AN EXPLORATORY INVESTIGATION OF EXTRINSIC AND INTRINSIC MOTIVATIONS IN TAX AMNESTY DECISION-MAKING

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Abstract

The tax compliance literature on tax amnesties does not explicitly consider the underlying motivational influences on taxpayers' self-correction decisions. Extant tax amnesty studies imply that extrinsic motives are the basis for self-correction, and only a few consider intrinsic motives (Rechberger, Hartner, Kirchler & Hämmerle, 2010; Torgler & Schaltegger, 2005). Consequently, we explore how extrinsic and intrinsic motives affect tax amnesty decision-making, following an unintentional taxpayer error. We conduct a quasi-experimental conjoint analysis on 1,266 taxpayers and vary the error magnitude. Results indicate that when taxpayers contemplate making a tax amnesty disclosure, desire to avoid a penalty is the most influential extrinsic motive, and responsibility to pay one's taxes is the most influential intrinsic motive. Extrinsic (intrinsic) influences account for about two-thirds (one-third) of the overall decision to make a tax amnesty disclosure. We also find that taxpayers' choices of extrinsic and intrinsic motives do not vary according to tax error magnitude. Implications for tax authorities and tax researchers are discussed.

INTRODUCTION

There is growing acceptance among tax researchers that taxpayer decision-making is complex and nuanced, and based on both extrinsic and intrinsic factors (Alm, Kirchler & Muehlbacher, 2012; Alm & Torgler, 2011; Feld & Frey, 2002). An individual who is motivated extrinsically expects to receive a benefit or avoid a punishment from an external source, whereas an individual who is motivated intrinsically is prompted to act for reasons of personal morality or internal feelings of satisfaction (Ryan & Deci, 2000). In the tax context, it follows that taxpayers may be motivated extrinsically or intrinsically to comply with a tax authority. From a tax authority perspective, appealing to taxpayers' intrinsic motivations rather than extrinsic motivations may be a lower-cost alternative, since it would not require the same human resources to detect and subsequently respond to a discovery of non-compliance. Given that tax authorities worldwide are increasingly facing budgetary restrictions, with 60% of tax authorities reporting reductions in staffing in recent years (OECD 2015a), developing a better understanding of taxpayers' intrinsic motivations relative to extrinsic motivations may be a useful objective.

Although tax researchers suggest that taxpayers have intrinsic motivations to comply with tax authorities (Alm, Kirchler & Muehlbacher, 2012; Alm & Torgler, 2011; Braithwaite, 2009; Dunn, Farrar & Hausserman, 2016; Frey, 1997), much remains to be understood about taxpayers'

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intrinsic motivations. As McKerchar, Bloomquist & Pope (2013, p.6) state, "Many have attempted to shed light on taxpayers' internal motivations… but hard evidence is difficult to find." Dwenger, Kleven, Rasul & Rincke (2016) acknowledge that relative to extrinsic motivations, intrinsic motivations are the hardest to measure and study empirically, and therefore the least well understood.

The purpose of this research is to develop a better understanding of extrinsic and intrinsic motivations in taxpayer decision-making. We develop this understanding by examining taxpayers' attitudes towards making a tax amnesty disclosure, following an unintentional tax reporting error.[3] Tax amnesties and voluntary disclosure programs are relatively low-cost compliance initiatives in which taxpayers are given the opportunity to self-correct errors on previously filed tax returns. A tax amnesty tends to be a one-time opportunity for self-correction with an expiry date, whereas voluntary disclosure programs are permanent and ongoing.[4] By self-correcting, taxpayers pay the taxes that would have resulted had the amounts been correctly reported, usually with interest, but can avoid the penalties and/or sanctions that would have been imposed had the tax authority discovered the errors. Forty-seven countries now offer permanent amnesty programs (OECD 2015b), which suggests that tax authorities view the tax amnesty as an increasingly important tax compliance initiative.

Empirical studies suggest that amnesties have direct and indirect effects on tax revenues. Nevertheless, many studies suggest that tax amnesties are not particularly effective at encouraging participation in tax amnesties, resulting in net revenue gains from amnesty programs that are only modest at best. For example, Hasseldine (1998) analyzed a number of state tax amnesties in the United States, and found that amnesty revenues range from just 0.008 to 2 percent of state tax revenues. Moreover, these studies tend to assume that taxpayers consider only the economic costs and benefits of self-correction decisions (i.e. extrinsic factors), and therefore overlook non-economic factors (i.e. intrinsic factors) that may contribute to participation in tax amnesties. Perhaps tax amnesties would be more effective at generating revenue and increasing subsequent compliance if intrinsic motives were better understood and incorporated into the design of tax amnesties.

In this exploratory study, we address two primary research questions, as follows: 1) Which extrinsic and intrinsic motives have the greatest influence on taxpayers' decisions to correct a tax error?; and 2) How does tax error magnitude impact these decisions? Since empirical research suggests that individuals justify dishonesty in small amounts, but less so in large amounts (Ariely 2008; Mazar, Amir & Ariely, 2008), we believe it is important to understand taxpayers' motivations across different error thresholds. We use a quasi-experimental conjoint approach to investigate the relative importance of various extrinsic motives within a set of extrinsic motives, and the relative importance of various intrinsic motives within a set of intrinsic motives. Conjoint analysis is a statistical technique which determines how individuals choose among alternatives.

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[3] We focus on unintentional errors because the research is exploratory and we wanted to appeal to a broad base of taxpayers. Although tax authorities hope to encourage taxpayers who made unintentional *and* intentional errors to participate in amnesty programs, it would be unrealistic to ask participants questions about a scenario in which they were told to assume that they had purposefully evaded taxes.

[4] In this article, we use the term 'tax amnesty' to refer to any program offered by a tax authority for taxpayers to self-correct past errors.

Participants were given combinations of extrinsic and intrinsic motives, and asked which combination would be most effective at convincing them to report their mistake. Our research is quasi-experimental, as we vary the error magnitude among participants in three ways ($500, $5,000, and $50,000). Since the conjoint analysis methodology does not allow for examination of relative importance across factors, we also conduct a supplemental analysis to examine the relative importance of extrinsic versus intrinsic motivations. For this supplemental analysis, a different set of participants allocate points based on how important each of the eight factors would be in their decision, without regard to whether they are intrinsic or extrinsic.

We find that desire to avoid a penalty was the most important extrinsic motive, and responsibility for paying taxes owed was the most important intrinsic motive. Collectively, extrinsic (intrinsic) motives accounted for approximately 66% (34%) of the amnesty participation decision. We also find that taxpayers' relative preferences for extrinsic and intrinsic motives did not vary significantly according to error magnitudes. Thus, taxpayers' motivations for self-corrections appear stable, regardless of the size of their error.

This research contributes to the tax compliance literature by: identifying the most important extrinsic and intrinsic motives in a self-correction decision; by examining taxpayers' relative preferences within each set of motives; and by considering the role of error magnitude in compliance decisions. Existing research that investigates how intrinsic motives impact tax amnesties is limited (Rechberger et al., 2010; Torgler & Schaltegger, 2005), and empirical tax amnesty research tends to focus on subsequent income reporting or subsequent revenue collection effects, rather than on the reasons why taxpayers might be inclined to participate in a tax amnesty. In other words, tax amnesty research tends to be reactive rather than proactive, since it examines the after-effects of tax amnesties. In contrast, the present research contributes to this literature by examining taxpayer attitudes and intentions when an amnesty participation decision is contemplated. Our results should also be of interest to tax authorities looking to design or improve revenue collection through tax amnesties.

The remainder of the paper is organized as follows. In the next section, we conduct a literature review, followed by sections that describe our methodology and results, and discuss the implications of our findings for tax policy makers and tax researchers.

LITERATURE REVIEW

Universally, people are concerned with motivation, i.e., how to move themselves or others to act (Deci, 2016). While there are a number of possible theoretical frameworks that could be used to examine the tax amnesty decision, we explore this decision from the perspective of intrinsic and extrinsic motivations. A well-established psychology literature indicates that motivation can be either extrinsic (external to an individual, such as a third-party reward) or intrinsic (within an individual, such as self-esteem) (e.g., Deci, Koestner, & Ryan, 1999; Franco & Svensgaard, 2012; Ryan & Deci, 2000; Ryan, 2012; Sheldon & Kasser, 2008). Extrinsic and intrinsic motivations each affect economic decision-making (Gneezy, Meier, & Rey-Biel, 2011; Kakinaka & Kotani, 2011). Different regions of the brain are responsible for processing each type of motivation (Murayama, Matsumoto, Izuma, & Matsumoto, 2010).

The purpose of this literature review is to identify possible extrinsic and intrinsic motives that may be associated with tax amnesty decision-making. To this end, we peruse the empirical literatures on tax amnesties specifically, and tax compliance more broadly. We also searched the broader ethical decision-making and customer service literatures, since a decision to self-correct is an ethical decision, and involves a service interaction with a tax authority. Finally, we reviewed descriptions of past and current tax amnesty programs to isolate motives that could be relevant for tax amnesty decision-making.

Tax Amnesty Literature

Empirical studies have addressed two main ways in which amnesties can affect tax revenue collected: direct gains from participation in the amnesty (Alm and Beck, 1991; Fisher et al., 1989; Hasseldine, 1998; Luitel & Sobel, 2007), and indirect effects on tax compliance following an amnesty (Alm et al., 1990; Alm & Beck, 1993; Andreoni, 1991; Christian et al., 2002; López-Laborda & Rodrigo, 2003; Luna et al., 2006; Malik & Schwab, 1991; Rechberger et al., 2010; Torgler & Schaltegger, 2005; Young, 1994). This literature focuses on the impact of post-amnesty revenue collection, or taxpayers' compliance subsequent to an amnesty, rather than on taxpayers' underlying motivations to actually participate in an amnesty program. Nevertheless, the findings of each study are now briefly described, with a view to identifying possible motives that may be influential in the tax amnesty participation decision.

Fisher et al. (1989) examine the effectiveness of a state tax amnesty in Michigan, and find that overall revenues did not increase substantially due to the amnesty. Alm & Beck (1991) develop an economic model of amnesty participation, test it using data from twenty-eight states in the United States, and find that taxpayers disclose more in an amnesty program when probability of detection and penalties are expected to be greater. Hasseldine (1998) reviews 43 state tax amnesty programs in the United States, finds that tax amnesty revenues as a percentage of state tax revenues range from 0.008 to 2 percent, and finds that revenue collection declines with repeated amnesty programs. Luitel & Sobel (2007) find that states that offer repeated tax amnesties generate less revenue from the subsequent amnesties than the initial tax amnesties, and find reduced compliance following tax amnesties. Alm et al. (1990) also find that compliance decreases after an amnesty.

One economic model developed by Andreoni (1991) predicts that cheating increases when a permanent tax amnesty is enacted. Similarly, Malik & Schwab (1991)'s economic model shows that taxpayers report less income as the probability of an amnesty rises. Alm & Beck (1993) conduct a time-series economic analysis on a Colorado state tax amnesty, and suggest that this amnesty did not result in significant long-term post-amnesty revenue collection. Young (1994) examined characteristics of amnesty participants, and found that single males, and individuals with occupations in sales or who were self-employed, were more likely to participate in tax amnesties. Christian et al. (2002) found that the increase in tax revenues following a Michigan state tax amnesty was negligible. López-Laborda & Rodrigo (2003) evaluated the long-term impact of a Spanish tax amnesty, and found that the amnesty had no effect on tax collection in the short- or long-term. Torgler & Schaltegger (2005) experimentally examined the effect of taxpayers' voting approval for a tax amnesty on subsequent reporting compliance, and found that tax compliance increased only after group discussion and voting. Luna et al. (2006) review a number of state tax amnesties, identify features of each, and conclude that the long-term compliance effect is unclear.

Rechberger et al. (2010) examine the perceived justice of a tax amnesty on subsequent reporting compliance, and found that this relation is mediated by retribution and value restoration.

These studies tend to conclude that revenue collection effects of amnesties are modest at best, and that reporting compliance following an amnesty tends to suffer. Amnesties generate relatively little revenue in part because participation in amnesties is low. Our research focuses on antecedents of participation, which has the potential to improve revenue collection. Only one study (Alm & Beck, 1991) explicitly identifies possible motives that might influence taxpayer participation in tax amnesties. Alm & Beck (1991) conclude that probability of detection and penalties are important motives. For the majority of studies, the reason(s) taxpayers participate in tax amnesties is (are) not stated, and is (are) implied to be economic in nature. Consequently, much remains to be learned as to why taxpayers might be inclined to participate in a tax amnesty program.

Other Tax Compliance Literature

Consistent with the tax amnesty literature, conventional economic models of tax compliance suggest that the compliance decision is an economic decision, such that taxpayers weigh economic gains from evasion with possible sanctions from having their evasion detected and identified by the tax authority (e.g., Sandmo, 2005). In other words, the tax evasion decision is a function of detection likelihood, the size of the penalty, and the individual's degree of risk aversion (Slemrod, 2007). Thus, likelihood of detection, penalties, and risk tolerance are relevant for tax reporting compliance decisions, and may also be relevant for self-correction decisions.

A number of tax studies have also considered how tax morale impacts tax compliance (see Torgler, 2007, for a review). Tax morale is, "the collective name for all the non-rational factors and motivations – such as social norms, personal values, and various cognitive processes – that strongly affect an individual's voluntary compliance with laws" (Kornhauser, 2007, p. 602). Tax morale is synonymous with intrinsic motivation to pay taxes (McKerchar et al., 2013). The tax morale literature suggests that perceptions of fairness, trust in government, exchange equity, culture, and moral rules and sentiments all impact tax morale (e.g., Alm & Torgler, 2006; Frey & Torgler, 2007; McKerchar et al., 2013; Pope & McKerchar, 2011). Thus, these factors may also influence taxpayers' decisions to participate in a tax amnesty.

We also consulted tax compliance literature reviews to identify possible factors that may also be relevant for tax amnesty decision-making (Andreoni, Erard, & Feinstein, 1998; Cuccia, 1994; Fischer, Wartick, & Mark, 1992; Jackson & Milliron, 1986). Sanctions (penalties) and probability of detection were the predominant factors that were identified, along with other factors of guilt and social norms. All of these factors may affect taxpayers' extrinsic or intrinsic motivations. Other factors that affected tax compliance in these studies, such as demographic variables, are not inherently intrinsic or extrinsic, and thus we did not include them as possible extrinsic or intrinsic motives in the study, but rather measured and controlled for them when relevant.

Ethical Decision-Making and Customer Service Literatures

To identify other motives that may influence the tax amnesty decision, we examine the broader ethical decision-making and customer service literatures.[5] We identified guilt, embarrassment and moral pride as motives relevant to ethical decision-making (Tangney, Steuwig & Mashek, 2007), as well as personal responsibility and peer reaction (Bobek, Hageman & Kelliher, 2013). Luria, Gal & Yagil (2009) identify belief that an individual will be treated fairly and ease of making restitution as additional factors that may influence individuals' willingness to report customer service complaints. Since taxpayers receive some degree of customer service when they interact with a tax authority, factors that influence customer service interactions may also be relevant for tax amnesty decisions.

Tax Amnesty Program Descriptions

We also read descriptions of tax amnesty programs worldwide (Baer & Le Borgne, 2008; Malherbe, 2011; OECD, 2015b) to identify other motives that could be relevant. Items that emerged related to: elapsed time; whether or not the taxpayer had the financial means to make restitution; the size of the penalty; and the amount of interest owing.

METHODOLOGY

Our research questions concern the relative importance of extrinsic and intrinsic motives to taxpayers when contemplating participation in a tax amnesty, and how their preferences for extrinsic and intrinsic motives vary according to the magnitude of their tax error. We address these questions using a quasi-experimental conjoint methodology. In the subsections that follow, we describe conjoint analysis, how we determined the extrinsic and intrinsic motives to use in the conjoint analysis, the experimental procedures, and the results.

Conjoint Analysis

In this section, we describe the conjoint analysis that we conducted to assess and understand the roles of extrinsic and intrinsic motives in tax amnesty decision-making. Conjoint analysis is a statistical technique, used most often in marketing research, to understand individuals' preferences for product features. A product has attributes (such as colour and size), and each attribute has several features (such as red, blue, and green colours; and small and large sizes). Conjoint analysis allows researchers to determine which combinations of product features are most preferred by consumers. Conjoint analysis helps researchers understand how consumers make choices among competing product features.

Conjoint statistical software computes a "part-worth utility" (a numerical value) for each feature of each attribute. Part-worth utilities of a particular product feature can be compared within each attribute to assess respondents' relative preferences of a product feature; and part-worth utilities from one attribute can be combined with part-worth utilities from another attribute, and compared with other similar combinations. Thus, in the above example, part-worth utilities from one colour

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[5] Using the ABI/Inform database, we searched ethics, hospitality, and marketing journals for the terms 'motivation' and 'motive'.

could be compared with part-worth utilities of all other colours; and a part-worth utility from a colour could be combined with a part-worth utility from a size, and compared to any other similar combination. However, part-worth utilities from one attribute cannot be compared with part-worth utilities from another attribute (Orme, 2010). Thus, in the above example, a part-worth utility of a colour could not be compared with a part-worth utility of a size.

While conjoint analysis tends to be used in marketing research, tax researchers have also employed this method, though not with respect to tax amnesty decisions (O'Neil, 1982; Blaufus, Bob, Hundsdoerfer, Kiesewetter & Weimann, 2013; Blaufus & Ortlieb, 2009; Hundsdoerfer & Sichtmann, 2009; Milliron & Toy, 1988; O'Neil, 1982). We examine the tax amnesty decision using a motivational psychology framework, in which there are two underlying attributes (extrinsic motivation and intrinsic motivation), with several features of each attribute (corresponding to specific extrinsic and intrinsic motives).

There are several advantages to using the conjoint methodology for this study. Conjoint analysis is a powerful way in which to analyze the relative importance of multiple features simultaneously. This method requires respondents to consider multiple attributes of their decision simultaneously, such that they must make trade-offs between different motives. Conjoint analysis also allows us to examine a larger number of motives than a traditional experiment, which is important, given the exploratory nature of the research. However, there is a restriction on the number of features each attribute can have; specifically, the number of features per attribute should not exceed four (Orme, 2010). Therefore, we are limited to including four extrinsic motives and four intrinsic motives in the conjoint analysis.

Selection of Extrinsic and Intrinsic Motives

To determine the four extrinsic and four intrinsic motives for use in the conjoint analysis, we initially compiled lists of 10 extrinsic and 11 intrinsic motives, using the findings from our literature review. Along with another academic, we independently categorized each motive we identified from the literature review as extrinsic or intrinsic, and reached a consensus as to the final classification.[6]

To validate our selection of motives, as well as our categorization of these motives as extrinsic and intrinsic, and to identify the four most influential motives across both categories, we conducted a pretest. Pretests are used commonly in behavioral research to substantiate an initial selection of items for use in a questionnaire, as well as to check for glitches in wording (e.g., Hite, 1998; Libby & Thorne, 2007).

The pretest was conducted on 65 adult students (average age of 28.8 years) in two tax classes.[7] Participants read a brief background about tax amnesties, were given a list of motives, and were

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[6] We were unable to reach consensus as to the extrinsic or intrinsic nature of two factors (the amount of the mistake, and the amount of time that has passed since the mistake). To determine whether a typical taxpayer thought these would be intrinsic or extrinsic motivations, we surveyed participants in our pretest (see footnote 8). Regardless, this issue is not relevant, as neither factor was retained for the conjoint analysis.

[7] The sample does not need to be the same as the population, as long as there is nothing in the sample that is expected to bias the results (Elliott, Hodge, Kennedy, & Pronk, 2007). Nothing about the pretest sample was expected to bias the results.

asked to rank them in terms of their importance in the tax amnesty decision.[8] They were then asked if there were any additional reasons that were not listed that would be influential in this decision, and if any wording or any factors were unclear, which helped us to further refine the wording used, and helped to ensure that we had not overlooked other important motives. No additional motives were identified.

The pretest results (not tabulated) indicated that the most important extrinsic motives were: *wanting to avoid a penalty*; *the size of the penalty*; *probability of the error being detected by the tax authority*; and *effort to disclose.*[9] There was also agreement that the most important intrinsic motives were: *responsibility to pay the taxes owed*; *satisfaction for correcting the mistake*; *feeling guilty for not paying the tax*; and *concern about how the taxpayer would be treated.*

Below, we tabulate the initial lists of motives, classified as extrinsic or intrinsic, and indicate in bold font the four extrinsic and four intrinsic motives retained for our subsequent conjoint study.

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[8] To cross-validate the pretest results, one class was given a list of all possible motives, while the other class was given lists of extrinsic and intrinsic motives separately.   Using two groups of students provides greater assurance regarding the consistency of their rankings of the most important motives. We compared results from both classes, which were largely consistent (see footnote 9), i.e., the most important extrinsic and intrinsic motives were ranked similarly across both classes. At the end of the pretest, participants were also provided with a definition of intrinsic and extrinsic motivation, and asked whether they thought two ambiguous items (*the amount of the mistake* and *the amount of time that has passed since the mistake*, were primarily intrinsic or primarily extrinsic.

[9] One class rated *amount of the mistake* just higher than *effort to disclose*, but we retained *effort to disclose*, since the size of the penalty is a function of the amount of the mistake, and the two items could be confounded.

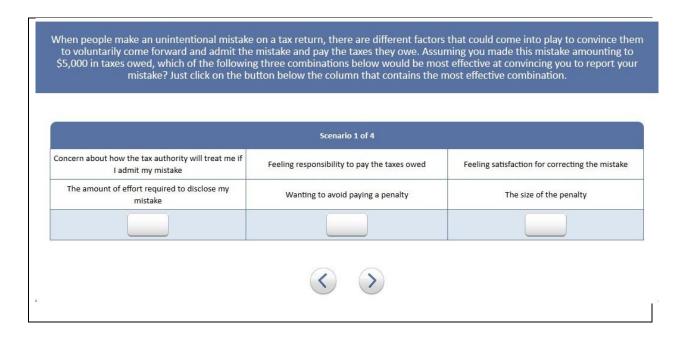**Table 1 – Initial list of extrinsic and intrinsic motives when contemplating a tax amnesty disclosure ***

	Extrinsic motives	**Intrinsic motives**
1)	Concern about other people's opinion of me for not paying the tax.	**Feeling guilty about not paying the tax.**
2)	The amount of time that has passed since the mistake.	Feeling guilty about making the mistake.
3)	The length of time that the voluntary disclosure program is available.	Feeling embarrassed for not paying the tax.
4)	**The size of the penalty.**	Feeling embarrassed for making the mistake.
5)	**Wanting to avoid paying a penalty.**	Feeling embarrassed if the mistake is discovered by the tax authority.
6)	The amount of interest.	Feeling satisfaction for paying the tax.
7)	The amount of the mistake.	**Feeling satisfaction for correcting the mistake.**
8)	Concern that paying the amount owed will affect my lifestyle.	**Feeling responsibility to pay the taxes owed.**
9)	**The amount of effort required to disclose my mistake.**	Feeling responsibility to pay taxes in general.
10)	**The chance that I'll get caught in the future if I don't admit my mistake now.**	Feeling uncertainty about being detected by the tax authority.
11)		**Concern about how the tax authority will treat me if I admit my mistake.**
* Note: items in bold font represent items retained for use in the conjoint analysis.		

Procedures

We perform a choice-based conjoint analysis, using the shortlists of four extrinsic and four intrinsic motives, to gauge the relative importance of each motive within their respective motivation categories. Our design is a fractional-factorial design, in which selections of combinations of motives are presented to the respondents. A full-factorial design, in which all combinations are presented to participants, is impractical due to respondent fatigue, so fractional-factorial designs are used instead, and are just as effective as full-factorial designs (Tovares, Boatwright, & Cagan, 2014).

Respondents were United States taxpayers recruited from a large market research firm, and chosen randomly from across the United States, but segmented according to gender and age (individuals at least 18 years of age). Respondents read a brief background about tax amnesty programs, followed by a vignette in which they were asked to imagine that they had made an unintentional mistake on their tax return (either $500, $5,000, or $50,000), and were then presented with a series of screens that presented three choice combinations per screen. Each choice combination had one extrinsic and one intrinsic motive.[10] Respondents were asked which combination of the three would be most effective at convincing them to report their mistake to the tax authority. Their answer determined, in part, which combinations appeared on the next screen, as programmed by the software. A sample screenshot is below in Figure 1.

Figure 1 – Sample screenshot

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[10] We acknowledge that tax amnesty decisions are not comprised of exactly one intrinsic and one extrinsic motive, but in order to determine the relative importance of the intrinsic and extrinsic motives using conjoint analysis, this set-up is required. To address the concern that the decision may not be based on one extrinsic and one intrinsic motive, we conducted a supplemental analysis, in which participants freely indicated the importance of each motive without regard to whether it was extrinsic or intrinsic.

It is important to examine how taxpayers' motivational preferences may vary across different error thresholds. Ariely (2008) and Mazar, Amir, & Ariely (2008) suggest and find evidence that individuals can justify dishonesty in small amounts without compromising a positive view of themselves, but not in large amounts. Consequently, taxpayers with relatively small errors may be motivated differently than taxpayers with relatively large errors.

We were unable to find any guidance in the academic literature on choices of dollar magnitudes for use in an experiment. Although our choices of dollar magnitudes are subjective, we used the vignette development suggestions of Weber (1992) and Hughes & Huby (2004), who emphasize that vignettes must be as realistic as possible. We chose an upper limit of $50,000, after consulting an industry publication which reports dollar amounts of frauds, as well as considering anecdotal evidence reported in the business press, and used our pretest to verify that this amount was plausible to respondents.[11] Once we chose the upper limit, we chose the other two amounts ($5,000 and $500) as equidistant intervals on a logarithmic scale.

A total of 1,266 taxpayers completed the instrument. To ensure high data quality, the instrument contained two 'attention check' questions.[12] Respondents who failed one or both of these questions were terminated, and their responses were not included in the final tally. The average age of a respondent was 45.3 years, and 52.1% of the sample was female. Detailed demographic information is contained in Table 2.

To gauge the effectiveness of the error magnitude manipulation, respondents were asked to rate their agreement with the following statement: *The amount of taxes owed was quite large*. Respondents rated this statement on a 7-point Likert scale, where 1=strongly disagree and 7=strongly agree. The mean scores for respondents in the $500, $5,000, and $50,000 conditions were 3.87, 5.80, and 6.61, respectively, which are in the expected direction. Furthermore, Mann-Whitney U-tests showed significant differences in these scores between the $500 and $5,000 groups ($Z=15.53$, $p<0.01$), and between the $5,000 and $50,000 groups ($Z=10.61$, $p<0.01$). Therefore, the error magnitudes were effectively manipulated across conditions.

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[11] We consulted the "Report to the Nation" of the Association of Certified Fraud Examiners (ACFE 2014), which reported a median dollar amount for intentional mistakes of $145,000. Our upper threshold of $50,000 is well below this median figure, as we felt that taxpayers would have difficulty relating to any higher amount as an unintentional mistake. Furthermore, our upper threshold of $50,000 appears plausible, given stories in the American popular press of two potential government appointees who made unintentional tax errors in the amounts of $34,000 and $140,000 (Reuters, 2009). None of the pretest participants expressed concern over an upper limit of $50,000.

[12] One question was, "In the scenario, how much did it say you owe in taxes?" Respondents could choose between a) $500, b) $5,000, or c) $50,000. The correct answer depended upon experimental condition. The other question was, "In the scenario, what was the reason provided for why you owe taxes?" The options were: a) you intentionally made a mistake in the past; b) you unintentionally made a mistake in the past; and c) the IRS made a mistake, and as a result, you owe more in taxes.

Table 2 – Demographic profile statistics

	$500 error	**$5,000 error**	**$50,000 error**	**All responses**
Sample size	423	422	421	1,266
Gender				
male	197 (46.6%)	211 (50.0%)	199 (47.3%)	607 (47.9%)
female	226 (53.4%)	211 (50.0%)	222 (52.7%)	659 (52.1%)
Age	43.9	44.8	47.4	45.3
Education				
less than high school	3 (0.7%)	3 (0.7%)	7 (1.7%)	13 (1.0%)
high school	75 (17.7%)	71 (16.8%)	71 (16.9%)	217 (17.1%)
some college courses	129 (30.5%)	140 (33.2%)	154 (36.6%)	423 (33.4%)
college graduate	151 (35.7%)	140 (33.2%)	122 (29.0%)	413 (32.6%)
post-graduate degree	65 (15.4%)	68 (16.1%)	67 (15.9%)	200 (15.8%)
Income				
less than $25,000	75 (17.7%	80 (19.0%)	95 (22.6%)	250 (19.7%)
$25,000 to $49,999	126 (29.8%)	107 (25.4%)	107 (25.4%)	340 (26.9%)
$50,000 - $74,999	85 (20.1%)	89 (21.1%)	82 (19.5%)	256 (20.2%)
$75,000 - $99,999	72 (17.0%)	59 (14.0%)	53 (12.6%)	184 (14.5%)
Over $100,000	57 (13.5%)	80 (19.0%)	79 (18.8%)	216 (17.1%)
Prefer not to respond	8 (1.9%)	7 (1.7%)	5 (1.2%)	20 (1.6%)
Ever made a tax amnesty disclosure?				
yes	16 (3.8%)	26 (6.2%)	11 (2.6%)	53 (4.2%)
no	407 (96.2%)	396 (93.8%)	410 (97.4%)	1,213 (95.8%)

RESULTS

We first examined which extrinsic and intrinsic motives have the greatest influence on taxpayers' decisions to correct a tax error (Research Question 1). To address this question, we examined the part-worth utilities of each motive. We then take the antilog of the part-worth utilities in order to express them as a proportion, so that we can predict the percentage of the population that is influenced by each attribute (Sawtooth Software, 2002). The average from all respondents of the part-worth utilities, the antilogs, and the relative percentages are presented in Table 3.

Table 3 – Part-worth utility scores for extrinsic and intrinsic motives

Factor	$500 error			$5,000 error			$50,000 error			MANOVA between groups
	Part-worth utility	*antilog*	Percentage	Part-worth utility	*antilog*	Percentage	Part-worth utility	*antilog*	Percentage	
EXTRINSIC										
Avoiding a penalty	0.92	*2.50*	51.76%	0.94	*2.57*	52.76%	0.98	*2.68*	53.67%	F=1.04, p=0.35
Future detection	0.04	*1.04*	21.53%	0.02	*1.02*	21.02%	0.03	*1.03*	20.65%	F=0.04, p=0.96
Penalty size	-0.18	*0.83*	17.18%	-0.21	*0.81*	16.58%	-0.15	*0.86*	17.20%	F=1.26, p=0.28
Effort	-0.78	*0.46*	9.53%	-0.76	*0.47*	9.64%	-0.86	*0.42*	8.48%	F=1.75, p=0.17
			100.0%			100.0%			100.0%	
INTRINSIC										
Factor	$500 error			$5,000 error			$50,000 error			MANOVA between groups
	Part-worth utility	*antilog*	Percentage	Part-worth utility	*antilog*	Percentage	Part-worth utility	*antilog*	Percentage	
Responsibility	0.54	*1.72*	39.36%	0.56	*1.76*	39.45%	0.61	*1.84*	41.25%	F=0.90, p=0.41
Satisfaction	0.26	*1.30*	29.75%	0.32	*1.38*	31.05%	0.27	*1.32*	29.42%	F=0.60, p=0.55
Guilt	-0.27	*0.76*	17.47%	-0.23	*0.80*	17.92%	-0.23	*0.79*	17.68%	F=0.61, p=0.54
Treatment	-0.53	*0.59*	13.42%	-0.66	*0.52*	11.58%	-0.65	*0.52*	11.66%	F=1.02, p=0.36
			100.0%			100.0%			100.0%	

Results indicate that the most important extrinsic factor is the desire to avoid paying a penalty, followed by the probability of future detection, the size of the penalty, and the amount of effort required to disclose the mistake. Overall, the desire to avoid paying a penalty was rated to be approximately 2.5 times more important than the next most important factor, the probability of future detection, and was rated just over three times more important than the size of the penalty.

Results also indicate that the most important intrinsic factor is a feeling of responsibility to pay the taxes owed, followed by satisfaction for correcting the mistake, feeling guilty for not paying the tax, and concern for how the authorities would treat the taxpayer. The responsibility factor was rated only slightly higher than the satisfaction factor (about 0.15 times), but responsibility was rated more than twice as important as guilt and almost three times as important as treatment by the tax authority.

We then examined how tax error magnitudes impacted respondents' choices of extrinsic and intrinsic motives (Research Question 2). To address this question, we conducted a MANOVA of the part-worth utilities for all 8 motives across each error condition. As the columns in Table 3 show, there were no significant differences in part-worth utilities for any extrinsic or intrinsic factors. Therefore, the relative importance of any extrinsic or intrinsic motives did not vary significantly by error condition.

Supplemental Analysis

Because conjoint analysis does not allow us to examine the relative importance of intrinsic versus extrinsic motives, we conducted a supplemental analysis to address this issue. Using a different set of participants (also recruited from an online survey company), we presented 299 participants with the same background information and scenario as in the conjoint analysis study.[13] Rather than asking them to select among pairs of intrinsic and extrinsic motives, we asked them to allocate 100 points to each of the eight possible motives, based on how influential the motives would be if making a tax amnesty decision. As in the conjoint study, we split the participants into three groups, according to three error magnitudes ($500, $5,000, and $50,000). Overall, we found that participants allocated 66% of their points to extrinsic factors and 34% of their points to intrinsic factors. These findings suggest that extrinsic factors are significantly more important than intrinsic factors.[14]

Similar to the conjoint study, using MANOVA, we did not find any significant differences in extrinsic/intrinsic allocations across error conditions at the 0.05 level of significance.[15] Therefore, this finding provides additional independent evidence that taxpayers' motivations appear stable across error magnitudes. Table 4 reports the mean extrinsic and intrinsic scores for this supplemental analysis, across the three error conditions.

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[13] The average age of a respondent was 36.9 and 54% were male.

[14] Wilcoxon signed-rank tests across all three conditions were significant: in the $500 condition, $Z=-5.841$, $p<0.01$; in the $5,000 condition, $Z=-6.407$, $p<0.01$; and in the $50,000 condition, $Z=-5.383$, $p<0.01$.

[15] The amount of points allocated to any motive did not vary significantly across any error condition at the 0.05 level of significance. Furthermore, Mann-Whitney U test results are as follows: for the scores in the $500 vs. $5,000 condition, $Z=-0.623$, $p=0.53$; for the scores in the $5,000 vs. $50,000 condition, $Z=-0.819$, $p=0.41$; and for the scores in the $500 vs. $50,000 condition, $p=0.87$.

Table 4 – Allocation between extrinsic and intrinsic motives

	All data (n=299)	$500 error (n=102)	$5,000 error (n=100)	$50,000 error (n=97)
Intrinsic only	34.16	34.46	32.34	35.71
Extrinsic only	65.84	65.54	67.66	64.29
	100	100	100	100

DISCUSSION & IMPLICATIONS

In this research, we provide preliminary evidence that both extrinsic and intrinsic motives influence taxpayer decision-making in a tax amnesty context. Specifically, we identify and analyze the key extrinsic and intrinsic motives that influence taxpayers' amnesty decisions. We first developed shortlists of the four most important extrinsic and intrinsic motives, respectively. We then used both sets of motives in a quasi-experimental conjoint analysis, where we were able to determine respondents' relative preferences for each motive within both categories of motivation, across three error magnitudes ($500, $5,000, and $50,000). We found that desire to avoid a penalty was the most important extrinsic motive, and responsibility for paying the taxes owed was the most important intrinsic motive. Our results further indicate that the magnitude of the tax error does not influence the relative importance of extrinsic or intrinsic motivational factors in tax amnesty decision-making. Thus, taxpayers' motivational preferences appear stable across tax error magnitudes. In a supplemental analysis, we determined that extrinsic factors are responsible for approximately two-thirds of the decision to participate in a tax amnesty, whereas intrinsic factors are responsible for approximately one-third.

We extend and contribute to the literature on tax amnesties by identifying influential extrinsic and intrinsic motives, and by showing that intrinsic motivations have an influential albeit less significant role than extrinsic motivations on taxpayer's decisions to participate in a tax amnesty. We also extend the broader tax compliance literature by finding that in a tax amnesty context, the size of taxpayers' errors does not seem to influence their underlying motivations to cooperate with a tax authority.

As with all behavioral research, this study has limitations. To prevent decision fatigue, and because of the constraints of conjoint analysis, the list of potential motives was not exhaustive. Therefore, it is possible that our results would have differed had we used additional motives. Also, since this study was tested on taxpayers from the United States, results should be applied cautiously to other jurisdictions. Future research could consider how taxpayers in other countries are motivated to make amnesty disclosures, since there may be cultural differences that impact taxpayers' extrinsic and intrinsic motivations. We also acknowledge that participants in our study were asked about their motivations in a hypothetical scenario rather than in an actual situation. Thus, our study captures participants' intended, rather than actual, motivations.
Although most of the respondents do not have direct experience with tax amnesties, it would be infeasible to recruit respondents who had participated, or would consider participating, in a tax amnesty. However, participants in this study were able to relate to and understand the scenario, evidenced by correctly answering the attention check questions, and from reading the comments in the pretest. Additionally, hypothetical vignettes are a useful tool when studying

an ethical topic with which individuals may not be personally familiar (Dunn et al., 2016; Weber, 1992; Hughes & Huby, 2004; Mudrack & Mason, 2013; Weber, 1992).

Tax compliance researchers have suggested that a responsive regulation approach between taxpayers and tax authorities (Braithwaite & Braithwaite, 2001), which seeks to foster cooperative attitudes from taxpayers using intrinsic motivations in addition to extrinsic motivations, may be more effective than a traditional deterrence approach, which relies on extrinsic motivations. Furthermore, Kirchler (2007), Kirchler, Hoelzl, & Wahl (2008), and Alm et al. (2012) suggest a "slippery slope framework" of tax compliance, in which voluntary compliance and enforced compliance are both present. According to this framework, voluntary compliance depends on the right mix of trust in tax authorities, which is largely a function of intrinsic motivations, such as perceived fairness, and enforcement, such as threat of penalties. The results from our conjoint analysis provide support for this paradigm and additional insight regarding specific factors that are relevant in a tax amnesty decision.

Both our conjoint study and supplemental analysis, using different samples, revealed that taxpayers' intrinsic and extrinsic motivations did not significantly differ across error magnitudes. This finding may suggest that it is a taxpayer's anxiety about having made an error that triggers specific motivational responses, rather than the amount of the error. This suggestion is consistent with Bobek, Hatfield & Wentzel (2007), who found that taxpayers perceive satisfaction and enjoyment from receiving refunds, to the extent that they will overpay interim tax payments to ensure they are in a refund position when they submit their annual tax return. In Bobek et al. (2007), it was the fact that taxpayers were in a refund position, rather than the size of the refund, that provided satisfaction. Similarly, the reasons for correcting an error may not be related to the magnitude of an error, but rather to the fact that a taxpayer has anxiety over making an error.

Another implication of our findings, specific to tax amnesties, is that authorities may be most likely to encourage taxpayers' participation in an amnesty if taxpayers know that they can avoid penalties, since this was the most important extrinsic motive in the conjoint study. Thus, tax authorities could promote tax amnesties with a message that focuses on penalty avoidance. Since tax authorities worldwide are increasingly adopting permanent amnesty programs (OECD, 2015b), promoting awareness of these initiatives will become increasingly important, as will tailoring a message to encourage taxpayers to self-correct.

Another implication of our findings is that intrinsic motivations appear to have some role in taxpayers' amnesty decision-making. Although the role of intrinsic motivations does not appear to be as influential as extrinsic motivations, it may be possible for tax authorities to appeal to intrinsic motives, which may simultaneously enhance taxpayers' extrinsic motivations and, in turn, increase the likelihood of cooperation with authorities. Specifically, Frey & Jegen (2001) suggest that, in some circumstances, intrinsic motivations can enhance the strength of extrinsic motivations in influencing behaviour (Frey & Jegen, 2001). While further research is needed to examine the joint influence of extrinsic and intrinsic motives on the decision to participate in a tax amnesty, given the relative lack of success of tax amnesty programs which rely solely on economic (extrinsic) motives, tax authorities may want to consider how influential intrinsic motives, such as responsibility to pay one's taxes, can be paired with influential extrinsic motives, such as desire to avoid penalties, to enhance the effectiveness of a tax amnesty program. We encourage further research to investigate this possibility.

REFERENCES

Association of Certified Fraud Examiners (ACFE). 2014. *Report to the Nations on Occupational Fraud and Abuse*. Austin, TX: ACFE.

Alm, J., McKee, M., & Beck, W. (1990). Amazing grace: Tax amnesties and compliance. *National Tax Journal, 43*(1), 23-37.

Alm, J., & Beck, W. (1991). Wiping the slate clean: Individual response to state tax amnesties. *Southern Economic Journal, 57*(4), 1043-1053.

Alm, J., & Beck, W. (1993). Tax amnesties and compliance in the long run: A time series analysis. *National Tax Journal, 46*(1), 53-60.

Alm, J., & Torgler, B. (2006). Tax morale and culture differences in the United States and Europe. *Journal of Economic Psychology*, *27*(3), 224-246.

Alm, J., & Torgler, B. (2011). Do ethics matter? Tax compliance and morality. *Journal of Business Ethics, 101*(4), 635-651.

Alm, J., Kirchler, E., & Muehlbacher, S. (2012). Combining psychology and economics in the analysis of compliance: From enforcement to cooperation. *Economic Analysis & Policy, 42*(2), 133-151.

Andreoni, J. (1991). The desirability of a permanent tax amnesty. *Journal of Public Economics, 45*(1), 143-159.

Andreoni, J., Erard, B., & Feinstein, J. (1998). Tax compliance. *The Journal of Economic Literature, 36*(2), 818-860.

Ariely, D. (2008). *Predictably Irrational: The Hidden Forces that Shape our Decisions*. New York: Harper Collins.

Baer, K., & Le Borgne, E. (2008). *Tax Amnesties: Theory, Trends, and Some Alternatives*. Washington, DC: International Monetary Fund.

Blaufus, K., & Ortlieb, R. (2009). Is simple better? A conjoint analysis of the effects of tax complexity on employee preferences concerning company pension plans. *Schmalenbach Business Review*, *61*(1), 60-83.

Blaufus, K., Bob, J., Hundsdoerfer, J., Kiesewetter, D., & Weimann, J. (2013). Decision heuristics and tax perception - An analysis of a tax-cut-cum-base-broadening policy. *Journal of Economic Psychology*, *35*(1), 1-16.

Bobek, D., Hatfield, C., & Wentzel, K. (2007). An investigation of why taxpayers prefer refunds: A theory of planned behavior approach. *Journal of the American Taxation Association, 29*(1), 93-111.

Bobek, D., Hageman, A., & Kelliher, C. (2013). Analyzing the role of social norms in tax compliance behavior. *Journal of Business Ethics, 115*(3), 451-468.

Braithwaite, V., & Braithwaite, J. (2001). An evolving compliance model for tax enforcement. In Shover, N. & Wright, J. P. (eds.), *Crimes of Privilege: Readings in White-Collar Crime* (pp. 1-19). New York: Oxford University Press.

Braithwaite, V. (2009). *Defiance in taxation and governance.* Cheltenham, UK: Edward Elgar Publishing

Christian, C., Gupta, S., & Young, J. (2002). Evidence on subsequent filing from the state of Michigan's income tax amnesty. *National Tax Journal, 55*(4), 703-721.

Cuccia, A. (1994). The economics of tax compliance: What do we know and where do we go? *Journal of Accounting Literature 13*, 81-116.

Deci, E., Koestner, R., & Ryan, R. (1999). A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological Bulletin*, *125*(6), 627-668.

Deci, E. (2016). Overview of Self-Determination Theory. Online: http://selfdeterminationtheory.org/theory/

Dunn, P., Farrar, J., & Hausserman, C. (2016). The influence of guilt cognitions on taxpayers' voluntary disclosures. *Journal of Business Ethics*, forthcoming.

Dwenger, N., Kleven, H., Rasul, I., & Rincke, J. (2016). Extrinsic and intrinsic motivations for tax compliance: Evidence from a field experiment in Germany. *American Economic Journal: Economic Policy*, forthcoming.

Elliott, W.B., Hodge, F., Kennedy, J., & Pronk, M. (2007). Are MBA students a good proxy for nonprofessional investors? *The Accounting Review, 82*(1), 139-168.

Feld, B., & Feld, L. (2002). Deterrence and morale in taxation: An empirical analysis. CESifo Working paper no. 760.

Fischer, C., Wartick, M., & Mark, M. (1992). Detection probability and taxpayer compliance: A review of the literature. *Journal of Accounting Literature, 11*, 1-46.

Fisher, R., Goddeeris, J., & Young, J. (1989). Participation in tax amnesties: The individual income tax. *National Tax Journal, 42*(1), 15-27.

Franco, J., & Svensgaard, A. (2012). *Handbook on psychology of motivation: New research*. Hauppage, NY: Nova Science Publishers.

Frey, B. (1997). *Not just for the money: An economic theory of personal motivation*. Cheltenham, UK: Edward Elgar Publishing.

Frey, B.S., and Jegen, R. (2001). Motivation-crowding theory. *Journal of Economic Surveys, 15*(5): 589-611.

Frey, B., & Torgler, B. (2007). Tax morale and condition cooperation. *Journal of Comparative Economics, 35*(2), 136-159.

Gneezy, U., Meier, S., & Rey-Biel, P. (2011). When and why incentives (don't) work to modify behavior. *Journal of Economic Perspectives, 25*(4), 191-210.

Hasseldine, J. (1998). Tax amnesties: An international review. *Bulletin for International Fiscal Documentation, 52*(7), 303-310.

Hite, P. (1998). An examination of factors influencing financial reporting decisions of small business owner-managers. *Behavioral Research in Accounting, 10*(2), 159-178.

Hughes, R., and Huby, M. (2004). The construction and interpretation of vignettes in social research. *Social Work and Social Sciences Review, 11*(1), 36-51.

Hundsdoerfer, J., & Sichtmann, C. (2009). The importance of taxes in entrepreneurial decisions: an analysis of practicing physicians' behavior. *Review of Managerial Science*, 3(1), 19-40.

Jackson, B., & Milliron, V. (1986). Tax compliance research: Findings, problems, and prospects. *Journal of Accounting Literature 5,* 125-161.

Kakinaka, M., & Kotani, K. (2011). An interplay between intrinsic and extrinsic motivations on voluntary contributions to a public good in a large economy. *Public Choice, 147*(1-2), 29-41.

Kirchler, E. (2007). *Economic psychology of tax behaviour.* New York: Cambridge University Press.

Kirchler, E., Hoelzl, E., & Wahl, I. (2008). Enforced versus voluntary tax compliance: The "slippery slope" framework. *Journal of Economic Psychology, 29*(2), 210-255.

Kornhauser, M. (2007). A tax morale approach to compliance: Recommendations for the IRS. *Florida Tax Review, 8*(6), 599-640.

Libby, T. & Thorne, L. (2007). The development of a measure of auditors' virtue. *Journal of Business Ethics, 71*(1), 89-99.

López-Laborda, J., & Rodrigo, F. (2003). Tax amnesties and income tax compliance: The case of Spain. *Fiscal Studies, 24*(1), 73-96.

Luitel, H., & Sobel, R. (2007). The revenue impact of repeated tax amnesties. *Public Budgeting & Finance, 27*(3), 19-38.

Luna, L., Brown, M., Mantzke, K., Tower, R., & Wright, L. (2006). State tax amnesties: Forgiveness is divine – and possibly profitable. *State Tax Notes*, August 21, 497-511.

Luria, G., Gal, I., & Yagil, D. (2009). Employees' willingness to report service complaints. *Journal of Service Research, 12*(2), 156-174.

Malherbe, J. (2011). *Tax Amnesties.* Amsterdam, The Netherlands: Kluwer Law International BV.

Malik, A., & Schwab, R. (1991). The economics of tax amnesties. *Journal of Public Economics, 46*(1), 29-49.

Mazar, N., Amir, O., & Ariely, D. (2008). The dishonesty of honest people: A theory of self-concept maintenance. *Journal of Marketing Research, 45*(December), 633-644.

McKerchar, M., Bloomquist, K., and Pope, J. (2013). Indicators of tax morale: An exploratory study. *eJournal of Tax Research, 11*(1), 5-22.

Milliron, V., & Toy, D. (1988). Tax compliance: An investigation of key features. *The Journal of the American Tax Association*, *9*(1), 84-104.

Mudrack, P., and E. S. Mason (2013). Dilemmas, conspiracies, and Sophie's choice: Vignette themes and ethical judgments. *Journal of Business Ethics 118*(5), 639-653.

Murayama, K., Matsumoto, M., Izuma, K., & Matsumoto, K. (2010). Neural basis of the undermining effect of monetary reward on intrinsic motivation. *Proceedings of the National Academy of Sciences of the United States of America, 107*(49), 20911-20916.

OECD 2015a. Tax administration 2015: Comparative information on OECD and other advanced and emerging economies. Paris: OECD Publishing. Online: http://www.keepeek.com/Digital-Asset-Management/oecd/taxation/tax-administration-2015_tax_admin-2015-en#page1

OECD 2015b. Update on voluntary disclosure programmes: A pathway to tax compliance. OECD, August 2015. Retrieved from http://www.oecd.org/ctp/exchange-of-tax-information/Voluntary-Disclosure-Programmes-2015.pdf

O'Neil, C. (1982). The targeted jobs credit: An evaluation of its impact on the employment decision process. *Journal of the American Taxation Association*, *3*(2), 15-22.

Orme, B. (2010). *Getting started with conjoint analysis: Strategies for product design and pricing research (2nd ed.)*. Madison, WI: Research Publishers.

Pope, J., & McKerchar, M. (2011). Understanding tax morale and its effect on individual taxpayer compliance. *British Tax Review,* 5, 587-601.

Rechberger, S., Hartner, M., Kirchler, E., & Hämmerle, F. (2010). Tax amnesties, justice perceptions, and filing behavior: A simulation study. *Law & Policy, 32*(2), 214-225.

Reuters (2009). Health nominee Sibelius reveals tax errors. Online: http://www.reuters.com/article/us-healthcare-usa-sebelius-tax-idUSTRE53004X20090401

Ryan, R., & Deci, E. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology, 25*(1), 54-67.

Ryan, R. (2012). *Oxford handbook of human motivation*. Oxford: Oxford University Press.

Sandmo, A. (2005). The theory of tax evasion: A retrospective view. *National Tax Journal, 58*(4), 643-663.

Sawtooth Software (2002). Conjoint Value Analysis (CVA) Version 3.0 Technical Paper Series. Retrieved from https://www.sawtoothsoftware.com/download/techpap/cva3tech.pdf

Sheldon, K., & Kasser, T. (2008). Psychological threat and extrinsic goal striving. *Motivation and Emotion*, *32*(1), 37-45.

Slemrod, J. (2007). Cheating ourselves: The economics of tax evasion. *The Journal of Economic Perspectives, 21*(1), 25-48.

Tangney, J., Steuwig, J., & Mashek, D. (2007). Moral emotions and moral behavior. *Annual Review of Psychology, 58*, 345-372.

Torgler, B., & Schaltegger, C. (2005). Tax amnesties and political participation. *Public Finance Review, 33*(3), 403-431.

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

Tovares, N., Boatwright, P., & Cagan, J. (2014). Experiential conjoint analysis: An experience-based method for eliciting, capturing, and modeling consumer preference. *Journal of Mechanical Design, 136*(October), 1-12.

Weber, J. (1992). Scenarios in business ethics research: Review, critical assessment, and recommendations. *Business Ethics Quarterly, 2*(2), 137-160.

Young, J. (1994). Factors associated with noncompliance: Evidence from the Michigan Tax Amnesty program. *Journal of the American Taxation Association, 16*(2), 82-105.