ARTICLE IN PRESS

Journal of Economic Psychology xxx (2012) xxx–xxx

Contents lists available at SciVerse ScienceDirect

Journal of Economic Psychology

journal homepage: www.elsevier.com/locate/joep

The effects of income source, context, and income level on tax compliance decisions in a dynamic experiment

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ARTICLE INFO

Article history:
Received 30 December 2011
Received in revised form 5 June 2012
Accepted 24 September 2012
Available online xxxx

JEL classification:
H26
C91

PsycINFO classification:
2260

Keywords:
Tax compliance
Income source
Context
Income level
Experiments

ABSTRACT

This study employs a laboratory experiment to explore the joint effect of income source (earned versus endowed) and decision context (tax versus nontax) on tax compliance behavior. During the experiment, subjects faced various income levels and made multiple reporting decisions. The results indicate that overall compliance is not significantly affected by the interaction of income source and context. However, this joint effect influences the relationship between income level and compliance and how compliance behavior evolves over time. In both cases, the treatment group with earned income in a tax context displays behavior that is distinct from the other three groups.

Published by Elsevier B.V.

1. Introduction

In 2002, the IRS launched its National Research Program to obtain up-to-date information on tax compliance. The information collected from the program is used by the IRS to target compliance efforts towards those tax returns that are most likely to have errors. In a speech to the IRS Research Conference, Senator Chuck Grassley commented, "the IRS has limited resources... Research that assists the IRS to target its resources in an effective manner is absolutely critical." (Grassley, 2004). In addition to efforts by the IRS, academic research has devoted substantial attention to understanding the characteristics and motivations of compliant versus noncompliant taxpayers. Although a variety of different research methods (archival–empirical, opinion survey, experiment) have been used to investigate these variables, little consensus has been reached.

This study focuses on the use of laboratory experiments in tax compliance research. Experiments are one means of gaining insight into tax compliance behavior. Being able to interpret the results from these studies and what they imply

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0167-4870/$ - see front matter Published by Elsevier B.V.
http://dx.doi.org/10.1016/j.joep.2012.09.012

for actual taxpayers is essential. Tax compliance decisions are of interest to researchers in multiple disciplines (e.g. accounting, economics, psychology) that use varying experimental protocols. Thus, tax compliance experiments have been conducted using diverse methods and have explored both economic and psychological variables as determinants of compliance (for overviews, see Andreoni, Erard, & Feinstein, 1998; Kirchler, 2007; Kirchler, Muehlbacher, Kastlunger, & Wahl, 2007). In this study, we examine two methodological factors in tax compliance studies, income source (earned versus endowed) and decision context (tax versus nontax language), and their impact on compliance decisions. While these design choices are not part of the economic models of tax evasion (see Allingham & Sandmo, 1972; Srinivasan, 1973; Yitzhaki, 1974), they may have psychological effects that influence compliance choices. The individual impact of each of these factors has been addressed in previous studies, but their *joint* effect on tax compliance decisions has not been carefully examined. Since any study of tax compliance requires the specification of both factors (inevitably resulting in a joint effect), identifying their combined impact is important in interpreting the results from these studies and in understanding compliance behavior.

We examine the impact of income source and decision context on tax compliance behavior using a 2×2 between-subjects design. This results in four distinct treatment groups. In addition, we study the effect of these two factors on compliance levels when subjects face varying income levels and make a series of tax compliance decisions. We find no significant joint effect on compliance overall, but we find that income source and decision context jointly impact compliance behavior across income levels. Income level is positively correlated to compliance in three of the treatment groups. The exception occurs for the earned/tax group, in which we find a negative relationship between income level and compliance. This provides a possible contributing factor to the conflicting evidence on the relationship between income and compliance reported in previous studies.

We find that subjects in the earned income and tax context treatment group not only behave differently than their counterparts in response to income level variations, but across decision making periods as well. Subjects in this group demonstrate relatively stable compliance behavior over time, while subjects in the other three treatment groups all show decreasing compliance as the decision is repeated. Earned income interacts with a tax context to promote a stabilizing effect on compliance behavior over time.

Kirchler et al. (2007) summarize the findings of tax compliance studies examining the economic factors thought to affect compliance (e.g. income, tax rate, audit rate, fines). They report difficulty in drawing definitive conclusions about the effects of these variables on compliance behavior because they are unstable or unclear across studies. The problem of tax compliance is complex and not likely to be completely explained by a purely economic approach. The majority of taxpayers pay their taxes honestly, and evasion is lower than neoclassical economic models would predict. Other factors not addressed in these models must be playing a role. This study helps substantiate the notion that experimental design choices may change these other factors and influence subject behavior. This is an important consideration in interpreting past conflicting results from tax compliance experiments, and it signals the need for researchers to contemplate the impact of their design choices when constructing future experiments.

2. Background and literature review

2.1. Income source

Even though economic theory suggests that resources are fungible, psychological research shows that the origin of wealth affects individual decision making. Therefore, an important methodological issue in tax compliance studies is the origin of income. Previous research exploring the relationship between object source and behavior (e.g., Cherry, Kroll, & Shogren, 2005; Clark, 2002; Gerxhani & Schram, 2006; Kroll, Cherry, & Shogren, 2007; Loewenstein & Issacharoff, 1994; Muehlbacher & Kirchler, 2009; Muehlbacher et al., 2008) suggests that the source of income may affect its subjective valuation and therefore the choices made with regards to retaining it. In addition to theories about behavior in the presence of sunk costs, property rights, and house money, this suggests that subjects who earn income may exhibit different compliance behavior than those who are endowed with the same income.

2.1.1. Earned income and decreased compliance

Sunk cost effect. Even though economic theory asserts that decision-makers should ignore sunk costs, psychological research shows that observed choices often violate this. The sunk cost effect (Arkes & Blumer, 1985; Thaler, 1980) refers to the empirical finding that subjects consider costs incurred at an earlier time in a way that influences them to be more risk-seeking in later decisions. There is a greater tendency to continue an endeavor once an investment in money, effort, or time has been made.

Thaler (1980) describes the sunk cost effect in terms of prospect theory (Kahneman & Tversky, 1979). Prospect theory indicates that choices are not evaluated in terms of the final assets the decision maker receives but rather in relation to a reference point. The outcome is considered a gain if it is larger than the reference point and a loss if it is not. A sunk cost may change the reference point from the status quo to an aspiration level instead. Equity theory (Walster, Walster, & Berscheid, 1977) indicates that people learn that certain inputs are rewarded. So they anticipate an outcome that is consistent with their inputs. Sunk costs may increase aspiration levels and induce evaluation in a loss frame. Because the value function in prospect theory is concave in gains and convex in losses, decisions framed in the loss domain lead to more risk-seeking behavior than those in the gain domain. Also, as the value function in prospect theory is steeper for losses than for gains, a

Please cite this article in press as: Durham, Y., et al. The effects of income source, context, and income level on tax compliance decisions in a dynamic experiment. *Journal of Economic Psychology* (2012), http://dx.doi.org/10.1016/j.joep.2012.09.012