale, the less likely s/he is to evade. However, given the lack of evidence, it is impossible to state whether this result generally holds true between other cultures.

We contribute to this issue by testing whether a standard attitudinal question on tax morale predicts actual compliance behavior with real money in two, culturally different European countries. This allows us to advance the discussion on whether survey-based studies should be integrated with experimental analyses involving economic incentives. **We find that attitudinal survey-based questions on whether tax evasion can be justified, cannot predict individual actual evasion choices. Indeed, in our study Italians described themselves as tolerant of tax evasion, but they actually evaded less than Danes. These findings, which stand in contrast to Torgler et al.'s (2007) results in Switzerland, Australia and Costa Rica, open interesting roads for further research that combine survey-based data with behavioral data from experiments.**

Thirdly, we link individuals' choices during the tax compliance experiment with an extensive set of explanatory variables such as interpersonal trust, political stance, religious attendance, confidence in the government and perception of others' compliance behavior. No previous contributions have analyzed the impacts of all these factors on both the two components of tax

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<sup>4</sup> A tax audit field experiment has been carried out in Denmark, with no comparative purposes between countries (Kleven et al., 2011).

behavior, i.e., the decision to evade and, once classified as evader, the choice on how much to evade. Moreover, unlike previous cross-national tax experiments involving Italy (e.g., Andrighetto et al., 2016; Zhang et al., 2016; Alm et al., 2017), our experimental design includes a risk elicitation task (i.e., a lottery choice à la Holt and Laury, 2002) to test for individual risk aversion. As pointed out also by Torgler et al. (2007), without an incentivized test on risk aversion it is impossible to understand whether cross-cultural differences in tax evasion are due to differences in risk aversion between countries, or to differences in cultural factors. Despite its crucial role in evasion decisions, risk aversion has been either neglected or inaccurately examined in previous cross-national tax experiments involving Italy (e.g., via survey-based questions on general risk attitude in post-experimental questionnaires).

In this way, our paper adds two main conceptual contributions to the current literature on tax behavior. **First, tax attitudes and tax behaviors should be conceived as separate and independent concepts.** Depending upon the circumstances, self-reported tax behavior may differ from actual tax behavior. **Secondly, evasion should be conceptualized as a two-part decision: the decision to evade and the choice about how much to evade.** National identity, behavioral factors (e.g., perception of others' compliance choices, trust in public authorities), demographic characteristics (e.g., gender, age, education level) and institutional changes (e.g., increasing audit probabilities or tax rates) may have diverse impacts on these two components of evasion.

The remainder of this paper is organized as follows. Section 2 reviews the related literature. Section 3 describes the methodology, including the experimental design and procedure, and the econometric method. Section 4 presents the results. Section 5 discusses the main findings, the limitations of our analysis and directions for future research.

## **2. Tax Behavior and National Tax Cultures: Theory, Evidence and Hypotheses**

This paper relies upon and contributes to three related strands of the literature: the cross-national experimental literature on tax behavior; the literature on the moral costs of tax evasion; and the cross-national empirical and experimental literature on tax morale. In this section, we will review each of them and discuss our contributions to them. Previous findings from empirical, experimental and theoretical contributions will be used to set the main hypotheses for our experiment.

### **2.1. Cross-National Experiments on Tax Evasion**

Despite the extensive literature on factors that affect tax compliance, the impact of national culture has received little attention. Exceptions include Cummings et al. (2009), Lefebvre et al. (2015), Andrighetto et al. (2016), Zhang et al. (2016) and Alm et al. (2017), which we will briefly review.

Cummings et al. (2009) conducted identical tax compliance experiments in Botswana and South Africa: despite being geographical neighbors and having achieved independence at the same time, the two countries have strikingly different social histories and perceptions of public institutions. Individual willingness to evade fiscal obligations was expected to be lower in

Botswana than South Africa, and this prediction was confirmed by the results from the survey data and the experimental investigations.

The other experimental studies found surprising results: either no national differences in tax compliance, or differences in an unexpected direction. Lefebvre et al. (2015) analyzed how receiving information about others' tax compliance affects individuals' subsequent evading decisions. The study revealed that this information made no difference in compliance behavior across France, Belgium and the Netherlands. The identical tax compliance laboratory experiments conducted by Andrighetto et al. (2016) in Sweden and Italy found that--when formal institutions (i.e., tax rates and redistribution policies) are held constant across countries --the average level of tax evasion was not significantly different between the two nationalities. Zhang et al. (2016) repeated the same laboratory experiment, substituting the UK for Sweden. Despite the prevailing national stereotypes about Italians' dishonesty (Floris, 2010), all else being equal, Italians were more compliant than Britons. Finally, Alm et al. (2017) compared the impact of confidentiality of taxpayer information on the level of individual compliance in Italy and the United States. They found that the deterrent effect is similar in both countries, despite the very different levels of citizen trust in government and social norms of compliance in the two countries.

These mixed results leave it unclear whether national identity can explain discrepancies in tax evasion between countries. This may be due to the fact that, in the above-cited contributions, national identity has been ill-defined: considered as a vague, collective set of unspecified factors. It is impossible to detect which particular element of national identity (such as, interpersonal trust, social cohesion, or trust in public authorities) might be responsible for differences in evasion choices between countries. Clarifying this is crucial for both scholarship and policy.

This paper addresses the controversies and gaps in the literature by comparing tax behavior in a Southern European country (Italy) to that of a Northern European country which has never been considered before in the experimental literature (Denmark). The first hypothesis we investigate is whether national identity alone (i.e., the sole fact of being born and living in Southern European countries rather than in Northern European countries) can help explain the North-South discrepancies in European evasion rates observed outside the lab.

**H1: National identity affects tax compliance. All else equal, tax evasion rates are higher among Italian subjects rather than among Danish subjects.**

## **2.2. Tax Evasion as a Two-Stage Decision**

Previous contributions have usually considered tax evasion as a binary choice: to evade or not. Yet, a recent experimental study by Alm et al. (2017) stressed the necessity to analyze tax evasion as a two-stage choice (see also Benjamini and Maital, 1985; Gordon, 1989): the binary decision to either evade or not, and the choice of the amount to evade. More specifically, Alm et al. (2017) performed identical laboratory tax experiments in the United States and Italy to analyze the effect of confidentiality of taxpayer information on the level of compliance. They separated the decision about whether to evade from the decision about *how much* to evade. The

results show that public disclosure substantially affects the choice whether to evade tax –but it does not impact the amount of evasion. Moreover, Alm et al. (2017) found that Italian subjects were more likely to be evaders, but, among those evading taxes, they evaded by a lesser amount with respect to American subjects.

While Alm et al. (2017) focused on the effects of public disclosure on evasion choices, our paper is the first to consider a broader set of explanatory variables which potentially affect the two components of evasion choices differently. These variables include: perceived compliance behavior of the other taxpayers; risk aversion; demographic characteristics (e.g., age, gender, education, etc.); confidence in the government; religious denomination; political stance; and others. **Indeed, there might be some factors which affect the decision to be a tax cheater (the extensive margin) but not the extent of tax evasion (the intensive margin), or vice versa. Alternatively, there might be some other factors which positively affect the extensive margin while negatively affecting the intensive margin, or vice-versa.** In addition, the moral cost of being an evader may be higher in some societies rather than others, regardless of other factors. In this case, because of this fixed moral cost, the individual evasion choice may jump between full compliance and high evasion rates, depending only upon the reference country. In other terms, in some countries the subset of people who never cheat, regardless of other factors (e.g., increased tax rate, no redistribution of tax revenues) may be higher than in other countries because the fixed, moral cost of being an evader is higher. The analysis of both the fixed and the variable moral costs of tax evasion has been almost neglected in previous cross-cultural experiments, with the exception of Alm et al. (2017). In this regards, this is the first paper to compare tax behavior in Italy and Denmark by distinguishing between the fixed and variable evasion costs. Thus, we aim at testing the following hypothesis:

**H2: The moral cost of being an evader differs across countries, ceteris paribus.**

This analysis on whether and how cultural factors affect the two components of evasion choices will ultimately help design tax policies on the basis of the social objective (reducing either the percentage of tax evaders, or the amount of tax evaded, or both).

### **2.3. Attitudes and Behavior: Self-Reported Tax Morale *versus* Tax Compliance**

Does tax morale always predict individual evasion choices? A number of previous empirical studies have investigated the correlation between tax morale and the size of shadow economy in Western societies or Latin America (Alm and Torgler 2006; Alm, Martinez-Vazquez and Torgler 2006; Torgler 2001, 2005a; Torgler et al., 2007). These contributions found a statistically significant, negative correlation. However, these studies used data at the national level, which do not allow specific considerations at the individual level. Moreover, the size of shadow economy could be affected by several, other specific circumstances, which are difficult to control in survey-based analysis.

These issues can be resolved by adopting an experimental approach, which generates data in a controlled environment. However, to the best of our knowledge, only two cross-cultural experimental studies compared tax compliance results from experiments with a post-experiment

questionnaire on subjects' self-reported tax morale. Torgler et al. (2007) conducted identical tax experiments in Switzerland, Australia and Costa Rica between 2002 and 2007 (see also the discussion in Torgler 2004 and Torgler et al. 2003). The results indicate that tax morale matters and has a positive effect on tax compliance. Cummings et al. (2009) reported on analyses of data derived from surveys and an artefactual field experiment in Botswana and South Africa. They found that tax compliance increases with individual perception of good governance at the national level, which includes a fair tax system, a political system which is not corrupt and a government providing valuable goods and services from tax revenues. These contributions suggest that there is a connection between attitude and behavior, but the evidence is still insufficient to derive a general result. Thus, the question whether individual attitudes towards tax evasion can predict actual evasion choices is still open. Our paper addresses this issue with a European perspective, by combining and comparing the results from tax experiments with a post-experiment questionnaire on attitudes towards tax evasion.

Furthermore, this paper considers a broader set of explanatory variables, which have been analyzed in separate, yet related cross-cultural survey-based contributions as possible determinants of tax morale. Uncontroversial results from previous experimental and empirical contributions showed that tax evasion increases with the tax rate; on the other hand, evasion *decreases* with the audit probability and when tax revenues are used to provide a public good (see Gërkhani and Schram, 2006, for an extensive literature review). Several contributions revealed that if individuals are convinced that their co-citizens are fairly complying with their tax shares, they are themselves more willing to comply. Torgler and Schneider (2005) analyzed Austrian survey data and found a strong negative impact of perceived tax evasion (true or not) on tax morale, as did Frey and Torgler (2006) using data from 30 European countries and Hammar et al. (2009) using Swedish individual survey data. Moreover, the previous literature (e.g., Andreoni et al, 1998; Richardson, 2006; Torgler and Schneider, 2007; Choo et al., 2016) found a significant positive association between tax morale and age, church attendance, being female, employed, Roman Catholic,<sup>5</sup> and right-wing politically oriented.

More specifically, church attendance and being female have been found to positively influence not only tax morale but also actual compliance behavior. Religion can be seen as a sanctioning system that reinforces social values and inhibit illegal behavior. Some criminology studies have found a negative correlation between religious membership and crime (e.g., Hull, 2000). Following Iannaccone (2002) and Torgler and Schneider (2007), we include religiosity proxied by the frequency of church attendance, which approximates how much time individuals devote to religion. The presence of a gender difference in tax behavior has been found in previous contributions (e.g., Giese & Hoffman, 1999; Alm et al., 2017; D'Attoma et al., 2017), and it is especially interesting because its reason has still to be formally identified.

Following Torgler et al. (2007), household monthly income should have no impact on compliance behavior. Education may have countervailing effects on compliance rates. As pointed out by Torgler and Schneider (2007), more educated individuals are expected to have a

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<sup>5</sup> In Italy, the influence of the Catholic church is a well-acknowledged fact (Booth, 2017; Cullis et al., 2012).



greater knowledge of tax law, of state-provided benefits and services than less educated individuals. This would positively influence tax compliance and tax morale. However, at the same time, more educated individuals may also have a better knowledge of the opportunities for tax evasion. This would negatively affect tax compliance and tax morale. **Torgler et al. (2007) found that a higher level of education is positively correlated with tax evasion in their experiments in Switzerland, Australia and Costa Rica. Whether this effect holds also in other countries is still an open question.**

In addition, individual degree of risk aversion is expected to be a determinant of tax compliance decisions, and it may differ between cultures. Evading taxes is a risky choice, given the probability of being audited and the fine that has to be paid if caught underreporting income. In the absence of a proper measure of individual risk aversion, it is impossible to argue whether observed differences across subject pools are due to cultural differences in risk attitudes rather than in the intrinsic motivation to evade taxes. This aspect has been addressed in Cummings et al.'s (2009) study in Botswana and South Africa. Indeed, they included a lottery choice in their experimental design and found that the two subject pools do not show significant differences in risk preferences. However, despite its relevance, risk aversion has been surprisingly neglected in cross-cultural experimental analyses in Europe (e.g., Alm et al., 2017), or improperly measured through self-reported post-experimental survey questions (e.g., Andrighetto et al., 2016; Zhang et al., 2017). **We address this methodological drawback by including a risk aversion elicitation task in our experimental design and by controlling for individual risk aversion in the econometric analyses.**

Finally, several contributions argued that tax morale is positively affected by higher levels of confidence in the government (Torgler, 2003; Fiorio and Zanardi, 2006; Frey and Torgler, 2007; Bicchieri and Xiao, 2009; Traxler, 2010; van Dijke and Verboon, 2010; Wahl et al., 2010),<sup>6</sup> as well as of trust on other people.

If tax morale is positively correlated with tax compliance, then the above-mentioned covariates can be expected to have the same effect on actual evasion choices. Instead, if tax morale cannot always (i.e., in all societies) predict actual evasion choices, the question is whether and to what extent these covariates affect compliance behavior. In our paper we aim at testing the following hypotheses:

**H3: Self-reported attitudes towards tax evasion predict actual tax behavior; thus, the factors which affect tax morale have identical effects on tax compliance.**

### 3. Methodology

We used a laboratory experiment to analyze tax compliance behavior, through experimental sessions in Italy and in Denmark. We chose laboratory experiments because this methodology

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<sup>6</sup> The so-called slippery slope-framework of tax compliance has been developed to study the interaction between taxpayers and tax authorities. See, among others, Kirchler (2007), Kirchler et al. (2008, 2010) and Kastlunger et al. (2013).

allows us to compare tax culture and social norms between countries while controlling for formal institutions such as tax rates, audit probabilities and fines.<sup>7</sup>

Similar to Andrighetto et al. (2016) and Zhang et al. (2016), in our experimental design subjects earn their income through a clerical task and have to decide how much to declare under different tax conditions. But unlike Andrighetto et al. (2016) and Zhang et al. (2016), we included (i) a risk elicitation task to test for risk aversion (which is not present in Andrighetto et al., 2016, and Zhang et al., 2016), (ii) the audit rate treatment (while excluding the progressive tax treatment and the charity treatment which are both present in Andrighetto et al., 2016, and Zhang et al., 2016), (iii) questions related to individual perception about the others' compliance behavior in each round of the experiment (whereas a similar question is included only at the end of the experiment in Andrighetto et al., 2016, and Zhang et al., 2016), (iv) an extensive set of explanatory variables, (v) a two-stage econometric strategy to analyze both the likelihood of being an evader and the extent of evasion, among those who evade (whereas Andrighetto et al., 2016, and Zhang et al., 2016, estimated tobit models, thus avoiding considerations on the two aspects of tax behavior).

Importantly, the experimental design and procedure was identically repeated in the two countries. Performing mirror experiments allows us to analyze whether Italians are more open to tax evasion (in which case Italians will evade more in the experiment), or whether the discrepancies in tax behavior are more likely due to differences in formal institutions (e.g., tax rates, audit probabilities, redistribution policies, etc.), that are held constant in the experiment and thus lie outside the laboratory.

### **3.1. Experimental Design**

The experiment involved three main parts. The first part consisted of the main tax compliance experiment. The second part was a risk aversion elicitation task (lottery choices à la Holt and Laury, 2002). The third and final part was a questionnaire on individual characteristics and tax morale.<sup>8</sup> In this Section, we will describe each of these three parts.

#### ***The Tax Experiment***

The experimental design follows that typically used in previous tax compliance experiments (Alm and Jacobson, 2007; Alm, 2010; Andrighetto et al., 2016; Zhang et al., 2016; Alm et al., 2017). In sum, participants earned income through a clerical task, and chose how much income to self-report to the tax authority (which was simulated by the computer) at an announced tax

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<sup>7</sup> We refer the reader to the concluding section for an extensive discussion on the advantages and limitations experimental methodology applied to tax evasion issues. Generally speaking, one of the most discussed limitations of laboratory experiments involving students as participants is related to the external validity. However, there is now much evidence that student and nonstudent responses are not significantly different in most contexts, including compliance behavior (Alm et al., 2015). See also see Choo, Fonseca, and Myles (2016), which identified some differences between student and non-student responses.

<sup>8</sup> For a similar experimental design, see, among others, Alm (1991), Andrighetto et al. (2016), and Zhang et al. (2016).

rate, probability of being audited and redistribution of the tax-funded benefits. If the participant had not paid the full share of taxes, then both unpaid taxes and fines were collected.

More specifically, the main tax compliance experiment consisted of three stages, each of which was divided into three rounds (*Table 1*). Each stage was completely independent from the others: the choices made in each stage had no effect on the earnings in the other stages. Subjects were paid their after-tax earnings at the end of the experiment.

At the beginning of each of the three stages, each participant was asked to perform a real-effort task for 3 minutes. This task, which is intended to induce a feeling of ownership of income, consisted in copying data about fictional students from a sheet of paper onto the computer.<sup>9</sup> For each row copied correctly, participants received 10 points. *Figure 1* shows a sample screenshot from the clerical task in our experiment.

At the end of each clerical task, subjects were then told how many points they had earned as income. They were then asked to declare it under different scenarios. *Figure 2* shows a sample screenshot from the reporting decision in our experiment. Each scenario constitutes a round, in which different taxation rules and redistribution mechanisms were specified (see *Table 1*). Subjects were informed that they were free to report any amount, from 0% to 100%, that only the reported earnings would be taxed, and that there was a risk of being audited at the end of the study.<sup>10</sup> For each round, if a subject were caught under-reporting actual earnings, he/she had to pay a fine equal twice the tax he/she should have paid.<sup>11</sup> Moreover, in each round, immediately after the reporting screen, each subject was asked about their own perception about the others' compliance choice, i.e., how many participants in the room they believed declared their true earnings for tax purposes. The possible answers were the following: none; less than a half; about a half; more than a half; almost everyone; everyone.


Let us explain the different tax scenarios, which are described in *Table 1*. In Stage 1, Rounds 1 to 3, participants face a flat 30% tax rate, a 5% probability of being audited, a '2x underreported income' fine and a varying redistribution mechanism of tax revenues. The revenues collected are not redistributed in Round 1; equally redistributed among participants in Round 2; first doubled and then equally redistributed among participants in Round 3. In Rounds 2 and 3, the revenues are redistributed in equal parts among participants, regardless of how much each participant contributed to the general fund. In Stage 2, Rounds 4 to 6, while tax revenues are equally redistributed among participants (as in Stage 1, Round 2), participants face a 5% probability of being audited, a '2x underreported income' fine and a varying tax rate: 5% in Round 4, 30% in Round 5, and 50% in Round 6. In Stage 3, Rounds 7 to 9, tax revenues are equally redistributed

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<sup>9</sup> If the computer detected a mistake, an error message appeared on the participant's screen and he/she had to correct the mistake before proceeding.

<sup>10</sup> Before being asked to report their income, participants were given explicit examples under hypothetical decisions to ensure their understanding of the instructions (see the Instructions in Section "Supporting Information").

<sup>11</sup> The penalty rate is higher than the tax rate, as in the standard economic analysis on tax evasion (Allingham and Sandmo, 1972).

among participants, and participants face a 30% tax rate, a ‘2x underreported income’ fine and a varying probability of being audited: 5% in Round 7, 30% in Round 8, and 50% in Round 9. 

The results of any audit were revealed only at the end of the experiment. Importantly, at no point during the experiment did participants have information about the others’ declaration behavior and audit rates. This procedure was implemented to avoid influences of reciprocity, conditional cooperation, reputation and wealth effects, which all lies beyond the scope of this research.

For the sake of realism (that is, to simulate as much as possible a taxpayer’s individual decision problem and capture taxpayers’ motivations), and in line with previous experiments on tax compliance, the experiment was framed in non-neutral terms, using words such as “tax,” “income,” “audit,” “report,” but avoiding loaded terms such as “cheating” or “lying.”<sup>13</sup> Using non-neutral language has two main advantages in our design. First, it avoids participants to perceive the decision problem as a risky gamble instead of a tax compliance decision. Second, there is no ambiguity about what honest behavior is: that is, to declare the total amount of earnings. Together with this framing choice, the fact that subjects need to earn their income during the experiment make it closer to the behavior of interest in the real world (Bühren and Kundt, 2014; Bühren and Pleßner, 2014).

### ***The Risk Elicitation Task***

After the three stages of the main tax compliance experiment, in Stage 4 we carry out a lottery-choice task based on Holt and Laury (2002) to elicit individual risk attitudes.<sup>14</sup> The test involves 10 choices between pairs of two-outcome options (or lotteries), A and B, as shown in *Table 2*. In Option A, the possible outcomes were 16 points and 20 points (low variance–low risk). In Option B, the possible outcomes were 1 point and 38.50 points (high variance–high risk). The probability of receiving the higher payoff increases from decision 1 to decision 10, so that expected value initially favors Option A but reverses at decision 5, finally leaving Option B dominant at decision 10. A strongly risk-seeking participant would select Option B throughout. The choice profile of a coherent decision maker is a vector of 10 choices, beginning with Option A and shifting at some point to Option B. A risk neutral participant would switch from A to B at

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<sup>12</sup> We considered the possibility to randomize the order of the different stages and rounds. However, as pointed out by Andrighetto et al. (2016) and Zhang et al. (2016), such randomization is not necessary for the scope of this research, which is not to evaluate the effects of institutional changes, but rather to analyze how individuals from different countries would respond to the same institutional scenario.

<sup>13</sup> Instructions with tax-specific language are generally used in tax compliance experiments. See, among others, Cummings et al (2009), Coricelli et al. (2010), Calvet and Alm (2014), Andrighetto et al. (2016), Zhang et al. (2016) and Alm et al. (2017). In general, the issue of framing effects in tax experiments has been extensively discussed. See, among others, Alm et al. (1992) and Wartick et al. (1999). It is worth noticing that recent experiment studies on corruption showed no significant difference between loaded and neutral language. Among others, Abbink and Schmidt (2016) presented a bribery game in abstract form, that never explicitly referred to corruption, and then repeated the same experiment with non-neutral instructions. Given that corruption is illegal and immoral, subjects playing in the framed treatment were expected to be less likely to engage in bribery. However, they found no significant effect.

<sup>14</sup> For other experimental studies that used Holt and Laury’s (2002) test on risk aversion, see among others Kugler et al. (2012). On measuring individual risk attitudes, see also Rabin (2000), Eckel and Grossman (2008) and Dohmen et al. (2011).

decision 5, whereby higher switching points indicate greater risk aversion. Decision 10 provides a check on comprehension and attentive responding, since it offers 38.50 points for sure (Option B) versus 20 points for sure (Option A). A measure of risk aversion (namely, the variable “risk aversion” in our estimates) is built as the number of times an individual chooses the safer option A.



After the test on risk aversion, participants were informed about the results in each round of the experiment (e.g., the tax they declared; the benefits they received from the tax-funded common pool; if they have been audited; the fine they have to pay if audited and caught underreporting their actual earnings).

### *The Post-Experimental Questionnaire*

After reviewing their final earnings, subjects were asked to complete a questionnaire that included questions on gender, nationality, place of residence, previous participation in experiment, household monthly income, and other factors possibly correlated with individual declaration choices. The questions are based in part upon the European Values Study 2008,<sup>15</sup> which includes information about political stance, trust in other people, confidence in public institutions, justifications for not paying taxes, religious denomination and church attendance.

## **3.2. Experimental Procedure**

The experimental sessions were conducted during the academic year 2016/2017 at the Bologna Laboratory for Experiments in Social Science (BLESS) of the University of Bologna in Italy and at the Laboratory for Experimental Economics (LEE) of the University of Copenhagen in Denmark.<sup>16</sup> The recruitment process, the experimental design and procedure were the same in each site and in each session. To ensure consistency, the experimental instructions were translated and back-translated between Italian (for the sessions in Bologna) and English (for the sessions in Denmark).

Participants were recruited using ORSEE (Greiner, 2004, 2005), a web-based Online Recruitment System for Economic Experiments specifically designed to optimize recruitment for economic experiments. Since the aim of the study is to compare the determinants of tax morale and tax compliance between Danish and Italian participants, we explicitly recruit only native students, which are individuals born in Denmark (Italy) to Danish (Italian) parents. Participants were undergraduate and graduate students from various fields (including social sciences,

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<sup>15</sup> Available at the following link: [https://dbk.gesis.org/dbksearch/file.asp?file=ZA4800\\_cdb.pdf](https://dbk.gesis.org/dbksearch/file.asp?file=ZA4800_cdb.pdf). Last access: October 23, 2017.

<sup>16</sup> The experiment has been approved by the Ethics Committee of the Danish Council for Independent Research. The experiment has been conducted in line with BLESS’s and LEE’s ethics policies. At the beginning of each experimental session, each participant was asked to fill out and sign an informed consent document outlining the rules under which the experimental lab operates, with information on the voluntary nature of the study that they are participating in and the processing of their personal data. Participants were permitted to opt out at any time with no penalty and are allowed to withdraw their data subsequent to participating. Both BLESS and LEE operate under the methodological paradigm of experimental economics, where participant deception is not allowed.

humanities and medicine).<sup>17</sup> Undergraduate and graduate students are the typical sample in economics experiments. Even if they do not have experience with paying income tax, recruiting students as participants to tax compliance experiments have been proved to not undermine the external validity of the results (Alm et al., 2015; Alm et al., 2017).<sup>18</sup>

The experiments were designed using zTree (Fischbacher, 2007) and participants performed all the experimental tasks via computer. Computer clients in both labs are partitioned to ensure confidentiality and avoid communication between participants. To ensure anonymity and reduce the feeling of scrutiny, participants were informed that their decisions during the experiment and their final payment would be linked to the client ID number, not to their names, and kept confidential. We assured them that neither the experimenters nor anyone else would be able to link participants to individual choices (Levitt and List, 2007).

Questions were answered in private. The payments were issued in cash at the end of the session, to one participant at a time to ensure confidentiality and anonymity. At no point in the study was information about the aims of the research project or its cross-cultural scope given to participants.

On the day of the experiment, participants were given a random ID number and assigned to the corresponding computer client. Once everyone was seated, we started reading the instructions, which were also shown in each participant's screen. In the introduction to the study, participants were informed that, based on the others' and their own choices, as well as on chance, they will earn points, which will be converted in the local currency (Euros in Italy and Danish Kroner in Denmark) at the end of the session.

The exchange rate was calibrated such that the average payment to participants per hour (including time to read the instructions and payment of participants) would be approximately equal to the average hourly wage for student employment in the local context.<sup>19</sup> In addition, each participant received a show-up fee for participation (5 Euros in Italy and 100 Danish Kroner—

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<sup>17</sup> Both BLESS and LEE have an existing database of active participants. These participants are undergraduate and graduate students. They have expressed their interest in participating in behavioral experiments by registering their personal details in ORSEE. This includes their name, gender, degree programme (if applicable), and e-mail address. Both labs have strict policies on the confidentiality of the data provided by our participants. Personal information on participants is not shared with any outside party.

<sup>18</sup> More recently, Choo et al. (2016) compared tax compliance choices by three distinct populations: undergraduate students, individuals in full-time employment who pay income tax through a third-party reporting system, and individuals who are self-employed and therefore self-report their income tax liabilities to the tax authority. They found very large subject pool differences, with students being the least compliant subject pool, but also the most responsive to treatment changes, particularly to ambiguity in the audit probability. On the opposite, self-employed taxpayers and taxpayers who pay through third-party reporting were more compliant and mostly non-responsive to different conditions. See also Gërkhani and Schram (2006), Bloomquist (2009) and Alm et al. (2015). For an exhaustive discussion on the advantages and limitations of tax compliance lab experiments, please refer to the concluding section.

<sup>19</sup> The LEE of Copenhagen University explicitly requires external researchers to calibrate the exchange rate from earnings in experimental currency units to kroner such that the average payment to participants per hour is at least 120 DKK per hour. Our experimental sessions last 1 hour and a half each, and the average payment to participants was 191.804 DKK.

approximately equivalent to 14 Euros—in Denmark).<sup>20</sup> Volunteers who exceed the number of slots available for the session received the show-up fee. Each session lasted about 90 minutes and participants earned an average of approximately 10.641 Euros in Italy and 191.804 DKK (approximately equivalent to 25 Euros) in Denmark.

### 3.3. Subject Pool

The overall experiment consisted of 16 sessions, of which 6 in Italy and 10 in Denmark. The higher number of sessions in Denmark is due to some difficulties recruiting Danish participants. Indeed, despite inviting more than 800 Danes per session via ORSEE, the number of participants at KU lab ranged between 4 and 14, whereas in Italy the number of participants were significantly higher (from a minimum of 18 to a maximum of 25). The number of participants per session might have an impact on individual tax behavior.<sup>21</sup> For this reason, in the regression analysis we controlled for the number of participants per session (variable “*pool size*”). Interestingly, the results indicate that the subject pool size has no effect on individual tax behavior.

A total of 180 participants (53.9% male and 46.1% female) were involved in the experiment, of which 106 (58.89%) were from Italy (41.51% from the North) and 74 (41.11%) were from Denmark (39.19% from Copenhagen area). Participants were mainly undergraduate students from different fields, mainly Social Sciences (22.78%), but also Mathematical, Physical and Natural Sciences (11.11%), Engineering (9.44%), Humanities, Philosophy and Arts (8.89%).<sup>22</sup>

The demographic characteristics of our subjects are summarized in Table 3. It is not surprising that there are some substantial differences between subjects in Denmark and Italy. Among others, Danish participants are significantly more likely to be students and employed (40.50% in Denmark, 11.30% in Italy).<sup>23</sup> The proportion of Italians that attend religious services once per month or more is significantly higher than the corresponding proposition of Danes (2.70% in Denmark, 18.86% in Italy).<sup>24</sup> In addition, Danish participants tend to perform better than Italians in the real-effort task.<sup>25</sup> In our estimates, we followed the standard practice of including demographic controls.

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<sup>20</sup> The Bologna BLESS requires external researchers to guarantee a minimum payment to all invited volunteers who show up on time and also to volunteers who exceed the number of slots available for the session. The Copenhagen LEE does not have a specific requirement for the show-up fee, but researchers have to guarantee that only few participants earn less than 50 DKK in total.

<sup>21</sup> Several contributions have identified and explored the so-called group size effect in experiments related to public goods and common pool provisions. The results are mixed. Among others, Isaac and Walter (1988) found that increasing group size leads to a reduction in allocative efficiency. On the opposite, Isaac (1994) found that a group's ability to provide the optimal level of a public good is inversely related to group size. To the best of our knowledge, no previous contributions explored group size effects in a tax compliance experiment.

<sup>22</sup> For an extensive discussion on the external validity of the results for experiments with students as participants, see Choo et al. (2016).

<sup>23</sup> The difference between the two proportions (i.e.,  $\text{diff} = \text{prop}(\text{Denmark}) - \text{prop}(\text{Italy}) = 29.21\%$ ) is statistically significant (two-sample test of proportions,  $H_0: \text{diff} > 0$ ;  $H_a: \text{diff} < 0$ ,  $p\text{-value} = 0.000$ ).

<sup>24</sup> Two-sample test of proportions,  $\text{diff} = \text{prop}(\text{Denmark}) - \text{prop}(\text{Italy})$ ;  $H_0: \text{diff} > 0$ ;  $H_a: \text{diff} < 0$ ,  $p\text{-value} = 0.000$ .

<sup>25</sup> Wilcoxon rank-sum test:  $H_0: \text{rows}(\text{Denmark}) = \text{rows}(\text{Italy})$ ,  $p\text{-value} = 0.000$ .

### 3.4. Econometric Method

Several experimental studies on tax evasion have used the Tobit model to estimate the relationships between the censored dependent variables (i.e., declared income) and the relevant covariates (e.g., Andrighetto et al. 2016; Zhang et al., 2016). **In our analysis, we estimate both a pooled tobit model and a panel tobit regression with random fixed effects, respectively.**<sup>26</sup>

The tobit models are specified as follows:

$$(1) ER_{ij}^* = \mathbf{x}'_{ij} \beta_1 + \mathbf{y}_i \beta_2 + u_i + \varepsilon_{ij}$$

where the dependent variable  $ER_{ij}^*$  is the latent evasion rate –computed as 1 minus reporting compliance rate-- of subject  $i$  in round  $j$ . The regressor vector  $\mathbf{x}_{ij}$  includes three variables for the parameters of the experiment (redistribution, tax rate, audit probability) and the intercept. The regressor vector  $\mathbf{y}_i$  includes individual-specific characteristics (e.g., age, sex, education, current occupation, and others) and other socio-economic and behavioral factors (e.g., tolerance of tax evasion, trust in other people, perceived behavior of the other participants, degree of risk aversion, and others). The  $u_i$  variables are the random effects that control for unobservable individual characteristics, and  $\varepsilon_{ij}$  is the idiosyncratic error term.<sup>27</sup>

If the subject desires to evade any positive amount, this amount will be his or her actual observed evasion,  $ER_{ij}$ . The observed evasion rate  $ER_{ij}$  is thus defined as:

$$(2) ER_{i,j} = \begin{cases} 0 & \text{if } ER_{ij}^* \leq 0 \\ ER_{ij}^* & \text{if } 0 < ER_{ij}^* < 1 \\ 1 & \text{if } ER_{ij}^* \geq 1 \end{cases}$$

As pointed out by Alm et al. (2017),<sup>28</sup> the standard assumption of the censored tobit regression model—that is, the variables which influence the individual choice to evade taxes have the same effect on whether a subject evades and, conditional on evasion, on a subject's level of evasion—may not be appropriate to analyze compliance behavior. **Indeed, the tobit models, while commonly used in studies affected by potential censoring, cannot distinguish between compliance on extensive and intensive margins.**

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<sup>26</sup> Tobit models are generally used in this type of tax experiments in which subjects can choose to declare an amount between 0% and 100% of their income. Some contributions also applied probit models to consider the determinants of full evasion and full compliance. See, among others, Andrighetto et al. (2016) and Zhang et al. (2016). In our paper, we follow the econometric strategy applied by Alm et al. (2017).

<sup>27</sup> The error term  $\varepsilon_{ij}$  and the  $\alpha_i$  variables for random effects are assumed to be normally distributed with zero mean and variance  $\sigma_\varepsilon^2$  and  $\sigma_\alpha^2$ . Please note that in the pooled model (1), the effects captured by  $\alpha_i$  are assumed to be zero (i.e., the model assumes no between-subject heterogeneity. Thus, the errors for a given individual are likely to be correlated over the rounds of the experiment).

<sup>28</sup> On a similar issue, see also Aristei and Pieroni (2008) applying double-hurdle models to analyze tobacco consumption in Italy.



Following Alm et al. (2017), we estimate double-hurdle models to identify the factors affecting the probability of being an evader and, among those classified as evaders, the amount of tax evaded. To this aim, we use a two-part or double-hurdle (DH) model. This empirical strategy, introduced by Cragg (1971), allows us to estimate two distinct processes: “the first hurdle, which can be interpreted as a probit model, determines whether or not a person participates in evasion and is particularly suited to capture effect occurring mainly at the extensive margin; the second hurdle, which can be interpreted as a tobit model, determines the level of evasion only for those people who ever choose to evade and is therefore relevant for the effect occurring at the intensive margin” (Alm et al., 2017, p.20).

However, unlike Alm et al. (2017), we use an extended set of covariates that have been identified as related to individual tax morale. These include: individual perceptions about others’ compliance behavior; degree of risk aversion; tolerance of tax evasion; political affiliation; church attendance; religious denomination; and others. No previous contributions have analyzed the impacts of all these factors on the two components of tax behavior.

Our analysis reports estimates from both a pooled DH model and a panel DH with random effects in model. To estimate these models, we used the double-hurdle procedure developed by Engel and Moffat (2014) where subjects must cross two hurdles. The first hurdle needs to be crossed to be an evader. Given that the subject is an evader, his/her current circumstances and the experimental treatments affect whether he or she contributes (this is the second hurdle). It follows that the double-hurdle model contains two equations, which can be given the interpretation of a combined probit and tobit estimator.

Formally, following Engel and Moffat (2014) and Alm et al. (2017), the observed evasion rate is given as follows:

$$(1) ER_{ij} = d_{ij} ER_{ij}^*$$

where  $ER_{ij}$  is the observed evasion rate of subject  $i$  in round  $j$ ;  $d_{ij}$  and  $ER_{ij}^*$  represent the first and the second hurdle, respectively, which are defined in the following.

The first hurdle is represented by a binary variable for evasion as follows:

$$(2) d_{ij} = \begin{cases} 1 & \text{if } d_{ij}^* > 0 \\ 0 & \text{otherwise} \end{cases}$$

The latent variable  $d_{ij}^*$  is given as follows:

$$(3) d_{ij}^* = z'_{ij} \gamma + \varepsilon_{1,ij}$$

where  $\varepsilon_{1,ij}$  is subject  $i$ 's idiosyncratic propensity to pass the hurdle in round  $j$ , which is assumed to be normally distributed with zero mean and variance normalized to unity. This is usually required for identification in probit estimates given that the outcome of the first hurdle is binary.

The second hurdle, which is similar to the tobit model, is given as follows:

$$(4) ER_{ij}^* = \max\{ER_{ij}^{**}, 0\}$$

where the latent variable  $ER_{ij}^{**}$  is given as:

$$(5) ER_{ij}^{**} = x'_{ij} \beta + \alpha_i + \varepsilon_{2,ij}$$

The pooled HD model includes only the contemporaneous error term  $\varepsilon_{2,ij}$  (which is assumed to be normally distributed, with zero mean and variance  $\sigma_\varepsilon^2$ ), while the subject-specific random effects  $\alpha_i$  are assumed to be zero. Moreover, in the pooled HD model the two error terms  $\varepsilon_{1,ij}$  and  $\varepsilon_{2,ij}$  are assumed to be independently distributed.

Conversely, the panel HD model includes the subject-specific random effects  $\alpha_i$  (which is assumed to be normally distributed, with zero mean and variance  $\sigma_\alpha^2$ ), which measures subject  $i$ 's idiosyncratic propensity to evade, conditional on passing the first hurdle. In this way, the panel HD model captures the correlation between the two hurdles through the correlation between the random effects  $\alpha_i$  and the error term  $\varepsilon_{1,ij}$ , i.e.,  $\rho = \text{corr}(\alpha_i, \varepsilon_{1,ij})$ .

As pointed out by Alm et al. (2017), one key feature that distinguishes the panel DH model especially different from the pooled DH model. A subject will be classified as fully compliant (a zero-type subject) only if that subject fully declares his or her true earnings in *all* the rounds of the experiment. Otherwise, the subject is identified as an evader. This means that a subject who fully declares his or her earnings in some, but not all, rounds will be classified as an evader. The same holds for a subject who evaded in some or all the rounds. This is an important feature of the panel DH model, which has the potential to significantly improve the estimates given the presence of zero-type subjects in the experiment.

#### 4. Results

As a general overview, our data reveal that across all subjects, stages, periods, and countries, the mean reporting compliance rate averages 61.16 percent. This overall level of compliance, which far exceeds the levels predicted by expected utility theory (Allingham and Sandmo, 1972; Yitzhaki, 1974), is in line with the experimental literature on tax compliance and public goods (Bosco and Mittone, 1997; Cummings et al., 2009; Alm, 2012; Andrighetto et al., 2016; Zhang et al., 2016; Alm et al., 2017). When considering the full evasion rate, we found that subjects fully evade taxes 27.34 percent of the time.

The complete set of the dependent and independent variables is listed and described in *Table 4*. The covariates include the economic parameters (i.e., tax rate, probability of being audited, redistribution policy); individual characteristics (i.e., gender, age, education level, current occupation, church attendance, religious denomination, household monthly income, previous participation in experimental studies); individual performance in the real-effort tasks; behavioral factors (i.e., risk aversion, perceived compliance behavior of the other participants in each round, confidence in the government); tolerance of tax evasion; and other socio-economic factors (i.e., interpersonal trust and political stance).

In the following, we present more detailed summary statistics (Section 4.1) and estimates from regression analyses (Section 4.2).

#### 4.1. Simple Descriptive Evidence

Let us first consider tolerance of tax evasion as measured in the post-experimental survey. Figure 3 plots the histogram of the degree of tolerance of tax evasion in Italy and Denmark. The histogram and kernel density for the Italian subject pool show a higher tail on the right, if compared to the histogram for the Danish subject pool. This means that cheating on tax, if possible, is more often justified by Italian subjects rather than by Danish subjects. To test whether the mean of tolerance of tax evasion is different between the two subject pools, we performed a two-sample t-test. We found that average tolerance of tax evasion is higher in the Italian sample with respect to the Danish sample, and this difference is statistically significant (two-sample t test,  $p = 0.0289$ ).

Let us now consider some descriptive statistics on compliance choices in the main tax experiment. The robust statistical results obtained from regression analyses will be discussed later in this section.

Compliance rates varied widely depending upon the specific tax scenarios presented in each round. Overall, subjects responded in a predictable manner to changes in the classical economic parameters (i.e., redistribution, tax rate, probability of being audited). *Table 5* reports the average reporting compliance rate -- defined as the ratio between the declared income and the total earned income-- in each of the nine rounds, for each country. The average reporting compliance rate is positively associated with the redistribution policy (rounds 1-3) and with the probability of being audited (rounds 7-9). Subjects responded to higher tax rates by evading more (rounds 4-6).

Since all subjects faced all three treatments, we report results from a Wilcoxon test for these comparisons (see *Table 5*). Pooling across countries and session, we observe that an increase in the probability of being audited from low (5%) to high (50%) increases the reporting compliance rate from 49.27% to 91.22% ( $p=0.000$ ). A similar pattern follows when redistribution increases from low (no redistribution) to high (redistribution x2): the reporting compliance rate increases from 41.15% to 74.79% ( $p=0.000$ ). An increase in the tax rate from low (5%) to high (50%) has a negative impact on compliance: the reporting compliance rate decreases from 66.47% to 45.86% ( $p=0.000$ ). Overall, the effect of audits on reporting compliance rates is larger if compared to increases in the redistribution rate of the tax-funded common pool or in the tax rate. Similar increments are present in the two countries individually.

It is worth noting that considering treatment averages obviously ignores the great degree of heterogeneity in our data. *Figure 4* illustrates that, for each country and round, two types of behavior emerge: individuals who declared 100% of their true income and, on the opposite, individuals who completely evaded their taxes. *Figure 4* clearly shows that, in both countries, subjects are very likely to be fully compliant in round 9 “Audit Prob. 50%”, when the probability of being audited is 50%. *Table 6* reports the percentage of full evaders in each round. As

expected, full evasion rates decrease as redistribution and audit probability increases, whereas higher tax rates increase the percentage of full evaders. The tests of proportions between the two samples reported in *Table 6* confirm that these effects are statistically significant.

Since our main interest is the effect of culture on compliance choices, we shall compare tax behavior between subject pools, Danes *versus* Italians, in each round (i.e., keeping experimental parameters constant). Surprisingly, *Table 5* shows that, for each round (except for rounds 3, 8 and 9), the average reporting compliance rate is higher for Italians rather than for Danes. Similarly, under most conditions, the percentage of full evaders is lower in the Italian subject pool compared to the Danish subject pool (see *Table 6*). Interestingly, the difference in compliance behaviors between the two countries is no more statistically significant in the presence of high audit rates (“Audit Prob 30%” and “Audit Prob 50%”) and a higher redistribution (i.e., “Redistribution X2”).

The overall difference between Italian subjects and Danish subjects can be clearly seen in *Figure 5*, which plots the cumulative distribution function of the “reporting compliance rate” pooling across treatments. That the cumulative distribution function of the Danish subject pool is higher is consistent with the fact that the average reporting compliance rate in the Danish subject pool is lower than the average reporting compliance rate in the Italian subject pool.<sup>29</sup> The CDFs of reporting compliance rates between countries are almost parallel to each other, indicating that the difference in tax behavior holds true at all evasion levels (i.e., both at the extensive and intensive margins).

In this section, we have shown that average reporting compliance rates differ between rounds and between countries. Moreover, in each round and country, compliance behaviors follow a two-modal distribution with two predominant patterns: full compliance and full evasion. The simple descriptive statistics provide suggestive results, which need to be fully examined by appropriate econometric techniques as we show in the next section.


## 4.2. Estimate Results from Regression Analysis

*Table 7* and *Table 8* show the estimate results from tobit models and double-hurdle models. The dependent variable is the evasion rate, which is computed as 1 minus the reporting compliance rate and ranges between 0 and 1.

Models (1) and (2) in *Table 7* respectively show the pooled and panel tobit models. The results are qualitatively similar. Setting a higher audit probability reduces evasion to a greater extent than increasing redistribution or reducing the tax rate. Interestingly, the dummy for Italy has a statistically significant, negative coefficient in both models. All other things being equal, the

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<sup>29</sup> The corresponding Kolmogorov-Smirnov and Epps-Singleton tests on the distributions of two samples over average compliance rates are statistically significant, meaning that the two subject pools differ significantly. Combined K-S: D=0.1579; p-value=0.000; corrected=0.000.

variable *Italy* is associated with a 79% decrease in evasion rate if we consider the pooled tobit in Model (1) (95% if we consider the panel tobit in Model (2)).<sup>30</sup> 

We also compute the marginal effects on evasion behavior with respect to changes in the country of origin. The effect of Italy in the panel tobit reduces the evasion rate  $ER_{ij}^*$  among subjects for which  $ER_{ij}$  is not at a boundary (i.e., the marginal effect on the expected value of the censored outcome) by -21.6%, with the marginal effect on the probability of being uncensored equal to -6.3%.

Given the limitations of the tobit models explained in the previous sections, let us consider Models (3) and (4) in Table 7, which respectively report estimates of the pooled DH model and the panel DH model with random effects. We shall recall that the estimates from the first hurdle reveal how the regressors affect the probability that a subject is identified as an evader. The estimates from the second hurdle reveal how the regressors affect the amount of evasion, conditional on a subject being an evader.

The results from the DH regressions confirm the general findings from the tobit models, but also reveal how the covariates differently affect the two hurdles.

Consider the pooled DH model in Model (3) of Table 7. The effects of the tax rate and the redistribution policy are statistically significant only in the first hurdle. This means that the effects of increasing the tax rate is to increase the probability of a subject being an evader, but it has no impact on the level of evasion for those who are classified as evaders. Similarly, increasing redistribution of the tax-funded common pool reduces the probability of a subject evading tax, but has no effect on the amount of evasion. In other terms, increasing redistribution makes subjects less likely to ever evade, but subjects who pass this hurdle are not affected. Differently, the effect of increasing the probability of being audited is negative and statistically significant in both the hurdles, with a greater impact on the first one. **Surprisingly**, the effect of the dummy variable for Italy is negative and statistically significant in both the hurdles, with a greater impact on the first hurdle (that is, whether or not to evade). Italian subjects are more tolerant of tax evasion than Danish subjects but, all else equal, the former are less likely to be evaders than the latter. Among those classified as evaders, Italians evade by a lesser amount. 

In terms of our hypotheses, we can report the following:

**H1: not confirmed.**

Italian subjects are more tolerant of tax evasion than Danish subjects but, all else equal, the former are less likely to evade than the latter. This finding contradicts Hypothesis 1, which predicted that Italians evade more than Danes, all other things being equal. Our finding, which shows the opposite of what was predicted, suggests that nationality alone cannot explain variations in tax compliance.

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<sup>30</sup> The residual analysis in the panel tobit reveals that the between-subject heterogeneity contributes to more than 59% of the total variance ( $\sigma_{u_i}^2 / (\sigma_{u_i}^2 + \sigma_{\varepsilon_{ij}}^2)$ ).

### Hypothesis 2: confirmed



In keeping with Hypothesis 2, which predicted that the moral cost of evasion would differ between countries, we find a significant difference between Danish and Italian subjects at the first stage of their decision process—whether to evade. Among other things, the panel DH model (4) confirms the negative impact of the variable Italy on evasion as it reduces the propensity to evade (shown in the first hurdle). However, it does not confirm the impact of being Italian on the amount of evasion (shown in the second hurdle, where the coefficient for the dummy variable Italy is no more statistically significant).

The estimates for the panel DH model (4) are slightly different from those in the pooled DH model (3). Some regressors have been excluded from the first hurdle of the panel DH because the results from the pooled DH regression show that some variables can be safely omitted, and also for convergence issues.<sup>31</sup> For these reasons, both the pooled DH and the panel DH are useful to interpret the data.

### Hypothesis 3: partly confirmed

Hypothesis 3 predicts that self-reported attitudes towards tax evasion will predict actual tax behavior. In addition, the covariates that have been proved to affect tax morale in previous cross-cultural surveys should have identical effects on tax compliance. However, our findings do not support the first part of the prediction and only partly support the second part.

Specifically, we found that Italian subjects are more tolerant of tax evasion than Danish subjects; but all else equal, Italians are less likely to evade than Danes. Thus, there is a disconnect between action and attitudes.

The second part of Hypothesis 3 predicts that the covariates which are usually correlated with tax morale will have the same effect on tax behavior. Our findings only partially confirm this prediction. We found that the subjects who evade do so by a lesser amount if they believe that the other subjects are truthfully declaring their income. This is in line with previous survey-based research on the effect of perceived tax evasion by other citizens on individuals' tax morale (e.g., Torgler and Schneider, 2005).

However, perceptions of others' compliance behavior have no impact on the decision to evade in the first place. Instead, we found that the decision to evade is most affected by risk aversion: the higher the aversion, the less likely individuals are to evade. This finding is similar to Cummings et al.'s (2009) results from Botswana and South Africa, But in our analysis, risk aversion has no impact on the amount evaded.

Moreover, we should expect tax evasion to be negatively related to age, income, education level, church attendance, being female, employed, Roman Catholic, right-wing political orientation, levels of confidence in the government and trust on other people. Four of these effects are confirmed by our regression estimates. Subjects with higher household monthly income are more

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<sup>31</sup> See also Alm et al. (2017) for a similar methodological issue.

likely to evade than those with a lower monthly income, which is consistent with the effect of individual income level on tax morale (Torgler et al., 2007). However, those higher income individuals who evade do so by a lesser amount. Also, we found that education level positively affects only the first hurdle, but not the second. This is partially consistent with Torgler et al. (2007), showing that higher education is positively correlated with tax evasion. Age and being female have a negative effect on both the probability and the level of evasion.

However, we found that being employed increases both the probability of a subject being an evader and also the level of evasion (conditional upon being an evader). Surprisingly, right-wing political preferences positively affect evasion choice (but only the first hurdle) and church attendance has no effect on tax behavior. Interestingly, religious denomination affects the level of evasion, but not the likelihood of evasion. Subjects who defined themselves as Protestant evade by a lower amount than those who classified themselves as Roman Catholic.

Moreover, our results show that confidence in the government has no effect on evasion choices. This is surprising in light of previous research showing that individual confidence in the government has a significant, positive effect on tax morale (e.g., Torgler, 2006; Frey and Torgler, 2007). Our paper shows that this effect is no longer relevant in actual evasion choices. Similarly, trust in other people has no effects on individual tax behavior. Finally, no previous participation in experiments negatively affects only the first hurdle, but not the second.

It is worth remarking that all the regression models control for both individual performance in the clerical task (i.e., number of rows correctly copied) and subject pool size. We found these variables to have no impact on tax behavior.

Overall, these results suggest that not all the covariates which are correlated to tax morale have the same effect on actual evasion choices. Our key finding in this respect is that self-reported attitudes towards tax evasion do not always predict actual tax behavior. The factors which affect tax morale may have different, even opposite, effects on tax compliance.

### Additional Analyses

Before discussing these findings in the following section, let us first step into *Table 8*, which shows the estimates from additional regressions that add complexity to the pooled DH model.<sup>32</sup> Models (5), (6) and (7) respectively add the **interaction** terms *Italy\***Audit rate*, *Italy\***Risk aversion*, and *Italy\***Male*. Model (8) includes all the three interactions. We see that the dummy for *Italy* interacted with *audit rate* shows a positive coefficient, which is statistically significant in both hurdles. This means that an increase in the audit probability has a smaller effect on evasion decisions for Italian subjects than for Danish subjects, both at the extensive and intensive margins. In other words, Danish subjects are more sensitive to an increase in audit rates than Italians. In the first hurdle, the dummy *male* interacted with *Italy* clearly shows a statistically significant gender difference between the two countries. Thus, not only do males and females

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<sup>32</sup> For convergence issues and difficulties in predicting the results given the dimension of the dataset, we do not consider interaction effects in the panel DH model.

behave differently in the choice of whether or not to engage in tax evasion, but this gender effect is also different between societies. Male Italian subjects are less likely to be evaders than Male Danish subjects.

Finally, the interaction between *risk aversion* and *Italy* has a negative, statistically significant impact on evasion choice. This effect is greater in the second hurdle. More interestingly, the coefficient for the variable *Italy* is no more statistically significant when the model includes the interaction term *Italy\*Risk Aversion*. These interaction effects, for which we did not have prior expectations, add novel insights on the comparison of tax behavior between Italy and Denmark.

The fact that Italians are less likely to evade tax, and evade to a lesser extent compared to Danes, can be explained through the greater degree of risk aversion in the Italian subject pool. This is particularly relevant if compared to Cummings et al. (2009). Since they found no differences in the degree of risk aversion between Botswana and South Africa, they argued that discrepancies in tax behavior revealed in the tax compliance experiment are only driven by cultural differences. In contrast, we cannot state the same conclusion when comparing Italy and Denmark: differences in tax behavior between Italian subjects and Danish subjects are also and significantly driven by different degrees of risk aversion.

## 5. Discussion and Conclusions

This study adds experimental insights to the literature on tax evasion. From the experimental perspective, this is the first experimental study that investigates tax behavior in Denmark and analyzes the effects of an original, extended set of covariates on both the extensive and intensive margins of tax behaviors. From a methodological perspective, this paper adds two interesting contributions. Firstly, we combined survey-based data on tax morale with behavioral data with monetary incentives on tax compliance to better analyze individual tax behavior. Secondly, we included a risk aversion elicitation task in the experimental design to study the impact of individual risk aversion on evasion choices.

In the following, we discuss the main results of this study, we identify the limitations of our analysis and we suggest possible venues for future research.

### 5.1. Analysis of the Main Results

This research began with the following research question: Is there a cultural dimension to tax evasion? Can national identity, alone, explain behavioral patterns in tax evasion? Across all the models we tested, we find national identity affects the moral cost of being an evader. Our estimates show two main, contradictory findings. As predicted, the answers to the post-experimental questionnaire revealed that **Italians were more likely to tolerate tax evasion than Danes. However, in the tax-compliance experiment—where subjects faced a transparent tax system, efficient redistributive regime and unambiguous audit rates and penalties—Italians were less likely to be evaders than Danes and, among those classified as evaders, Italians evaded by a lower amount than Danes.** In sharp contrast to the statistics on evasion rates in Europe, our findings reveal a higher “social norm” of compliance in Italy compared to Denmark. Thus, we



claim that national identity, alone, cannot help explain the North-South discrepancies revealed by the statistics on European evasion rates. We will discuss possible explanations for this result later in this section.

Apart from being surprising and unexpected, this finding highlights some interesting conceptual and methodological aspects of our study. To the best of our knowledge, this is the first paper showing that attitudinal survey questions about tax evasion cannot predict evasion choices. Moreover, we found that the explanatory variables generally related to tax morale are not always related to actual evasion choices. Thus, unlike Torgler's (2007) experimental results with data from Switzerland, Australia and Costa Rica, we found that tax attitudes and behavior can be separate and even opposite concepts. Indeed, our study reveals that individual tax morale as stated in questionnaires can be divergent from individual actual tax behavior. This finding poses the question of whether survey-based data (e.g., data from the European Social Values survey), alone, can be used to derive conclusions on tax behaviors between countries. We suggest that combining survey-based data with incentivized behavioral data –instead of using them separately–can help to better analyze tax evasion issues.

In addition, the interaction models revealed that the higher degree of risk aversion in the Italian subject pool helps explain the difference in evasion choices. This result represents the second important methodological aspect of our research. While previous experimental contributions on tax evasion between European countries omitted a risk aversion elicitation task, we show that risk aversion not only represents a crucial factor affecting individual evasion choices, but it can also help explain different evasion choices between countries. Thus, we suggest that tests on risk aversion should be always included in experiments on tax evasion.



Unambiguous results can be derived for the three experimental parameters which are of particular interest for policy purposes, i.e., tax rates, audit probabilities, and redistribution policies. Our findings show that subjects (especially Danish subjects) are particularly sensitive to increases in audit rates—much more than to increases in tax and redistribution rates. This implies that increasing the amount and efficiency of resources spent on detecting tax evasion might substantially reduce tax evasion for given tax rates and redistribution policies.

The extensive set of covariates we used in estimating regression models allowed us to identify other factors affecting individual compliance choices. Interestingly, our results show that not all the variables which have been proved to affect tax morale by previous cross-cultural survey-based contributions (see Gërkhani and Schram, 2006, for a review), have the same effect on actual compliance decisions. Again, this underscores the disconnect between attitudes and actions in tax behavior.

As for tax morale, tax evasion is negatively related to risk aversion, age, income, education and being female. Interestingly, household monthly income affects evasion in both hurdles, but with the opposite sign, i.e., positive in the first stage and negative in the second stage. This result suggests that individuals in richer families are more likely to be evaders, but evade by a lesser amount. This is partly consistent with Torgler et al. (2007), which found individual income to be

positively related to tax evasion. The gender difference in tax behavior is particularly notable in the Danish subject pool. Also, subjects who believe that the others are truthfully declaring their income are less likely to evade their fiscal obligations, in both the Danish and Italian subject pools. This confirms and reinforces the results shown in previous research (e.g., Torgler and Schneider, 2005).

Contrary to our predictions, being employed and right-wing politically oriented are positively related to tax evasion. Also, among those classified as evaders, subjects who reported to be Roman Catholic evade to a greater extent, whereas subjects who reported to be Protestant evade to a lower extent. This result contradicts Kannianen & Pääkkönen (2010), who found no differences in tax morale between the Catholic Southern part of Europe and the Protestant Northern part. In addition, while previous research showed that church attendance, confidence in the government and trust on other people have a positive effect on tax morale (e.g., Torgler, 2006; Richardson, 2008; Doerrenberg and Peichl, 2013), we found that these factors have no effect on actual evasion choices.

We also find some novel results, for which we had no prior expectations. No previous participation in experimental research reduces the likelihood of being an evader, but not the extent of evasion. Furthermore, pool size has no impact on evasion. This finding, which stands in contrast with the group size effect identified in experiments on public goods (e.g., Marwell and Ames, 1979; Isaac and Walker, 1988), deserves further investigation in future studies. Similarly, individual performance in the clerical task does not affect tax behavior.

Let us now discuss one of the main findings of our research: Italian subjects, despite stating tolerance of tax evasion, were less likely to be evaders and, among those classified as evaders, evaded by a lower amount than Danes. The cultural effects we found in this study contrast not only with predominant stereotypes—Italians as cheaters, and Danes as honest taxpayers—but also with the statistics on tax evasion in Europe. It is worth noting that recent experimental analyses found similar results. Andrighetto et al. (2016) found that Italians are more likely to “fudge” (that is, to evade just a little bit) their fiscal obligation, rather than fully evade. Zhang et al. (2016) found no differences in compliance choices between UK and Italy. Similarly, Alm et al. (2017) found no differences in tax behavior between Italy and USA. In this section, we consider the following plausible interpretations of this result: weak cross-situational consistency in tax behavior, tax exhaustion, and the myth of culture in tax behavior.

Most Danish subjects in our sample are students and employed, whereas Italian subjects are just students. Moreover, in Denmark, participants have to declare their earned income during an experiment for tax purposes. Overall this means that Danish subjects have to pay taxes three times: on the payment they receive as participants to the experiment; on their actual income as employee (for those who are employed); and on their earned income during the tax compliance experiment. Italian subjects have to pay taxes only in this latter case, since most of them are not employed and the payments they receive as participants in experiments have not to be declared unless above €25. This may lead Danish subjects to feel overburdened by tax payments. In other

words, they may be less willing to pay taxes in the experiment since they already pay taxes outside the lab.

Another, related interpretation is that discrepancies in tax behaviors are driven by differences in circumstances. Italians face the same circumstances as Danes in the lab, but the circumstances Italians and Danes face outside the lab are very different. Danes can be highly motivated to evade taxes (even more than Italians) in situations where they have the possibility to do so (as in our experiment), but in most cases they are unable to cheat (e.g., because of the third-party reporting system and high tax enforcement they generally face). There is a crucial difference between being willing to evade taxes and being able to do so, and this depends upon the level of tax enforcement and the reporting system in place. This explanation is coherent with the findings from the field experiment conducted by Kleven et al. (2011) in Denmark. The authors found that the tax evasion rate is close to zero for income subject to third-party reporting but substantial for self-reported income. Since most income in Denmark is subject to third-party reporting, the overall evasion rate is modest. In this respect, it would be interesting to run a similar field experiments with taxpayers in Italy to evaluate to extent to which compliance choices change under alternative reporting systems.

Overall, our experiment together with the recent cross-national laboratory experiments on tax behavior seem to reveal a common finding: that national identity, alone, cannot explain the North-South divergences in tax compliance. This result, which deserves further replication analyses, is encouraging because it suggests that tax policies and institutions play a crucial role in tax compliance. Indeed, factors such as the traditional tax enforcement measures, redistribution policies, the threat of public disclosure of tax evasion, perception about others' compliance behavior, affect individual intrinsic motivation to fulfill fiscal obligations and should be used to mitigate evasion issues.

## **5.2. Limitations and Directions for Future Research**

The main advantage of running laboratory experiments is that, unlike in the field, experimenters can accurately detect evasion given that income becomes perfectly observable. Moreover, cross-cultural studies often rely upon controlled lab experiments run in different countries because this methodology allows cultural effects to be isolated. However, laboratory experiments also come with some criticisms.<sup>33</sup> One of the most cited is that the typical subject sample used in experiments may not be representative of the population of “real” taxpayers. Even if several contributions already provided evidence that the behavioral responses of students are not different from the responses of other subject pools (e.g., Alm et al., 2015; Choo et al., 2016), future research can fruitfully extend the scope of this research to different subject pools.

It is worth noticing that, in studies of illegal behaviors, such as tax evasion or corruption, the so-called scrutiny effect may be particularly strong (e.g., Leonard and Masatu, 2008; Alatas et al., 2009). It is natural to ask, yet difficult to study, how the behavior of evaders is affected by the experiment being conducted in the lab, and whether we would get the same results if we studied

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<sup>33</sup> For an extensive discussion on the methodologies used to analyze tax evasion, see Alm (2012).

a group of evaders outside the lab. Birkeland et al. (2011) pointed out the same interpretation for their results on prosocial behavior among a prison population. These methodological issues make experimental investigations on illegal and immoral behavior an interesting avenue for future research, especially in terms of the most appropriate experimental design to be used.

Cross-cultural studies are especially new, and most of the contributions used an experimental methodology to derive the main findings. There are several interesting avenues for future research. Among others, the theoretical model of tax evasion could be refined on the basis of the experimental findings. For example, traditional models could evaluate whether optimal taxation should be based on individual characteristics such as employment status or gender. As regards the latter, while previous theoretical studies omitted considerations on gender biases in evasion choices, all experimental studies on tax compliance revealed that men are significantly more likely to evade their fiscal obligations than women. However, a theoretical, economic rationale for this finding is still missing and deserves further investigations.

The general influence of culture on individual behavior, and especially on tax compliance, represents another, fruitful field for future research. Do tax compliance cultures exist, or are they an artifact of the experimental methods? In which countries self-reported tax morale can predict actual evasion choices? Although the experimental literature on tax compliance has substantially increased and it is growing, there are blind spots still remaining. For example, to have a comprehensive understanding on the differences between the two countries, future contributions could test our results in other locations within Italy and Denmark. The first author is currently pursuing this research. Moreover, our research should be extended to include different subject pools (e.g., adult taxpayers) and alternative reporting systems (self-reporting vs. third-party reporting).

Finally, fuller understanding of tax behavior would require conducting experiments in the field and complementing the results obtained in the lab with the once obtained via field experiments. These would be indispensable to evaluate tax behavior and the effectiveness of tax policy instruments.

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## References

Abbink, K. (2006). "Laboratory experiments on corruption", in *The Handbook of Corruption*, edited by Susan Rose-Ackerman, Edward Elgar Publishers, Cheltenham, UK and Northampton, USA.

Abbink, K., and H. Hennig Schmidt (2006). "Neutral Versus Loaded Instructions in a Bribery experiment", *Experimental Economics*, 9(2), pp. 103-121.

Alatas, V., Cameron, L., Chaudhuri, A., Erkal, N., and Gangadharan, L. (2009). Subject pool effects in a corruption experiment: A comparison of Indonesian public servants and Indonesian students. *Experimental Economics*, 12(1), 113-132.

Alesina, Alberto, and Eliana La Ferrara (2005). Ethnic diversity and economic performance. *Journal of Economic Literature* 43:762-800.

Allingham, M. G., and Sandmo, A. (1972). Income tax evasion: A theoretical analysis. *Journal of Public Economics*, 1(3-4), 323-338.

Alm J, Martinez-Vazquez J, Schneider F. (2004). "Sizing" the Problem of the Hard-to-Tax. In: Alm J, Martinez-Vazquez J, Wallace S, editors. *Taxing the Hard-to-Tax: Lessons from Theory and Practice*. Amsterdam: Elsevier/North Holland, p. 11–75.

Alm J, McClelland G, Schulze W. (1992). Why Do People Pay Taxes? *Journal of Public Economics* 48 (1):21–38.

Alm J. and Torgler B. (2006). Culture Differences and Tax Morale in the United States and in Europe. *Journal of Economic Psychology*; 27(2):224–246.

Alm, J. (2012). Measuring, explaining, and controlling tax evasion: Lessons from theory, experiments, and field studies. *International Tax and Public Finance*, 19(1), 54–77. <https://doi.org/10.1007/s10797-011-9171-2>

Alm, J. (2010). Testing behavioral public economics theories in the laboratory. *National Tax Journal* 63 (4, Part 1): 635-658.

Alm, J. and McKee, M. (1998), Extending the lessons of laboratory experiments on tax compliance to managerial and decision economics. *Managerial and Decision Economics*, 19: 259–275.

Alm, J., and S. Jacobson (2007). Using laboratory experiments in public economics. *National Tax Journal* 60 (1): 129-152.

Alm, J., Bernasconi, M., Laury, S., Lee, D. J., and Wallace, S. (2017). Culture, compliance and confidentiality: A study of taxpayer behavior in the United States and Italy. *Journal of Economic Behavior and Organization*, 1–37. <https://doi.org/10.1016/j.jebo.2017.05.018>

Alm, J., Bloomquist, K. M., & McKee, M. (2015). On the external validity of laboratory tax compliance experiments. *Economic Inquiry*, 53(2), 1170-1186.

Andreoni, J., Erard, B., and Feinstein, J. (1998). Tax compliance. *Journal of economic literature*, 36(2), 818-860.

Andrighetto, G., Zhang, N., Ottone, S., Ponzano, F., D'Attoma, J., & Steinmo, S. (2016). Are Some Countries More Honest than Others? Evidence from a Tax Compliance Experiment in Sweden and Italy. *Frontiers in Psychology*, 7.

Ariely, D. (2012). *The (Honest) Truth About Dishonesty: How We Lie to Everyone-- Especially Ourselves*. New York: HarperCollins.

Aristei, D., & Pieroni, L. (2008). A double-hurdle approach to modelling tobacco consumption in Italy. *Applied Economics*, 40(19), 2463-2476.

Bergh, A., & Bjørnskov, C. (2011). Historical trust levels predict the current size of the welfare state. *Kyklos*, 64(1), 1-19.

Benjamini, Y., and S. Maital. 1985. Optimal tax evasion and optimal tax evasion policy: behavioral aspects. In W. Gaertner and A. Wenig (eds.), *The Economics of the Shadow Economy*. Berlin, Germany: Springer-Verlag, 245-264.

Bernasconi, M. (1998). Tax evasion and orders of risk aversion. *Journal of Public Economics*, 67(1), 123-134.

Bernasconi, M., Corazzini, L., and Seri, R. (2014). Reference dependent preferences, hedonic adaptation and tax evasion: Does the tax burden matter?. *Journal of Economic Psychology*, 40, 103-118.

Bloomquist, K., 2009. A comparative analysis of reporting compliance behavior in laboratory experiments and random tax audits. *Natl. Tax Assoc. Proc.* 2009, 113–122.

Bicchieri, C. 2006. *The Grammar of Society*. Cambridge: Cambridge University Press.

Bicchieri, C., and Xiao, E. (2009). Do the right thing: but only if others do so. *Journal of Behavioral Decision Making*, 22(2), 191-208.

Birkeland, S., Cappelen, A. W., Sorensen, E., and Tungodden, B. (2011). Immoral criminals? An experimental study of social preferences among prisoners. NHH Dept. of Economics Discussion Paper No. 15/2011.

Booth, P. (2007). Taxation and the size of the state. In: Booth, P., et al. (Eds.), 'Catholic Social Teaching and the Market Economy' IEA Hobart Paperback 34 London: Institute of Economic Affairs, pp. 111–144.

Bordignon, M. and A. Zanardi (1996) "Tax Evasion in Italy", *Giornale degli Economisti e Annali di Economia*, 51, 393-414.

Bosco, L., and Mittone, L. (1997). Tax evasion and moral constraints: some experimental evidence. *Kyklos*, 50(3), 297-324.

Bühren, C., and Kundt, T. C. (2014). Does the Level of Work Effort Influence Tax Evasion? Experimental Evidence. *Review of Economics*, 65(2), 137-158.

Bühren, C., Pleßner, M., (2014). The trophy effect. *J. Behav. Decis. Mak.* 27 (4), 363–377.

Calvet R, Alm J. (2014). Empathy, Sympathy and Tax Compliance. *Journal of Economic Psychology* 40:62–82.

Cannari, L., and G. D'Alessio. 2007. Le opinioni degli italiani sull'evasione fiscale. Banca d'Italia, Temi di discussione, n. 618.

Charness, G., Gneezy, U., & Imas, A. (2013). Experimental methods: Eliciting risk preferences. *Journal of Economic Behavior & Organization*, 87, 43-51.

Choo, C. L., Fonseca, M. A., & Myles, G. D. (2016). Do students behave like real taxpayers in the lab? Evidence from a real effort tax compliance experiment. *Journal of Economic Behavior & Organization*, 124, 102-114.

Chuah, S. H., Hoffmann, R., Jones, M., & Williams, G. (2009). An economic anatomy of culture: Attitudes and behaviour in inter-and intra-national ultimatum game experiments. *Journal of Economic Psychology*, 30(5), 732-744.

Cowell, F. A. (1990). *Cheating the government: The economics of evasion*. Cambridge, MA: MIT Press.

Cragg, J. G. 1971. Some statistical models for limited dependent variables with application to the demand for durable goods. *Econometrica* 39: 829-844.

Cullis, J., Jones, P., and Savoia, A. (2012). Social norms and tax compliance: Framing the decision to pay tax. *Journal of Socio-Economics*, 41(2), 159–168.

Cummings R, Martinez-Vazquez J, McKee M, Torgler B. (2009). Tax Morale Affects Tax Compliance: Evidence from Surveys and an Artefactual Field Experiment. *Journal of Economic Behavior & Organization* 70(3):447–457.

Cummings, R. G., Martinez-Vazquez, J., McKee, M., & Torgler, B. (2009). Tax morale affects tax compliance: Evidence from surveys and an artefactual field experiment. *Journal of Economic Behavior & Organization*, 70(3), 447-457.

Dahlberg, M., Edmark, K., and Lundqvist, H. (2012). Ethnic diversity and preferences for redistribution. *Journal of Political Economy*, 120(1), 41-76.

D'Attoma, J. (2017). Divided Nation: The North-South Cleavage in Italian Tax Compliance. *Polity*, 49(1), 000-000.

D'Attoma, J., Volintiru, C., and Steinmo, S. (2017). Sharing the Fiscal Burden: Taxes and Gender in Sweden, Britain, Italy and the USA. An experimental approach. Unpublished manuscript.

D'Attoma, J., and Steinmo, S. (2017). What explains regional disparities in Italian Tax Morale? Unpublished manuscript.

Dhami, S., and al-Nowaihi, A. (2007). Why do people pay taxes? Prospect theory versus expected utility theory. *Journal of Economic Behavior and Organization*, 64(1), 171–192.



Dohmen, T., Falk, A., Huffman, D., Sunde, U., Schupp, J., & Wagner, G. G. (2011). Individual risk attitudes: Measurement, determinants, and behavioral consequences. *Journal of the European Economic Association*, 9(3), 522-550.

Dong, B., Dulleck, U., & Torgler, B. (2012). Conditional corruption. *Journal of Economic Psychology*, 33(3), 609-627.

Eckel, C. C., & Grossman, P. J. (2008). Forecasting risk attitudes: An experimental study using actual and forecast gamble choices. *Journal of Economic Behavior & Organization*, 68(1), 1-17.

Edlund J. (1999). Trust in Government and Welfare Regimes: Attitudes to Redistribution and Financial Cheating in the USA and Norway. *European Journal of Political Research*; 35(3):341–370.

Engel, C., and P. G. Moffatt. 2014. `dhreg`, `xtdhreg`, and `bootdhreg`: Commands to implement double-hurdle regression. *Stata Journal* 14: 778-797.

Falk, Armin, Fehr, Ernst (2002). Psychological foundations of incentives. *European Economic Review* 46, 687–724.

Fehr, Ernst & Fischbacher, Urs & Schupp, Jürgen & von Rosenblatt, Bernhard & Wagner, Gert Georg (2003). "A Nationwide Laboratory Examining Trust and Trustworthiness by Integrating Behavioural Experiments into Representative Surveys," CEPR Discussion Papers 3858, C.E.P.R. Discussion Papers.

Fiorio, C.V., Zanardi, A., 2008. 'It's a lot but let it stay' how tax evasion is perceived across Italy. In: Pickhardt, M., Shinnick, E. (Eds.), *Shadow Economy, Corruption and Governance*. Edward Elgar, Cheltenham, pp. 210–239.

Fischbacher, U. (2007). z-Tree: Zurich toolbox for ready-made economic experiments. *Experimental economics*, 10(2), 171-178.

Floris, G. (2010). *Separati in patria: Nord contro Sud, perché l'Italia è sempre più divisa*. Milano, Italy: Rizzoli.

Fonseca, M.A., Myles, G.D., 2012. A survey of experiments on tax compliance. HMRC Research Report 198.

Frederking, L. C. (2002). Is there an endogenous relationship between culture and economic development? *Journal of Economic Behavior and Organization*, 48(2), 105–126.

Frey, B. S., & Torgler, B. (2007). Tax morale and conditional cooperation. *Journal of Comparative Economics*, 35(1), 136–159. <https://doi.org/10.1016/j.jce.2006.10.006>

Friedland, N., Maital, S., Rutenberg, A., 1978. A simulation study of income taxation. *Journal of Public Economics*. 10, 107–116.

Gërkhani, K., Schram, A., 2006. Tax evasion and income source: a comparative experimental study. *Journal of Economic Psychology*. 27, 402–422.

Glaeser, E. L., Laibson, D. I., Scheinkman, J. A., and Soutter, C. L. (2000). Measuring Trust. *The Quarterly Journal of Economics*, 115(3), 811-846.

Gordon, J. P. F. 1989. Individual morality and reputation costs as deterrents to tax evasion. *European Economic Review* 33: 797-805.

Greiner B. (2004). The Online Recruitment System ORSEE 2.0.—A Guide for the Organization of Experiments in Economics. University of Cologne, Working Paper Series in Economics. 2004; 10(23):63–104.

Greiner, B. (2015). Subject pool recruitment procedures: organizing experiments with ORSEE. *Journal of the Economic Science Association*, 1(1), 114-125.

Hammar, H., Jagers, S. C., & Nordblom, K. (2009). Perceived tax evasion and the importance of trust. *The Journal of Socio-Economics*, 38(2), 238-245.

Hashimzade, N., Myles, G.D., Tran-Nam, B. (2012). Applications of behavioural economics to tax evasion. *J. Econ. Surv.* 27 (5), 941–977.

Hausman, D. 2008. Fairness and social norms. *Philosophy of Science* 75 (5): 850-860.

Henrich, J. (2004). Cultural group selection, coevolutionary processes and large-scale cooperation. *Journal of Economic Behavior and Organization* 53, 3–35.

Hofmann, E., Hoelzl, E., and Kirchler, E. (2008). Preconditions of voluntary tax compliance: Knowledge and evaluation of taxation, norms, fairness, and motivation to cooperate. *Zeitschrift für Psychologie/Journal of Psychology*, 216(4), 209-217.

Holt, C. A., & Laury, S. K. (2002). Risk aversion and incentive effects. *American economic review*, 92(5), 1644-1655.

Hull, Brooks B. 2000. “Religion Still Matters.” *Journal of Economic* 26:35–48.

Iannaccone, Laurence R. 2002. “A Marriage Made in Heaven? Economic Theory and Religious Studies.” Pp. 163–93 in Shoshana Grossbard-Shechtman and Christopher Clague, eds., *The Expansion of Economics*. New York: M.E. Sharpe.

Isaac, R. M., & Walker, J. M. (1988). Group size effects in public goods provision: The voluntary contributions mechanism. *The Quarterly Journal of Economics*, 103(1), 179-199.

Kahneman, D., and A.Tversky. 1979. Prospect theory: An analysis of decision under risk. *Econometrica* 47 (2): 263-292.

Kastlunger, B., Lozza, E., Kirchler, E., & Schabmann, A. (2013). Powerful authorities and trusting citizens: The Slippery Slope Framework and tax compliance in Italy. *Journal of Economic Psychology*, 34. <https://doi.org/10.1016/j.joep.2012.11.007>

Kirchler, E. (2007). *The economic psychology of tax behaviour*. Cambridge: Cambridge University Press.

Kirchler, E., Hoelzl, E., and Wahl, I. (2008). Enforced versus voluntary tax compliance. The “slippery slope” framework. *Journal of Economic Psychology*, 29, 210–225.

Kirchler, E., Muehlbacher, S., Kastlunger, B., and Wahl, I. (2010). Why pay taxes? A review of tax compliance decisions. In J. Alm, J. Martinez-Vazquez, & B. Torgler (Eds.), *Developing alternative frameworks for explaining tax compliance* (pp. 15–31). Oxon: Routledge.

Kleven, H. J., Knudsen, M. B., Kreiner, C. T., Pedersen, S., & Saez, E. (2011). Unwilling or unable to cheat? Evidence from a tax audit experiment in Denmark. *Econometrica*, 79(3), 651-692.

Konrad, K. A., and Qari, S. (2012). The last refuge of a scoundrel? Patriotism and tax compliance. *Economica*, 79(315), 516-533.

Kugler, T., Connolly, T., & Ordóñez, L. D. (2012). Emotion, decision, and risk: Betting on gambles versus betting on people. *Journal of Behavioral Decision Making*, 25(2), 123-134.

La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert Vishny. 1999. The quality of government. *The Journal of Law, Economics and Organization* 15:222-79.

Larsen, C. A. (2011). Ethnic heterogeneity and public support for welfare: Is the American experience replicated in Britain, Sweden and Denmark? *Scandinavian Political Studies*, 34(4), 332–353. <https://doi.org/10.1111/j.1467-9477.2011.00276.x>

Lefebvre, M., Pestieau, P., Riedl, A., and Villeval, M. C. (2015). Tax evasion and social information: an experiment in Belgium, France, and the Netherlands. *International Tax and Public Finance*, 22(3). <https://doi.org/10.1007/s10797-014-9318-z>

Leonard, K. L., & Masatu, M. C. (2008). Moving from the lab to the field: Exploring scrutiny and duration effects in lab experiments. *Economics Letters*, 100(2), 284-287.

Letki, N. (2006). Investigating the roots of civic morality: Trust, social capital, and institutional performance. *Political Behavior*, 28(4), 305-325.

Levitt, Steven D. and John A. List (2007). “What do laboratory experiments measuring social preferences reveal about the real world?” *The Journal of Economic Perspectives*, 21(2): 153–174.

Lönnqvist, J. E., Verkasalo, M., Walkowitz, G., & Wichardt, P. C. (2015). Measuring individual risk attitudes in the lab: Task or ask? An empirical comparison. *Journal of Economic Behavior & Organization*, 119, 254-266.

Mackie, G. (2001). Patterns of Social Trust in Western Europe and Their Genesis. In: Cook, K. (Ed.), *Trust in Society*, New York: Russell Sage Foundation, pp. 245–282.

Marwell, G., and Ames, R. E. (1979). Experiments on the provision of public goods. I. Resources, interest, group size, and the free-rider problem. *American Journal of sociology*, 84(6), 1335-1360.

Mittone, L. (2006). Dynamic behaviour in tax evasion: An experimental approach. *The Journal of Socio-Economics*, 35(5), 813-835.

Murphy, Richard (2012). Closing the European Tax Gap. A report for Group of the Progressive Alliance of Socialists & Democrats in the European Parliament, Tax Research LLP. [http://www.socialistsanddemocrats.eu/sites/default/files/120229\\_richard\\_murphy\\_eu\\_tax\\_gap\\_en.pdf](http://www.socialistsanddemocrats.eu/sites/default/files/120229_richard_murphy_eu_tax_gap_en.pdf).

Pyle, D.J. (1991) The economics of taxpayer compliance. *Journal of Economic Surveys* 5: 163–198.

Pickhardt, M., and Prinz, A. (2014). Behavioral dynamics of tax evasion—A survey. *Journal of Economic Psychology*, 40, 1-19.

Pisani, S., Polito, C., 2006. Analisi dell'evasione fondata sui dati IRAP Anni 1998–2002. Documenti di Lavoro dell'Ufficio Studi, Agenzia delle Entrate, Ministero dell'Economia e delle Finanze. Available at: <http://www1.agenziaentrate.it/ufficiostudi/pdf/2006/Sintesi-evasione-Irap-06.pdf>.

Rabin, M. (1998). Psychology and economics. *Journal of Economic Literature* 36, 11–46

Rabin, M. (2000). Risk aversion and expected-utility theory: A calibration theorem. *Econometrica*, 68(5), 1281-1292.

Riahi-Belkaoui, A. (2004). Relationship between tax compliance internationally and selected determinants of tax morale. *Journal of international accounting, auditing and taxation*, 13(2), 135-143.

Richardson, G. (2006). Determinants of tax evasion: A cross-country investigation. *Journal of International Accounting, Auditing and Taxation*, 15(2), 150–169.

Richardson, G. (2008). The relationship between culture and tax evasion across countries: Additional evidence and extensions. *Journal of International Accounting, Auditing and Taxation*, 17(2), 67–78.

Rothstein, B., & Uslaner, E. M. (2005). All for all: Equality, corruption, and social trust. *World Politics*, 58(1), 41-72.

Sandmo, A. (2005). The theory of tax evasion: A retrospective view. *National Tax Journal*, 643-663.

Schneider, F., Raczkowski, K., & Mróz, B. (2015). Shadow economy and tax evasion in the EU. *Journal of Money Laundering Control*, 18(1), 34-51.

Schneider F., and Enste D. (2013). *The Shadow Economy: An International Survey*. New York, NY: Cambridge University Press

Schneider, F. (2005). Shadow economies around the world: What do we really know? *European Journal of Political Economy*, 21, 598–642

Skatteministeriet Danmark (2009), 'Borgernes efterlevelse af skattereglerne' (Individual's compliance with the tax laws), Report of the Danish tax collection agency (SKAT), in Danish.

Slemrod, J., Blumenthal, M., Christian, C., 2001. Taxpayer response to an increased probability of audit: evidence from a controlled experiment in Minnesota. *Journal of Public Economics* 79, 455–483.

Smith, V. 1976. Experimental economics: Induced value theory. *The American Economic Review Papers and Proceedings* 66 (2): 274-279.

Smith, V. 1982. Microeconomic systems as an experimental science. *The American Economic Review* 72 (5): 923-955.

Spies, D., and Schmidt-Catran, A. (2016). Migration, migrant integration and support for social spending: The case of Switzerland. *Journal of European Social Policy*, 26(1), 32–47. <https://doi.org/10.1177/0958928715612170>

Svallfors S. (1997). Worlds of Welfare and Attitudes to Redistribution: A Comparison of Eight Western Nations. *European Sociological Review*, 13(3):283–304.

Taylor-Gooby P. (1995). Who Wants the Welfare State? Support for State Welfare Provision in European Countries. In: Kangas O, Svallfors S, editors. *In the Eye of the Beholder: Opinions on Welfare and Justice in Comparative Perspective*. Umeå: Bank of Sweden Tercentenary Foundation. p. 11–51.

Tyler, Tom R. (2000). “Why Do People Cooperate in Groups?” Pp. 65–82 in M. Van Vught, M. Snyder, T. R. Tyler, and Anders Biel, eds., *Cooperation in Modern Society. Promoting the Welfare of Communities, States and Organizations*. London: Routledge.

Torgler B, Schneider F. (2007). What Shapes Attitudes Toward Paying Taxes? Evidence from Multicultural European Countries. *Social Science Quarterly*; 88(2):443–470.

Torgler, B. (2001). “Is Tax Evasion Never Justifiable?” *Journal of Public Finance and Public Choice* 20: 143–168.

Torgler, B. (2002a). Speaking to theorists and searching for facts: Tax morale and tax compliance in experiments. *Journal of Economic Surveys*, 16(5), 657-683.

Torgler, B. (2002b). “Tax Morale and Tax Evasion. Evidence from the United States.” WWZ-Discussion Paper 03/01, Basel.

Torgler, B. (2003). Tax morale, rule-governed behaviour and trust. *Constitutional Political Economy*, 14(2), 119-140.

Torgler, B. (2004). Cross-culture comparison of tax morale and tax compliance: evidence from Costa Rica and Switzerland. *International Journal of Comparative Sociology*, 45(1-2), 17-43.

Torgler, B. (2007). *Tax compliance and tax morale: A theoretical and empirical analysis*. Edward Elgar Publishing

Torgler, B., Schaltegger, C.A. and Schaffner, M. (2003) ‘Is Forgiveness Divine? A Cross-Culture Comparison of Tax Amnesties’, *Swiss Journal of Economics and Statistics*. 139: 375-396.

Torgler, B., & Schneider, F. (2009). The impact of tax morale and institutional quality on the shadow economy. *Journal of Economic Psychology*, 30(2), 228-245.

Torgler, B., and Schneider, F. (2007). What shapes attitudes toward paying taxes? Evidence from multicultural European countries. *Social Science Quarterly*, 88(2), 443–470. <https://doi.org/10.1111/j.1540-6237.2007.00466.x>

Torgler, B., Schaffner, M., & Macintyre, A. (2007). Tax compliance, tax morale, and governance quality. *International Studies Program Working Paper*, Andrew Young School of Policy Studies, Georgia State University.

Traxler, C. (2010). Social norms and conditional cooperative taxpayers. *European Journal of Political Economy* 26, 89–103.

Van Oorschot, W. (2006). Making the difference in social Europe: deservingness perceptions among citizens of European welfare states. *Journal of European social policy*, 16(1), 23-42.

van Dijke, M., & Verboon, P. (2010). Trust in authorities as a boundary condition to procedural fairness effects on tax compliance. *Journal of Economic Psychology*, 31(1), 80-91.

Wahl, I., Kastlunger, B., & Kirchler, E. (2010). Trust in authorities and power to enforce tax compliance: An empirical analysis of the "Slippery Slope Framework". *Law & Policy*, 32(4), 383-406.

Wartick, M. L., Madeo, S. A., & Vines, C. C. (1999). Reward dominance in tax-reporting experiments: The role of context. *Journal of the American Taxation Association*, 21(1), 20-31.

Weber, T. O., Fookien, J., & Herrmann, B. (2014). *Behavioural economics and taxation* (No. 41). Directorate General Taxation and Customs Union, European Commission.

Weber, E. U., & Hsee, C. (1998). Cross-cultural differences in risk perception, but cross-cultural similarities in attitudes towards perceived risk. *Management science*, 44(9), 1205-1217.

Weber, E. U., Blais, A. R., & Betz, N. E. (2002). A domain - specific risk - attitude scale: Measuring risk perceptions and risk behaviors. *Journal of behavioral decision making*, 15(4), 263-290.

Yitzhaki, S. (1974). Income tax evasion: A theoretical analysis. *Journal of Public Economics*, 3(2), 201-202.

Zhang, N., Andrighetto, G., Ottone, S., Ponzano, F., & Steinmo, S. (2016). "Willing to Pay?" Tax Compliance in Britain and Italy: An Experimental Analysis. *PloS one*, 11(2).

Zucman, G. (2015). *The hidden wealth of nations: The scourge of tax havens*. University of Chicago Press.

Xin Li, S. (2010). Social Identities, Ethnic Diversity, and Tax Morale. *Public Finance Review*, 38(2), 146–177. <https://doi.org/10.1177/1091142110369239>

## Figures

Figure 1: Clerical Task

Row	ID Code	Last Name	First Name	Grade
103	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Remaining Time [sec]: 115

NEXT

*Figure 2: Tax Reporting Decision*

**REPORTING STAGE**

We now ask you to report your earnings from the clerical task #1 for tax purposes.

Remember that you are free to report any amount of your actual earnings and that you will be taxed only on the earnings you will report.

Your earnings from the clerical task #1 and a summary of the instructions are on your screen.

**Summary:**

- Your earnings from clerical task #1: 20 points;
- Tax rate: 30%;
- Probability of being audited 5%;
- At the end of the study, if you are audited and caught under-reporting your earnings, you will pay twice the tax you should have paid on the earnings you did not report.

**Report your earnings for tax purposes here:**

**CONTINUE**



Figure 3: Tolerance of Tax Evasion in Italy and Denmark

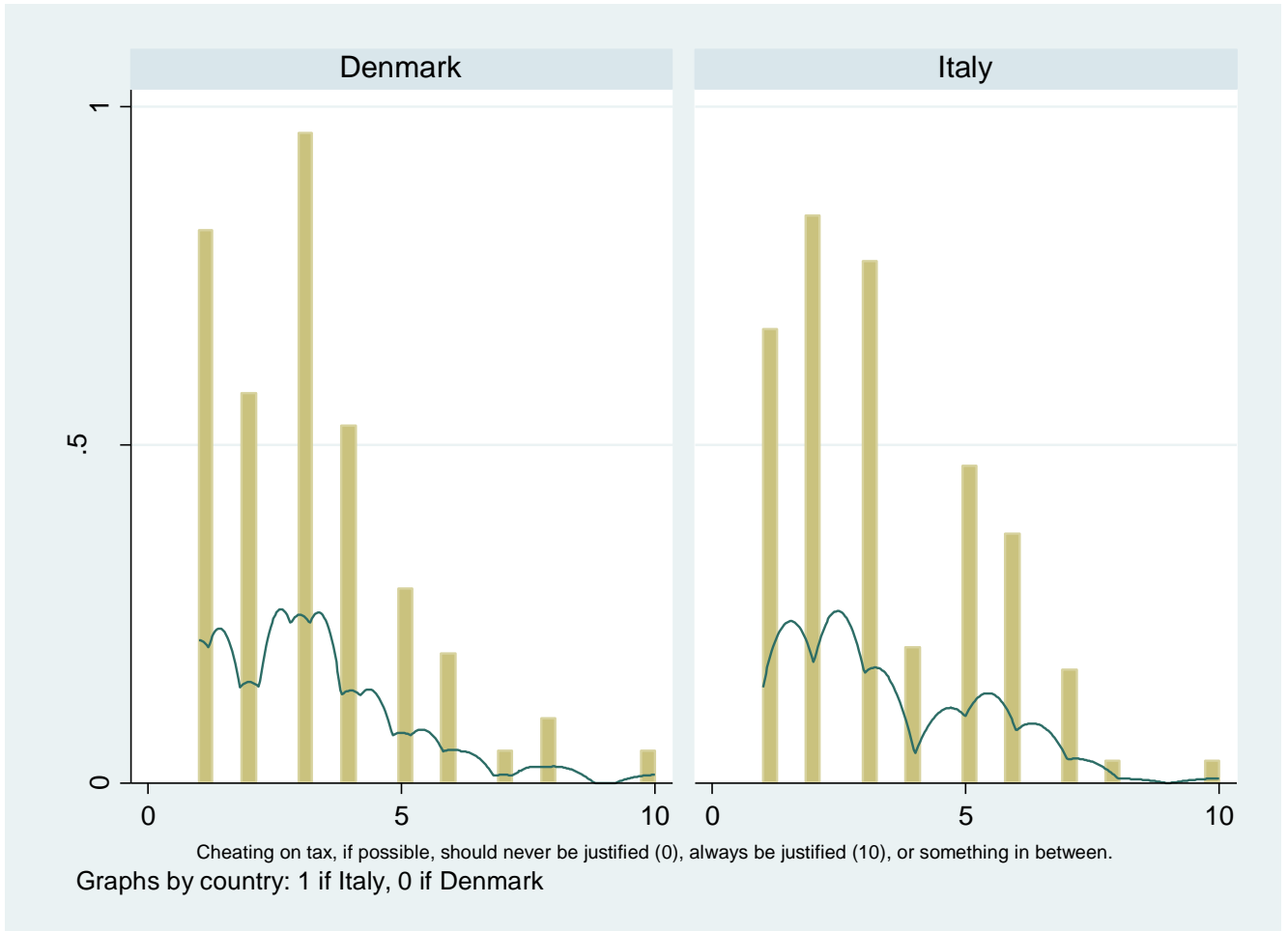


Figure 4: Distribution of Compliance Rates, by Country and Rounds

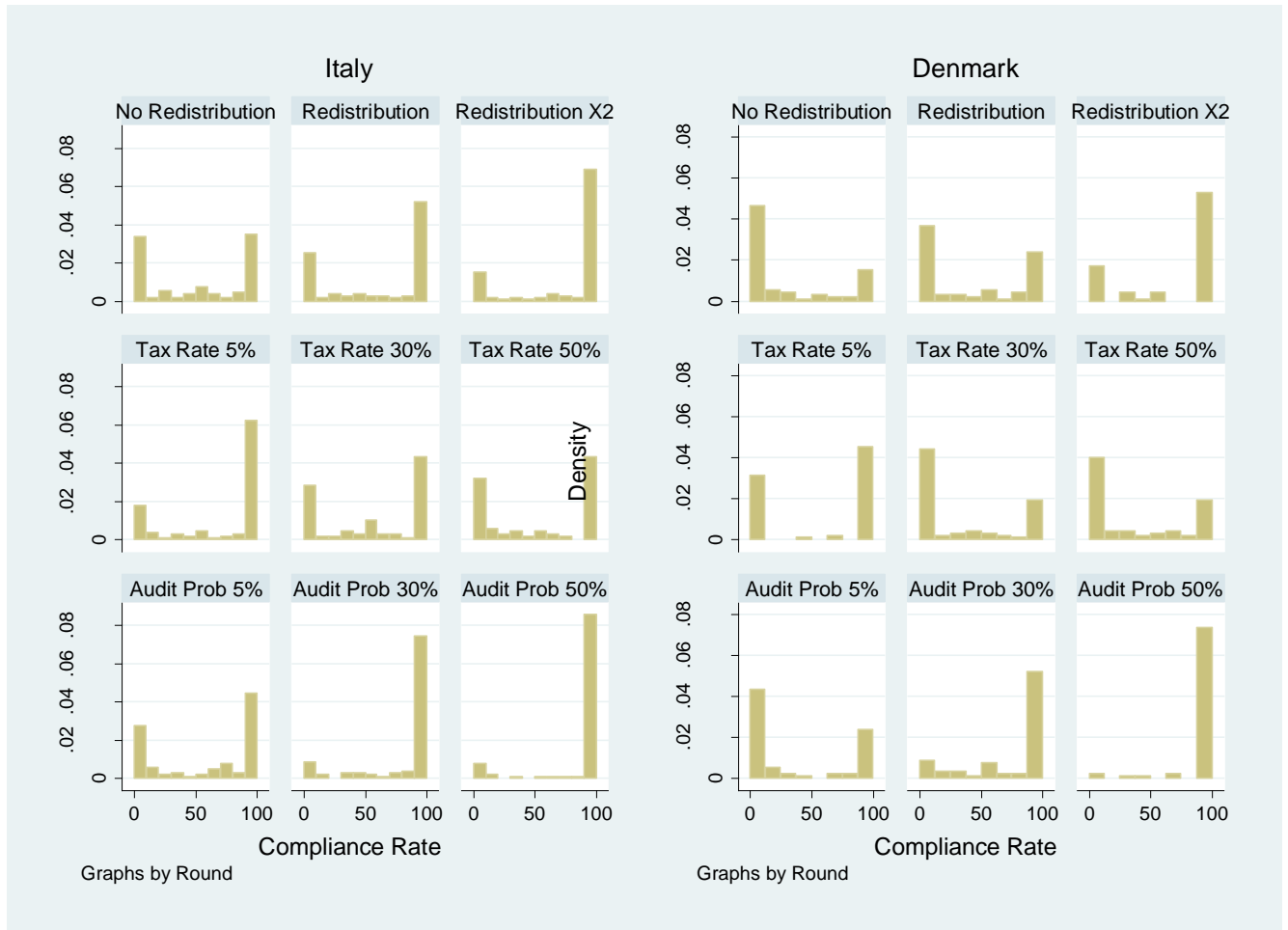
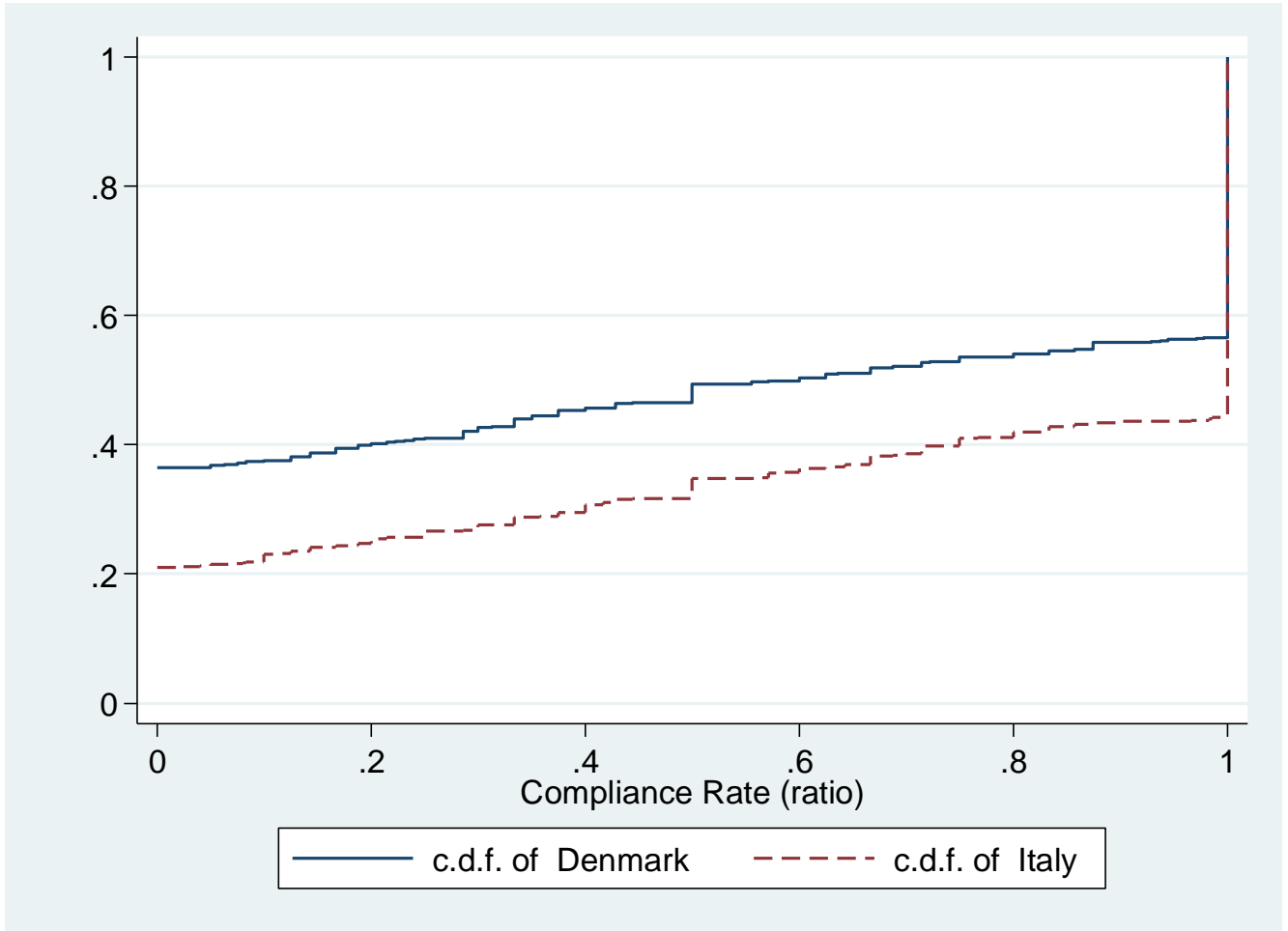


Figure 5: Cumulative Distributions of Reporting Compliance Rate by Country



## Tables

Table 1: Experimental Design

Stage	Round	Treatments		
		Tax Rate	Audit Probability	Tax Redistribution
1	1	30%	5%	No
1	2	30%	5%	Redistribution
1	3	30%	5%	Redistribution x 2
2	4	5%	5%	Redistribution
2	5	30%	5%	Redistribution
2	6	50%	5%	Redistribution
3	7	30%	5%	Redistribution
3	8	30%	30%	Redistribution
3	9	30%	50%	Redistribution

Table 2: Risk Attitude Test (adapted from Holt and Laury, 2002)

Decision	Option A			Option B			EV(B) - EV(A)
	Pr. of winning 20 points	Pr. of winning 16 points	EV(A) ( $\sigma^2$ )	Pr. of winning 38.5 points	Pr. of winning 1 points	EV(B) ( $\sigma^2$ )	
1	10%	90%	16.4 (1.44)	10%	90%	4.75 (126.6)	-11.65
2	20%	80%	16.8 (2.56)	20%	80%	8.5 (225)	-8.3
3	30%	70%	17.2 (3.36)	30%	70%	12.25 (295.3)	-4.95
4	40%	60%	17.6 (3.84)	40%	60%	16 (337.5)	-1.6
5	50%	50%	18 (4)	50%	50%	19.75 (351.6)	1.75
6	60%	40%	18.4 (3.84)	60%	40%	23.5 (337.5)	5.1
7	70%	30%	18.8 (3.36)	70%	30%	27.25 (295.3)	8.45
8	80%	20%	19.2 (2.56)	80%	20%	31 (225)	11.8
9	90%	10%	19.6 (1.449)	90%	10%	34.75 (126.6)	15.15
10	100%	0%	20 (0)	100%	0%	38.5 (0)	18.5

Note: Columns 4, 7, and 8 did not appear in the instructions handed out to participants. “Pr” is an abbreviation that stands for “Probability”. “EV( )” stands for Expected Value and “ $\sigma^2$ ” is the variance of a specific lottery.

Table 3: Descriptive Statistics of the Sample

	Denmark (%)	Italy (%)	Total (%)
<b>Gender</b>			
Female	35.1	53.8	46.1
Male	64.9	46.2	53.9
<b>Age Group</b>			
Age <=20	18.9	19.8	19.4
20 < Age <= 25	56.8	52.8	54.4
25 < Age <= 30	16.2	22.6	20.0
age > 30	8.1	4.7	6.1
<b>Current Occupation</b>			
Student	55.4	67.9	62.8
Self Employed	0.0	1.9	1.1
Employed	2.7	7.5	5.6
Student and Employed	40.5	11.3	23.3
Unemployed	1.4	11.3	7.2
<b>Education Level</b>			
High School	63.5	55.7	58.9
Bachelor's Degree (3-year degree)	32.4	27.4	29.4
Postgraduate Master's Degree (5-year degree)	4.1	14.2	10.0
Master's Degree (6-year degree)	0.0	1.9	1.1
PhD (7-year degree or more)	0.0	0.9	0.6
<b>Major field of study</b>			
NA (no student)	44.6	32.1	37.2
Social Sciences	35.1	14.2	22.8
Mathematical, Physical and Natural Sciences	12.2	10.4	11.1
Engineering and Architecture	0.0	16.0	9.4
Medicine	0.0	2.8	1.7
Humanities, Philosophy and Arts	2.7	13.2	8.9
Other	5.4	11.3	8.9
<b>Attend religious services (church attendance)</b>			
more than once per week	0.0	2.8	1.7
once per week	1.4	9.4	6.1
once per month	1.4	6.6	4.4
only in special occasions	18.9	22.6	21.1
once per year	21.6	6.6	12.8
never, practically never	56.8	51.9	53.9
<b>Religion</b>			
Roman Catholic	0.0	65.1	38.3
Protestant	50.0	1.9	21.7
<b>Kids</b>			
Without kids	98.6	99.1	98.9
With kids	1.4	0.9	1.1
<b>Household monthly net income (monthly income)</b>			
< kr. 22.000 (€ 3.000)	86.5	64.2	73.3
kr. 22.000 (€ 3.000) -- kr. 45.000 (€ 6.000)	6.8	24.5	17.2
kr. 45.000 (€ 6.000) -- kr. 75.000 (€ 10.000)	2.7	8.5	6.1
>= kr. 75.000 (€ 10.000)	4.1	2.8	3.3
<b>Previous participation in experiments</b>			
No previous participation	83.8	74.5	78.3
Previous participation	16.2	25.5	21.7
Observations	74	106	180

Table 4: List of Variables

Variable	Description	Value Labels
<b>Dependent Variable</b>		
ER	Evasion Rate = 1 – reporting compliance rate, where the latter is the ratio of declared income to earned income.	[0,1]
<b>Country Of Origin</b>		
Italy	Country of origin	1 if Italy, 0 if Denmark
<b>Parameters</b>		
Tax Rate	Tax rate	{0.05, 0.3, 0.5}
Audit	Probability of being audited	{0.05, 0.3, 0.5}
Redistribution	Redistribution of taxes paid by participants	{0, 1, 2}
<b>Individual Characteristics</b>		
Male	Gender dummy	1 if male, 0 if female
Age	Age	positive integer
Education	Level of Education	discrete, [0,5]: 0 = junior high school 1 = high school 2 = Bachelor’s Degree 3 = Master’s Degree 4 = Master 5 = Ph.D.
Student	Dummy occupation: student	1 if student, 0 otherwise
Self Employed	Dummy occupation: self-employed	1 if self-employed, 0 otherwise
Employed	Dummy occupation: employed	1 if employed, 0 otherwise
Student Employed	Dummy occupation: student and employed	1 if student and employed, 0 otherwise
Unemployed	Dummy occupation: unemployed	1 if unemployed, 0 otherwise
Church Attendance	Attendance to religious services (“Apart from weddings, funerals and christenings, about how often do you attend religious services these days?”)	discrete, [1,6]: 1=more than once per week 2=once per week 3=once per month 4=only in special occasions 5=once per year 6=never, practically never
Roman Catholic	Dummy religion denomination: Roman Catholic	1 if Roman Catholic, 0 otherwise
Protestant	Dummy religion denomination: Protestant	1 if Protestant, 0 otherwise
Monthly Income	Monthly income of household, after taxes and other deductions	discrete, [0,4]: 1 = < kr. 22.000 (€ 3.000) 2 = kr. 22.000 (€ 3.000) -- kr. 45.000 (€ 6.000) 3 = kr. 45.000 (€ 6.000) -- kr. 75.000 (€ 10.000) 4 = >= kr. 75.000 (€ 10.000)
<b>Other Factors</b>		
No Previous Participation	Dummy no previous participation in experimental studies	1 if no previous participation, 0 otherwise
Rows	number of rows correctly copied in each clerical task	discrete
Risk Aversion	Risk aversion: number of safe “Option A” choices in the lottery game	discrete, [0,10]
Perception	Perceived compliance behavior of the other subjects in each round (“In your opinion, how many participants in this room declared their true earnings for tax purposes?”)	discrete, [0,5]: 0=none; 1=less than a half; 2=about a half; 3=more than a half; 4=almost everyone; 5=everyone
Confidence In The Government	Dummy confidence in the confidence in the govern (“How much confidence do you have in the confidence in the govern?”)	1 if “to a certain extent” or “much”, 0 otherwise
Trust In Other People	Dummy trust in other people (“Generally speaking, would you say that most people can be trusted or that you can’t be too careful in dealing with people?”)	1 if “most people can be trusted”, 0 otherwise
Tolerance Of Tax Evasion	cheating on tax, if possible, should always be justified, never be justified, or something in between (“Can cheating on tax if you have the chance always be justified, never be justified, or something in between?”)	discrete, [0 (never be justified),10 (always be justified)]
Political Stance	Political stance (“In political matters, people talk of ‘the left’ and the ‘the right’. How would you place your views on this scale, generally speaking?”)	discrete, [1 (left),10 (right)]
Pool Size	Number of participants per session	discrete

Table 5: Reporting Compliance Rates and Wilcoxon Rank Sum test, by Country and Round

Stage and Round	Pooled	Denmark	Italy	Difference (dk – it)	Non-parametric test Wilcoxon Rank Sum test	
					Z	H <sub>0</sub> : cr(dk)=cr(it) p value
No Redistribution	0.411 (0.431)	0.283 (.397)	0.501 (.432)	-0.217	-3.435	0.000
Redistribution	0.538 (0.448)	0.416 (.440)	0.622 (.435)	-0.206	-3.157	0.001
Redistribution X2	0.748 (0.397)	0.713 (.419)	0.772 (.379)	-0.059	-0.628	0.530
Tax Rate 5%	0.665 (0.442)	0.590 (.480)	0.716 (.407)	-0.126	-1.715	0.086
Tax Rate 30%	0.472 (0.441)	0.329 (.422)	0.571 (.427)	-0.242	-3.765	0.000
Tax Rate 50%	0.459 (0.446)	0.357 (.423)	0.529 (.449)	-0.172	-2.723	0.006
Audit Prob 5%	0.493 (0.455)	0.357 (.448)	0.587 (.437)	-0.23	-3.434	0.000
Audit Prob 30%	0.808 (0.340)	0.763 (.359)	0.838 (.323)	-0.075	-1.489	0.136
Audit Prob 50%	0.912 (0.261)	0.945 (.196)	0.888 (.297)	0.057	1.035	0.300
Average	0.611 (0.443)	0.528 (.460)	0.669 (.421)	-0.141	-6.245	0.000
Observations	180	74	106			

Standard deviations in brackets.

Table 6: Full Evasion Rates and Test of Proportions, by Country and Round

Stage and Round	Pooled	Denmark	Italy	Two-sample p-values from test of proportions diff = prop(dk)-prop(it) H <sub>0</sub> : diff=0		
				Ha: diff<0	Ha: diff!=0	Ha: diff>0
No Redistribution	0.422 (0.495)	0.568 (0.499)	0.321 (0.469)	0.9995	0.0010	0.0005
Redistribution	0.317 (0.466)	0.432 (0.499)	0.236 (0.427)	0.9974	0.0053	0.0026
Redistribution X2	0.167 (0.374)	0.203 (0.405)	0.142 (0.350)	0.8608	0.2784	0.1392
Tax Rate 5%	0.250 (0.434)	0.351 (0.481)	0.179 (0.385)	0.9957	0.0087	0.0043
Tax Rate 30%	0.389 (0.489)	0.554 (0.500)	0.274 (0.448)	0.9999	0.0001	0.0001
Tax Rate 50%	0.389 (0.489)	0.500 (0.503)	0.311 (0.465)	0.9947	0.0106	0.0053
Audit Prob 5%	0.378 (0.486)	0.541 (0.502)	0.264 (0.443)	0.9999	0.0002	0.0001
Audit Prob 30%	0.0944 (0.293)	0.108 (0.313)	0.0849 (0.280)	0.6998	0.6005	0.3002
Audit Prob 50%	0.0556 (0.230)	0.0270 (0.163)	0.0755 (0.265)	0.0813	0.1627	0.9187
Average	0.273 (0.446)	0.365 (0.482)	0.210 (0.407)	1.0000	0.0000	0.0000
Observations	180	74	106			

Standard deviations in brackets.



Table 7: The Determinants of Tax Evasion – Censored Regressions and Double-Hurdle Models

Dependent Variable: ER = 1 – reporting compliance rate						
Variable	Censored Regressions		Double-hurdle (DH) Regressions			
	Model (1)	Model (2)	Model (3)		Model (4)	
	Pooled Tobit	Panel Tobit with random effects	Pooled DH		Panel DH with random effects	
			First Hurdle	Second Hurdle	First Hurdle	Second Hurdle
Italy	-0.799*** (0.205)	-0.954** (0.435)	-0.447* (0.248)	-0.184*** (0.058)	-0.594* (0.337)	-0.155 (0.201)
Tax Rate	0.705** (0.325)	0.665*** (0.232)	0.917*** (0.350)	0.039 (0.087)	6.890 (845.384)	0.386*** (0.108)
Audit	-1.935*** (0.349)	-2.029*** (0.247)	-1.712*** (0.304)	-0.258** (0.107)	1.077 (770.971)	-0.961*** (0.114)
Redistribution	-0.249*** (0.074)	-0.248*** (0.056)	-0.294*** (0.084)	-0.010 (0.020)	-0.662 (284.960)	-0.113*** (0.026)
Male	0.714*** (0.079)	0.777*** (0.153)	0.439*** (0.085)	0.139*** (0.022)		0.167** (0.070)
Age	-0.034*** (0.011)	-0.031 (0.023)	-0.027** (0.013)	-0.005 (0.003)		-0.001 (0.009)
Education	0.369*** (0.065)	0.419*** (0.128)	0.335*** (0.072)	0.012 (0.018)		0.060 (0.055)
Student	0.741*** (0.194)	0.656** (0.320)	0.706*** (0.171)	0.141** (0.056)		0.374*** (0.124)
Self Employed	-0.890*** (0.337)	-0.914 (0.781)	-0.557 (0.544)	-0.319 (0.194)		-0.191 (0.436)
Employed	0.963*** (0.220)	0.921** (0.415)	0.641*** (0.226)	0.336*** (0.063)		0.485*** (0.167)
Student And Employed	0.822*** (0.195)	0.746** (0.338)	0.926*** (0.184)	0.108* (0.057)		0.441*** (0.140)
Church Attendance	0.023 (0.031)	0.023 (0.060)	0.050 (0.034)	-0.011 (0.008)		0.010 (0.025)
Roman Catholic	0.273*** (0.105)	0.371* (0.222)	0.175 (0.123)	0.068** (0.032)		0.046 (0.095)
Protestant	-0.200* (0.106)	-0.214 (0.216)	-0.095 (0.126)	-0.083*** (0.028)		-0.045 (0.135)
Monthly Income	0.073 (0.048)	0.045 (0.098)	0.127** (0.055)	-0.024* (0.012)		0.019 (0.050)
No Previous Participation	-0.214** (0.097)	-0.393** (0.185)	-0.295*** (0.098)	0.012 (0.029)		0.076 (0.095)
Rows	0.000 (0.022)	-0.018 (0.026)	-0.010 (0.025)	0.002 (0.005)		-0.005 (0.011)
Risk Aversion	-0.095*** (0.025)	-0.115** (0.047)	-0.088*** (0.026)	-0.007 (0.006)	-0.135* (0.082)	-0.015 (0.024)
Perception	-0.558*** (0.038)	-0.477*** (0.032)	-0.543*** (0.035)	-0.058*** (0.010)		-0.243*** (0.014)
Confidence In The Government	-0.016 (0.040)	-0.007 (0.075)	0.007 (0.041)	-0.010 (0.010)		-0.015 (0.033)
Trust In Other People	-0.168 (0.116)	-0.122 (0.267)	-0.035 (0.153)	-0.071* (0.039)		-0.117 (0.134)
Tolerance Of Tax Evasion	0.025 (0.020)	0.036 (0.039)	0.037* (0.021)	0.002 (0.005)		0.009 (0.023)
Political Stance	0.072*** (0.018)	0.057 (0.036)	0.083*** (0.020)	0.007 (0.005)		0.032* (0.017)
Pool Size	0.022* (0.013)	0.028 (0.027)	0.014 (0.016)	0.002 (0.004)		0.008 (0.012)
Constant	1.378*** (0.471)	1.260 (0.859)	0.954* (0.526)	0.969*** (0.134)	0.166 (451.741)	0.557 (0.354)
$\sigma_\alpha$		0.830*** (0.067)				0.292*** (0.030)
$\sigma_\varepsilon$		0.686*** (0.032)				0.374*** (0.011)

Transformed $\rho$						-0.327 (0.323)
$\chi^2$		426.17		228.43		6.51
Log likelihood	-1171	-967		-747		-813
Observations	1620	1620		1620		1620

Standard errors are in parentheses; \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Table 8: Interaction Effects on Evasion Choices - Pooled Double-Hurdle Models

Dependent Variable: ER = 1 – reporting compliance rate								
Variable	Model (5)		Model (6)		Model (7)		Model (8)	
	First Hurdle	Second Hurdle	First Hurdle	Second Hurdle	First Hurdle	Second Hurdle	First Hurdle	Second Hurdle
Italy	-0.617** (0.258)	-0.232*** (0.060)	0.119 (0.400)	-0.035 (0.089)	-0.800*** (0.273)	-0.175*** (0.068)	-0.457 (0.431)	-0.070 (0.100)
Tax Rate	0.929*** (0.351)	0.038 (0.087)	0.925*** (0.350)	0.046 (0.087)	0.894** (0.351)	0.039 (0.088)	0.913*** (0.352)	0.045 (0.087)
Audit Rate	-2.576*** (0.467)	-0.638*** (0.167)	-1.731*** (0.304)	-0.276*** (0.107)	-1.648*** (0.305)	-0.261** (0.107)	-2.407*** (0.467)	-0.649*** (0.168)
Redistribution	-0.298*** (0.085)	-0.010 (0.020)	-0.297*** (0.084)	-0.012 (0.020)	-0.283*** (0.085)	-0.010 (0.020)	-0.289*** (0.085)	-0.012 (0.019)
Audit*Italy	1.505*** (0.580)	0.620*** (0.206)					1.312** (0.582)	0.600*** (0.206)
Male	0.445*** (0.085)	0.142*** (0.022)	0.438*** (0.085)	0.142*** (0.022)	0.099 (0.137)	0.146*** (0.034)	0.126 (0.139)	0.159*** (0.034)
Italy*Male					0.541*** (0.172)	-0.011 (0.044)	0.498*** (0.174)	-0.025 (0.044)
Age	-0.028** (0.013)	-0.005 (0.003)	-0.029** (0.013)	-0.005* (0.003)	-0.020 (0.013)	-0.005 (0.003)	-0.024* (0.013)	-0.006* (0.003)
Education	0.341*** (0.072)	0.011 (0.017)	0.345*** (0.072)	0.017 (0.018)	0.332*** (0.072)	0.013 (0.018)	0.345*** (0.073)	0.018 (0.018)
Student	0.700*** (0.170)	0.133** (0.056)	0.711*** (0.171)	0.137** (0.056)	0.719*** (0.172)	0.142** (0.056)	0.716*** (0.171)	0.131** (0.055)
Self Employed	-0.561 (0.530)	-0.316* (0.191)	-0.557 (0.571)	-0.364* (0.195)	-0.518 (0.630)	-0.355 (0.219)	-0.485 (0.659)	-0.400* (0.214)
Employed	0.628*** (0.225)	0.331*** (0.063)	0.619*** (0.227)	0.316*** (0.064)	0.686*** (0.228)	0.336*** (0.063)	0.653*** (0.227)	0.312*** (0.063)
Student And Employed	0.918*** (0.184)	0.102* (0.057)	0.932*** (0.184)	0.109* (0.057)	0.932*** (0.185)	0.108* (0.057)	0.930*** (0.184)	0.105* (0.056)
Church Attendance	0.048 (0.034)	-0.010 (0.008)	0.050 (0.034)	-0.012 (0.008)	0.042 (0.034)	-0.011 (0.008)	0.041 (0.034)	-0.010 (0.008)
Roman Catholic	0.165 (0.122)	0.072** (0.032)	0.150 (0.124)	0.064** (0.032)	0.160 (0.124)	0.069** (0.032)	0.132 (0.124)	0.068** (0.032)
Protestant	-0.096 (0.128)	-0.082*** (0.028)	-0.103 (0.126)	-0.086*** (0.028)	-0.185 (0.129)	-0.081*** (0.029)	-0.185 (0.131)	-0.082*** (0.029)
Monthly Income	0.129** (0.055)	-0.024** (0.012)	0.135** (0.055)	-0.022* (0.012)	0.132** (0.055)	-0.024** (0.012)	0.140** (0.055)	-0.023* (0.012)
No Previous Participation	-0.295*** (0.098)	0.008 (0.029)	-0.316*** (0.099)	0.006 (0.029)	-0.282*** (0.099)	0.012 (0.029)	-0.301*** (0.100)	0.003 (0.029)
Rows	-0.010 (0.025)	0.003 (0.005)	-0.006 (0.025)	0.002 (0.005)	-0.015 (0.024)	0.002 (0.005)	-0.010 (0.025)	0.003 (0.005)
Risk Aversion	-0.089*** (0.026)	-0.007 (0.006)	-0.037 (0.038)	0.004 (0.008)	-0.093*** (0.026)	-0.007 (0.006)	-0.053 (0.039)	0.004 (0.008)
Italy*RiskAvers			-0.092* (0.052)	-0.027** (0.012)			-0.075 (0.052)	-0.025** (0.012)
Perception	-0.547*** (0.035)	-0.057*** (0.010)	-0.540*** (0.035)	-0.054*** (0.010)	-0.561*** (0.036)	-0.057*** (0.010)	-0.560*** (0.036)	-0.053*** (0.010)
Confidence In The Government	0.007 (0.041)	-0.011 (0.010)	0.010 (0.041)	-0.009 (0.010)	0.001 (0.041)	-0.009 (0.010)	0.003 (0.041)	-0.009 (0.010)
Trust In Other People	-0.045 (0.153)	-0.072* (0.038)	-0.048 (0.153)	-0.070* (0.038)	0.004 (0.153)	-0.074* (0.040)	-0.018 (0.153)	-0.076* (0.039)
Tolerance Of Tax Evasion	0.035 (0.021)	0.001 (0.005)	0.030 (0.022)	0.000 (0.005)	0.032 (0.021)	0.002 (0.005)	0.025 (0.022)	-0.001 (0.005)

Political Stance	0.084*** (0.020)	0.006 (0.005)	0.088*** (0.020)	0.008* (0.005)	0.083*** (0.020)	0.007 (0.005)	0.088*** (0.021)	0.008* (0.005)
Pool Size	0.014 (0.016)	0.002 (0.004)	0.011 (0.016)	0.002 (0.004)	0.015 (0.016)	0.002 (0.004)	0.012 (0.016)	0.002 (0.004)
Constant	1.126** (0.531)	1.006*** (0.134)	0.721 (0.542)	0.916*** (0.136)	1.226** (0.534)	0.965*** (0.136)	1.160** (0.557)	0.941*** (0.139)
$\chi^2$	240.02		234.06		227.28		243.84	
Log Likelihood	-739	0.256***	-743	0.257***	-742	0.258***	-731	0.256***
Observations	1620	(0.007)	1620	(0.007)	1620	(0.007)	1620	(0.007)

*Standard errors are in parentheses; \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$*