

Deterrence and reciprocity effects on tax compliance: experimental evidence from Venezuela

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1. Introduction.

Why do people pay taxes? One obvious answer is that there are enforcement mechanism (fines and penalties) established by the State. This deterrence approach to tax compliance has been formally analyzed in the seminal paper by Allingham and Sandmo (1972). In this model tax payers decide whether and how much to evade taxes in the same way they would approach any risky decision or gamble, that is, by maximizing expected utility (Slemrod (2007)). Under this framework tax evasion is negatively associated with the probability of detection and the severity of punishment.

However this view has been criticized by various authors (Graetz and Wilde, 1985; Alm et al., 1992; Frey and Feld, 2002) on the account that deterrence only cannot explain the level of tax compliance actually observed in many countries. In other words, as Andreoni, Erard and Feinstein (1998) have indicated, the level of detection probabilities and fines are too low to explain the rather low levels of tax evasion observed in developed economies. This has given rise to a growing literature that analyzes the importance of behavioral and cultural aspects in explaining taxpayer behavior (Scholz and Witte, 1989; Alm et al., 1992; Alm et al., 1993; 1999; Pommerehne et al., 1994; Frey 1997, 2003; Frey and Torgler, 2002).

These other non deterrence arguments have been grouped under the broad concept of “tax morale”. This concept encompasses moral rules and sentiments of citizens which make them fulfill with their tax obligations, social norms that makes cheating on taxes an undesirable action when the rest of the population is complying, and a sort of reciprocity

response of the individual in its relation to the State in the sense that citizens will comply with their tax obligation when they see that the government also performs well its commitments in terms of delivering services and other public goods.

The purpose of this paper is to provide experimental evidence regarding these two alternative forces explaining tax compliance for the case of a local business tax in the municipality of Sucre in Venezuela. The great advantage of experimental analysis is that it offers credible estimates of the causal effect of the variables of interest on tax evasion¹.

There are already various studies employing an experimental design to analysis the determinants of tax evasion. Nevertheless most of the existing studies (i.e. Slemrod et al (2001); Torgler (2004); Hasseldine et al (2007), Kleven et al 2010)) have been conducted in developed countries and are related to individual incomes taxes. Very few studies have analyzed the case of a developing country using data on business taxes². Given the very high tax evasion levels encounter in many of these countries (and Venezuela is not an exception in this pattern) it would be very interesting to test if these phenomena could be related to poor enforcement, low tax moral or a combination of both factors.

The rest of the paper is organized as follows. Next section presents a short review of the theory of tax evasion and the existing evidence on the deterrence and tax moral determinants. Section 3 describes the experiment implemented in Sucre and the main results. Section 4 concludes.

¹ The problem with no experimental studies (that mostly use macro data at the municipal/state level) is that even when reasonable estimates of evasion and its various determinants are available, the variation in tax rates and enforcement efforts is not exogenous but rather an endogenous response to compliance (Kleven et al (2010)). This requires the use of instrumental variables (see Beron et al (1992), Dubin et al (1990), Feldman and Slemrod (2007). Nevertheless, as argue in Andreoni et al (1998) and Slemrod and Yizhaki (2002) most of the available instruments are likely to satisfy the required exogeneity assumptions.

² A notable exception is the paper by Pomeraz (2010) that analyzes the case of VAT tax payments in Chile.

2. Conceptual framework and previous evidence

2.1 Deterrence

As indicated previously the seminal work analyzing tax evasion decision at the individual level is Allingham and Sandmo (1972). These authors developed a theory based on Becker's (1968) analysis of criminal behavior. In their view, the declaration of income to be taxed is a decision under uncertainty: on the one hand, the individual can be audited and, if caught underreporting his income, penalized; on the other hand, he might not be audited, and thus escape from being taxed. Assuming a given perceived probability of being audited, the individual decides how much to evade such that expected utility is maximized. In this simple model it is easy to find that the "optimal" level of tax evasion declines with the probability of being audited, and with the size of the penalty. We will analyze below whether the existing evidence support these basic predictions of the model. Yet to properly judge whether this evidence contradicts or not the theoretical model we have to be more precise about three aspects.

First, what is the empirical counterpart of the individual income subject to taxes that the individual may have incentives to under-report? In many cases this does not include all the income of the individuals. In most countries wages are reported to the tax authority by the employer (even more, the employer already acts as tax withholding agency). So this part of income cannot be unreported by the employee. The same happens with income obtained from interest earned by financial assets which are reported to the tax authorities by banks. In all these cases the chances to underreport income and then to evade taxes are very limited. So the application of the deterrence model should be interpreted as applying to that part of income (or those categories of earnings) which the tax payer can in fact evade without certainty of detection. Thus evasion is determined very significantly by the "opportunity" for income misreporting (Slemrod (2001)).

A second issue relates to the perceived probability of being detected or audited. How is this perception determined? The original paper by Allingham and Sandmo (1972) already considers the possibility that this probability is determined endogenously assuming that it

declines with the amount of income reported. It is shown that the results derived from the simple model do not change. This assumption is plausible (the higher the reported income the lower the suspicion of the tax agency that an illicit behavior is underway) but it may be better if these probability is derived from an explicit analysis of the actual policy followed by the tax agency. This analysis, assuming the tax authority can commit to an audit rule, is provided by Reinganum and Wilde (1985). The main prediction of the extended model is that audit occurs with a probability equal to p^* when the reported income is below certain threshold value while there will no inspection for reports above this level. The interpretation of this result should not be that rich people is not audited, but that given certain characteristic of the individual known by the tax authority (age, education, profession, past values of reported income, etc.) that helps to put the tax payer within a given income bracket, a low income report will most probably trigger an audit.

The above model assumes very sophisticated tax payers that look into the process of how the tax authority determines its audit policy to derive its perception of the probability of being subject to an audit. Moreover in equilibrium the perceived probability equals the one implied by tax authority decisions. Of course in practice this is hardly the case. Alm et al (1992) conclude that most individuals appear to substantially overweight the probability of audit, resulting in greater than predicted compliance. Fischer et al (1992) also provide evidence that tax payer compliance is determined by perceptions about detection risk rather than the actual detection rate. This perception is based on personal experiences, knowledge of the tax laws, professional tax advice and other demographic characteristics (Roth et al, 1989; Iyer et al, 2010). What is important from the point of view of the empirical analysis that follows is whether these perceptions can be affected by policy initiatives taken by tax authorities. For example, by sending letters informing that some aspects of the tax control policies are being strengthened by the tax administration.

Finally, as explained above the deterrence model not only depend on the probability of detection but also on the level of the severity of the penalty in case an illicit behavior is revealed. In this regard, public intervention at improving enforcement could imply

increases in penalties or just increases in tax payer awareness of the existing fines in case a tax evasion is detected. In this regards Iyer et al (2010) mentions that, for example, in the case of the State of Washington (USA) most businesses were not aware of legislated mandatory and discretionary penalties since they were infrequently applied in the past.

Various studies have applied experimental methods to analyze whether the basic hypothesis coming from the deterrence model are consist with actual behavior of tax payers. Slemrod et al, (2001) was one of the first studies to use this type of methodology implementing a randomized controlled experiment conducted in the State of Minnesota in US, using a sample of 1700 state income tax filers. They found that low and middle income tax payers who received a letter promising an audit reported slightly more income compare to those who did not receive that letter. The difference was larger for those tax payers that have greater opportunities to evade, that is, those individuals that are self-employed or work in the agricultural sector³. Similar evidence is obtained from Dinamarca by Kleven et al, (2010). These authors implemented a tax enforcement experiment were 40000 income tax filers were randomly chosen and half of them were selected for an audit. The authors find that tax evasion was very low (0.3%) for those income earners subject to third party reporting while it was significant (37%) for those whose tax payment depends mainly of self- reported income (i.e. self-employed workers or those working in the agriculture sector). Moreover, both having being audited and receiving threat-of-audit letters also increases the level of *self reporting* income one year later suggesting that both actions increase individual's beliefs about audit probability.

Evidence on the importance of third party reporting as an effective mechanism to enforce tax payments is also provided by the study of Pomeranz (2010). This paper reports the impact of “treat of audit” letters for the case of VAT payments by firms in Chile. Tax authorities sent letters indicating an increase in audit probability to over 100000

³ Slemrod (2007) argues that the most compelling evidence in support of the Allingham and Sandmo deterrence model comes from cross-sectional variation in noncompliance rate across types of income. In this regards in US and other countries there is a positive correlation between the rate of compliance and the presence of enforcement mechanism such as information reports (i.e. from banks) and employer withholding.

randomly chosen firms. While the letter generated an immediate and strong increase in the overall VAT payments, the effect was much weaker for transactions between firms. This is not surprising given that the VAT design generates incentives for enterprises to document purchases from their supplier while this is not the case for firms whose main sales go to final consumers. Thus the paper provides evidence that third party reporting, in this case generated by incentives built by the VAT design, can be an effective mechanism to enforce tax payment and to some extent replace costly auditing strategies.

2.2 Tax Morale

“Tax morale” usually means the self reported citizen’s perception that paying taxes is the right thing to do. People’s perception that paying taxes is the right thing to do is related with the idea that the State has some social value, so it is a citizen’s obligation to contribute to its financing. In the case of a tyrannical State that exploits its citizens without providing any services whatsoever the notion of tax morale would lose its ethical and political meaning. When seen from this point of view, the concept of tax morale is then closely related to the idea of reciprocal behavior from the individual towards the State. That is, according to the “reciprocity towards the government” hypothesis, people are more likely to pay taxes when they perceive the government is doing a better job. Notice that reciprocity implies a deviation from purely self-interested behavior: it “means that in response to friendly actions, people are frequently much nicer and much more cooperative than predicted by the self-interested model” (Fehr and Gächter, 2000). In the case of taxes one could say that the individual would be willing to pay more taxes to the extent that the use of these resources by the State is beneficial for him and for society as a whole. The departure from self-interested behavior is clear, since the individual’s contribution to the government’s budget is negligible and thus cannot expect to make a difference in the amount of goods and services received. Thus, reciprocal behavior is altruistic, but conditional on receiving satisfactory goods and services from the State (Levi, 1998; Slemrod, 2007).

Having argued that tax morale is very closely related to the concept of reciprocity towards the government, it is also worth mentioning that reciprocity has also been related to the notion of social norms or “societal institutions” (Bird et al., 2004) whereby the individual’s willingness to evade/pay taxes in part also depends on whether he perceives other society members comply with their tax obligations or not (Frey and Torgler, 2007). This may also be interpreted as reciprocal behavior towards “the fellow citizen” instead of towards the government. Another way to see this other dimension of tax morale is as a coordination problem, where even though people realize that their individual contribution to the State makes no difference in terms of overall government income and service delivery, if most people don’t comply with taxes, government performance will be negatively affected, and if everyone complies, performance will improve. In this interpretation a high level of tax morale implicitly means a decision of most individuals to cooperate in the tax/expenditure game of financing the State.

Finally, there may be other reasons beyond reciprocity and conditional cooperation that explain why people think paying taxes is the right thing to do. This may be related to deep moral judgment or values that are induced by religious beliefs or educational background, and that are unconditional on the behavior of other people or institutions. This concept relates to the usual measure of tax morale: whether people think tax evasion is morally never justifiable.

The evidence on tax morale is mixed. In this regard, in the randomized field experiment with Minnesota tax payers described in Blumenthal et al (2001), two letters were also sent to investigate whether non deterrence or tax morale factors were also an important determinant of tax compliance. One letter tried to test the reciprocity hypothesis by stressing the beneficial effects of tax-funded projects. The other letter investigates the social norm factor informing that most tax payers were compliant. Neither of the two letters had any significant effect on self-reported income compare to those tax payers that did not receive the written communication.

Similar results were obtained by Torgler 2004 for the case of a controlled field experiment at the communal level in Switzerland analyzing the effects of moral suasion

on the timely paying and filling out the personal income tax form. The letter emphasized the reciprocity channel by pointing out the importance of paying taxes voluntarily to guarantee the provision of public goods. The authors find that these appeals to tax moral arguments have hardly any effects on tax payer's compliance behavior.

Positive evidence on moral suasion is presented in Hasseldine et al (2007). This paper describes the results of a controlled field experiment applied to 7300 sole proprietors running small business (sales just under 15000 pounds) in United Kingdom. These small businesses have the opportunity to apply for a simplified format of tax reporting that reduce the tax payment. So this is a potentially "high opportunity" group for tax evasion. The authors analyze the effect of different letters. A first group of announcements were geared to increase the probability of audits (deterrence argument). A second type of letter makes appeal to moral suasion. In the last case, the letter combined arguments about reciprocity (benefits of public good financed by taxes) and social norms (most people pay taxes). The results show an overall significant positive treatment effect for both types of determinants on the reported levels of sales after the reception of the written communication. The enforcement letter has, nevertheless, a slighted larger impact compare to those appealing to tax moral arguments.

In a similar exercise, the study by Ariel (2012) tries to test both the deterrence and tax morale models of tax compliance using data for incorporated and unincorporated businesses in Israel. The sample included around 125000 firms and the analysis focuses on VAT tax. Two letters were sent. One intended to increase the perceived probability of audit and of punishment in case irregular transactions or for not filing a tax report at all. A second letter has the purpose of increasing tax moral sentiments of tax payers emphasizing the reciprocity channel (how tax dollars were allocated to finance public services). The outcome variables the paper looks at were reported gross sales, tax dollars paid and tax deductions. Overall the study finds no statistical significant effects of either the sanction or the moral persuasion letters. To some extend this result may not be surprising given the above discussion about how important is to consider whether tax payers have opportunities to conceal revenues or incomes, and how this depend on the presence of third-party reporting agencies or tax withholding mechanisms. In the case of

the VAT clearly this is the case at least for transactions between firms. As the paper by Pormeranz already show for Chile, deterrence letters have almost no impact on reported sales and tax payments for firms operating within the industrial chain (not selling to final consumers).

In the next section we will show an experimental exercise applied to a business tax in Venezuela where results would also depend on the opportunity to evade⁴.

3. New evidence from Venezuela

3.1 Basic features of the controlled field experiment.

In this section we will discuss the details of the randomized field experiment implemented in the Municipality of Sucre, Venezuela. This municipality is the second largest of the Caracas region with around one million inhabitants and a size of approximately 164 square kilometers. In coordination with the Municipal Office for Fiscal Revenues and the Planning Department, 6.300 firms were selected to participate in the study. The sample represents approximately 87.5 % of the firms located in the municipal territory. The analysis of tax compliance will be focused on a local business tax applied to the gross sales of firms belonging to the industry, service and retail sectors. This is an important tax for the municipality as it represents 60% of all its income from taxes.

As in the previous studies of Blumenthal et al (2001), Hasseldine (2007) and Ariel (2011) we will empirically asses the relative importance of both the deterrence and tax morale models for explaining tax compliance. We will follow the existing literature that tries to induce an exogenous change in firm's perception about tax control, on one hand, and of moral suasion, on the other, by randomly sending letters to different treatment groups.

⁴ The study by Ortega et al (2013) provides evidence on the reciprocity hypothesis for various cities in Latin America. They run a controlled field experiment, but they test whether reciprocal sentiments towards the government affect the willingness to pay taxes instead of actual tax payments.

We have sent 5 letters to five different groups of firms⁵. One letter described planned changes in the municipal tax administration office that would improve tax control and enforcement. In particular it mention the hiring of new inspectors and vehicles that will facilitate the implementation of audits and also the acquisition of new information and technology systems that will allow a more precise identification of tax payers. Another letter aimed at strengthens tax moral sentiments simply stressing the importance for any citizen to comply with their tax obligations. Two additional letters try to investigate the reciprocity hypothesis. One informed about policies geared to improve the provision of general public goods and business services. For example, it details policies aiming at strengthen citizen security (police), basic infrastructure (public transportation, public lightening and waste management) and formal economic activity (control of illegal commerce). A second letter mentions initiatives regarding social assistance for the poor and the elderly, and improvements in public health services (more redistributive programs). Finally, there was a placebo-type letter that just informed the new address of the tax administration office.

Overall 2255 letters were distributed across the entire geography of the municipality. Only very peripheral areas were left outside of the analysis. Within each treatment group there was a balance in terms of geographical coverage. A control group of around 4200 firms that did not receive any letter was also selected.

3.2 Estimated method

The official registries of the municipal tax office permits following the payment behavior for each individual firm in the sample. In particular the impact of the various treatments is going to be analyzed in terms of the difference between tax accruelements and tax payments (tax balance) evaluated at 15 days-intervals starting from May 15 until September 30th (2011). This allows having 10 time observations for each firm. The letters were distributed between June 7th and June 25th so the way to estimate the casual effect of the various interventions is a simple diff in diff regression where we compare the tax

⁵ See in appendix A the actual letters that were sent to the different groups.

balance of each firm before and after the reception of the letters. More formally we estimate by OLS the following equation,

$$\text{Tax balance}_{i,t} = a + b_i (\text{treatment group } i \times t) + e_{i,t} \quad ; \quad i=1,..5; \quad t=\text{May } 30^{\text{th}}, \dots, \text{September } 30^{\text{th}} .$$

Tax balance is measured in terms of firm's sales. The treatment group i variable refers to whether firm i received any of the 5 letters (so the category left out are the control firms that received no letter), while t indicated the date at which the tax balance of each firm is measured; $e_{i,t}$ is the error term. The key identification assumption is that the error term is not correlated with the treatment variables. This is guaranteed by the fact that the different groups of firms were selected randomly.

Though our methodological approach is not novel we must emphasize that we are one of the first studies to provide experimental evidence about the determinants of tax compliance for the case of a developing country. Moreover, within the experimental literature there are few studies that analyzed the case of business taxes. This prompted us to introduce in the reciprocity letter the information about public good that are relevant for firm operation (i.e. enforcement of illegal commerce). Finally, the introduction of a placebo letters tries to test whether beyond receiving a written communication from the tax authority, the actual text of the letter matters. People may start paying more taxes just because they noticed they have been identified by the tax authority.

3.3 Results

Table 1 shows the results for the enforcement letter. We present the estimation for all firms (column 1) and also for two different firm sizes depending on the level of sales.

Table 1. Tax enforcement

VARIABLES	(1)	(2)	(3)
	Balance/Sales All firms	Balance/Sales Sales<4.700\$	Balance/Sales 4.700\$<Sales
Enforcement*30th May	-0.003 (0.00)	-0.005 (0.01)	0.000 (0.00)
Enforcement*15th June	-0.003 (0.00)	-0.005 (0.01)	-0.000 (0.00)
Enforcement*30th June	-0.007* (0.00)	-0.014* (0.01)	-0.000 (0.00)
Enforcement*15th July	-0.006* (0.00)	-0.012* (0.01)	-0.000 (0.00)
Enforcement*30th July	-0.020** (0.01)	-0.039** (0.02)	-0.002 (0.00)
Enforcement*15th August	-0.020** (0.01)	-0.038** (0.02)	-0.002 (0.00)
Enforcement*30th August	-0.005 (0.00)	-0.010 (0.01)	-0.000 (0.00)
Enforcement*15th Sept.	-0.003 (0.00)	-0.005 (0.00)	-0.000 (0.00)
Enforcement*30th Sept.	-0.007* (0.00)	-0.014* (0.01)	0.000 (0.00)
Observations	45,946	23,615	22,331
R-squared	0.466	0.465	0.510

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

As we see, we find that firms have accelerated their tax payments after receiving the letter (from June 30th onwards) giving them information about new measures to improve tax enforcement. By August 15th, the accumulated reduction in tax obligations reached the equivalent of 2% of total sales for the whole sample. Nevertheless, it is clear that the overall effect comes mainly from the impact on small firms (less than 4700 US\$ in sales). For these firms the accumulated effect by August 15th reaches almost 4% of their sales. It is interesting to find that the effect of the treatment is heterogeneous affecting in greater proportion small firms. One interpretation of this result is that these firms were the ones that evade the most given their lower exposition to tax controls due to their size (“high opportunity firms”). The estimated impact of the enforcement letter nevertheless seems to be temporal. By August 30th (two months after the reception of the announcement) the effect dies out.

Table 2 and 3 show the estimated effects of the reciprocity letters. Table 2 shows the results for the letter related to general public services and economic infrastructure (Reciprocity 1) while Table 3 describes that regarding social programs (Reciprocity 2). The results for Reciprocity 1 are similar to that of the enforcement letter though the magnitudes of the effects are slightly lower and the coefficients are estimated less precisely (10% significance level). An interesting difference with respect to the enforcement case is that now the effects do not totally die out as time passes.

Table 2. Reciprocity 1: public goods

VARIABLES	(1)	(2)	(3)
	Balance/Sales All firms	Balance/Sales Sales<4.700\$	Balance/Sales 4.700\$<Sales
Reciprocity 1*30th May	-0.003 (0.00)	-0.005 (0.01)	0.000 (0.00)
Reciprocity 1*15th June	-0.003 (0.00)	-0.005 (0.01)	0.000 (0.00)
Reciprocity 1*30th June	-0.008** (0.00)	-0.015** (0.01)	-0.000 (0.00)
Reciprocity 1*15th July	-0.007* (0.00)	-0.013* (0.01)	-0.000 (0.00)
Reciprocity 1*30th July	-0.018* (0.01)	-0.034* (0.02)	-0.004** (0.00)
Reciprocity 1*15th August	-0.018* (0.01)	-0.033* (0.02)	-0.004* (0.00)
Reciprocity 1*30th August	-0.006* (0.00)	-0.012* (0.01)	0.000 (0.00)
Reciprocity 1*15th Sept.	-0.003* (0.00)	-0.006* (0.00)	0.000 (0.00)
Reciprocity 1*30th Sept.	-0.008** (0.00)	-0.015** (0.01)	-0.000 (0.00)
Observations	45,946	23,615	22,331
R-squared	0.466	0.465	0.510

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

On the other hand, the results for the Reciprocity 2 letter are much weaker. As we see in Table 3 most of the coefficients are very small and not significant.

Table 3. Reciprocity 2 : social transfers

VARIABLES	(1)	(2)	(3)
	Balance/Sales All firms	Balance/Sales Sales<4.700\$	Balance/Sales 4.700\$<Sales
Reciprocity 2*30th May	-0.003 (0.00)	-0.005 (0.01)	0.000 (0.00)
Reciprocity 2*15th June	-0.003 (0.00)	-0.005 (0.01)	0.000 (0.00)
Reciprocity 2*30th June	-0.005 (0.00)	-0.011 (0.01)	0.001 (0.00)
Reciprocity 2*15th July	-0.004 (0.00)	-0.009 (0.01)	0.000 (0.00)
Reciprocity 2*30th July	-0.012 (0.01)	-0.028 (0.02)	0.005 (0.01)
Reciprocity 2*15th August	-0.012 (0.01)	-0.028 (0.02)	0.005 (0.01)
Reciprocity 2*30th August	-0.004 (0.00)	-0.009 (0.01)	0.000 (0.00)
Reciprocity 2*15th Sept.	-0.002 (0.00)	-0.004 (0.00)	0.000 (0.00)
Reciprocity 2*30th Sept.	-0.005 (0.00)	-0.011 (0.01)	0.001 (0.00)
Observations	45,946	23,615	22,331
R-squared	0.466	0.465	0.510

Robust standard errors in parentheses

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Table 4 and 5 present the estimations results for the direct tax moral letter (simply saying that paying taxes is a citizen obligation) and the placebo, respectively. As we see, in comparison with the Enforcement and Reciprocity 1 treatments, the results are weaker though some statistically significant effects are still identified specially for small firms.

Table 4. Tax morale

VARIABLES	(1)	(2)	(3)
	Balance/Sales All firms	Balance/Sales Sales<4.700\$	Balance/Sales 4.700\$<Sales
Tax morale*30th May	-0.002 (0.00)	-0.005 (0.01)	0.002 (0.00)
Tax morale*15th June	-0.002 (0.00)	-0.005 (0.01)	0.002 (0.00)
Tax morale*30th June	-0.006 (0.00)	-0.014* (0.01)	0.001 (0.00)
Tax morale*15th July	-0.006 (0.00)	-0.014* (0.01)	0.001 (0.00)
Tax morale*30th July	-0.012 (0.01)	-0.022 (0.03)	-0.001 (0.00)
Tax morale*15th August	-0.012 (0.01)	-0.022 (0.03)	-0.001 (0.00)
Tax morale*30th August	-0.005 (0.00)	-0.011 (0.01)	0.002 (0.00)
Tax morale*15th Sept.	-0.002 (0.00)	-0.006 (0.00)	0.002 (0.00)
Tax morale*30th Sept.	-0.006 (0.00)	-0.014* (0.01)	0.002 (0.00)
Observations	45,946	23,615	22,331
R-squared	0.466	0.465	0.510

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 5. Placebo

VARIABLES	(1)	(2)	(3)
	Balance/Sales All firms	Balance/Sales Sales<4.700\$	Balance/Sales 4.700\$<Sales
Placebo*30th May	-0.003 (0.00)	-0.005 (0.01)	-0.000 (0.00)
Placebo*15th June	-0.003 (0.00)	-0.005 (0.01)	-0.000 (0.00)
Placebo*30th June	-0.007* (0.00)	-0.013* (0.01)	-0.001* (0.00)
Placebo*15th July	-0.007* (0.00)	-0.013* (0.01)	-0.001 (0.00)
Placebo*30th July	-0.016* (0.01)	-0.031 (0.02)	-0.002 (0.00)
Placebo*15th August	-0.016* (0.01)	-0.031 (0.02)	-0.002 (0.00)
Placebo*30th August	-0.007* (0.00)	-0.012* (0.01)	-0.001* (0.00)
Placebo*15th Sept.	-0.004* (0.00)	-0.006 (0.00)	-0.001* (0.00)
Placebo*30th Sept.	-0.008* (0.00)	-0.014* (0.01)	-0.001* (0.00)
Observations	45,946	23,615	22,331
R-squared	0.466	0.465	0.510

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Overall these findings seem to provide support for both the deterrence and reciprocity hypotheses on tax compliance. Thus, both improving enforcement and making a better connection between taxes and quantity and quality of public service delivery could help to enhance tax collection. The fact that both, the letter stressing redistributive programs and that one that simple states that paying taxes is the right thing to do imply much weaker effects in terms of actual tax compliance suggests that within the all possible tax moral arguments the ones that matters the most are those that stress a reciprocal behavior of the state providing public goods and services.

Secondly, the fact that the placebo letter has also a significant but very small impact suggest the result we obtained are not driven by the simple fact that the tax payers fills that the tax agency has somehow identify him (so he may be subject to audits or controls in the future).

4. Concluding remarks.

In this paper we provide experimental evidence regarding two alternative forces explaining tax compliance: enforcement and moral suasion. The first type of determinant is related with the perception of tax payers about being audited and receiving fines and other punishments in case they are found in an irregular situation. The second factor is associated with appealing to citizen's responsibility and awareness that taxes play a key role in financing public goods and other services. Applying a controlled field experiment for the case of a local business tax in the municipality of Sucre in Venezuela, we find evidence that both factors could play a significant role in improving tax compliance.

Though we are not the first to employ a field experiment to analyze the determinants of tax evasion, very few studies investigate the case of business taxes in developing countries. Moreover, within the reciprocity hypothesis we find that social services aiming at helping the poor seem not to play a significant role in increasing tax payments. This is also the case for simple appeals to tax morale (paying taxes is the right thing to do).

5. References

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Appendix A: Treatment letters.

A.1 Enforcement

Caracas, 2 de Mayo de 2011

SRES. CENTRO FERRETERO EL PICO C.A.

CARRETERA PETARE – SANTA LUCIA, KM. 9

SECTOR CABEZA DE TIGRE, FILAS DE MARICHE

Estimado contribuyente,

Nos complace saludarle en nombre de nuestro alcalde Carlos Ocariz,

En el camino transitado durante estos dos años de gestión nuestros contribuyentes se han convertido en un aliado incondicional y en una pieza fundamental para elevar la calidad de vida de los vecinos. Es por ello que, con miras a seguir respondiendo a las necesidades de las comunidades, la Alcaldía de Sucre ha desarrollado una nueva estrategia para fortalecer esta alianza y estrechar aún más la relación con nuestros contribuyentes, mejorando los sistemas de fiscalización y recaudación tributaria en todo el Municipio.

El objetivo principal de este Plan Estratégico es acercar el proceso de recaudación a nuestros contribuyentes y hacerlo cada vez más cómodo, efectivo y transparente, lo que se traduce en un sistema adecuado de control y seguimiento de todas las áreas, acceso a información completa y oportuna sobre los contribuyentes y los procesos, además de un buen clima organizacional, que redundará también en una mejor relación con el contribuyente.

El éxito del Plan se apoya en la modernización de la Dirección de Rentas Municipales, con la incorporación de nuevos fiscales a través de consurco público, un sistema de control sobre sus labores totalmente renovado. Además, se implementará un novedoso sistema de información que facilitará la identificación de los contribuyentes y permitirá el seguimiento de sus estados de cuenta con la Alcaldía. Por otra parte, lograremos una movilización más efectiva de nuestros fiscales y proveedores a través de la renovación de nuestra flota de vehículos y motos.

En definitiva, se trata de brindar una atención personalizada y de primer mundo a cada uno de nuestros contribuyentes, es lo que hemos venido haciendo, por ello trasladamos la sede de la Dirección de Rentas Municipales al Centro Cívico Plaza Miranda (al lado del Centro Comercial Millenium) con el fin de ofrecer un espacio más cómodo para que los contribuyentes puedan realizar sus pagos, consultas o reclamos de la manera más rápida y efectiva posible.

Agradecidos por su atención y esperando que este año sea exitoso para su empresa, nos permitimos recordarle que puede hacer su pago con efectivo, cheque del mismo banco o cheque de gerencia a nombre de Alcaldía del Municipio Sucre (solo en instituciones bancarias), o en nuestras oficinas con tarjeta de crédito y débito de cualquier banco. Estamos a su entera disposición a través de los servicios de atención al ciudadano (0800-MISUCRE/08006478273) y a través de nuestra página web: www.alcaldiamunicipiosucre.gov.ve

Confiados en que seguiremos siendo aliados por el progreso y la seguridad ciudadana de nuestro Municipio,

Cordialmente,

Dra. María Lapi

Directora de Rentas Municipales

Alcaldía del Municipio Sucre del Estado Miranda

A.2 Reciprocity 1

Sres. CENTRO FERRETERO EL PICO C.A.

CARRETERA PETARE – SANTA LUCIA, KM. 9

SECTOR CABEZA DE TIGRE, FILAS DE MARICHE

Ciudad.-

Estimado contribuyente,

Nos complace saludarle en nombre de nuestro alcalde Carlos Ocariz,

En el camino transitado durante estos dos años de gestión nuestros contribuyentes se han convertido en un aliado incondicional y en una pieza fundamental para elevar la calidad de vida de los vecinos. Con su apoyo, hemos logrado avances importantes en materia de seguridad, limpieza, movilidad, obras y recuperación de espacios públicos.

Nuestro objetivo ha sido siempre contribuir en mejorar la convivencia y lograr un clima favorable para el desarrollo de la actividad económica del Municipio Sucre. Por ello, a través de nuestro Plan Integral de Seguridad Ciudadana, hemos logrado reducir los índices de homicidios en casi 30%; mientras en el resto del esta cifra sube, en nuestro Municipio baja.

Esta efectiva política de seguridad ha sido exitosa gracias al trabajo mancomunado con la empresa privada, su aporte nos ha permitido llevar a cabo acciones concretas en nuestra lucha contra la inseguridad. Juntos hemos logrado superar los obstáculos y hoy contamos con la policía mejor pagada y mejor dotada del país, aumentamos el número de funcionarios a más de 1.200; formamos 33 nuevos policías de circulación, elevando a 180 el número de oficiales; renovamos nuestras unidades con 128 motocicletas y 123 patrullas. Asimismo, creamos el programa Policías de Contacto en las urbanizaciones La Carlota, Campo Claro, Santa Cecilia, Los Ruices y el barrio José Félix Ribas. Habilitamos el Centro de Atención Telefónica y somos la única policía de Venezuela con un moderno sistema de monitoreo satelital.

Para nosotros la inseguridad no solo se combate con más y mejores policías, la creación de espacios para el ciudadano y el incentivo de la cultura, la educación y el deporte, son también elementos fundamentales en nuestro Plan Integral, por ello implementamos medidas como la construcción de 20 autopistas populares, recuperación de canchas y espacios deportivos, la rehabilitación de zonas urbanas, el alumbrado público, la transformación de La Redoma de Petare, la organización de los mercados populares, el control del comercio informal, la rehabilitación de las escuelas municipales, el aumento de la flota de camiones de basura, la instalación de más de 2500 papeleras en todo el Municipio, y la puesta en marcha de programas de educación vial creativos como Para, Mira y Cruza. Todo esto ha sido posible gracias al apoyo de nuestros contribuyentes. Es mucho lo que hemos logrado, pero no estamos conformes, sabemos que todavía falta camino por recorrer.

Agradecidos por su atención y esperando que este año sea exitoso para su empresa, nos permitimos recordarle que el pago puntual de su compromiso tributario, es clave para nuestra gestión. Puede hacer su pago con efectivo, cheque del mismo banco o cheque de gerencia a nombre de Alcaldía del Municipio Sucre (solo en instituciones bancarias), o en nuestras oficinas con tarjeta de crédito y débito de cualquier banco. Estamos a su entera disposición a través de los servicios de atención al ciudadano (0800-MISUCRE/08006478273) y a través de nuestra página web: www.alcaldiamunicipiosucre.gov.ve

Confiados en que seguiremos siendo aliados por el progreso y la seguridad ciudadana de nuestro Municipio,

Se despide cordialmente,

Dra. María Lapi

Directora de Rentas Municipales

Alcaldía del municipio Sucre del Estado Miranda

A.3 Reciprocity 2

Sres. CENTRO FERRETERO EL PICO C.A.

Estimado contribuyente,

Nos complace saludarle en nombre de nuestro alcalde Carlos Ocariz,

En el camino transitado durante estos dos años de gestión nuestros contribuyentes se han convertido en un aliado incondicional y en una pieza fundamental para elevar la calidad de vida de los vecinos. Su aporte nos ha permitido atender las necesidades básicas de los más vulnerables de nuestro municipio: niños, madres, personas de la tercera edad y familias en pobreza extrema, a través del Plan Progresá.

En el municipio Sucre viven alrededor un millón de habitantes, de ellos el 60% se concentra en la parroquia de Petare, el 25% entre la Dolorita, Caucagüita y Filas de Mariche y, aproximadamente, el 12% en la parroquia Leoncio Martínez. Es por ello, que en nuestras prioridades está brindarle a la población más necesitada, con el apoyo de la empresa privada, oportunidades de educación, salud, nutrición, recreación y trabajo.

Miles de sucrenses se han visto beneficiados con los 13 programas sociales del Plan Progresá. Más de 7.000 niños reciben una transferencia mensual en efectivo si asisten al 85% de las clases, a través de **Estudia y Progresá**; diariamente 5.000 niños de preescolar y primaria reciben su merienda con el programa **Aliméntate y Progresá**. De igual manera, con **Equipate y Progresá** 16.757 niños fueron dotados con morrales y útiles escolares; además, se ha recuperado la infraestructura de las escuelas municipales y se ha hecho entrega de 1.498 nuevos pupitres. Recientemente, activamos el programa social **Supérate y Progresá** que otorgó 80 becas para que jóvenes de Petare puedan cursar sus estudios universitarios.

El trabajo mancomunado con nuestros contribuyentes también nos ha permitido crear espacios para la atención, recreación y esparcimiento de niños, jóvenes y tercera edad. Ya hemos construido 10 **Clubes de Abuelos** que han beneficiado a más de 600 personas de la llamada juventud prolongada; En nuestros 50 **Hogares para Crecer** han sido albergados 1.769 niños; 63 familias en situación de pobreza extrema han sido atendidas de forma integral a través del programa **Progreseemos**. En Sucre tenemos también un compromiso con el deporte, por ello, a través de **Juega y Progresá** ya hemos construido 105 canchas populares y 20 de usos múltiples.

La red de salud primaria muestra otro resultado positivo de la dupla entre el sector empresarial y la Alcaldía. Hemos atendido más de 1.949 consultas prenatales y ecosonogramas con **Contróláte y Progresá**; el programa **Chequéate y Progresá** ha permitido 2.710 consultas a los pacientes con hipertensión. Sin duda alguna, el logro de mayor impacto social ha sido la reestructuración del **Hospital Pérez de León**, donde incrementamos significativamente los parámetros de atención hospitalaria, aumentamos en 90% la atención de emergencias de adultos y en 250% la de emergencias pediátricas.

El Municipio Sucre se ha convertido en territorio promotor del desarrollo económico, por ello, trabajamos incansablemente porque nuestros habitantes tengan oportunidades de progresar. A través de las Ferias de Empleo creamos espacios para que los sucrenses y vecinos del área metropolitana puedan relacionarse directamente con las opciones laborales que ofrece la empresa privada; más 40.000 personas han asistido a las **Ferías de Empleo de Sucre** y 2.500 han sido ubicado en puestos de trabajo gracias a ello. De igual forma, hemos brindado capacitación a más de 1.200 comerciantes y promotores de **Mercados Populares** a través de 16 talleres de formación.

Es mucho lo que hemos logrado y estamos seguros que juntos conquistaremos mayores logros en pro del crecimiento de nuestro Municipio.

Agradecidos por su atención y esperando que este año sea exitoso para su empresa, nos permitimos recordarle que el pago puntual de su compromiso tributario, es clave para nuestra gestión. Puede hacer su pago con efectivo, cheque del mismo banco o cheque de gerencia a nombre de Alcaldía del Municipio Sucre (solo en instituciones bancarias), o en nuestras oficinas con tarjeta de crédito y débito de cualquier banco. Estamos a su entera disposición a través de los servicios de atención al ciudadano (0800-MISUCRE/08006478273) y a través de nuestra página web: www.alcaldiamunicipiosucre.gov.ve

Confiados en que seguiremos siendo aliados por el progreso y la seguridad ciudadana de nuestro Municipio, Se despide cordialmente,

Dra. María Lapi, Directora de Rentas Municipales, Alcaldía del municipio Sucre del Estado Miranda

A.4 Tax Morale

Sres.

CENTRO FERRETERO EL PICO C.A.

CARRETERA PETARE – SANTA LUCIA, KM. 9

SECTOR CABEZA DE TIGRE, FILAS DE MARICHE

Ciudad.-

Estimado contribuyente,

Nos complace saludarle en nombre de nuestro alcalde Carlos Ocariz,

En el camino transitado durante estos dos años de gestión nuestros contribuyentes se han convertido en un aliado incondicional y en una pieza fundamental para elevar la calidad de vida de los vecinos. En nuestro municipio, gracias al compromiso de la comunidad de empresarios de Sucre, logramos un incremento en la recaudación de 59% entre el año 2008 y 2009, y de 22% entre el 2009 y 2010.

Hoy en día, más del 60% de los ingresos tributarios provienen del pago de los impuestos sobre actividades económicas, de industria, comercio, servicios o de índole similar. Aplaudimos y nos llena de satisfacción el espíritu de responsabilidad y compromiso que han demostrado nuestros contribuyentes con los principios de moralidad ciudadana, pues nos ha permitido diseñar e implementar planes y programas para el progreso y crecimiento del Municipio Sucre, respondiendo así a las demandas de las comunidades.

Estamos seguros que vamos a seguir creciendo y que esta alianza cada día se va a fortalecer más. Con su apoyo, año tras año seguiremos siendo más exitosos en la recaudación de nuestros impuestos tributarios. Es mucho lo que hemos logrado, pero no estamos conformes, sabemos que todavía falta camino por recorrer, juntos haremos del Municipio Sucre una referencia nacional de recaudación e inversión eficiente de recursos.

Agradecidos por su atención y esperando que este año sea exitoso para su empresa, nos permitimos recordarle que el pago puntual de su compromiso tributario, es clave para nuestra gestión. Puede hacer su pago con efectivo, cheque del mismo banco o cheque de gerencia a nombre de Alcaldía del Municipio Sucre (solo en instituciones bancarias), o en nuestras oficinas con tarjeta de crédito y débito de cualquier banco. Estamos a su entera disposición a través de los servicios de atención al ciudadano (0800-MISUCRE/08006478273) y a través de nuestra página web: www.alcaldiamunicipiosucre.gov.ve

Confiados en que seguiremos siendo aliados por el progreso y la seguridad ciudadana de nuestro Municipio,

Se despide cordialmente,

Dra. María Lapi

Directora de Rentas Municipales

Alcaldía del municipio Sucre del Estado Miranda

A.5 Placebo

Caracas, 2 de Mayo de 2011

Sres.

CENTRO FERRETERO EL PICO C.A.

CARRETERA PETARE – SANTA LUCIA, KM. 9

SECTOR CABEZA DE TIGRE, FILAS DE MARICHE

Ciudad.-

Estimado contribuyente,

Nos complace saludarle en nombre de nuestro alcalde Carlos Ocariz,

La presente es para comunicarle que podrá ubicar la nueva oficina de la Dirección de Rentas Municipales, en la siguiente dirección:

- Av. Francisco de Miranda. Centro Cívico Plaza Miranda, Nivel Planta Baja, al lado de la entrada al estacionamiento de Centro Comercial Millenium Mall y Frente al Museo de Transporte. Telf.: (212) 808-6906

La anterior oficina ubicada en el Edif. Centro Prestigio Giorgio, Piso 1, Boleíta Sur, no continuara prestando servicios a los contribuyentes.

Agradecidos por su atención y esperando que este año sea exitoso para su empresa, nos permitimos recordarle que el pago puntual de su compromiso tributario, es clave para nuestra gestión. Puede hacer su pago con efectivo, cheque del mismo banco o cheque de gerencia a nombre de Alcaldía del Municipio Sucre (solo en instituciones bancarias), o en nuestras oficinas con tarjeta de crédito y débito de cualquier banco. Estamos a su entera disposición a través de los servicios de atención al ciudadano (0800-MISUCRE/08006478273) y a través de nuestra página web: www.alcaldiamunicipiosucre.gov.ve

Se despide cordialmente,

Dra. María Lapi
Directora de Rentas Municipales
Alcaldía del municipio Sucre del Estado Miranda