Oaths and Evasion: Variable Honesty in Tax Evasion Games

Logan Krebs
Utah State University

Follow this and additional works at: https://digitalcommons.usu.edu/gradreports

Part of the Behavioral Economics Commons

Recommended Citation
https://digitalcommons.usu.edu/gradreports/1632

This Report is brought to you for free and open access by the Graduate Studies at DigitalCommons@USU. It has been accepted for inclusion in All Graduate Plan B and other Reports by an authorized administrator of DigitalCommons@USU. For more information, please contact digitalcommons@usu.edu.
Oaths and Evasion: Variable Honesty in Tax Evasion Games

Logan Krebs
Utah State University
Abstract

Previous research has indicated that an ex-ante pledge of honesty reduces the likelihood that participants will lie during a lab experiment. We show that a bandwagon effect, occurring when participants know that others are acting dishonestly, can erode the positive effects of honesty oaths. Taxpayers do not make their reporting decisions in a vacuum. They have access to information concerning how others in the community are behaving and develop perceptions around this information. We add these realistic features to a tax evasion game involving an ex-ante honesty oath. Results indicate that social context can reduce the positive effects of honesty oaths on reporting behavior.

Introduction

Increasing tax compliance is a complex and often costly task. Policymakers must decide how much they can trust self-reporters to report honestly and how much to spend in deterring evasion. The problem is one of information asymmetry (Beck and Jung 1989). Policymakers do not know a self-reporter’s preference for risk nor their likelihood of reporting dishonestly. Furthermore, regulators tend towards risk aversion and therefore prefer programs that prevent risk to those that involve trusting self-reporters (Alain et al. 2014). Policymakers, as a result, most often opt to increase the amount of money spent on monitoring and punishing tax evasion to increase tax compliance. These tactics can be successful but carry high costs and regulatory burdens that slowdown self-reporting programs as well as other government processes (Gilligan 2018).

Researchers have become increasingly interested in ways to effect truthful self-reporting that reduce costly overhead and regulatory burden. Lab experiments have turned towards
behavioral-centered frameworks that test the efficacy of behavioral nudges, commitment devices, and framing techniques in inducing ethical behavior. The use of honesty oaths is part of this shift that explores ways to increase compliance without adding cost.

In lab experiments, honesty oaths have been shown to increase honest behavior in various self-reporting experiments. Beck et al. (2018) studied oaths in the context of dice-rolling games. Participants were asked to self-report each roll of a dice and could earn more money for reporting higher rolls. The experiment showed that participants who took an oath of honesty reported more truthfully compared to participants who took no oath. Peer et al. (2021) found that oaths “considerably and consistently reduce dishonesty” during an experiment where participants were asked to solve equations for an allotted time and report the number of equations they solved correctly (761).

Other experiments have focused specifically on taxpayer behavior. Participants in these experiments earn money through sorting numbers or completing other tasks and are then asked to choose an amount of income to report subject to a tax. Research shows similar results compared to self-reporting involving dice rolling or problem solving; participants who have taken an oath of honesty before beginning an experiment are more likely to report truthfully (Peer and Feldman 2021). Oaths in the context of tax-reporting experiments have proven effective both for in-person experiments and crowd-sourced experiments conducted online (Jacquemet et al. 2021).

Honesty Oaths were originally borrowed from social psychology which developed a theory of commitment devices that bind “the individual to behavioral acts” (Kiesler 1971). Jacquemet et al. (2013) argue that honesty oaths work to establish a participant’s behavior before they are given a choice concerning how to behave. Later work, however, shows that not everyone is affected by commitment devices. Jacquemet et al. (2019) find that it is difficult to
alter the behavior of chronic liars with honesty oaths, but partial liars can be transformed to full compliers. Their results indicate that honesty oaths may have limitations not previously identified. Additional limitations may exist concerning who can be affected and in what context.

The prevalent question concerning commitment devices and honesty oaths is whether they can decrease cost and ease regulatory burden while ensuring truthful self-reporting (Peer and Feldman 2021). Put differently, can policymakers, and others who rely on information self-reporters provide, trust a tactic as simple as an oath to deter behavior? While previous research has indicated an affirmative response to these questions, further work is required to test the validity of honesty oaths in environments that mirror the incentives of real-life taxpayers. Specifically, the current literature is problematic in that no studies have been conducted focusing on the effects of social information in addition to honesty oaths on self-reporting.

Beck and Jung (1989) were the first to argue that social information could be a motivator in tax evasion. They found that people perceive tax evasion as being less unethical if evasion is widespread. Recent research shows that knowledge of widespread tax evasion can induce an individual to act dishonestly, creating a bandwagon effect in addition to altering their perception about the ethics of evasion (Traxler 2010). In contrast to experiments conducted so far, taxpayers and other self-reporters in real life have knowledge concerning how honestly others in their community behave. Our research question is whether this social information can influence reporting behavior even after participants have taken an honesty oath. We attempt to replicate realistic taxpayer behavior by giving participants information on the level of honesty in the community. We predict that truthful self-reporting decreases with the level of dishonesty in the community, even after participants have taken a pledge of honesty. Ultimately, the experimental
design tests for a bandwagon effect that could erode otherwise beneficial effects of honesty oaths.

**Experimental Design**

Data was generated using Prolific, an online platform that gives participants the opportunity to be paid for completing surveys and clinical experiments. The study was distributed to a standard sample of participants living in the United States and available on Prolific. Participants ranged in age from 18-79 with an average age of 35. They received $3 as base pay for completing a post-study questionnaire in addition to a bonus. The bonus was earned during the study and varied according to performance. A total of three treatments were conducted. 50 people participated in treatment one, 100 people participated in treatment two, and 101 people in treatment three. In total, 251 people participated, and no subject participated in more than one treatment. Each treatment had a run time of roughly 30 minutes, but many participants finished within 15 to 20 minutes.

Participants in treatment one indicated their interest in the study by clicking an ad posted on Prolific that included information concerning time required and expected pay for participation. Once a participant agreed to the consent form and read the instructions, they were asked to take a pledge of honesty. The wording of the pledge was taken from Beck (2021). The pledge read: “Hereby I do swear that my actions during this experiment will be due to the principle of honesty. In particular, I swear not to lie in order to enrich myself” (10).

Once a participant agreed to the pledge, they would begin the main task of the experiment. Participants were presented with a 5x5 table of 25 numbers. Each number was randomly populated and could be either 0 or 1. Participants were asked to count the number of
l’s within the table and submit their count for evaluation. After each submission, a new table would generate. Participants earned 9 cents for each correct entry and were not penalized for incorrect entries. At the top of each participant’s screen was a timeclock showing the amount of time remaining. They were also shown their total earnings which would update after each entry.

Figure 1: Screenshot of Main Task

After completing the task, participants were told how much money they earned in total and tasked with deciding how much to report as income subject to a 40% tax. The instructions for the study explained that money collected as tax would be donated to The American National Red Cross. Before reporting, participants were given the opportunity to see how much they would pay in taxes for different amounts of income reported. A graph and slider could be used to explore these options. For example, taking the slider all the way to the right would show a participant how much tax they would pay if they reported their full earnings. Once ready, participants would enter their desired amount to report. They would then begin the post-study questionnaire and be directed back to Prolific with a completion code.
Treatments two and three were identical to treatment one, but participants were given additional information before reporting their earnings. They were told the average percentage of income reported by participants in previous iterations of the study. A subset of data from treatment one was used to calculate the average percentages reported to participants in treatments two and three. Data in treatment one between the 25th and 50th percentiles were split at the median to produce two groups. The average of the higher-compliant group (88%) was reported to participants in treatment two. The average of the lower-compliant group (32%) was reported to participants in treatment three. Participants were shown a screen explaining that, “on average, participants in a previous iteration of this study chose to report (88 or 32) % of their income.” This information was given to participants right before they made their reporting decision.
Results

We computed the percentage of income reported for participants in all three treatments. Participants reported an average of 67\% in treatment one, 78\% in treatment two, and 60\% in treatment three. Table 1 shows these percentages as well as the 25th and 75th percentile for each treatment. We identify three types of participants: fully compliant participants who report their full incomes, partial liars, and full liars who report no income. All three types were found in each treatment. Treatment three, however, had the highest number of partial and full liars.

Table 1: Summary Table

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>T1, N = 50</th>
<th>T2, N = 100</th>
<th>T3, N = 101</th>
<th>P-value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent_Reported</td>
<td></td>
<td></td>
<td></td>
<td>0.016</td>
</tr>
<tr>
<td>N</td>
<td>50</td>
<td>100</td>
<td>101</td>
<td></td>
</tr>
<tr>
<td>Mean (IQR)</td>
<td>0.67 (0.24, 1.00)</td>
<td>0.78 (0.51, 1.00)</td>
<td>0.60 (0.21, 1.00)</td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>0.00, 1.00</td>
<td>0.00, 1.00</td>
<td>0.00, 1.00</td>
<td></td>
</tr>
</tbody>
</table>

* Kruskal-Wallis rank sum test

Because each treatment displayed asymmetric distribution, a Kruskal-Wallis test was used as a non-parametric test to check for differences between the three treatments. A post hoc analysis was performed using Mann-Whitney U, or Wilcoxon Rank-Sum, tests to evaluate pairwise differences. The Kruskal-Wallis test was statistically significant at the 5\% level.
(p=.016), and we subsequently rejected the null hypothesis that the mean ranks of the treatments were the same. A two tailed Mann-Whitney U test between treatments two and three indicated that the null hypothesis that participants in both treatments came from the same distribution should be rejected (p=.004). We also performed a one-tailed Mann-Whitney U test and rejected the null hypothesis that the rank sum of treatment three was larger than the rank sum of treatment two (p=.002).

Mann-Whitney U tests comparing treatments two and three to the baseline treatment were not statistically significant. A power analysis indicated that a larger sample size for treatment one would be required for valid Mann-Whitney U tests involving treatment one. The power analysis did indicate that the Mann-Whitney tests between treatments two and three were valid. Results showed that treatments two and three were significantly different from each other, and changes in behavior occurred in the direction previously hypothesized.
We conclude that social context can drive differences in self-reporting behavior even after participants commit to honesty by taking an ex-ante pledge. A bandwagon effect can occur as an individual’s self-reporting behavior is affected by perceptions of how honest other community members are. Results from this paper indicate that social context should be considered when making conclusions about the efficacy of commitment devices like honesty oaths. Future researchers should consider the sensitive nature of behavior and the effects that social information can have on reporting decisions and choices concerning honesty more broadly. Furthermore, researchers eager to use experimental findings to inform public policy should be cautious of honesty oaths as a surefire route to tax compliance.
Bibliography


