

Tax Evasion Dynamics, an Experimental Study

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Many countries rely on retroactive auditing schemes, in particular for income tax return. Specifically a statute of limitation policy is applied, i.e. the inspection of taxpayers' income declarations is not restricted to the current income declaration but it covers several past periods, called *limitation period*. There exists a wide diversity of practices across countries, ranging from 2 to above 10 years the length of the limitation period. Why such diversity exists is puzzling, but at first glance practices of retroactive audit policies do not seem to be based on a detailed analysis of the taxpayers' incentives to under report their income. In addition, the theoretical literature on tax evasion does not provide a reference framework that could be used to predict the impact of various variables on the optimal limitation period and which could provide guidelines for targeting audit policies.

In this paper we provide experimental evidence about subjects' tax compliance with respect to a retroactive inspection policy. We rely on the predictions of a dynamic tax evasion model in order to test various impacts of the retroactive inspection policy on agents' income declaration. The model includes a parameter that accounts for the length of the limitation period, and we study the impact of manipulating this parameter on income declaration. Our model may be interpreted as follows: the Tax Authority applies a "statute of limitations policy" by inspecting only past income declarations that are covered by the limitation period, i.e. the laps of time between the current period t and some past period $t-k$ where k is the limitation period. Any fraud committed before period $t-k$ benefits from leniency since no penalty will be levied.

We determine the optimal sequence of income declarations for various types of agents (risk-loving, risk-neutral and risk-averse), by implementing a combinatorial optimization algorithm. More precisely, at each period of time we define the optimal income declaration that maximizes the taxpayer's total expected utility. We find that higher limitation periods (" k ") increase agent's compliance until at a certain level of " k " and then the effect becomes steady. So, applying a full retroactive inspection, i.e. for all the past income declarations, would have similar effects with a statute of limitation policy.

We contrast our theoretical results to experimental data. Subjects played six sequences of the dynamic income declaration game with ($k > 0$) or without ($k = 0$) retroactive inspection. We elicited risk-preferences by implementing the Holt and Laury method (2002). According to our preliminary results, retroactive audits improve tax compliance, but the length of the limitation period is irrelevant. Furthermore, subjects' type does not affect the efficiency of the retroactive audit policy. However, subjects' compliance behavior is poorly described by the underlying model (there is a significant deviation between the observed and the predicted income declaration path). We explore alternative explanations about the impact of the statute of limitation on tax compliance.

JEL codes: H26, H31, C91.

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