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What Influence do IRS Audits Have on Taxpayer Attitudes and Perceptions? Evidence from a National Survey

What Influence do IRS Audits Have on Taxpayer Attitudes and Perceptions? Evidence from a National Survey[1]

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EXECUTIVE SUMMARY

This report presents results from a survey study of non-farm self-employed (Schedule C) taxpayers. The analysis explores how taxpayer attitudes and perceptions are shaped by different types of audits and audit outcomes. It also investigates whether certain groups of taxpayers share specific attitudinal postures towards paying taxes and the IRS and, if so, how audits influence membership within these groups.

To address these questions, the Taxpayer Advocate Service commissioned a survey of 2,729 Schedule C filers, including 1,363 taxpayers who experienced an audit of one of their returns filed for tax years (TYs) 2010 through 2015 and 1,366 who did not.[2] We find that many of the audited respondents do not recall the examination, and that the rate of recollection depends on both the type of audit that was conducted and the outcome of the examination. Overall, only 64 percent of audited Schedule C filers acknowledge having been audited. Audit recollection is especially poor among those who have experienced a correspondence audit (below 40 percent), which suggests that some taxpayers may not perceive correspondence examinations as actual audits. In the case of field and office examinations, a substantial majority of participants do remember being audited (72 percent and 80 percent, respectively), suggesting that face-to-face audits might have a stronger effect on taxpayer attitudes and behavior.

To account for additional determinants of audit awareness beyond audit type, we have performed a logit analysis that also includes audit outcome (positive tax adjustment, no tax change, or tax refund), measures of the recency of the examination, and indicators for an amended return and for paid tax return preparation as explanatory variables. The results indicate that taxpayers are relatively more likely to recall more recent audits as well as audits that result in a positive tax adjustment. All else being equal, respondents who experience an audit of an amended return are relatively less likely to recall the examination. It is standard practice at the IRS to review amended return filings and contact the taxpayer if any significant anomalies are identified, so taxpayers may tend to view an examination as a routine part of the amended return filing process rather than an actual audit, particularly if the examination is rather cursory.

To examine how audits influence taxpayer attitudes and perceptions, we have selected a matched unaudited "control group" from our survey sample with similar characteristics and a comparable audit risk to our sample of audited taxpayers. A comparison of the responses from our audit sample and matched control group reveals a mixed result with regard to the specific deterrent effect of an audit. On the one hand, audited taxpayers report a higher perceived level of audit risk than the control sample, suggesting that audits might be effective in discouraging future noncompliance. On the other hand, audited taxpayers perceive a relatively low level of sanctions for noncompliance, which runs counter to deterrence. Our analysis further indicates that audits tend to induce negative attitudes among audited taxpayers. Specifically, we find that audited taxpayers tend to perceive greater coercive power within the IRS, have relatively less trust in the agency, and express weaker sentiments with regard to voluntary compliance than the matched control sample. Audited taxpayers are also relatively more likely to indicate that paying taxes feels like something is taken away from them, rather than as a contribution to society.

2 These audits were initiated between February 7, 2011 and March 17, 2017. The audited respondents were interviewed in September and October 2017. The unaudited respondents were interviewed between October and November 2017. The survey also was administered to a sample of wage-earners and a sample of taxpayers who were victims of identity theft. However, the focus of this report is on the self-employed sample.

Our results demonstrate that the nature of the examination process has important implications for taxpayer perceptions of fairness. Overall, correspondence audits tend to be more impersonal than face-to-face examinations, and they tend to focus more narrowly on one or two specific reporting issues on the return. Typically, individuals who have experienced a field or office audit report a greater sense of fairness in the examination process than those who have experienced a correspondence examination.

The impact of audits on taxpayer attitudes and perceptions is also found to vary with the outcome of the examination. Taxpayers who have received an additional tax assessment as a result of the audit report a higher perceived risk of future audits and a weaker sense of procedural and distributive justice than those who received a tax refund or no adjustment. At the same time, taxpayers who have received an additional tax assessment tend to express lower levels of trust in the IRS, a greater sense of coercion, and stronger feelings of anger and threat. Overall, then, it appears that the deterrent effect of an audit is likely to depend on the outcome of the examination.

Finally, we investigate whether certain groups of taxpayers share a common attitudinal posture towards paying taxes and the IRS and, if so, how audits impact the composition of these groups. Our analyses of survey responses within our matched sample suggest that self-employed taxpayers can be constructively divided into three groups in accordance with their attitudes towards paying taxes, motivations to comply, trust in, and negative emotions towards the IRS.

The first group holds positive attitudes towards the IRS and views paying taxes as a contribution to society. It perceives the IRS as trustworthy, feels protected against free riders, and reports an absence of negative emotions towards the IRS. The second group holds reasonably neutral attitudes towards the IRS. While members of this group view paying taxes as a contribution to society, they possess only a limited degree of trust in the IRS and report moderate levels of negative emotions towards the Agency, such as anger and fear. The third group holds negative attitudes towards the IRS. More specifically, this group reports that paying taxes feels like something is taken away from them. Its members report low levels of trust in the IRS, and they express strong negative emotions, especially anger, towards the Agency.

When investigating the effect of audits on the relative shares of these three groups within each audit type and outcome category, we find a larger share of taxpayers who hold negative views towards the IRS among individuals who have experienced a correspondence audit. This supports the finding that face-to-face audits have a more positive effect on taxpayer attitudes and perceptions than correspondence audits. The membership share for the group with the most negative attitudes towards the IRS is largest among those who received an additional tax assessment as a result of the audit. On the other hand, the membership share for the group with the most positive attitudes is highest among those who experienced no change in their tax status — even higher than that observed for taxpayers who have received a tax refund as a result of the audit. Perhaps this is an indication that taxpayers who received a tax refund as a result of the audit tend to feel somewhat frustrated that they were forced to undergo an audit despite having overpaid their tax obligation. Alternatively, perhaps they are relatively more likely to perceive their selection for audit as a sign of undeserved mistrust by the IRS than those who experienced no tax change as a result of the examination.

Our findings demonstrate that IRS audits have the potential to change taxpayer attitudes in both positive and negative ways. While many taxpayers fail to recall a correspondence audit experience, such audits are nonetheless perceived to be less fair than face-to-face examinations, suggesting that field and office audits might be better suited to deter evasion. Moreover, the audit outcome seems to affect the perceived risk of future examinations: taxpayers who have experienced a positive tax adjustment perceive

a higher audit risk than those who have received a refund or no tax change. This result complements the earlier finding by the Taxpayer Advocate Service (Beer, Kasper, Kirchler, & Erard, 2015) that the behavioral response to an audit is highly dependent on the audit outcome.

INTRODUCTION

Tax audits are a primary tool used by tax administrations to deter noncompliance.[3] However, despite ongoing efforts to reduce evasion, the tax gap remains high, currently estimated to be $458 billion (IRS, 2016). A recent study by the Taxpayer Advocate Service (TAS) shows that operational tax audits, which are targeted towards high-risk taxpayers, successfully identify returns with unreported taxes and increase subsequent reporting compliance (Beer, Kasper, Kirchler & Erard, 2015). However, for audited taxpayers who do not experience an additional tax assessment, the TAS study finds detrimental audit effects. One possible explanation is that such taxpayers perceive a reduced probability of future audits (Kastlunger, Kirchler, Mittone, & Pitters, 2009; Mittone Panebianco, & Santoro, 2017). On the other hand, tax audits might be viewed as a signal of distrust and crowd out the intrinsic motivation to comply among honest individuals (Feld & Frey, 2007; Lederman, 2017) or further decrease the willingness to pay among taxpayers whose cheating has not been detected during an audit. More broadly, the TAS study raises the question of the extent to which audits affect taxpayers' attitudes and how changes in attitudes shape subsequent compliance behavior.

This report examines how tax audits affect taxpayers' tax-related attitudes and perceptions by comparing the survey responses of self-employed taxpayers (Schedule C filers) who have experienced an audit with those of a matched comparison sample of unaudited respondents. The results indicate that tax audits have significant and varied effects on taxpayers' attitudes, depending on both the type of examination (office, field, or correspondence) and the outcome (positive tax adjustment, no change, or tax refund). Overall, audited self-employed taxpayers perceive higher levels of audit risk but weaker sanctions for noncompliance than those who have not been audited. They also report lower levels of trust in the IRS and are relatively more likely to agree strongly with the statement that "paying taxes feels like something is taken away from me rather than a contribution to society." Second, our results indicate that taxpayers' attitudes and perceptions regarding taxes vary in accordance with the type of audit they experience and the outcome of the examination. For instance, individuals who have experienced a correspondence audit report lower levels of perceived justice in IRS procedures. Audited taxpayers who have received a positive tax adjustment report a higher perceived audit risk, lower levels of justice, and less trust in the IRS than taxpayers who received no adjustment or a refund.

The remainder of this report is organized as follows. In the next section, we briefly present the literature on the determinants of tax compliance, as summarized in the Slippery Slope Framework (SSF, Kirchler, 2007; Kirchler, Hoelzl, & Wahl, 2008). We then describe our research questions and provide an overview of our survey instrument, sampling methodology, and data. Subsequently, we present and discuss the results of our analysis. In the final section, we provide concluding remarks.

3 The deterrent effect of tax audits has been in the focus of theoretical and empirical research for at least five decades. It has been demonstrated in a substantial number of studies such as Allingham & Sandmo (1972), Alm, Jackson & McKee (2009), DeBacker, Heim, Tran, & Yuskavage (2018), Kleven, Knudsen, Kreiner, Pedersen, & Saez (2011), Slemrod, Blumenthal & Christian (2001).

LITERATURE REVIEW

Attitudes Towards Paying Taxes

Attitudes towards paying taxes are often negative (Eriksen & Fallan, 1996; Kirchler, 2007). The aversion to pay taxes even seems to exceed the rational economic motivation to avoid monetary costs, as individuals prefer to avoid tax-related costs over avoiding equal, or larger, costs that are not related to taxes (Sussman & Olivola, 2011). One common explanation for negative attitudes towards paying taxes is that the tax burden is perceived to be too high; attitudes towards taxes are lowest among high income individuals (Lewis, 1979). On the other hand, taxpayers who perceive the system as fair also exhibit more positive attitudes toward paying taxes (Wilson & Sheffrin, 2005). Other factors that seem to affect the willingness to comply are religious and political beliefs (Wahlund, 1992; Prinz, 2004; Alm & Torgler, 2006). Attitudes towards taxes also vary with age, gender, education, and income (Hofmann, Voracek, Bock, & Kirchler, 2017).

Prior work by the TAS suggests a connection between taxpayers' attitudes and their compliance behavior (TAS, 2012). The study finds low levels of trust in both the federal government, overall, and the IRS, in particular, among individuals who are classified as high-risk (*i.e.*, less compliant taxpayers). The study further finds that these taxpayers perceive both the tax system and the IRS as relatively unfair, which suggests that negative attitudes might contribute to tax noncompliance.

Tax Knowledge and Prior Experiences

Several studies investigate the link between tax knowledge, attitudes towards taxes, and willingness to comply. On average, levels of tax knowledge within the population appear to be fairly low. For instance, taxpayers have been found to have inconsistent views on tax policy reform, advocating tax rate cuts and increased public expenditures at the same time (*e.g.*, Kemp, 2008; Kirchler, 1997). Moreover, many taxpayers find it difficult to understand basic concepts of taxation such as progressivity (McCaffery & Baron, 2004; Roberts, Hite & Bradley, 1994).

The existing literature on tax compliance suggests that an improved understanding of taxes has positive implications for tax compliance. For instance, Eriksen and Fellan (1996) find that increased tax knowledge is associated with improved attitudes towards evasion. Consistent with this finding, Kirchler (1999) shows that owners of business startups oppose paying taxes more strongly than more experienced self-employed taxpayers. Similarly, Kirchler and Maciejovsky (2001) observe a positive correlation between knowledge of tax law and tax morale among entrepreneurs. Likewise, a recent survey of self-employed taxpayers in Austria and Germany finds more positive attitudes towards taxes and a higher willingness to comply voluntarily among taxpayers with high levels of tax knowledge (Olsen, Kasper, Kogler, Muehlbacher, & Kirchler, 2018).

Tax audits affect taxpayers directly and indirectly, as taxpayers learn from past experiences with tax authorities and from communication with each other. While the audit experience directly impacts subsequent reporting compliance (*e.g.*, DeBacker et al., 2018; Kleven et al., 2011; Slemrod et al., 2001), several studies also find substantial indirect revenue effects of tax audits. Specifically, taxpayers who have not been audited report more income when they learn that others have been audited (Alm et al., 2009; Dubin, Graetz, & Wilde, 1990; Dubin, 2007). Moreover, recent work emphasizes the importance of the audit outcome for subsequent reporting behavior. For example, Gemmell and Ratto (2012) find that random tax audits reduce subsequent reporting compliance among taxpayers who are found to be compliant. Similarly, a recent TAS study shows that taxpayers who experience no additional tax assessment following an audit report lower overall amounts of income and tax in subsequent years

(TAS, 2015). While these studies do not examine the drivers of such behaviors, a potential explanation is that a shift in taxpayers' attitudes contributes to a decline in compliance. For instance, taxpayers might be less willing to comply after an audit if they believe they have been treated unfairly.

Justice Perceptions

Perceived justice is a fundamental determinant of voluntary compliance (Andreoni et al., 1992, Hofmann, Gangl, Kirchler, & Stark, 2014). Fairness in the interaction between tax authorities and taxpayers results from mutual respect, neutrality, and goodwill (Tyler, 2006). Following Colquitt (2001), the academic literature usually distinguishes between procedural justice, informational justice, interpersonal justice, and distributive justice.

Procedural justice refers to the transparency, consistency, and neutrality of processes. It is affected by individuals' ability to express their views and to influence the outcome of a decision. Informational justice and interpersonal justice relate to fairness in interactions (Bies & Moag, 1986) such as justification (explaining decisions), truthfulness (no deception), respect (politeness), and propriety (no improper remarks). While fairness in explanations establishes informational justice, interpersonal justice relates to sensitivity and respect (Greenberg, 1990). Distributive justice results from a match between the outcome of a decision and the goals of the decision; for instance, improving cooperation or promoting social welfare. To achieve distributive justice, the tax burden should be allocated fairly among taxpayers with equal incomes (horizontal equity) and unequal incomes (vertical equity). Moreover, Alm, Kirchler, and Muehlbacher (2012) point out that the benefits from social goods should be reflected in individual tax payments (exchange fairness).

A professional tax administration is key to achieving fairness in taxation. Tax agencies can strengthen perceived justice by treating taxpayers equally and respectfully, providing high quality services, and ensuring that taxpayers pay their fair share. One focus of this study is, thus, to assess whether taxpayers perceive that the tax system is fair, both in general terms and with respect to tax audits.

Social Norms

Social norms play a critical role in tax compliance behavior (Alm, McClelland & Schulze, 1999). For instance, perceived levels of tax evasion affect attitudes towards tax noncompliance. The more prevalent that taxpayers perceive noncompliance to be, the more likely it is that they will become noncompliant themselves. Strong social norms make it easier to adapt to the behavior of others and to justify own wrongdoing (Welch, Xu, Bjanason, Petee, O'Donnell, & Magro, 2005). Torgler (2005) finds a strong relationship between tax morale and social norms; individuals who are personally aware of tax evasion committed by others exhibit lower levels of tax morale. On the other hand, a field experiment in the UK finds that appealing to social norms can result in increased tax compliance (Hallsworth, List, Metcalfe, & Vlaev, 2017).

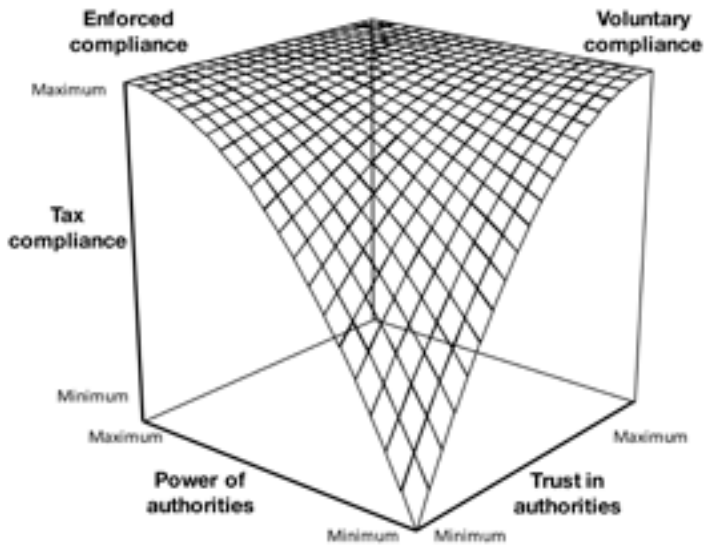
Social norms are stronger within relevant reference groups (Wenzel, 2005). Terry and Hogg (1996) report that individuals align their behavior with the behavior of their social reference group if they identify strongly with this group. In case of low identification, however, individuals oppose group behavior. Thus, taxpayers respond more strongly to the behavior of others when they identify with them. Survey studies also find a positive link between patriotism and pro-social behavior (Huddy & Khatib, 2007; Wenzel, 2007), suggesting that the degree of attachment to country is also an important factor. Taken together, social norms have the potential to increase or decrease one's willingness to comply with one's tax obligations.

The Slippery Slope Framework

The Slippery Slope Framework (SSF, Figure 4.1) is a conceptual framework that explains tax compliance behavior (Kirchler, 2007; Kirchler et al., 2008). It summarizes various determinants of tax compliance and guides the assessment of taxpayers' perceptions and attitudes in the present study.

The SSF assumes that tax compliance behavior is a function of power of and trust in the tax authority. A tax authority's power reflects its capacity to enforce compliance through audits, penalties, and criminal prosecution. An extended theoretical model distinguishes between legitimate and coercive power (Gangl, Hofmann, & Kirchler, 2015). While professionalism and perceived legitimacy constitute legitimate power, coercive power originates from the capacity to punish and reward taxpayers. Trust in the tax authority, on the other hand, is affected by tax law complexity, tax knowledge, attitudes towards taxes, fairness perceptions, and social norms. Taxpayers comply voluntarily when they perceive that the tax system is just, when they feel that they are being treated fairly and professionally by the tax administration, and when they view paying taxes as a social norm (Tyler et al., 2015). Consequently, building trust elevates voluntary tax compliance. While enforced compliance results from an extensive decision process in which individuals weigh the costs and benefits of noncompliance, voluntary compliance is more intuitive and spontaneous (Rand, Greene & Nowak, 2012).

FIGURE 4.1, The Slippery Slope Framework (adapted from Kirchler, 2007, p. 205; Kirchler, Hoelzl, & Wahl, 2008, p. 212)



RESEARCH QUESTIONS

This report analyzes the effect of tax audits on taxpayer attitudes. Our central hypothesis is that experiencing an audit has the potential to alter taxpayers' willingness to comply. To test this hypothesis, we examine the effects of different audit types and outcomes on survey-based measures of a wide range of attitudes and perceptions.

In line with the "bomb crater" hypotheses (Mittone, et al., 2017), we assume that experiencing an audit changes the perceived risk of future audits. This effect, however, is likely conditional on the audit outcome. Taxpayers who receive an additional assessment may infer that they are now in the focus of the IRS and thus likely to be audited again. Conversely, taxpayers who receive a refund or no assessment may (rightly or wrongly) perceive a reduced likelihood of being audited in the future. This report explores to what extent the audit type and outcome affect the perceived probability of future audits.

A tax audit may provide taxpayers with a better understanding of their tax obligations. Some taxpayers may learn that they have been paying too much in tax, for instance, by failing to take advantage of offsets or credits to which they are entitled. Others may discover they have been paying too little, perhaps as a result of underreporting a taxable source of income, overstating a deduction, or claiming a credit for which they are not eligible. Such learning effects will likely be stronger if the taxpayer interacts personally with the IRS during a field or office audit. A correspondence audit, on the other hand, which offers little scope for such interactions, may have less of an educational effect. We thus analyze how audits of different types affect tax knowledge.

Subsequently, we investigate the potential for tax audits to change taxpayers' motivation to comply. The examination experience might alter taxpayers' perceptions of fairness in IRS procedures, for instance. Again, we expect that this effect is moderated by the audit outcome. An audit that results in an additional tax assessment is likely to raise more negative sentiments than one that results in a tax refund or no change in taxes owed. Similarly, some audit types might be perceived as fairer than others. The quality and outcome of an audit might also build or diminish trust in the IRS and affect taxpayers' emotions. Ultimately, experiencing an audit may affect taxpayers' motivation to comply and willingness to think about cheating on their tax return.

Finally, we explore whether taxpayers can be classified in accordance with their attitudinal postures. Our analysis aims to identify groups of taxpayers who share specific attitudes and perceptions. For example, some individuals might generally oppose paying taxes, disapprove of the IRS, and believe that taxation is "theft" rather than a contribution to society. Other taxpayers might hold more positive attitudes and be willing to comply voluntarily.

A detailed description of our empirical approach to addressing these research questions is provided below.

SURVEY INSTRUMENT AND SAMPLE DESIGN

The survey instrument reflects the core dimensions of the Slippery Slope Framework and can be broadly divided into three parts. The first section inquires about the enforcement power of the IRS, including taxpayer perceptions of audit risk and the sanctions for noncompliance. This section also asks respondents a series of questions that are useful for directly assessing their perceptions of the coercive and legitimate powers of the Agency. The second section elicits responses concerning the level of trust that taxpayers have in the IRS as well as the determinants of that trust (such as tax knowledge, attitudes towards taxation, justice perceptions, and social norms). The third section includes questions meant to capture taxpayer emotions, such as anxiety, anger, comfort, and fear. Finally, the last section of the instrument covers sentiments regarding voluntary and enforced compliance as well as thoughts about cheating when filing taxes.

Table 4.1 gives an overview of the survey scales, each of which has been documented using responses to one or more related questions. A copy of the survey instrument is provided in Appendix A.

TABLE 4.1, List of Survey Scales

Survey Scale	Description
Audit probability	Perceived audit probability
Detection probability	Perceived detection probability
Fines	Perceived severity of fines for noncompliance
Tax knowledge	Subjective competence when filing taxes
Attitudes	General attitude towards paying taxes
Motivation	Motivation to comply (obligation vs. contribution to society)
Justice	
Procedural justice	Perceived justice in IRS procedures
Informational justice	Perceived transparency in communications with IRS
Interpersonal justice	Perceived fairness of treatment by IRS employees
Distributive justice	Perceived fairness of outcomes of IRS procedures
Social norms	Perceived compliance levels of other taxpayers
Coercive power	IRS enforcement capacity
Legitimate power	Legitimacy of enforcement
Trust	Trust in the IRS
Emotions	
Fear	Fear of the IRS
Anger	Anger towards the IRS
Caution	Feeling cautious regarding the IRS
Threat	Feeling threatened by the IRS
Protection	Feeling protected by the IRS
Enforced compliance	Intended compliance out of fear of punishment
Voluntary compliance	Intended compliance out of moral obligation
Thought about cheating	Have taxpayers thought about cheating?

Sample Selection: Audited Taxpayers

Separate samples of audited and unaudited self-employed taxpayers were drawn for our survey. To be eligible for inclusion, an audited taxpayer had to meet the following criteria:

- Had at least one operational audit between Tax Years 2010 and 2015.[4]
- Filed a Schedule C return for at least three consecutive tax years, including the year of the audit, the preceding year, and the year subsequent to the audit.
- All income tax returns for Tax Years 2010 through 2015 were filed chronologically.[5]
- The audit for Tax Year T was initiated prior to the filing of the Tax Year T+2 return.[6]
- No examinations were initiated or ongoing two years prior to the audit under consideration.
- Among the returns filed following the initiation of the Tax Year T audit, a maximum of one of these returns was subsequently audited.
- The taxpayer was not a resident of Puerto Rico.

One key aim of the study is to investigate differences in tax-related perceptions and attitudes according to the type of audit (office, field, or correspondence) and the audit outcome (positive tax adjustment, no change, or tax refund). Therefore, we have drawn separate subsamples of audited self-employed taxpayers for each of the nine groupings (three audit types times three outcome types). For each type of audit, a target of 100 respondents was set for taxpayers receiving a tax refund as a result of the audit, 150 respondents for those experiencing no tax change, and 200 for those experiencing an additional tax assessment.

Ultimately, our objective was to be able to match each audited respondent in our survey to an unaudited "control" with comparable characteristics. To help ensure that a suitable match could be obtained in most cases, we conducted a preliminary propensity scoring analysis. Our overall estimation sample for this analysis included the population of approximately 250,000 audited taxpayers who satisfied the above sample selection criteria. It also included a stratified random sample[7] of approximately 750,000 potential "controls" who satisfied the following selection criteria with regard to the returns they filed for Tax Years 2009 through 2016:

- Filed a Schedule C return for at least the three consecutive tax years over the period.
- All returns filed for those tax years were filed in chronological order.
- At the time that at least one of the returns for Tax Years 2010 through Tax Year 2015 was filed, no audits were initiated, closed, or ongoing during the period from two years prior to the filing date of that return to the date that the return for the following tax year was filed.

4 Certain special purpose or narrowly targeted audits for which it would be difficult to find comparable unaudited returns were excluded from selection.

5 The taxpayer was not required to file a return for all tax years during this period, but any that were filed must have been done so chronologically.

6 In certain cases, it was not possible to determine with confidence whether a return was filed before the taxpayer was informed of an audit for a prior tax year. In such cases, the taxpayer was excluded from our sample.

7 Since our ultimate objective was to match the audited respondents to unaudited taxpayers with similar characteristics, potential controls in the population were divided into strata based on their DIF score, and we then oversampled from those strata where audited taxpayers were concentrated.

- The taxpayer was not a resident of Puerto Rico.[8]

Since IRS audit selection criteria vary both with respect to the type of audit and the year of the return, we developed a separate logit specification for each audit type (field, office, or correspondence) and each tax year (from tax year (TY) 2010 through TY 2015) to predict the likelihood of an audit. The estimation sample for a given audit type and tax year included all of the eligible taxpayers who experienced the relevant type of audit for that tax year as well as a subsample of eligible controls.[9] The explanatory variables in each specification included measures based on the IRS DIF score (an IRS measure of the potential of a given return for a substantial tax adjustment if audited) as well as a variety of indicators of taxpayer and line item tax return characteristics.

The logit estimation results for a given audit type and tax year were used to estimate the log-odds of an audit for each audited and unaudited taxpayer in the sample. The estimated log-odds was then used as a guide for selecting which audited taxpayers to include in the pool of potential interview subjects. Specifically, our selection process for this pool undersampled audited taxpayers with extreme log-odds scores for which there were very few potential controls with comparable scores.[10]

In order to approximately achieve our targets for the number of respondents for each of the nine groupings of audited taxpayers by type of audit and audit outcome, it was necessary to take into account that a valid phone number might not be identified for some taxpayers, and that some taxpayers would fail to answer the phone or refuse to participate in the survey. To address this issue, the size of our pool of potential interview subjects for each audit type/audit outcome grouping was set substantially larger than target number of respondents. However, the sizes of the overall sub-populations of potential subjects who received a tax refund as a result of either a field or an office audit were limited and, ultimately, the number of actual respondents ultimately fell somewhat short of our target for these groups. In order to achieve our approximate target of 1,350 audited taxpayers, we therefore elected to expand the numbers of respondents who received a positive tax adjustment or no tax change as a result of a field or office audit beyond their target values. Ultimately, 1,363 audited Schedule C filers responded to our survey.

Sample Selection: Unaudited Taxpayers

An important objective for the survey was to include a group of unaudited taxpayers in our survey sample who would serve as suitable controls for the audited respondents. We determined that this would be easier to accomplish if we first arranged for the interviews to be conducted from the pool of audited taxpayers. In this way, we would know which audited taxpayers actually responded to survey, and we could tailor our pool of unaudited interview subjects in the second stage of sampling so that its members had comparable characteristics.

To select the second-stage sample of unaudited interview subjects, we began by performing a generalized propensity score analysis of the likelihood of a correspondence or face-to-face audit by combining the actual sample of 1,363 audited respondents with our aforementioned sample of approximately 750,000

8 Most residents of Puerto Rico are not required to file a federal personal income tax return, and those who do so generally are not required to pay federal tax on their Puerto Rico-source income.

9 A randomly selected subsample of eligible controls for that tax year was drawn to reduce the estimation time for a given model. The size of the selected subsample was set at 15 times the size of the audit sample.

10 The population of eligible taxpayers who were audited in Tax Years 2014 and 2015 was smaller than that for the other years, so we also oversampled audit cases from these years when selecting the pool of potential interview subjects.

potential controls. A separate specification was estimated for each audit year to account for the fact that the IRS audit selection process tends to vary from year to year.

For each audit year, a weighted multinomial logit analysis was conducted, and the estimation results were used to compute the generalized propensity score (a vector containing both the predicted likelihood of a face-to-face audit and the predicted likelihood of a correspondence audit) for each observation in the combined estimation sample for that year. Next, a large number of unaudited taxpayers was matched to each audited survey respondent based on the application of a Mahalonobis distance criterion to the generalized propensity score. The audited taxpayers were divided into one of two possible groups along with their matched unaudited counterparts on the basis of whether they received a face-to-face or a correspondence examination.

The sextiles of the predicted likelihood of a correspondence audit were identified for the subsample of survey respondents who received a correspondence audit for the tax year under consideration. Their unaudited counterparts were then assigned to these same sextile categories on the basis of their predicted likelihood of a correspondence audit. Finally, a random sample of unaudited taxpayers was selected from each sextile. In this way, we were assured of a pool of potential unaudited survey respondents for that year that would have a similar distribution for the likelihood of a correspondence audit (and also reasonably similar generalized propensity scores) to that observed in our sample of respondents who actually received a correspondence audit in that year. To ensure that our pool was large enough to result in the target number of unaudited respondents, we selected 50 unaudited taxpayers into our pool for every correspondence audit respondent in our survey sample for that year.

We followed a comparable approach for selecting cases from our group containing matches for the face-to-face audit respondents (include office audit and field audit respondents). However, in this case, the sextiles were based on the predicted likelihood of a face-to-face audit among the respondents who received such an audit. Again, we selected 50 unaudited taxpayers into our pool for every face-to-face audit respondent in our survey sample for that year.

For each audit year, we merged each sextile pool of potential unaudited survey subjects for the correspondence audit cases with the corresponding sextile pool of potential subjects for the face-to-face audit cases (top correspondence sextile with top face-to-face sextile, second correspondence sextile with second face-to-face sextile, etc.), so that we ultimately had six groupings of potential interview subjects for each audit year. We set the target number of respondents from each of these six groups equal to the rounded value of the overall number of audited survey respondents for that year divided by six. Ultimately, these targets were approximately met, resulting in a sample of 1,366 unaudited survey respondents.

Construction of Matched Survey Sample

Our two-stage survey sampling design ultimately resulted in a sample of 1,363 audited respondents and 1,366 unaudited respondents. Under this design, the respondents were selected in such a way that the vast majority of audited respondents would have one or more unaudited counterparts in the sample that possessed similar characteristics. Our primary objectives for this study were to investigate how audits influence taxpayer attitudes and perceptions and the extent to which this influence differs in accordance with the type of audit (field, office, or correspondence) and the audit outcome (positive tax adjustment, no tax change, or refund). To do so, we began by identifying for each audited taxpayer in the survey sample an unaudited taxpayer that was the most suitable match in terms of relevant taxpayer and tax return characteristics. This matched unaudited taxpayer then served as a "control" that could be relied

upon to approximate what the audited taxpayer's attitudes and perceptions would have been like had an audit not taken place.

To develop our matched sample, we again relied on a generalized propensity scoring approach. The first step was to estimate a multinomial logit model of the likelihood of a face-to-face or correspondence examination. A large set of candidate explanatory variables was identified for this analysis. For each audit year, we developed a separate specification through a variable selection process. Under this process, we began by estimating a multinomial logit model using a parsimonious set of explanatory variables that we wanted to ensure were included in the final specification. This included some current and lagged measures of audit risk based on the IRS DIF score, measures of current and lagged overall reported income and tax liability, and taxpayer age. The lagged measures were included to help ensure common trends among the audit and control samples.

We then estimated a series of models that alternately incorporated one additional explanatory variable from our list of candidates. Among these models, we selected the candidate explanatory variable that represented the "best fit" on the basis of the likelihood-ratio test statistic for inclusion in our expanded specification. Next, we estimated a series of models that alternately included one of the candidate explanatory variables along with the variables already present in our expanded specification. Again, we expanded our specification to include the candidate variable associated with the largest likelihood ratio statistic. This process continued until none of the remaining candidate explanatory variables was associated with a likelihood ratio statistic that met the criterion for statistical significance at the five percent level.

After completing the variable selection process, we estimated our multinomial logit model of audit risk using the selected set of explanatory variables, and we used the results to predict for each observation in the estimation sample the log-odds of a correspondence audit and the log-odds of a face-to-face audit. Next we matched (with replacement) each audited respondent for the tax year under consideration with the eligible unaudited respondent in our sample that was the closest match with respect to the pair of log-odds statistics based on a Mahalanobis distance measure. We excluded 46 audited respondents from this matching process, however, because the estimated values for the log-odds of a correspondence audit and a field audit were outside of the range of common support. So, ultimately, we were successful in matching 1,317 of the 1,363 audited respondents in our sample to an unaudited control.

Descriptive Statistics for Audited Respondents

Overall, the response rate to our survey was approximately 29.4 percent. Among the respondents are 1,363 self-employed taxpayers who experienced an audit of one of the returns they filed for Tax Years 2010 through 2015. Overall, 62 percent of the audited respondents are male, and the mean age is 57 years with a range from 20 to 99. A majority of the audited respondents holds at least a high-school degree and works full-time. The audited taxpayer sample includes 295 individuals who state that they are currently not working; most of these individuals (209) are retired. See Table 4.2 for additional details on the demographic composition of this sample.

TABLE 4.2, Socio-Economic and Demographic Characteristics of Audited Respondents

N	1,317
Gender	
Male	812
Female	505
Age	
Mean	57.4
SD	12.4
Range	20-99
Education	
Elementary school	13
Some high school	36
High school graduate	189
Some college	265
College graduate	443
Post-graduate work	338
Vocational school	21
not sure/refused	12
Employment status	
Working part-time	216
Working full-time	806
Not working	295
Employment type	
Employed by someone else	269
Self-employed	528
Both	225
Unemployment type	
On temporary layoff from a job	9
Looking for work	14
Retired	209
Disabled	27
Other	36

Table 4.3 provides a breakdown of audited respondents by audit type and outcome. Under our sampling design, the cell counts were roughly evenly divided according to audit type; however, we specified higher target counts for positive adjustment and no change audit outcomes than for refunds.

TABLE 4.3, Number of Audited Schedule C Taxpayers by Audit Type and Audit Outcome

Audit outcome	Audit type			Total
	Field	Office	Correspondence	
Positive adjustment (+)	202	200	201	603
No change (0)	182	168	153	503
Tax refund (-)	70	85	102	257
Total	**454**	**453**	**456**	**1,363**

We next investigate whether audited taxpayers recall their examination experience. Table 4.4 shows that only 63.8 percent of audited self-employed taxpayers acknowledge that they have been audited in the past five years. However, we observe substantial differences between audit types. Audit awareness is particularly low in the case of correspondence audits, where only 39.7 percent acknowledge having been audited. In contrast, 72 percent of those receiving a field examination recall the audit, and nearly 80 percent of those receiving an office audit recall the experience. This may be an indication that taxpayers do not view an interaction that fails to include face-to-face contact as an actual "audit." Audit awareness is generally higher in the case of positive tax adjustments than when the examination results in either no adjustment or a tax refund. Surprisingly, only 56 percent of audited taxpayers who received a refund as a result of the examination recall the audit.

TABLE 4.4, Awareness of Audit of Schedule C Taxpayers by Audit Type and Outcome

Audit outcome	Audit type			Total
	Field	Office	Correspondence	
Positive adjustment (+)	75.7	80.0	50.2	68.7
No change (0)	70.3	79.2	33.3	62.0
Tax refund (-)	65.7	81.2	28.4	56.0
Total	**72.0**	**79.9**	**39.7**	**63.8**

Note. Reported number express the percentage of individuals choosing the option "Audit" as the reason for the contact among those who reported having any contact with the IRS in the past six years.

We also asked the respondents whether they had any contact with the IRS in the past six years. While awareness of having been audited is surprisingly low, most audited taxpayers at least remember having been in contact with the IRS. However, a solid 17 percent of audited taxpayers did not even acknowledge having had contact with the IRS in the past six years. As Table 4.5 shows, the percentage of taxpayers with no recollection of any contact with the IRS is highest within the correspondence audit group, especially if the audit outcome was either no adjustment (33.3 percent) or a refund (34.3 percent).

TABLE 4.5, Awareness of Contact with the IRS of Schedule C Taxpayers by Audit Type and Outcome

Audit outcome	Audit type			Total
	Field	Office	Correspondence	
Positive adjustment (+)	85.6	92.5	76.6	84.9
No change (0)	85.7	89.3	66.7	81.1
Tax refund (-)	87.1	94.1	65.7	80.9
Total	**85.9**	**91.6**	**70.8**	**82.8**

Note: Reported number express the percentage of individuals choosing the option "Yes" for the item "In the past six years, have you had any contact with the IRS?"

Although the analysis so far has focused on how one's recollection of either having been audited or having had some other contact with the IRS varies with the audit type and audit outcome, it is likely that other factors also play a role in taxpayer recollection. For instance, audits are often conducted when an amended return has been filed, although such audits are sometimes rather cursory. In fact, approximately 15 percent of the audit cases in our survey sample involved an examination of an amended return. It is possible that taxpayers may have perceived such an examination as an ordinary part of the filing process for an amended return rather than as an actual audit. In addition, the ability to recollect an audit may be a positive function of the recency of the examination, as memories of the experience may tend to fade over time. Another potentially relevant factor is whether the tax practitioner was hired to prepare the return. Taxpayers may not be as attuned to IRS interactions when they are largely handled by a paid professional. To account for these factors, we have run logit regressions with audit awareness and IRS contact awareness as dependent variables. The explanatory variables include:

Correspondence: Dummy for a correspondence audit.

Field: Dummy for a field audit.

Refund: Dummy for an audit resulting in a tax refund.

No Change: Dummy for an audit resulting in no change in tax liability.

Distant Audit: Dummy for an audit that closed 3 or more years prior to the survey.

Distant Years: Number of years prior to the survey that the audit closed minus 3 (Equals 0 if survey took place less than 3 years since audit closed).

Amended Return: Dummy for amended return audit.

Paid Preparer: Dummy for a paid tax return preparer.

The omitted dummy variables are for audits resulting in a positive tax adjustment and for audits that closed less than three years prior to the survey.

Table 4.6 presents the estimated marginal effects from our logit specification of the likelihood of a respondent recalling an audit that took place within the past six years. Compared to respondents who experienced an office audit, those who experienced a correspondence audit are 33.9 percentage points less likely to recall the experience (all else being equal), and those who experienced a field audit are 6.2 percentage points less likely to remember the audit.

After controlling for other factors, a taxpayer is less likely to recall an audit that results in a refund or no change in tax liability than an audit that results in a positive tax adjustment, although the estimated percentage point differential is statistically significant only in the case of a no change audit (4.5 percentage points).

Taxpayers are relatively less likely to recall an audit that occurred in the more distant past.

All else being equal, a respondent whose audit closed three years prior to the survey is 1.1 percentage points less likely to recall the audit than a respondent whose audit closed more recently. Furthermore, each additional year between the audit close date and the date of the survey is associated with another 9.4 percentage point decline in the likelihood of recollection. So, for example, a taxpayer whose audit closed six years prior to the survey is 29.3 percentage points less likely to recall the examination than a taxpayer whose audit closed within three years of the survey date.

TABLE 4.6, Logit Estimated Marginal Effects for Likelihood of Audit Awareness

Variable	Marginal Effect	t-Statistic
Correspondence	-0.3390	-10.31
Field	-0.0621	-2.15
Refund	-0.0374	-0.96
No Change	-0.0453	-1.68
Distant Audit	-0.0110	-0.30
Distant Years	-0.0940	-5.11
Amended Return	-0.0677	-1.59
Paid Preparer	-0.0169	-0.67

The results indicate that respondents who are audited for an amended return as well as those who rely on paid tax return preparation are relatively less likely to recall having been audited. However, these estimates are not statistically significant.

Table 4.7 reports the estimated marginal effects for our logit specification of the likelihood of recalling contact with the IRS in the past six years. Compared to respondents who experienced an office audit (all else being equal), those who received a correspondence audit are 16.8 percentage points less likely to recall having had contact with the IRS, while those who experienced a field audit are 4.7 percentage points less likely to remember the contact.

A taxpayer whose audit closed three years prior to the survey date is 2.3 percentage points less likely to recall having had contact with the IRS than one whose audit has closed more recently. Furthermore, each additional year between the audit close date and the date of the survey is associated with another 5.1 percentage point drop in the likelihood of recollection. The outcome of the audit, having filed an amended return, and the mode of tax preparation are jointly statistically insignificant factors in explaining the propensity to recall IRS contact (F-statistic = 2.39; p-value=0.66).

TABLE 4.7, Logit Estimated Marginal Effects for Likelihood of Recollecting IRS Contact

Variable	Marginal Effect	t-Statistic
Correspondence	-0.1682	-5.67
Field	-0.0471	-2.12
Refund	0.0124	0.41
No Change	-0.0186	-0.83
Distant Audit	-0.0228	-0.75
Distant Years	-0.0511	-3.70
Amended Return	-0.0298	-0.85
Paid Preparer	-0.0166	-0.80

IMPACT OF AUDITS ON TAXPAYER ATTITUDES AND PERCEPTIONS

In this section, we apply multivariate analysis of covariance (MANCOVA) and cluster analysis techniques to our matched sample to investigate how the attitudes and perceptions of self-employed taxpayers are impacted by different types of audits (field, office, or correspondence) as well as different types of audit outcomes (positive tax adjustment, no change, or tax refund). This analysis takes advantage of our matched sample of audited and unaudited survey respondents. The unaudited survey respondents in this matched sample provide a basis for inferring how the audited respondents' attitudes and perceptions would have differed under the counterfactual scenario where they had not been audited.

Our first model, (Model 1) analyzes differences in tax-related perceptions and attitudes as a function of whether a Schedule C taxpayer has been audited. In Model 2 we incorporate audit type (field audit, office audit, correspondence audit) as a second independent factor (in addition to the presence or absence of an audit). In Model 3 we replace audit type with audit outcome (positive tax adjustment, no tax change, or tax refund) as the second independent factor. In all models, we control for age and gender as covariates. Lastly, we present the results of a cluster analysis that differentiates between groups of taxpayers as a function of their tax-related perceptions and attitudes.

Model 1: Overall Effect of Audits

To investigate how tax-related attitudes and perceptions vary among taxpayers, we have conducted a multivariate analysis of covariance (MANCOVA) using audit experience (audited vs. not audited) as the independent factor and our survey scales (as presented in Table 4.1) as the dependent variables. This analysis permits us to test whether the average value of a survey scale differs across the two audit groups after controlling for gender and age. The *F*-statistics indicate that the overall mean differences in reported survey scale values between audited and unaudited taxpayers are jointly statistically significant [F (22, 2577) = 12.59, $p < .001$, $\eta_p^2 = .10$].[11]

11 The *F*-statistic is based on the Wilks Lambda test of the null hypothesis that the difference in the mean values of each of the survey scale variables between the audited respondents and their controls is equal to zero (after controlling for the effects of age and gender). As indicated by the p-value of 0.001, the value of this statistic exceeds the threshold for statistical significance at any conventional level. Thus, the null hypothesis is rejected (the mean value of one or more scale variables differs between audited taxpayers and their controls). The statistic η_p^2 is a measure of the scale effect of an audit. It represents the additional share of the unexplained variation from a model that only controls for age and gender that can be accounted for when audit status is included in the specification as a factor.

Figure 4.2 shows estimated means and 95% confidence intervals for each variable by audit experience group. If confidence intervals do not overlap, there is a statistically significant difference between audited and unaudited taxpayers. For inferential details, see Table B1 of Appendix B, which shows the estimated means and standard errors by audit experience group and univariate *F*-statistics for each dependent variable.

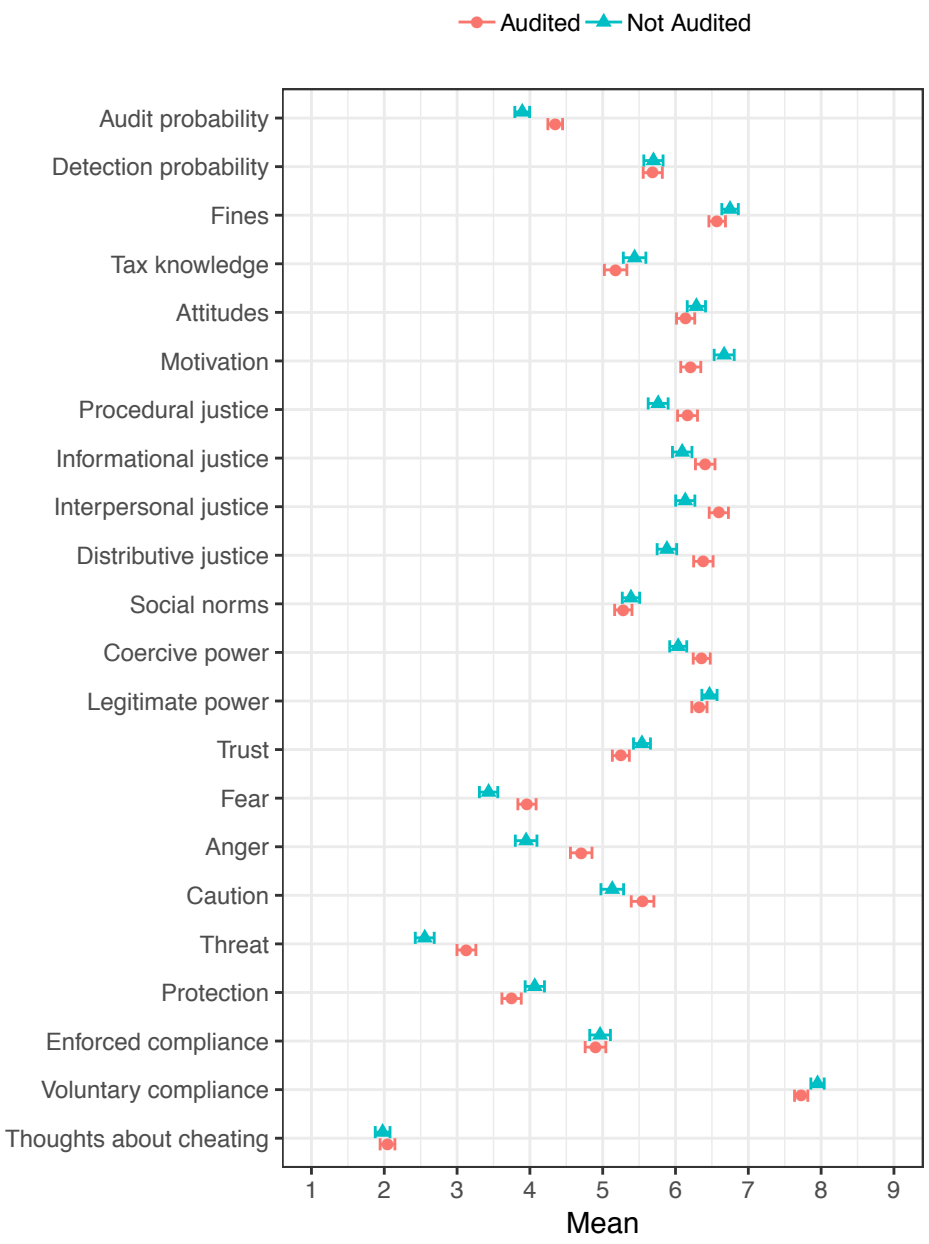
Audited taxpayers perceive a higher risk of audit, sense a higher degree of coercive power within the IRS, possess lower levels of trust in the IRS, are relatively less motivated by voluntary compliance, and are relatively more likely to agree with the statement that taxes are taken away from them rather than a contribution to society. At the same time, they perceive a lower severity of fines and report lower tax knowledge.

Interestingly, audited taxpayers perceive higher degrees of procedural justice, informational justice, interpersonal justice, and distributive justice than the unaudited control group. It is important to point out that the items used to measure justice perceptions slightly differed between the two audit groups. While audited taxpayers were asked to indicate their justice perceptions regarding their most recent audit, unaudited taxpayers were asked to imagine being audited by the IRS. Therefore, this result indicates that those who have actually experienced an audit view the examination as more transparent, respectful, and appropriate in its outcomes than those who just imagine what the experience would be like. Simply put, experienced fairness exceeds expected fairness.

The survey responses reveal that experiencing an audit induces strong negative emotions. Audited taxpayers report higher levels of fear, anger, threat, and caution when thinking about the IRS. Moreover, audited taxpayers feel less protected by the IRS. We do not observe differences in the perceived detection probability, attitudes towards paying taxes, perceptions of legitimate power or enforced compliance, or social norms between the two audit experience groups.

The results from Model 1 provide an initial insight into the overall group differences between audited and unaudited Schedule C taxpayers. A deeper investigation of these differences is undertaken in the following models where we further break down the results by audit type and audit outcome.

FIGURE 4.2, Estimated Means and 95% Confidence Intervals by Audit Experience



Model 2: Accounting for Different Audit Types

In our second model we introduce audit type as an additional factor for explaining tax-related perceptions and attitudes, while the dependent variables remain unchanged. The model predictors are audit experience (audited vs. not audited), audit type (field audit vs. office audit vs. correspondence audit), and the interaction of these two factors. The *F*-static confirms the previously established mean scale score differences across the two audit experience groups [$F(22, 2573) = 13.03$, $p < .001$, $\eta_p^2 = .10$] after controlling for age and gender. Additionally, there are significant differences in survey responses across different audit types [$F(44, 5148) = 3.43$, $p < .001$, $\eta_p^2 = .03$] and a significant interaction effect between audit experience and audit type [$F(44, 5148) = 3.43$, $p < .001$, $\eta_p^2 = .02$].

As depicted in Figure 4.3, the previously reported differences between audited and unaudited taxpayers are relatively stable across the three different audit types. One exception from this pattern is observable in the justice scales, which drive the overall significant interaction effect. Figure 4.3 shows that the self-reported measures of procedural, informational, interpersonal, and distributive justice are higher among individuals who have experienced[12] a field or office audit than among their unaudited counterparts. However, there is no significant difference in fairness perceptions when comparing unaudited taxpayers with taxpayers who have experienced a correspondence audit. Moreover, Figure 4.4 reveals that perceived fairness levels are lower for audited taxpayers who have experienced a correspondence audit than they are for those who have experienced an office or field audit. In contrast, there are no significant differences in perceived fairness across unaudited taxpayers who have experienced different types of audits. This suggests that the result obtained from Model 1 (individuals who recently experienced an audit view it as more transparent, respectful, and appropriate in their outcomes than those who did not) is driven by individuals who experienced a more personal face-to-face interaction with the IRS.

12 Figures 4.3 and 4.4 are based on the same data, but provide slightly different perspectives. While it is straightforward to infer information on the stability of differences in attitudes and perceptions between audited and unaudited taxpayers across the three types of audits using Figure 4.3, Figure 4.4 is better suited for investigating differences across the three audit type categories, conditional on a given audit status. Consult Table B2 of Appendix B for cell means and univariate *F*-statistics.

FIGURE 4.3, Estimated Means and 95% Confidence Intervals by Audit Experience and Audit Type

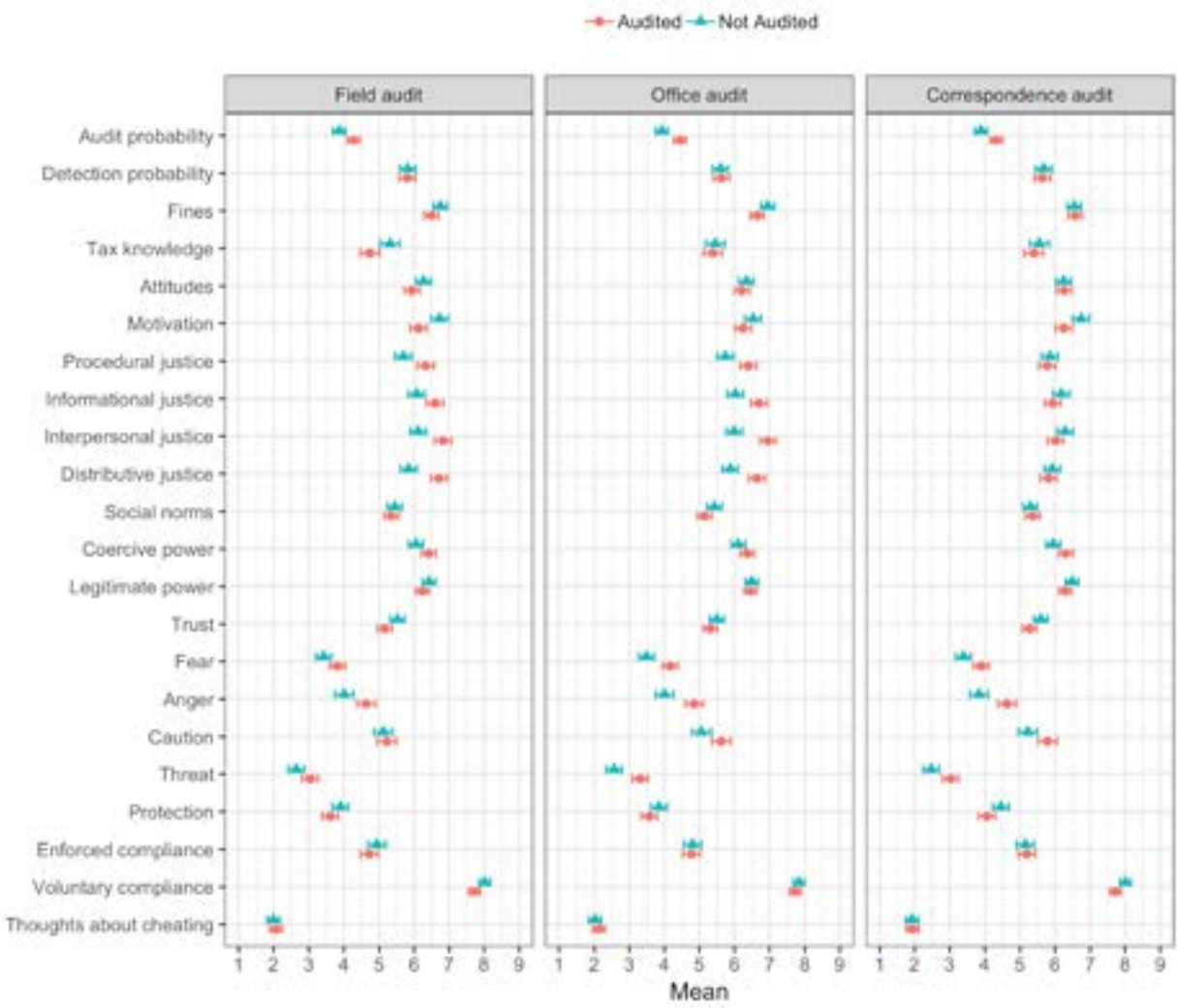
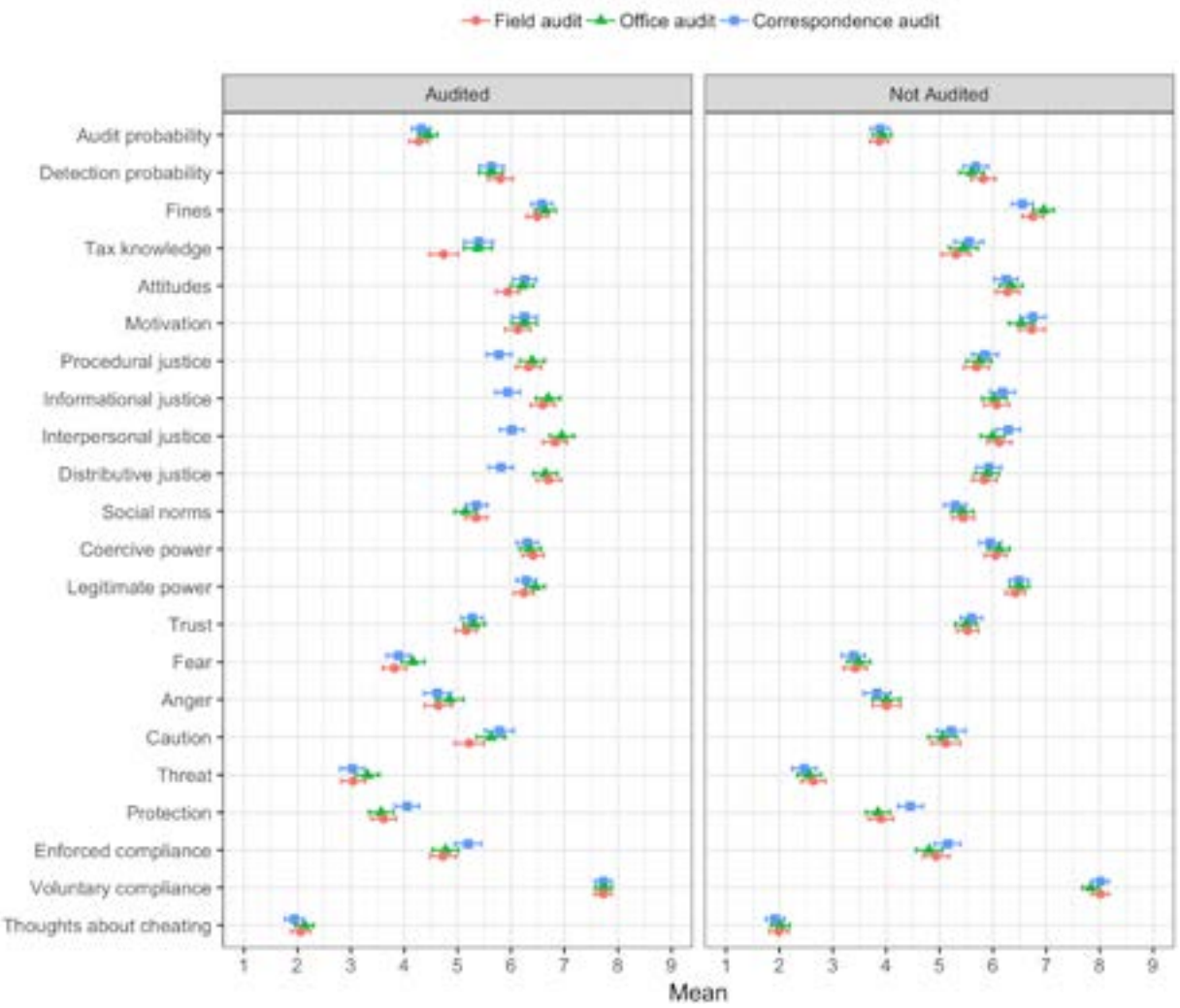


FIGURE 4.4, Estimated Means and 95% Confidence Intervals by Audit Type and Audit Experience



Model 3: Accounting for different audit outcomes

Model 3 replaces audit type with audit outcome as the second factor for explaining tax-related perceptions and attitudes, while the dependent variables remain unchanged. The model predictors are audit experience (audited vs. not audited), audit type (field audit vs. office audit vs. correspondence audit), and the interaction of these two factors. The *F*-statistic confirms the previously established mean differences between the two audit experience groups [$F(22, 2573) = 11.46$, $p < .001$, $\eta_p^2 = .09$]. Additionally, we observe significant differences in survey responses between the three audit outcome groups [$F(44, 5148) = 5.96$, $p < .001$, $\eta_p^2 = .05$] and a significant interaction effect between audit experience and audit outcome [$F(44, 5148) = 2.88$, $p < .001$, $\eta_p^2 = .02$].

For most variables the previously reported differences between audited and unaudited taxpayers are present within each of the three outcome categories (see Figure 4.5). However, Figures 4.5 and 4.6 illustrate some differential effects.[13] While tax-related attitudes and perceptions are only affected by audit outcomes, irrespective of whether a taxpayer has actually been audited, the perceived audit probability and feelings of anger and threat are highest when taxpayers experience a positive adjustment.

We again observe an interesting pattern of differential interaction effects for perceived justice. Taxpayers who receive a refund or no tax change as a result of an audit perceive the audit to be more just than unaudited taxpayers. Audited taxpayers who receive a positive tax adjustment, however, do not differ from unaudited taxpayers in their justice perceptions. We find a similar result for trust. Trust levels do not differ between audited and unaudited taxpayers in the cases of a refund or no tax change, but trust in the IRS decreases when audits result in an additional tax assessment. At the same time, this group (audited taxpayers with a positive tax adjustment) report high levels of anger and perceptions of coercive power.

13 Figures 4.4 and 4.5 are based on the same data, but provide slightly different perspectives. While it is straightforward to infer information on the stability of differences between audited and unaudited taxpayers across the three audit outcomes from Figure 4.4, Figure 4.5 is better suited for detecting differences across the three audit outcome categories, conditional on a given audit status. Consult Table B3 of the supplementary material for cell means and univariate *F*-statistics.

FIGURE 4.5, Estimated Means and 95% Confidence Intervals by Audit Experience and Audit Outcome

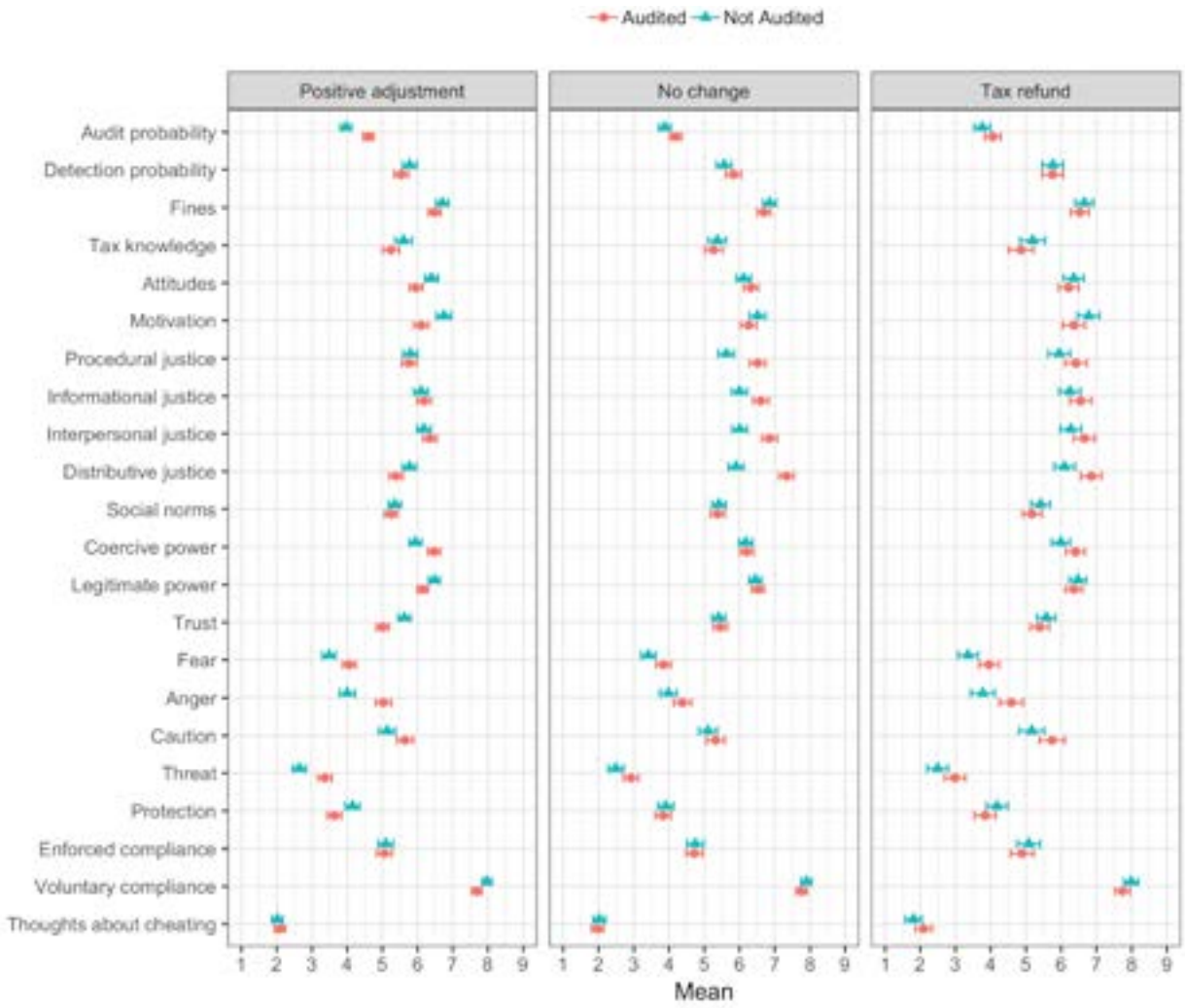
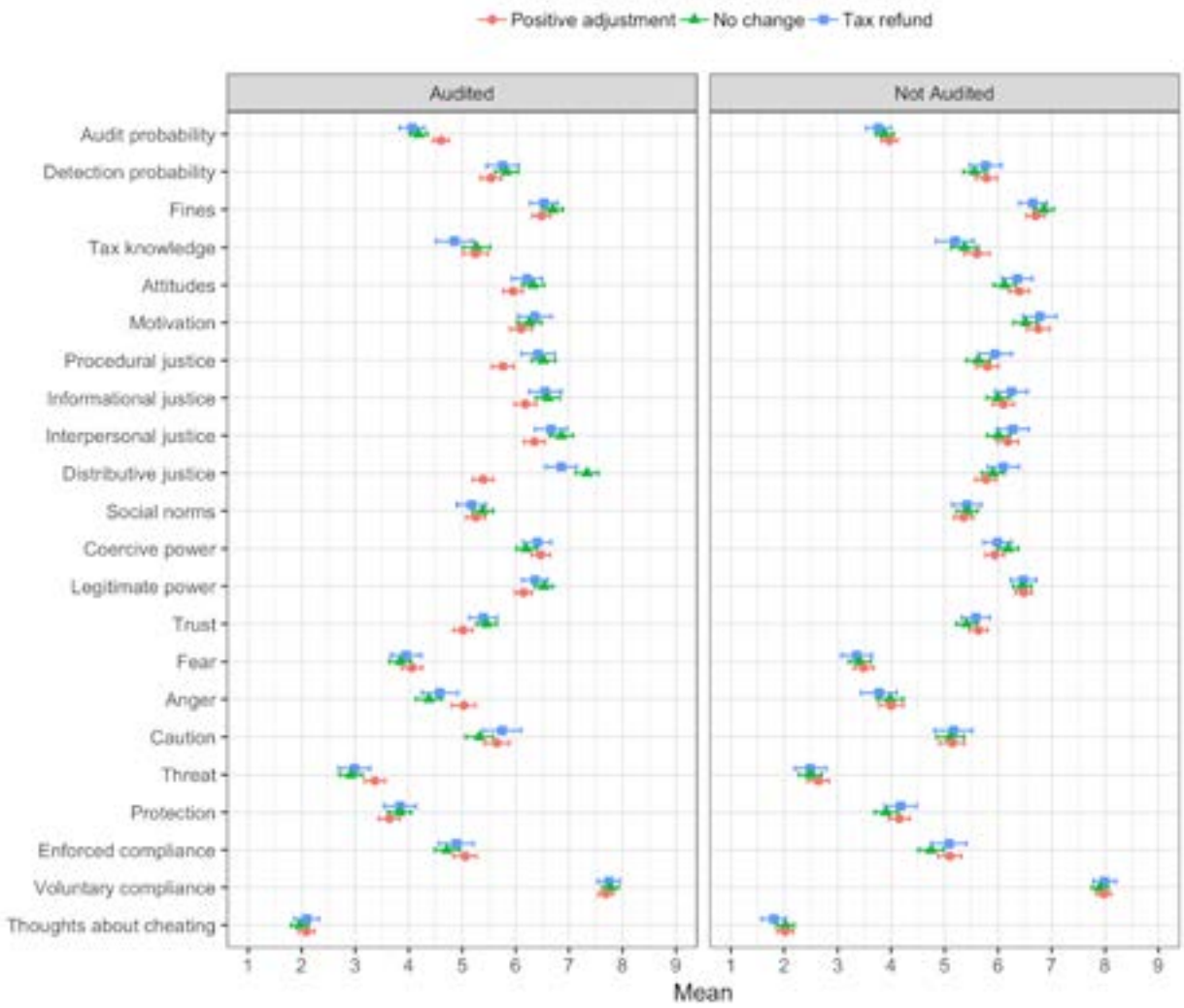


FIGURE 4.6, Estimated Means and 95% Confidence Intervals by Audit Outcome and Audit Experience



The above models address all relevant main effects as well as the potential two-way interactions between audit experience and audit type and between audit experience and audit outcome. However, there also could be a two-way interaction between audit type and audit outcome as well as, potentially, a three-way interaction between all three factors (audit experience, audit type, and audit outcome). To explore these possibilities, we have estimated a fully saturated model that accounts for all possible interactions among these three factors (and which continues to also account for the roles of age and gender in taxpayer attitudes and perceptions). The estimation results rule out both a three-way interaction [F (88, 10256) = 0.04, p = .220] and a two-way interaction between audit type and audit outcome [F(88, 10256) = 0.04, p = .066], which suggests that our earlier models adequately capture all relevant interactions among our three factors.

Recency of Audits

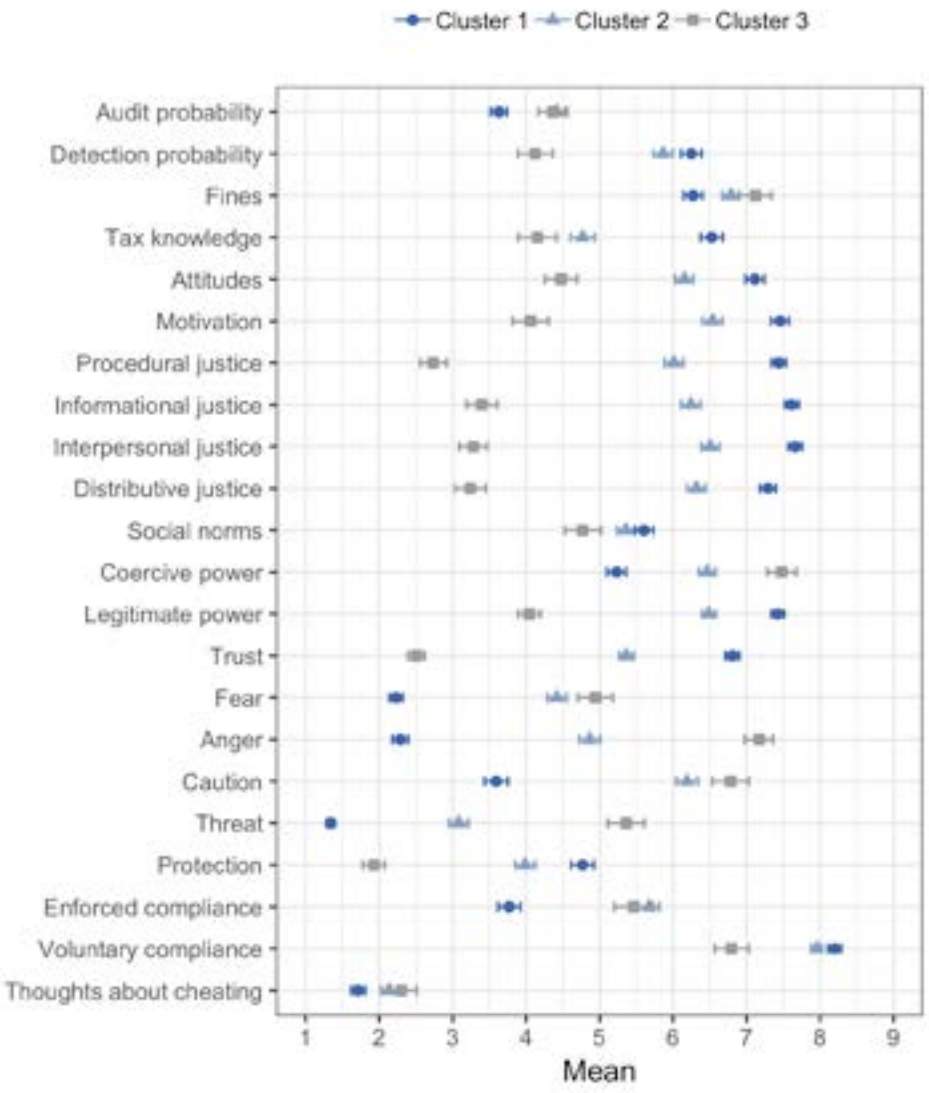
At the time of the survey, some of the self-employed taxpayers in our sample were the subject of ongoing audits, while others experienced examinations that closed up to six years earlier. It can be hypothesized that memories fade away over time and that tax-related perceptions and attitudes are subject to change due to memory biases. To explore whether the recency of an audit influences taxpayer attitudes and perceptions, we split the sample of audited respondents into two categories: those who experienced an audit within three years of the survey date and those who experienced a more distant audit. We then performed a MANCOVA with three independent factors (audit recency category, audit type, and audit outcome) and gender and age as covariates. Our initial specification included all three main effects, all three pairwise interactions between these factors, and a three-way interaction among the factors. After finding that the three-way interaction and the pairwise interactions involving audit recency were statistically insignificant, we next estimated a more parsimonious model that included the three main effects and a single interaction between audit type and audit outcome. Although this model indicates a significant overall main effect of audit recency on taxpayer attitudes and perceptions, a closer examination indicates a statistically insignificant relationship between audit recency and most of the survey scales. The two exceptions involve perceptions of the likelihood of an audit and the likelihood that an audit is successful in detecting cheating. More recently audited taxpayers tend to report significantly higher levels of both audit risk and audit detection. So, while the impact of audits on perceptions of risk tend to fade over time, their impact on taxpayer perceptions of justice, emotions towards the agency, and other tax-related attitudes persist.

Taxpayer Segmentation

To segment taxpayers into groups that share certain tax-related attitudes and perceptions, we have performed a Ward cluster analysis that includes all survey scales. The resulting dendrogram points to a solution involving three clusters. Figure 4.7 depicts the three cluster centers for each survey scale. A MANCOVA with all survey scales as dependent variables, the cluster variable as the main explanatory variable, and gender and age as additional covariates confirms strong discrimination of tax-related perceptions and attitudes between

the three groups [$F(44, 5154) = 95.64$, $p < .001$, $\eta_p^2 = .45$]. Univariate analyses further show that there is a significant mean difference across at least two of the three groups for each of the survey scales, which implies that all of the tax-related attitudes and perceptions contribute to the cluster grouping. The largest differences between clusters is observed for our survey scales representing trust, negative emotions, justice, and motivations to comply. Next, we briefly describe each cluster.

FIGURE 4.7, Means and 95% Confidence Intervals by Cluster Solution



Cluster 1 (n = 985) is best described as taxpayers with positive tax-related attitudes and perceptions. Members of this cluster report high levels of trust in the IRS and give the Agency high rankings with regard to justice and legitimate power. Members of this cluster believe their tax payments contribute to society and they have positive attitudes toward paying taxes. There is an absence of negative emotions towards the IRS, and members of the group indicate that they feel protected by the IRS.

Taxpayers in Cluster 2 (n = 1,175) report average rankings for almost all survey scales. While members of this group view paying taxes as a contribution to society, they possess only a limited degree of trust in the IRS and report moderate levels of negative emotions towards the Agency, such as anger and fear.

Cluster 3 (n = 474) is the polar opposite of Cluster 1. Members of this group lack trust in the IRS and possess negative attitudes toward paying taxes. Whereas members of Cluster 1 view their tax payments as a contribution to society, members of Cluster 3 view their payments as money that has been taken away from them. They perceive low levels of justice in the tax system and in their dealings with the IRS, and they express strong negative emotions towards the Agency. Like the members of Cluster 2, they report moderate levels of fear. However, members of Cluster 3 express much higher levels of other negative emotions. They report feeling angry, threatened, and cautious all at the same time.

To distinguish between the groups, we refer to members of Cluster 1 as taxpayers with "positive attitudes and perceptions," Cluster 2 as taxpayers with "moderate attitudes and perceptions," and Cluster 3 as taxpayers with "negative attitudes and perceptions."

The sharp differences across the three groups reflects substantial heterogeneity among self-employed taxpayers in their tax-related attitudes and perceptions. Figure 4.8 illustrates the cluster shares within the overall sample as well as the audit and matched control groups. When comparing the proportions of taxpayers falling into the three clusters by audit experience (audited vs. not audited), we observe a shift in tax-related perceptions and attitudes that is attributable to the audit experience. A comparison of the middle and right panels of Figure 4.8 reveals that, after experiencing an audit, there is a shift in membership away from Cluster 1 and into Clusters 2 and 3. Thus audits overall are associated with a modest deterioration in tax-related attitudes and perceptions.

FIGURE 4.8, Cluster Assignments by Audit Experience

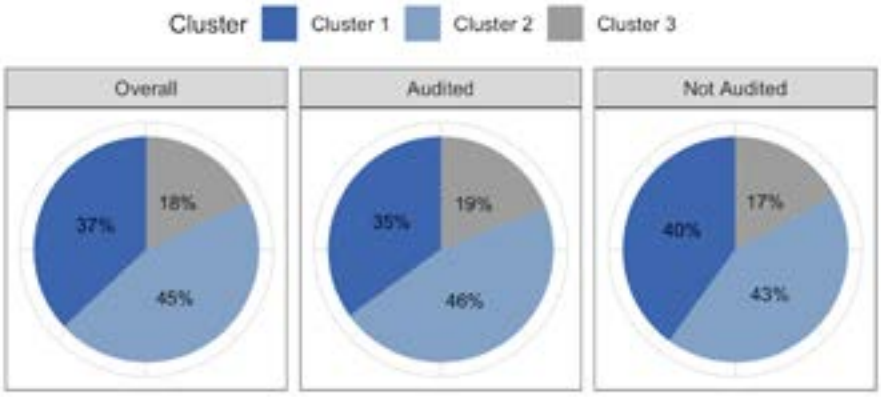


FIGURE 4.9, Cluster Assignments by Audit Experience and Audit Type/Audit Outcome

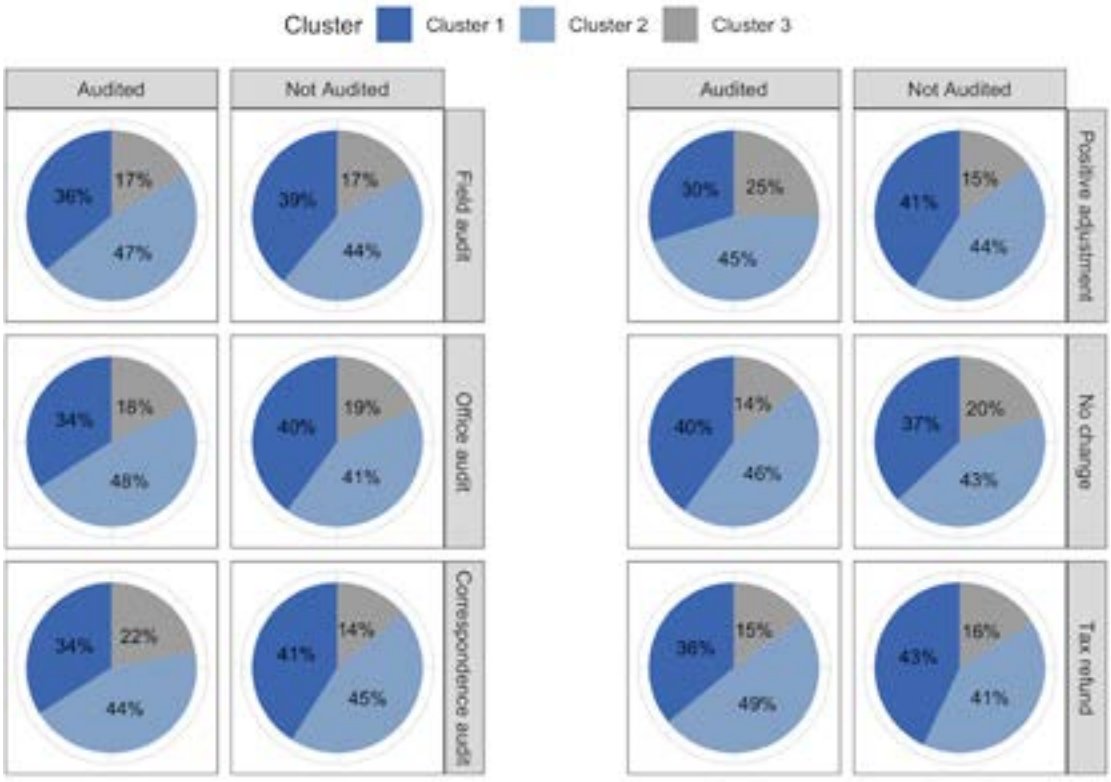


Figure 4.9 provides a finer breakdown of group membership according to audit type and audit outcome. The left panel illustrates cluster shares by audit type both for audited taxpayers and their matched unaudited counterparts. Among those respondents who received a correspondence audit, the share belonging to Cluster 3 (22 percent) substantially exceeds that observed for the matched control group (14 percent), while the share belonging to Cluster 1 (34 percent) is much lower than that observed for the matched control group, which is 41 percent. These marked differences in cluster shares suggest that correspondence audits have a detrimental impact on taxpayer attitudes.

While the main discrepancy for correspondence examination cases between the audited taxpayers and their unaudited matched controls concerns the shares in Clusters 1 and 3, the main discrepancy for office audit cases concerns the shares in Clusters 1 and 2. For this audit category, the membership of Cluster 2 is larger for the audited taxpayers than their matched controls (48 percent vs. 41 percent) and the membership of Cluster 2 is smaller (34 percent vs. 40 percent). Since a shift in from Cluster 1 to Cluster 2 is less extreme than a shift from Cluster 1 to Cluster 3, field audits appear to be less detrimental to taxpayer attitudes and perceptions than correspondence audits.

In the case of field audits, audited taxpayers and their matched controls again show a discrepancy with respect to the shares of respondents following into Clusters 1 and 2. However, the magnitude of this discrepancy (essentially a 3 percentage point shift from Cluster 1 to Cluster 2 when comparing the audit group to the matched control group) is more modest than that observed in the case of office audits (essentially a 6 or 7 percentage point shift). Therefore, it appears that field audits are the least detrimental to taxpayer attitudes and perceptions, while correspondence audits are the most detrimental.

The right panel in Figure 4.9 provides a breakdown of cluster shares by audit outcome. Comparing the cluster shares for the audited taxpayers against those for their matched controls, we observe that no change audits are associated with a substantial reduction of the Cluster 3 share (from 20 percent to 14 percent) and a corresponding expansion in the shares for both Clusters 1 and 2. So, although these audits yield no additional tax revenue, they do appear to have a beneficial impact on taxpayer attitudes and perceptions.

In contrast, audits resulting in a positive tax adjustment (and therefore an increase in tax revenue) appear to have a detrimental impact on taxpayer attitudes and perceptions. Compared to their matched controls, audited taxpayers exhibit a much lower membership in Cluster 1 (30 percent vs. 41 percent) and a much higher membership in Cluster 3 (25 percent vs. 15 percent).

Interestingly, audits resulting in a tax refund also appear to have a somewhat detrimental impact on taxpayer attitudes and perceptions, albeit not to the same degree as those that result in an additional tax assessment. For this group of taxpayers, audits are associated with a 7 to 8 percentage point shift in shares from Cluster 1 to Cluster 2. Perhaps this is an indication that taxpayers who receive a tax refund as a result of an audit tend to feel somewhat frustrated that they were forced to undergo an audit despite having overpaid their tax obligation. Alternatively, perhaps they are relatively more likely to perceive their selection for audit as a sign of undeserved mistrust by the IRS.

CONCLUDING REMARKS

In this study, we have explored how taxpayer attitudes are shaped by different types of audits and different audit outcomes using a matched sample of audited and unaudited survey respondents. In addition, we have examined whether taxpayers can be segmented into groups based on a common set of shared attitudes and perceptions towards paying taxes, and if so, how audits influence membership within these groups. Our findings indicate that many of the audited respondents do not recall the examination, and that the rate of recollection depends on both the type of audit that was conducted and the outcome of the examination. Overall, only 64 percent of audited Schedule C filers acknowledge having been audited, including about 45 percent of those who received a refund as a result of their examination.

Audit recollection is especially poor among those taxpayers who have experienced a correspondence audit (below 40 percent), which suggests that some taxpayers may not perceive correspondence examinations as actual audits. In the case of field and office examinations, a substantial majority of participants do remember being audited (72 percent and 80 percent, respectively), suggesting that face-to-face audits might have a stronger effect on taxpayer attitudes and behavior. At the same time, individuals who have experienced a field or office audit report higher levels of fairness in the examination than taxpayers who have experienced a correspondence audit. suggesting that face-to-face audits might be better suited to deter evasion and establish high levels of compliance. The results further show that that taxpayers are relatively more likely to recall more recent audits as well as examinations that result in a positive tax adjustment. All else equal, respondents who experience an audit of an amended return are relatively less likely to recall the examination. An important question for future research is whether behavioral responses to audits tend to fade over time along with memories of the examination.

With regard to the effects of different audit outcomes on taxpayer attitudes, we find that individuals who have received an additional tax assessment as a result of their examination perceive a higher risk of future audits and lower levels of procedural and distributive justice than those who have received a refund or no tax adjustment. This suggests that the deterrent effect of audits might depend on the outcome of the examination, a finding that complements earlier work by TAS (TAS ARC 2015, Audit Impact Study), which identifies differential behavioral responses to tax audits associated with different audit outcomes. At the same time, taxpayers who have received an additional tax assessment express lower levels of trust in the IRS and perceive higher levels of coercive power within the Agency. Further, they report stronger feelings of anger and threat than their matched unaudited counterparts.

Our cluster-based analysis of the survey responses suggest that self-employed taxpayers can be constructively divided into three groups in accordance with their shared attitudes towards paying taxes, their motives to comply, trust in, and negative emotions towards the IRS. The first group possesses positive attitudes towards the IRS and views paying taxes as a contribution to society. It perceives the IRS as trustworthy and shows no negative emotions towards the IRS. The second group possesses neutral to slightly positive attitudes towards the IRS. While this group views paying taxes as a contribution to society, it has only a moderate degree of trust in the IRS, and it harbors some negative emotions towards the Agency. The third group possesses negative attitudes towards the IRS. More specifically, this group reports that paying taxes feels like something is taken away from them. Trust in the IRS is low within this group, and its members express strong negative emotions towards the IRS.

Our results indicate that the share of taxpayers who hold negative attitudes towards the IRS is largest among individuals who have experienced a correspondence audit, suggesting that face-to-face audits have a more positive effect on taxpayer attitudes. Surprisingly, we find that the subsample of

respondents who received a tax refund as a result of their examination has a lower share individuals with positive attitudes towards the IRS than the subsample that experienced no adjustment to their taxes. This suggests that taxpayers who learn that they have been overly compliant in the past might perceive the audit as undeserved negative attention or even as a sign of mistrust by the IRS.

An important direction for future research is to examine whether changes in taxpayer attitudes and perceptions that are induced by audits are linked to changes in actual taxpayer reporting behavior.

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APPENDIX A: SURVEY INSTRUMENT

Programming Notes:

All names on the sample list qualify for the survey in one of three groups. Group is indicated in sample and used for skipping throughout:

- Wage Earners (WE)
- ID Theft (ID)
- Audit Experience (AE)

All questions below have two numbers in two columns. For programming, use the numbers in the left column.

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[1] Introduction [ALL RESPONDENTS]

INTRO1:

Hello, may I speak with [INSERT NAME FROM LIST]?
NOTE: YOU MUST SPEAK WITH THE RESPONDENT LISTED ONLY
NOTE: IF CORRECT RESPONDENT IS NOT AVAILABLE - SCHEDULE CALLBACK

INTRO2:

Hello.

My name is [...]. I am from the [name of company]. We are conducting a survey on how people perceive the tax system and the Internal Revenue Service (IRS). You have been randomly selected from qualified individuals to take part in this survey. This survey might take up to 20 minutes and is part of a research project, conducted by the Taxpayer Advocate Service, which aims to improve the understanding of taxpayer attitudes, perceptions, and behaviors.

The questions are about your views and experiences when dealing with taxes and the IRS, rather than about your specific, personal data. All of your answers are completely anonymous; they will be compiled and added to other responses. We will summarize the findings and share the results with Congress.

Thank you for agreeing to take part in this survey!

Unless otherwise noted, please indicate your responses on a scale from 1 to 9. I will define the low and high points of the scale for each group of questions.

[2] Attitudes (A) [ALL RESPONDENTS]

I am now going to ask you a few questions on taxation and the government.
To what extent do you agree or disagree with the following statements on a scale from (1) I do not agree at all to (9) I agree completely? How about…

I do not agree at all (1) – I agree completely (9)

			1	2	3	4	5	6	7	8	9
1	TS1	Taxes help to ensure that the government operates smoothly.	O	O	O	O	O	O	O	O	O
2	TS2	Taxes fund important federal government benefits and services.	O	O	O	O	O	O	O	O	O
3	TS3	Taxes fund important state government benefits and services.	O	O	O	O	O	O	O	O	O
4	GE1	The federal government spends tax dollars wisely.	O	O	O	O	O	O	O	O	O
5	GE2	The state government spends tax dollars wisely.	O	O	O	O	O	O	O	O	O
6	GE3	The federal government is involved in areas best left to the private sector.	O	O	O	O	O	O	O	O	O
7	GE4	The state government is involved in areas best left to the private sector.	O	O	O	O	O	O	O	O	O

I would now like to ask you a few questions on your personal values.
To what extent do you agree or disagree with the following statements on a scale from (1) I do not agree at all to (9) I agree completely?

I do not agree at all (1) – I agree completely (9)

			1	2	3	4	5	6	7	8	9
8	PA1	Every person is responsible for his or her own success.	O	O	O	O	O	O	O	O	O
9	PA2	The government is responsible to support the poor.	O	O	O	O	O	O	O	O	O
10	NI1	Being a member of the American community is important to me.	O	O	O	O	O	O	O	O	O
11	NI2	Being a member of my local community is important to me.	O	O	O	O	O	O	O	O	O
12	RA1	Religion is important for society.	O	O	O	O	O	O	O	O	O
13	RA2	Traditional values are important to me.	O	O	O	O	O	O	O	O	O

[3] Tax knowledge (TK) [ASK EVERYONE Q14]

14	*Who usually prepares your tax returns?*	O You yourself (1) *(continue to Q15)*	O Professional tax preparer (2) *(skip to Q18)*	O Someone else (3) *(skip to Q18)*

[PROGRAMMING INSTRUCTION: If the answer is " 2 Professional tax preparer", or "3 Someone else", please skip to Q18 (TK4).]

[SELF PREPARED [ONLY ASK Q15-Q17 IF Q14=1]]

When you think about filing your last tax return, to what extent do you agree or disagree with the following statements on a scale from (1) I do not agree at all to (9) I agree completely?

I do not agree at all (1) – I agree completely (9)

			1	2	3	4	5	6	7	8	9
15	TK1	I had a good understanding of what was expected from me when I filed my tax return.	○	○	○	○	○	○	○	○	○
16	TK2	I felt competent when doing my taxes.	○	○	○	○	○	○	○	○	○
17	TK3	I was confident that the deductions and credits I claimed were correct.	○	○	○	○	○	○	○	○	○

[IF Q14=1, SKIP to Q21]

[SOMEONE ELSE PREPARED [ONLY ASK IF Q14=2 or 3]]

Suppose you had to prepare your next tax return yourself.
To what extent do you agree or disagree with the following questions on a scale from (1) I do not agree at all to (9) I agree completely?

I do not agree at all (1) – I agree completely (9)

			1	2	3	4	5	6	7	8	9
18	TK4	If you were to prepare your federal tax return, do you think you would have a good understanding of what would be expected from you?	○	○	○	○	○	○	○	○	○
19	TK5	Do you think you would feel competent preparing your own taxes?	○	○	○	○	○	○	○	○	○
20	TK6	Do you think that you would know which deductions and credits you are entitled to?	○	○	○	○	○	○	○	○	○

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[4] Audit experience (AE) and ID theft (ID) [ONLY ASK IF SAMPLE SAYS AUDIT (AE) or ID THEFT (ID); ELSE (WE) SKIP TO Q21W]]

[EVERYONE EXCEPT WAGE EARNERS]

I would now like to ask you a few questions on how you perceive the IRS and what kind of experiences you have had with the IRS.

21	AE1	*In the past six years, have you had any contact with the IRS?*		○ Yes	○ No *(skip to Q24)*	○ Not sure *(skip to Q24)*
22	AE2	*[ONLY ASK IF Q21=YES]* *What was the reason for the contact?* *[READ RESPONSES]*		○ Audit	○ Other (please specify) [DO NOT READ: If more than one reason including audit, select "Audit" not "Other"] — *(skip to Q24)*	
23	AE3	*[ONLY ASK IF Q22=Audit]* *What was the result of the audit?* *[READ RESPONSES]*	DNR- Did not have an audit	○ owe more tax	○ no change in tax	○ owed less tax
24	ID1	*In the past three years, has someone else unlawfully used your ID to claim a tax refund, or has the IRS contacted you to validate your legitimate refund claim?*		○ Yes	○ No	○ Not sure

[SKIP TO Q25A IF (SAMPLE=AUDIT) AND (Q21=YES) AND (Q22=Audit) AND (Q23 NOT EQUAL to "Did not have audit")]

[SKIP TO Q25AF IF (SAMPLE=AUDIT) AND ((Q21=No or Not Sure) OR (Q22=Other) OR (Q23=Did not have an audit)]

[SKIP TO Q25I IF (SAMPLE= ID THEFT) AND (Q24=Yes)]

[SKIP TO Q25IF IF (SAMPLE=ID THEFT) AND (Q24=No or Not Sure)]

[WAGE EARNERS [ONLY ASK IF SAMPLE=WAGE EARNERS; ELSE SKIP ACCORDING TO INSTRUCTION ABOVE]

READ: I would now like to ask you a few questions on how you perceive the IRS and what kind of experiences you have had with the IRS

21W	AE1	In the past six years, have you had any contact with the IRS?		○ Yes	○ No *(skip to Q24)*	○ Not sure *(skip to Q24)*
22W	AE2	What was the reason for the contact?		○ Audit	○ Other (please specify) [DO NOT READ: If more than one reason including audit, select "Audit" not "Other"] — *(skip to Q24)*	
23W	AE3	What was the result of the audit?	DNR- Did not have an audit	○ owe more tax	○ no change in tax	○ owed less tax
24W	ID1	In the past three years, has someone else unlawfully used your ID to claim a tax refund, or has the IRS contacted you to validate your legitimate refund claim?		○ Yes	○ No	○ Not sure

[SKIP TO Q25A IF (SAMPLE=WAGE) AND (Q21W=Yes) AND (Q22W=Audit) AND (Q23W NOT EQUAL to "Did not have audit")]

[SKIP TO Q25AF IF (SAMPLE=WAGE) AND ((Q21W=No or Not Sure) AND (Q24W=No or Not Sure) OR (Q23W=Did not have an audit)]

[SKIP TO Q25I IF (SAMPLE= WAGE) AND (Q24W=Yes)]

[SKIP TO Q25AF IF (SAMPLE=WAGE) AND (Q24W=No or Not Sure)]

[5] Justice perceptions (JP): Procedural justice (PJ), Informational justice (IJ), Interpersonal justice (IP), Distributive justice (DJ)]

[AUDIT]

[PROGRAMMING: Ask the following questions Q25A – Q36A (PJ1 through DJ3) only IF (SAMPLE=AUDIT) AND (Q22=Audit) OR IF (SAMPLE=WAGE) AND (Q22=Audit)]

READ: When you think about your most recent tax audit.
To what extent do you agree or disagree with the following statements on a scale from (1) I do not agree at all to (9) I agree completely.

I do not agree at all (1) – I agree completely (9)

			1	2	3	4	5	6	7	8	9
25A	PJ1	The IRS procedures for handling my audit were free of bias.	○	○	○	○	○	○	○	○	○
26A	PJ2	The IRS provided accurate information.	○	○	○	○	○	○	○	○	○
27A	PJ3	The way my audit was conducted upheld ethical and moral standards.	○	○	○	○	○	○	○	○	○
28A	IJ1	The IRS employees explained their procedures thoroughly.	○	○	○	○	○	○	○	○	○
29A	IJ2	The IRS made it clear what was expected of me.	○	○	○	○	○	○	○	○	○
30A	IJ3	The IRS employees were candid in their communications with me.	○	○	○	○	○	○	○	○	○
31A	IP1	I was treated respectfully throughout the process.	○	○	○	○	○	○	○	○	○
32A	IP2	I was given the opportunity to express my side.	○	○	○	○	○	○	○	○	○
33A	IP3	The IRS employees showed a genuine interest in trying to be fair.	○	○	○	○	○	○	○	○	○
34A	DJ1	The audit outcome was appropriate.	○	○	○	○	○	○	○	○	○
35A	DJ2	The audit outcome reflected my previous tax behavior.	○	○	○	○	○	○	○	○	○
36A	DJ3	The audit outcome was justified.	○	○	○	○	○	○	○	○	○

[AUDIT GROUP WHO DID NOT REMEMBER BEING AUDITED]

[PROGRAMMING: Ask the following questions Q25AF – Q36AF (PJ1 through DJ3) only IF (SAMPLE=AUDIT) AND ((Q21=No or Not Sure) OR (Q22=Other)) OR IF(SAMPLE=WAGE) AND (Q21=No or Not Sure) AND (Q24= No or Not Sure)]

READ: Suppose you were audited by the IRS.
Regardless of the end result of the audit, to what extent do you agree or disagree with the following statements on a scale from (1) I do not agree at all (9) I agree completely

I do not agree at all (1) – I agree completely (9)

		I think….	1	2	3	4	5	6	7	8	9
25AF	PJ1	The IRS procedures for handling my audit would be free of bias.	O	O	O	O	O	O	O	O	O
26AF	PJ2	The IRS would provide accurate information.	O	O	O	O	O	O	O	O	O
27AF	PJ3	The way my audit would be conducted would uphold ethical and moral standards	O	O	O	O	O	O	O	O	O
28AF	IJ1	The IRS employees would explain their procedures thoroughly.	O	O	O	O	O	O	O	O	O
29AF	IJ2	The IRS would make it clear what was expected of me.	O	O	O	O	O	O	O	O	O
30AF	IJ3	The IRS employees would be candid in their communications with me.	O	O	O	O	O	O	O	O	O
31AF	IP1	I would be treated respectfully throughout the process.	O	O	O	O	O	O	O	O	O
32AF	IP2	I would be given the opportunity to express my side.	O	O	O	O	O	O	O	O	O
33AF	IP3	The IRS employees would show a genuine interest in trying to be fair.	O	O	O	O	O	O	O	O	O
34AF	DJ1	The audit outcome would be appropriate.	O	O	O	O	O	O	O	O	O
35AF	DJ2	The audit outcome would reflect my previous tax behavior.	O	O	O	O	O	O	O	O	O
36AF	DJ3	The audit outcome would be justified.	O	O	O	O	O	O	O	O	O

[IDENTITY THEFT]

[PROGRAMMING: Ask the following questions Q25I – Q36I (PJ1 through DJ3) only IF (SAMPLE= ID THEFT) AND (Q24=Yes) OR IF (SAMPLE= WAGE) AND (Q22=Other) AND (Q24=Yes)]

READ: When you think about your identity theft matter, to what extent do you agree or disagree with the following statements on a scale from (1) I do not agree at all to (9) I agree completely.

I do not agree at all (1) – I agree completely (9)

			1	2	3	4	5	6	7	8	9
25I	PJ1	The IRS procedures for handling my identity theft matter were free of bias.	○	○	○	○	○	○	○	○	○
26I	PJ2	The IRS provided accurate information related to my identity theft matter.	○	○	○	○	○	○	○	○	○
27I	PJ3	The way my identity theft matter was conducted upheld ethical and moral standards.	○	○	○	○	○	○	○	○	○
28I	IJ1	The IRS employees thoroughly explained their procedures for dealing with my identity theft matter.	○	○	○	○	○	○	○	○	○
29I	IJ2	The IRS made it clear what was expected of me.	○	○	○	○	○	○	○	○	○
30I	IJ3	The IRS employees were candid in their communications with me.	○	○	○	○	○	○	○	○	○
31I	IP1	I was treated respectfully throughout the process.	○	○	○	○	○	○	○	○	○
32I	IP2	I was given the opportunity to express my side.	○	○	○	○	○	○	○	○	○
33I	IP3	The IRS employees showed a genuine interest in trying to be fair.	○	○	○	○	○	○	○	○	○
34I	DJ1	My identity theft matter outcome was appropriate.	○	○	○	○	○	○	○	○	○
35I	DJ2	My identity theft matter outcome reflected my previous behavior.	○	○	○	○	○	○	○	○	○
36I	DJ3	My identity theft matter outcome was justified.	○	○	○	○	○	○	○	○	○

[IDENTITY THEFT GROUP WHO DID NOT REMEMBER HAVING IDENTITY STOLEN]

[PROGRAMMING: Ask the following questions Q25IF – Q36IF (PJ1 through DJ3) only IF (SAMPLE=ID THEFT) AND (Q24=No or Not Sure)]

READ: Suppose the IRS would not give you the money it owes you because someone else unlawfully used your ID to claim a tax refund.
To what extent do you agree or disagree with the following questions on a scale from (1) I do not agree at all (9) I agree completely? I think…

I do not agree at all (1) – I agree completely (9)

			1	2	3	4	5	6	7	8	9
25IF	PJ1	The IRS procedures for handling my identity theft matter would be free of bias.	O	O	O	O	O	O	O	O	O
26IF	PJ2	The IRS would provide accurate information.	O	O	O	O	O	O	O	O	O
27IF	PJ3	The way my identity theft matter would be conducted would uphold ethical and moral standards.	O	O	O	O	O	O	O	O	O
28IF	IJ1	The IRS employees would explain their procedures thoroughly.	O	O	O	O	O	O	O	O	O
29IF	IJ2	The IRS would make it clear what was expected of me.	O	O	O	O	O	O	O	O	O
30IF	IJ3	The IRS employees would be candid in their communications with me.	O	O	O	O	O	O	O	O	O
31IF	IP1	I would be treated with respect throughout the process.	O	O	O	O	O	O	O	O	O
32IF	IP2	I would be given the opportunity to express my side.	O	O	O	O	O	O	O	O	O
33IF	IP3	The IRS employees would show a genuine interest in trying to be fair.	O	O	O	O	O	O	O	O	O
34IF	DJ1	The outcome of my identity theft matter would be appropriate.	O	O	O	O	O	O	O	O	O
35IF	DJ2	The outcome of this matter would reflect my previous behavior.	O	O	O	O	O	O	O	O	O
36IF	DJ3	The outcome of my identity theft matter would be justified.	O	O	O	O	O	O	O	O	O

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[6] Deterrence factors (DF) [ASK EVERYONE]

READ: Please tell me your thoughts about statements concerning Federal Income Tax audits on a scale of 1 to 9 with 1 being extremely unlikely and 9 being extremely likely. When you think about tax audits…

Extremely unlikely (1) – Extremely likely (9)

			1	2	3	4	5	6	7	8	9
37	DF1	… how likely is it that an average self-employed taxpayer is audited in 2017?	O	O	O	O	O	O	O	O	O
38	DF2	…how likely is it that you are going to be audited in 2017?	O	O	O	O	O	O	O	O	O
39	DF3	…how likely is it that the IRS actually detects cheating in an audit?	O	O	O	O	O	O	O	O	O

READ: Now, please use a scale of 1 to 9 with 1 being not severe at all and 9 being very severe.

Not severe at all (1) – Very severe (9)

			1	2	3	4	5	6	7	8	9
40	DF4	When you think about tax audits, how severe are the penalties for underreporting?	O	O	O	O	O	O	O	O	O

[7] Perceived compliance (PC) [ASK EVERYONE]

READ: Please think about the attitude of other taxpayers towards paying taxes.
To what extent do you agree or disagree with the following statements about other taxpayers on a scale from (1) I do not agree at all to (9) I agree completely?

I do not agree at all (1) – I agree completely (9)

			1	2	3	4	5	6	7	8	9
41	PC1	Most taxpayers pay all of the taxes that they are supposed to pay.	○	○	○	○	○	○	○	○	○
42	PC2	Most taxpayers think that they should honestly declare cash earnings on their tax return.	○	○	○	○	○	○	○	○	○
43	PC3	Most taxpayers think that it is ok to overstate tax deductions on their tax return.	○	○	○	○	○	○	○	○	○

READ: Now please use a scale from (1) I have never thought about cheating to (9) I always think about cheating…

I do not agree at all (1) – I agree completely (9)

			1	2	3	4	5	6	7	8	9
44	PC4	How often have you yourself thought about cheating on your tax returns?	○	○	○	○	○	○	○	○	○

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[8] Coercive power (CP) [ASK EVERYONE]

READ: Please tell me now to what extent do you agree or disagree with the following statements, which concern the IRS in general.
Again, the scale ranges from (1) I do not agree at all to (9) I agree completely. In my opinion…

I do not agree at all (1) – I agree completely (9)

			1	2	3	4	5	6	7	8	9
45	CP1	… the IRS enforces compliance with the tax laws	○	○	○	○	○	○	○	○	○
46	CP2	… the IRS has no sympathy for taxpayers.	○	○	○	○	○	○	○	○	○
47	CP3	… the IRS pursues taxpayers.	○	○	○	○	○	○	○	○	○

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[9] Legitimate power (LP) [ASK EVERYONE—CONTINUE FROM PREVIOUS GRID]

			1	2	3	4	5	6	7	8	9
48	LP1	… the IRS operates professionally.	○	○	○	○	○	○	○	○	○
49	LP2	… IRS employees are experts in their job.	○	○	○	○	○	○	○	○	○
50	LP3	… the IRS has the right to collect taxes.	○	○	○	○	○	○	○	○	○

[10] Trust (T) [ASK EVERYONE—CONTINUE FROM PREVIOUS GRID]

			1	2	3	4	5	6	7	8	9
51	T1	… the IRS is trustworthy.	○	○	○	○	○	○	○	○	○
52	T2	… the IRS is cooperative.	○	○	○	○	○	○	○	○	○
53	T3	… the IRS has good intentions.	○	○	○	○	○	○	○	○	○
54	T4	… IRS employees act in my best interest.	○	○	○	○	○	○	○	○	○
55	T5	… the IRS does not try to fool taxpayers.	○	○	○	○	○	○	○	○	○
56	T6	… the IRS acts on behalf of the American citizens.	○	○	○	○	○	○	○	○	○
57	T7	… the IRS will work with you if you have difficulty paying your taxes.	○	○	○	○	○	○	○	○	○
58	T8	… the IRS is more concerned with collecting as much as it can, than with collecting the correct amount of tax.	○	○	○	○	○	○	○	○	○

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[11] Enforced compliance (EC) and voluntary compliance (VC) [ASK EVERYONE]

READ: I would now like to ask you to what extent do you agree or disagree with the following statements on a scale from (1) I do not agree at all to (9) I agree completely.
When you pay your taxes, you do so…

I do not agree at all (1) – I agree completely (9)

			1	2	3	4	5	6	7	8	9
59	EC1	… because you are afraid of punishment.	○	○	○	○	○	○	○	○	○
60	VC1	… to support your country and your fellow citizens.	○	○	○	○	○	○	○	○	○
61	EC2	… because of the risk of being audited.	○	○	○	○	○	○	○	○	○
62	VC2	… because for you it is the right thing to do.	○	○	○	○	○	○	○	○	○
63	EC3	… because the IRS would detect any misreporting.	○	○	○	○	○	○	○	○	○
64	VC3	… because you regard it as your civic duty.	○	○	○	○	○	○	○	○	○

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[12] Motivations to comply (M) [ASK EVERYONE]

READ: When you pay your taxes, do you …

Completely forced to do so (1) – Completely voluntary (9)

			1	2	3	4	5	6	7	8	9
65	M1	…feel that something is taken away from you or that you contribute to society? Please use a scale from (1) definitely taken away from me to (9) definitely contributing to society.	○	○	○	○	○	○	○	○	○

We are almost done with the survey.

[13] Emotions [ASK EVERYONE]

READ: The following statements address your feelings towards the IRS.
The answering scale ranges from (1) not at all to (9) very strongly.
When you think about the IRS, to what extent do you feel…

Not at all (1) – Very strongly (9)

			1	2	3	4	5	6	7	8	9
66	E1	… anxious. [Repeat scale]	O	O	O	O	O	O	O	O	O
67	E2	… desperate.	O	O	O	O	O	O	O	O	O
68	E3	… nervous.	O	O	O	O	O	O	O	O	O
69	E4	… frustrated.	O	O	O	O	O	O	O	O	O
70	E5	… angry.	O	O	O	O	O	O	O	O	O
71	E6	… cautious.	O	O	O	O	O	O	O	O	O
72	E7	… hunted.	O	O	O	O	O	O	O	O	O
73	E8	… threatened.	O	O	O	O	O	O	O	O	O
74	E9	… protected.	O	O	O	O	O	O	O	O	O
75	E10	… secure.	0	0	0	0	0	0	0	0	0

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[14] Demographics

Finally, I have a few questions about you.

76	D1	For classification purposes only, are you male or female?	O Male	O Female	O [DNR] Other	O Not sure/refused

77	D2	How old are you?	Years [Enter number or RF for Refused]	

[ONLY ASK Q78 If unwilling to indicate age in Q77, use the question reading the age ranges below:]

78. D2a: Which of the following categories includes your age?

Are you …

1 Under 18
2 18 to 24 years
3 25 to 34 years
4 35 to 44 years
5 45 to 54 years
6 55 to 59 years
7 60 to 64 years
8 65 to 74 years
9 75 to 84 years
10 85 years and over
11 DO NOT READ Not sure/Refused

79. D3: What is the highest level of education you have completed?

(DO NOT READ LIST - SELECT ONE ANSWER.)

1 Elementary school
2 Some high school
3 High school graduate
4 Some college
5 College graduate
6 Post-Graduate work
7 Vocational school
8 DO NOT READ Not sure/Refused

80. D4: Please indicate your employment status – select all that apply

(if not working, go to Q81b)

1 Working part-time
2 Working full-time
3 Not working *(skip to Q81b)*

81a. D4a: You indicated you are currently working, are you

1 … employed by someone else
2 … self-employed
3 … both

81b. D4b: You indicated you are not currently working, are you

1 … on temporary layoff from a job
2 … looking for work
3 … retired
4 … disabled
5 … other

One last item, since this research is performed for a government agency we are required to obtain approval to gather information from you. The Office of Management and Budget approved this research effort. If you would like, I can read the requirement and approval number to you.

Note: If they want the information read to them read the box below.

The Paperwork Reduction Act requires that the IRS display an OMB Control Number on all public information requests. The OMB Number for this study is 1545-1432. Also, if you have any comments regarding the time estimates associated with this study or suggestions on making this process simpler, please write to the, Internal Revenue Service, Special Services Section, SE:W:CAR:MP:T:M:SP, 1111 Constitution Ave. NW, Washington, DC 20224.

Appendix B: MANCOVA Results

TABLE B1, Estimated Means, Standard Errors, and Univariate *F*-statistics for Model 1*

	Audit experience		
Variable	**Audited**	**Not audited**	***F*-statistic**
Audit probability	4.35 (0.05)	3.90 (0.05)	$F(1, 2598) = 38.48$, $p < .001$, $\eta_p^2 = .02$
Detection probability	5.69 (0.07)	5.70 (0.07)	$F(1, 2598) = 0.01$, $p = .922$, $\eta_p^2 = .00$
Fines	6.57 (0.06)	6.75 (0.06)	$F(1, 2598) = 4.66$, $p = .031$, $\eta_p^2 = .00$
Tax knowledge	5.18 (0.08)	5.44 (0.08)	$F(1, 2598) = 5.42$, $p = .020$, $\eta_p^2 = .00$
Attitudes	6.14 (0.06)	6.29 (0.06)	$F(1, 2598) = 2.69$, $p = .101$, $\eta_p^2 = .00$
Motivation	6.21 (0.07)	6.67 (0.07)	$F(1, 2598) = 21.33$, $p < .001$, $\eta_p^2 = .01$
Procedural justice	6.17 (0.07)	5.76 (0.07)	$F(1, 2598) = 16.60$, $p < .001$, $\eta_p^2 = .01$
Informational justice	6.41 (0.07)	6.09 (0.07)	$F(1, 2598) = 10.68$, $p = .001$, $\eta_p^2 = .00$
Interpersonal justice	6.60 (0.07)	6.13 (0.07)	$F(1, 2598) = 23.53$, $p < .001$, $\eta_p^2 = .01$
Distributive justice	6.38 (0.07)	5.88 (0.07)	$F(1, 2598) = 26.89$, $p < .001$, $\eta_p^2 = .01$
Social norms	5.28 (0.06)	5.39 (0.06)	$F(1, 2598) = 1.50$, $p = .221$, $\eta_p^2 = .00$
Coercive power	6.36 (0.06)	6.04 (0.06)	$F(1, 2598) = 14.67$, $p < .001$, $\eta_p^2 = .01$
Legitimate power	6.33 (0.05)	6.47 (0.05)	$F(1, 2598) = 3.35$, $p = .067$, $\eta_p^2 = .00$
Trust	5.25 (0.06)	5.54 (0.06)	$F(1, 2598) = 11.91$, $p < .001$, $\eta_p^2 = .01$
Fear	3.96 (0.06)	3.43 (0.06)	$F(1, 2598) = 33.87$, $p < .001$, $\eta_p^2 = .01$
Anger	4.71 (0.08)	3.95 (0.08)	$F(1, 2598) = 50.21$, $p < .001$, $\eta_p^2 = .02$
Caution	5.55 (0.08)	5.13 (0.08)	$F(1, 2598) = 13.71$, $p < .001$, $\eta_p^2 = .01$
Threat	3.13 (0.07)	2.56 (0.07)	$F(1, 2598) = 37.48$, $p < .001$, $\eta_p^2 = .01$
Protection	3.75 (0.07)	4.07 (0.07)	$F(1, 2598) = 11.10$, $p < .001$, $\eta_p^2 = .00$
Enforced compliance	4.90 (0.07)	4.96 (0.07)	$F(1, 2598) = 0.38$, $p = .539$, $\eta_p^2 = .00$
Voluntary compliance	7.73 (0.05)	7.95 (0.05)	$F(1, 2598) = 11.62$, $p < .001$, $\eta_p^2 = .00$
Thoughts about cheating	2.05 (0.05)	1.98 (0.05)	$F(1, 2598) = 0.85$, $p = .356$, $\eta_p^2 = .00$

**F*-statistics relate to the main effect of audit experience on the respective variable. The model covariates include age = 57.12 [$F(22, 2577) = 9.60$, $p < .001$, $\eta_p^2 = .08$], and gender = 1.39 (1=male, 2=female) [$F(22, 2577) = 4.76$, $p < .001$, $\eta_p^2 = .04$].

TABLE B2, Estimated means, standard errors, and univariate *F*-statistics for Model 2*

	Audit experience						
	Audited			Not audited			
Variable	Field audit	Office audit	Correspondence audit	Field audit	Office audit	Correspondence audit	*F*-statistic
Audit probability	4.28 (0.09)	4.45 (0.09)	4.32 (0.09)	3.87 (0.09)	3.93 (0.09)	3.89 (0.09)	$F(1, 2594) = 38.36$, $p < .001$, $\eta_p^2 = .02$
							$F(2, 2594) = 0.84$, $p = .434$, $\eta_p^2 = .00$
							$F(2, 2594) = 0.23$, $p = .797$, $\eta_p^2 = .00$
Detection probability	5.80 (0.12)	5.63 (0.12)	5.64 (0.12)	5.82 (0.12)	5.60 (0.12)	5.68 (0.12)	$F(1, 2594) = 0.01$, $p = .927$, $\eta_p^2 = .00$
							$F(2, 2594) = 1.52$, $p = .220$, $\eta_p^2 = .00$
							$F(2, 2594) = 0.04$, $p = .958$, $\eta_p^2 = .00$
Fines	6.49 (0.10)	6.65 (0.10)	6.58 (0.10)	6.75 (0.10)	6.95 (0.10)	6.55 (0.10)	$F(1, 2594) = 4.69$, $p = .030$, $\eta_p^2 = .00$
							$F(2, 2594) = 2.87$, $p = .057$, $\eta_p^2 = .00$
							$F(2, 2594) = 1.58$, $p = .206$, $\eta_p^2 = .00$
Tax knowledge	4.74 (0.14)	5.38 (0.14)	5.40 (0.14)	5.31 (0.14)	5.45 (0.14)	5.55 (0.14)	$F(1, 2594) = 5.64$, $p = .018$, $\eta_p^2 = .00$
							$F(2, 2594) = 6.16$, $p = .002$, $\eta_p^2 = .01$
							$F(2, 2594) = 1.94$, $p = .145$, $\eta_p^2 = .00$
Attitudes	5.94 (0.11)	6.21 (0.11)	6.26 (0.11)	6.27 (0.11)	6.34 (0.11)	6.25 (0.11)	$F(1, 2594) = 2.77$, $p = .096$, $\eta_p^2 = .00$
							$F(2, 2594) = 1.36$, $p = .256$, $\eta_p^2 = .00$
							$F(2, 2594) = 1.22$, $p = .295$, $\eta_p^2 = .00$
Motivation	6.13 (0.12)	6.25 (0.12)	6.25 (0.12)	6.73 (0.12)	6.53 (0.12)	6.74 (0.12)	$F(1, 2594) = 21.46$, $p < .001$, $\eta_p^2 = .01$
							$F(2, 2594) = 0.40$, $p = .672$, $\eta_p^2 = .00$
							$F(2, 2594) = 0.86$, $p = .425$, $\eta_p^2 = .00$
Procedural justice	6.33 (0.12)	6.40 (0.12)	5.77 (0.12)	5.69 (0.12)	5.74 (0.12)	5.85 (0.12)	$F(1, 2594) = 16.94$, $p < .001$, $\eta_p^2 = .01$
							$F(2, 2594) = 2.35$, $p = .095$, $\eta_p^2 = .00$
							$F(2, 2594) = 6.06$, $p = .002$, $\eta_p^2 = .01$
Informational justice	6.60 (0.12)	6.70 (0.12)	5.94 (0.12)	6.07 (0.12)	6.03 (0.12)	6.18 (0.12)	$F(1, 2594) = 10.99$, $p < .001$, $\eta_p^2 = .00$
							$F(2, 2594) = 3.81$, $p = .022$, $\eta_p^2 = .00$
							$F(2, 2594) = 8.66$, $p < .001$, $\eta_p^2 = .01$
Interpersonal justice	6.83 (0.12)	6.95 (0.12)	6.02 (0.12)	6.12 (0.12)	5.99 (0.12)	6.29 (0.12)	$F(1, 2594) = 24.29$, $p < .001$, $\eta_p^2 = .01$
							$F(2, 2594) = 4.85$, $p = .008$, $\eta_p^2 = .00$
							$F(2, 2594) = 15.90$, $p < .001$, $\eta_p^2 = .01$
Distributive justice	6.71 (0.12)	6.64 (0.12)	5.81 (0.12)	5.84 (0.12)	5.88 (0.12)	5.92 (0.12)	$F(1, 2594) = 27.80$, $p < .001$, $\eta_p^2 = .01$
							$F(2, 2594) = 7.39$, $p < .001$, $\eta_p^2 = .01$
							$F(2, 2594) = 10.42$, $p < .001$, $\eta_p^2 = .01$
Social norms	5.35 (0.11)	5.15 (0.11)	5.35 (0.11)	5.44 (0.11)	5.43 (0.11)	5.30 (0.11)	$F(1, 2594) = 1.49$, $p = .223$, $\eta_p^2 = .00$
							$F(2, 2594) = 0.53$, $p = .586$, $\eta_p^2 = .00$
							$F(2, 2594) = 1.30$, $p = .273$, $\eta_p^2 = .00$

*For each of the survey scales, the first *F*-statistic relates to the main effect of audit experience, the second to the main effect of audit type, and the third one to the interaction between these two variables. The covariates include age = 57.12 [$F(22, 2573) = 9.25$, $p < .001$, $\eta_p^2 = .07$] and gender = 1.39 (1=male, 2=female) [$F(22, 2573) = 4.51$, $p < .001$, $\eta_p^2 = .04$].

	Audit experience						
	Audited			Not audited			
Variable	Field audit	Office audit	Correspondence audit	Field audit	Office audit	Correspondence audit	*F*-statistic
Coercive power	6.41 (0.10)	6.36 (0.10)	6.31 (0.10)	6.05 (0.11)	6.11 (0.10)	5.95 (0.10)	$F(1, 2594) = 14.73$, $p < .001$, $\eta_p^2 = .01$
							$F(2, 2594) = 0.69$, $p = .504$, $\eta_p^2 = .00$
							$F(2, 2594) = 0.19$, $p = .830$, $\eta_p^2 = .00$
Legitimate power	6.24 (0.09)	6.46 (0.09)	6.29 (0.09)	6.42 (0.09)	6.49 (0.09)	6.49 (0.09)	$F(1, 2594) = 3.37$, $p = .066$, $\eta_p^2 = .00$
							$F(2, 2594) = 1.24$, $p = .291$, $\eta_p^2 = .00$
							$F(2, 2594) = 0.45$, $p = .636$, $\eta_p^2 = .00$
Trust	5.16 (0.10)	5.31 (0.10)	5.27 (0.10)	5.53 (0.10)	5.50 (0.10)	5.60 (0.10)	$F(1, 2594) = 11.98$, $p < .001$, $\eta_p^2 = .01$
							$F(2, 2594) = 0.40$, $p = .670$, $\eta_p^2 = .00$
							$F(2, 2594) = 0.42$, $p = .658$, $\eta_p^2 = .00$
Fear	3.82 (0.11)	4.16 (0.11)	3.90 (0.11)	3.42 (0.11)	3.49 (0.11)	3.39 (0.11)	$F(1, 2594) = 33.75$, $p < .001$, $\eta_p^2 = .01$
							$F(2, 2594) = 2.06$, $p = .127$, $\eta_p^2 = .00$
							$F(2, 2594) = 0.80$, $p = .449$, $\eta_p^2 = .00$
Anger	4.64 (0.13)	4.85 (0.13)	4.62 (0.13)	4.01 (0.13)	4.00 (0.13)	3.83 (0.13)	$F(1, 2594) = 50.11$, $p < .001$, $\eta_p^2 = .02$
							$F(2, 2594) = 1.13$, $p = .323$, $\eta_p^2 = .00$
							$F(2, 2594) = 0.38$, $p = .686$, $\eta_p^2 = .00$
Caution	5.22 (0.14)	5.62 (0.14)	5.79 (0.14)	5.12 (0.14)	5.06 (0.14)	5.22 (0.14)	$F(1, 2594) = 13.46$, $p < .001$, $\eta_p^2 = .01$
							$F(2, 2594) = 2.82$, $p = .060$, $\eta_p^2 = .00$
							$F(2, 2594) = 1.87$, $p = .154$, $\eta_p^2 = .00$
Threat	3.04 (0.12)	3.31 (0.11)	3.03 (0.11)	2.64 (0.12)	2.56 (0.12)	2.47 (0.12)	$F(1, 2594) = 37.35$, $p < .001$, $\eta_p^2 = .01$
							$F(2, 2594) = 1.31$, $p = .271$, $\eta_p^2 = .00$
							$F(2, 2594) = 1.14$, $p = .321$, $\eta_p^2 = .00$
Protection	3.62 (0.12)	3.57 (0.12)	4.05 (0.12)	3.90 (0.12)	3.85 (0.12)	4.45 (0.12)	$F(1, 2594) = 11.33$, $p < .001$, $\eta_p^2 = .00$
							$F(2, 2594) = 12.82$, $p < .001$, $\eta_p^2 = .01$
							$F(2, 2594) = 0.17$, $p = .841$, $\eta_p^2 = .00$
Enforced compliance	4.73 (0.13)	4.77 (0.13)	5.20 (0.13)	4.94 (0.13)	4.81 (0.13)	5.15 (0.13)	$F(1, 2594) = 0.41$, $p = .520$, $\eta_p^2 = .00$
							$F(2, 2594) = 5.40$, $p = .005$, $\eta_p^2 = .00$
							$F(2, 2594) = 0.53$, $p = .587$, $\eta_p^2 = .00$
Voluntary compliance	7.72 (0.08)	7.73 (0.08)	7.73 (0.08)	8.01 (0.08)	7.83 (0.08)	8.01 (0.08)	$F(1, 2594) = 11.68$, $p < .001$, $\eta_p^2 = .00$
							$F(2, 2594) = 0.74$, $p = .480$, $\eta_p^2 = .00$
							$F(2, 2594) = 0.86$, $p = .425$, $\eta_p^2 = .00$
Thoughts about cheating	2.06 (0.09)	2.13 (0.09)	1.94 (0.09)	1.99 (0.09)	2.02 (0.09)	1.92 (0.09)	$F(1, 2594) = 0.87$, $p = .353$, $\eta_p^2 = .00$
							$F(2, 2594) = 1.28$, $p = .277$, $\eta_p^2 = .00$
							$F(2, 2594) = 0.13$, $p = .877$, $\eta_p^2 = .00$

*For each of the survey scales, the first *F*-statistic relates to the main effect of audit experience, the second to the main effect of audit type, and the third one to the interaction between these two variables. The covariates include age = 57.12 [$F(22, 2573) = 9.25$, $p < .001$, $\eta_p^2 = .07$] and gender = 1.39 (1=male, 2=female) [$F(22, 2573) = 4.51$, $p < .001$, $\eta_p^2 = .04$].

TABLE B3, Estimated Means, Standard Errors, and Univariate *F*-statistics for Model 3

	Audit experience						
	Audited			Not Audited			
Variable	Positive adjustment	No change	Tax refund	Positive adjustment	No change	Tax refund	*F*-statistic
Audit probability	4.61 (0.08)	4.19 (0.09)	4.06 (0.12)	3.97 (0.08)	3.88 (0.09)	3.76 (0.12)	$F(1, 2594) = 28.79$, $p < .001$, $\eta_p^2 = .01$
							$F(2, 2594) = 8.75$, $p < .001$, $\eta_p^2 = .01$
							$F(2, 2594) = 2.58$, $p = .076$, $\eta_p^2 = .00$
Detection probability	5.54 (0.10)	5.83 (0.11)	5.76 (0.15)	5.78 (0.10)	5.56 (0.11)	5.77 (0.15)	$F(1, 2594) = 0.01$, $p = .944$, $\eta_p^2 = .00$
							$F(2, 2594) = 0.32$, $p = .729$, $\eta_p^2 = .00$
							$F(2, 2594) = 2.83$, $p = .059$, $\eta_p^2 = .00$
Fines	6.49 (0.09)	6.70 (0.10)	6.53 (0.13)	6.70 (0.09)	6.85 (0.10)	6.65 (0.13)	$F(1, 2594) = 3.60$, $p = .058$, $\eta_p^2 = .00$
							$F(2, 2594) = 2.27$, $p = .103$, $\eta_p^2 = .00$
							$F(2, 2594) = 0.11$, $p = .899$, $\eta_p^2 = .00$
Tax knowledge	5.24 (0.12)	5.27 (0.13)	4.86 (0.18)	5.60 (0.12)	5.37 (0.13)	5.19 (0.18)	$F(1, 2594) = 5.00$, $p = .025$, $\eta_p^2 = .00$
							$F(2, 2594) = 3.41$, $p = .033$, $\eta_p^2 = .00$
							$F(2, 2594) = 0.58$, $p = .560$, $\eta_p^2 = .00$
Attitudes	5.95 (0.10)	6.33 (0.11)	6.21 (0.15)	6.39 (0.10)	6.12 (0.11)	6.36 (0.15)	$F(1, 2594) = 1.77$, $p = .184$, $\eta_p^2 = .00$
							$F(2, 2594) = 0.43$, $p = .648$, $\eta_p^2 = .00$
							$F(2, 2594) = 5.20$, $p = .006$, $\eta_p^2 = .00$
Motivation	6.10 (0.11)	6.26 (0.12)	6.36 (0.16)	6.75 (0.11)	6.51 (0.12)	6.78 (0.16)	$F(1, 2594) = 17.26$, $p < .001$, $\eta_p^2 = .01$
							$F(2, 2594) = 0.88$, $p = .413$, $\eta_p^2 = .00$
							$F(2, 2594) = 1.60$, $p = .202$, $\eta_p^2 = .00$
Procedural justice	5.76 (0.11)	6.52 (0.12)	6.42 (0.16)	5.80 (0.11)	5.63 (0.12)	5.94 (0.16)	$F(1, 2594) = 18.02$, $p < .001$, $\eta_p^2 = .01$
							$F(2, 2594) = 5.83$, $p = .003$, $\eta_p^2 = .00$
							$F(2, 2594) = 8.95$, $p < .001$, $\eta_p^2 = .01$
Informational justice	6.18 (0.10)	6.60 (0.11)	6.55 (0.16)	6.10 (0.10)	6.00 (0.11)	6.25 (0.16)	$F(1, 2594) = 10.32$, $p = .001$, $\eta_p^2 = .00$
							$F(2, 2594) = 2.26$, $p = .105$, $\eta_p^2 = .00$
							$F(2, 2594) = 2.88$, $p = .056$, $\eta_p^2 = .00$
Interpersonal justice	6.35 (0.10)	6.85 (0.11)	6.66 (0.15)	6.18 (0.10)	6.01 (0.11)	6.28 (0.15)	$F(1, 2594) = 21.57$, $p < .001$, $\eta_p^2 = .01$
							$F(2, 2594) = 1.75$, $p = .173$, $\eta_p^2 = .00$
							$F(2, 2594) = 5.17$, $p = .006$, $\eta_p^2 = .00$
Distributive justice	5.39 (0.10)	7.33 (0.11)	6.85 (0.15)	5.77 (0.10)	5.90 (0.11)	6.10 (0.15)	$F(1, 2594) = 36.96$, $p < .001$, $\eta_p^2 = .01$
							$F(2, 2594) = 55.92$, $p < .001$, $\eta_p^2 = .04$
							$F(2, 2594) = 38.73$, $p < .001$, $\eta_p^2 = .03$
Social norms	5.25 (0.09)	5.38 (0.10)	5.17 (0.14)	5.35 (0.09)	5.42 (0.10)	5.41 (0.14)	$F(1, 2594) = 1.92$, $p = .167$, $\eta_p^2 = .00$
							$F(2, 2594) = 0.64$, $p = .528$, $\eta_p^2 = .00$
							$F(2, 2594) = 0.34$, $p = .711$, $\eta_p^2 = .00$

*For each of the survey scales, the first *F*-statistic relates to the main effect of audit experience, the second to the main effect of audit outcome, and the third one to the interaction between these two variables. The covariates include age = 57.12 [$F(22, 2573) = 9.88$, $p < .001$, $\eta_p^2 = .08$] and gender = 1.39 (1=male, 2=female) [$F(22, 2573) = 4.76$, $p < .001$, $\eta_p^2 = .04$]

Variable	Audit experience: Audited — Positive adjustment	Audited — No change	Audited — Tax refund	Not Audited — Positive adjustment	Not Audited — No change	Not Audited — Tax refund	*F*-statistic
Coercive power	6.47 (0.09)	6.20 (0.10)	6.41 (0.14)	5.94 (0.09)	6.18 (0.10)	5.99 (0.14)	$F(1, 2594) = 13.03$, $p < .001$, $\eta_p^2 = .01$
							$F(2, 2594) = 0.01$, $p = .993$, $\eta_p^2 = .00$
							$F(2, 2594) = 3.83$, $p = .022$, $\eta_p^2 = .00$
Legitimate power	6.15 (0.08)	6.53 (0.09)	6.36 (0.12)	6.48 (0.08)	6.45 (0.09)	6.47 (0.12)	$F(1, 2594) = 2.24$, $p = .134$, $\eta_p^2 = .00$
							$F(2, 2594) = 2.23$, $p = .107$, $\eta_p^2 = .00$
							$F(2, 2594) = 2.98$, $p = .051$, $\eta_p^2 = .00$
Trust	5.01 (0.09)	5.46 (0.10)	5.39 (0.14)	5.63 (0.09)	5.41 (0.10)	5.58 (0.14)	$F(1, 2594) = 7.93$, $p = .005$, $\eta_p^2 = .00$
							$F(2, 2594) = 1.28$, $p = .280$, $\eta_p^2 = .00$
							$F(2, 2594) = 6.43$, $p = .002$, $\eta_p^2 = .01$
Fear	4.06 (0.10)	3.84 (0.11)	3.95 (0.15)	3.49 (0.10)	3.41 (0.11)	3.35 (0.15)	$F(1, 2594) = 30.76$, $p < .001$, $\eta_p^2 = .01$
							$F(2, 2594) = 1.17$, $p = .309$, $\eta_p^2 = .00$
							$F(2, 2594) = 0.32$, $p = .727$, $\eta_p^2 = .00$
Anger	5.03 (0.11)	4.38 (0.12)	4.58 (0.17)	4.00 (0.11)	3.98 (0.12)	3.77 (0.17)	$F(1, 2594) = 43.25$, $p < .001$, $\eta_p^2 = .02$
							$F(2, 2594) = 4.87$, $p = .008$, $\eta_p^2 = .00$
							$F(2, 2594) = 3.54$, $p = .029$, $\eta_p^2 = .00$
Caution	5.65 (0.12)	5.32 (0.13)	5.74 (0.18)	5.14 (0.12)	5.11 (0.13)	5.16 (0.18)	$F(1, 2594) = 13.29$, $p < .001$, $\eta_p^2 = .01$
							$F(2, 2594) = 1.54$, $p = .215$, $\eta_p^2 = .00$
							$F(2, 2594) = 0.93$, $p = .394$, $\eta_p^2 = .00$
Threat	3.37 (0.10)	2.92 (0.11)	2.98 (0.15)	2.64 (0.10)	2.49 (0.11)	2.49 (0.15)	$F(1, 2594) = 30.47$, $p < .001$, $\eta_p^2 = .01$
							$F(2, 2594) = 4.69$, $p = .009$, $\eta_p^2 = .00$
							$F(2, 2594) = 1.10$, $p = .334$, $\eta_p^2 = .00$
Protection	3.64 (0.10)	3.83 (0.11)	3.84 (0.16)	4.15 (0.10)	3.91 (0.11)	4.18 (0.15)	$F(1, 2594) = 9.20$, $p = .002$, $\eta_p^2 = .00$
							$F(2, 2594) = 0.57$, $p = .565$, $\eta_p^2 = .00$
							$F(2, 2594) = 2.10$, $p = .123$, $\eta_p^2 = .00$
Enforced compliance	5.06 (0.11)	4.72 (0.12)	4.89 (0.17)	5.10 (0.11)	4.75 (0.12)	5.08 (0.17)	$F(1, 2594) = 0.61$, $p = .434$, $\eta_p^2 = .00$
							$F(2, 2594) = 4.66$, $p = .010$, $\eta_p^2 = .00$
							$F(2, 2594) = 0.19$, $p = .831$, $\eta_p^2 = .00$
Voluntary compliance	7.69 (0.07)	7.77 (0.08)	7.74 (0.11)	7.97 (0.07)	7.90 (0.08)	7.99 (0.11)	$F(1, 2594) = 10.16$, $p = .001$, $\eta_p^2 = .00$
							$F(2, 2594) = 0.09$, $p = .917$, $\eta_p^2 = .00$
							$F(2, 2594) = 0.54$, $p = .581$, $\eta_p^2 = .00$
Thoughts about cheating	2.09 (0.08)	1.97 (0.09)	2.10 (0.12)	2.02 (0.08)	2.02 (0.09)	1.81 (0.12)	$F(1, 2594) = 1.72$, $p = .190$, $\eta_p^2 = .00$
							$F(2, 2594) = 0.60$, $p = .548$, $\eta_p^2 = .00$
							$F(2, 2594) = 1.36$, $p = .258$, $\eta_p^2 = .00$

*For each of the survey scales, the first *F*-statistic relates to the main effect of audit experience, the second to the main effect of audit outcome, and the third one to the interaction between these two variables. The covariates include age = 57.12 [$F(22, 2573) = 9.88$, $p < .001$, $\eta_p^2 = .08$] and gender = 1.39 (1=male, 2=female) [$F(22, 2573) = 4.76$, $p < .001$, $\eta_p^2 = .04$]

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