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Ghostbusting in Detroit: Evidence on nonfilers from a controlled field experiment[☆,☆☆]

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ABSTRACT

Many people who owe income tax fail to file a timely tax return. In communication with these "ghosts," what messages from the tax authority are effective for eliciting a return? This is the first study to address message content in communication with income tax nonfilers. I assess the efficacy of messages related to penalty salience, punishment probability, compliance cost, and civic pride by evaluating the response to experimental mailings distributed by Detroit to 7142 suspected resident nonfilers. The penalty salience message was the most effective. Relative to a basic mailing that requested a return, penalty salience mailings that stated the statutory penalty for failing to file a return tripled response rates from 3% to 10%. Compliance cost mailings that enclosed a blank tax return and punishment probability mailings that stated the recipient's federal income also raised response rates relative to the basic mailing, but civic pride mailings did not. I investigate the impact of treatment mailings on the behavior of untreated neighbors and find no evidence of geographic network effects.

1. Introduction

Tax authorities want to know what messages induce compliance from noncompliant taxpayers. Relative to other enforcement mechanisms like audits or site visits, the marginal cost of written communication is low. Even better, the marginal cost of making communication more effective is zero; the postage cost of mailing a letter that gets filed in the dustbin is the same as the postage cost of mailing a letter that induces additional timely compliance. Tax authorities want to send a message that works.

One common form of noncompliance is failure to file a tax return. For the U.S. federal individual income tax, Erard et al. (2014) estimate that 6.1% of required tax year 2012 returns were not filed on time. Nonfiling is a much bigger problem for Detroit's individual income tax, for which I estimate that 48% of required tax year 2014 returns were not filed on time. Controlled experiments are becoming more common in the literature on the determinants of tax compliance, most of which examines underreporting or underpayment. Several papers examined corporate tax and profits tax nonfiling (Kettle et al., 2016; Brockmeyer et al., 2016), but individual income tax nonfilers have been the focus of only one such empirical paper, which examined the effect of repetition and reminders on filing rates (Guyton et al., 2016).

This paper provides the first evidence from a controlled experiment about message content in communication with income tax nonfilers. The experiment was designed and conducted by the author in collaboration with the City of Detroit. Detroit's income tax division sent mailings in April through June 2016 to 7142 suspected "ghosts"—-people who owed tax but did not file a tax year 2014 return. Each mailing contained one of several experimental messages, related variously to penalty salience, punishment probability, compliance cost, or civic pride. From the population of suspected ghosts with at least $350 in estimated tax liability, nonfilers were randomly selected into experimental treatments and sent the same message in two mailings: a postcard, and then a certified letter one week later.

In communication with nonfilers, the penalty salience message was the most effective at inducing compliance. Mailings that stated the statutory penalty for failing to file elicited a tax return from 10.1% of intended recipients, more than triple the response rate to the contact-only control mailings and more than any other treatment mailings. Taxpayers in the penalty salience treatment were most likely to file back-year returns, most likely to admit tax due, and most likely to remit payment. An interaction treatment that included both the penalty

[☆] The data in this paper pertaining to the field experiment is subject to a non-disclosure agreement and was provided to the author from the City of Detroit. The content of the manuscript is also subject to disclosure approval from the City of Detroit.

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salience message and the punishment probability message was no more effective than the penalty salience message by itself. The punishment probability message on its own and the compliance cost message with an enclosed blank tax form also raised response rates relative to the contact-only control, but the response rate to the civic pride message was not statistically different from the contact-only control.

I find no evidence of geographic network effects. Network effects can be important even when effects per neighbor are very small because treated individuals can have many neighbors. To investigate geographic network effects, I compute the distance between every treated nonfiler and every untreated taxpayer who filed a return within 90 days of the first postcard in the experiment. The effect of treatment mailings on filing rates of taxpayers within 50 meters of treated nonfilers was not statistically significant, and this finding was robust to alternative distances. If there are network effects from treatment, they are likely through family or coworkers rather than geographic neighbors.

I assess the revenue and welfare effects of the experimental mailings. I estimate that the penalty salience treatment raised marginal revenue net of administrative costs by $8 per letter. A back-of-the-envelope application of marginal net revenue to the population of 42,754 nonfilers who fit the sample selection criteria suggests that the penalty salience mailings could have generated net revenue of $342,000. Accounting for the private costs to taxpayers of foregone consumption and compliance costs, the baseline estimate finds that even the most effective treatment had a negative effect on social welfare. However, the welfare estimate is sensitive to assumptions about the social value of public spending and the cost of compliance.

Section 2 gives background on the income tax system, decision to file, and estimated number of nonfilers in Detroit. Section 3 describes the design of a controlled field experiment. Section 4 presents the results of the field experiment. Section 5 estimates the welfare impact of nonfiler mailings. Section 6 discusses the results in the context of prior literature. Section 7 concludes.

2. Background

2.1. Tax system

The City of Detroit levies an income tax on local residents and local workers. Regardless of where they work, residents owe 2.4% of wages, salaries, business income, and capital income, with an exemption of $600 per filer, spouse, or dependent.[1] People who work in Detroit but reside elsewhere owe 1.2% of income earned in Detroit with the same exemption levels. Detroit imposes other taxes, but I focus on the income tax.

Reporting and remittance procedures depend on worker classification and firm location. A firm must classify workers as either employees or contractors.[2] A firm located in the city must withhold from employees and remit income tax to Detroit. However, a firm located outside the city is not required to withhold Detroit income tax from employees, even if the employees owe Detroit income tax because they are Detroit residents. A firm never remits income tax on behalf of contractors, regardless of the firm's location. A firm located in Detroit must report the income and withholding information for both employees and contractors. A firm located outside Detroit is not required to report income earned by Detroit residents.

Tax enforcement in Detroit is severely limited by administrative capacity. Detroit struggles simply to process returns submitted on time by compliant taxpayers.[3] Around the time of Detroit's bankruptcy in July 2013, lawyers for the city who wanted to sue taxpayers with known tax due were limited by the court, which had insufficient staff to process more than five such cases per week. Prior to tax year 2015, Detroit did not accept electronic returns; taxpayers were required to mail a paper return to a post office box or deliver a paper return in person to the municipal center. In recognition of capacity constraints, Detroit turned over primary responsibility for processing city returns to the state beginning with tax year 2015.[4]

Within these limits, Detroit does audit tax returns, but not the same way the IRS does. City auditors can check information from city income tax returns against information from federal income tax returns that is shared with Detroit by the IRS.[5] The vast majority of Detroit audits simply compare the information in the city return to the information in the federal return.

Michigan gives cities legal tools for income tax enforcement. A city tax authority is permitted to examine records that will help it to assess tax liability, including the tax liability of individuals who did not file a return but are believed to owe income tax. The city does not have automatic subpoena power over records, but it can sue noncompliant individuals in court to compel documents. Willful failure to file a return, remit tax owed, or permit the tax authority to examine records is a misdemeanor.[6]

Detroit has two available pathways for pursuing identified individuals who have not filed a tax return. The first pathway is to send a "proposed assessment" to the taxpayer based on the city's records of what the taxpayer owes. If the taxpayer receives and does not dispute the proposed assessment, the tax debt becomes official. If the taxpayer then does not remit the tax debt, Detroit sends the debt to a collection agency. The second pathway is a criminal procedure. The city can charge an individual who fails to file a tax return with a misdemeanor. For many years, Detroit used the first pathway exclusively—issuing proposed assessments and forwarding unpaid tax debt to a collection agency.

2.2. Filing decision

The logic of the standard model of income reporting can be naturally extended to the decision of whether to file a return. In the standard model of Allingham and Sandmo (1972), taxpayer reports depend on the probability of audit and the penalty for a false report. In an extension by Erard and Ho (2001), taxpayer choice of whether to file a return depends on the probability of detection and the penalty for nonfiling. One suspects that Detroit residents and workers correctly perceive that the probability of punishing nonfilers is low. However, the statutory penalty for failing to file an income tax return is substantial: a fine of up to $500 and up to 90 days in jail.

The extended model of filing a return includes compliance costs, which appear to be important in Detroit. Many workers who are owed a refund from the city, because they have income tax withheld from their paychecks exceeding tax liability, still fail to file a return. The standard model cannot explain this behavior. It is possible that some of these workers decide not to claim a refund as a form of "donation" to the city, but it seems likely that compliance costs are more important.

[1] More details on what income sources are taxable are available at http://www.detroitmi.gov/incometax.

[2] Generally, workers who receive benefits and over whom the firm has control are employees. The IRS has guidelines for distinguishing employees from contrators: https://www.irs.gov/businesses/small-businesses-self-employed/independent-contractor-self-employed-or-employee.

[3] "Taxpayers often wait months or even years before their refund checks arrive." *Detroit Free Press*, March 7, 2015.

[4] The experimental mailings described in this paper were sent to a sample of tax year 2014 suspected resident nonfilers, for which the city retained full responsibility. Localities that levy income tax rely on state governments to different extents. For example, county income tax in Maryland is collected by the state, whereas cities in Ohio are more autonomous.

[5] The IRS shares federal tax information with state and local governments for the purpose of tax enforcement. Third party information reporting is an important mechanism of tax enforcement, as noted by, for example, Erard and Ho (2004) and Pomeranz (2015). In this context, the "third party" is another level of government.

[6] City Income Tax Act of 1964, Act 284 at 141.673 and 141.699: https://legislature.mi.gov/documents/mcl/archive/2014/May/mcl-Act-284-of-1964.pdf.