

MONETARY AND NON-MONETARY INCENTIVES TO BOOST TAX PAYMENT A CONTROLLED EXPERIMENT

Victoria, Giarrizzo

Facultad de Ciencias Económicas

Universidad de Buenos Aires

Córdoba 2120, Piso 1. CABA

E-mail: vgiarrizzo@gmail.com

SUMMARY

After centuries in which control and punishment formed the basis of policies designed to combat tax evasion, the results in many world economies are far from expected. Paying taxes is a resisted action, a few people are predisposed to do so voluntarily and that bias is reduced if people perceive inefficiencies from the State. When that happens, controls and penalties, although necessary, become insufficient and it is necessary to create parallel incentives. This research shows evidence of the usefulness of positive incentives and the need to replace the traditional control scheme and penalties for a control scheme, punishments and rewards. Supported by a controlled experiment contrasts the results of the allocation of awards for a good contributor, showing some advantages of non-cash prizes on the prize money.

KEY WORDS: Behavioral Economics; Tax Evasion; Rewards; Punishments.

INTRODUCTION

Coercion, as a method of inducing the payment of taxes, has been since antiquity the most utilized in the fight against tax evasion. In times like in the middle Ages it was common that methods of punishment for evasion contained high levels of aggression, involving the forcible appropriation of property of the debtor, the razing and burning of their properties, or physical punishment. Although since that time, the punishing forms for tax noncompliance were relaxed in line with progress in the recognition of human rights, with the best understanding of the problem of evasion, with improvements in the collection and control mechanisms, and with changes in the structure of taxation, coercion continues to lead the set of measures designed to reduce informality.

Currently, in the twenty-first century, it can be said that the dominant approach to combat tax evasion is still controlling and punishing. With varying degrees of severity, countries base their anti avoidance policies on the design of different combinations of penalties and audits. The central assumption behind these coercive means, is that if taxpayers perceive a higher probability of being detected and exposed to more severe penalties they are discouraged to avoid. Within the rationale proposed theories and models that support the inverse relationship between tax evasion and avoidance and control or between sentences, it is assumed that individuals decide to contribute according to the expected utility of that action, and that utility is determined by variables such as expected income, the probability of detection, the amount of the penalty and risk aversion.

But after centuries in which the control and punishment were the basis of policies to combat tax evasion, the results, especially in underdeveloped and developing economies are far from expected. Persisting evasion, avoidance increasing and mechanisms to circumvent the Treasury become more sophisticated at a rate similar to the regulatory agencies to provide efficient methods of control. For this reason, many countries where the percentage of the informal economy over Gross Domestic Product (GDP) remains stable over time despite the flow of measures designed to increase compliance.

Paying taxes is a resisted action. Few people are predisposed to do so voluntarily. This bias is lower in those societies where people perceived inefficiency of the state in the use of public resources and when that happens, controls and penalties, although necessary, to function as the only tool to combat tax evasion should be permanent and encompass a very broad universe of taxpayers, which implies a high cost in tax administration. However, if to taxpayers the use by the State of public funds is not in itself an incentive to pay taxes, parallel incentives must be created. The need to create parallel incentives opens the question focus the analysis in this paper: what if in the fight against tax evasion traditional control scheme is complemented and punishments in a systematic way, a scheme based on checks and prizes?

In recent years, the literature about tax evasion turned to study the impact of the awards in individual and collective willingness to contribute taxes. The studies followed lines developed from border disciplines as social psychology that came analyzing the reactions that rewards and punishments in the behavior of individuals towards the fulfillment of certain standards. The results suggest that they get to know important implications for tax policy and some countries are beginning to introduce them into their tax programs.

The objective of this work will collate the control scheme and punishments with the control scheme and awards proving that when the natural incentives to comply are low as with paying taxes, you must create parallel incentives. However, not all incentives are useful. Its usefulness depends on a number of conditions, suggesting that the policies of awards must be well designed to be effective. From a series of controlled experiments will be presented to potential contributors reactions of different awards schemes, assessing what are the stimuli that are more efficient and less costly for the treasury. The work is divided into four parts. The first section reviews the literature on awards and evasion. The second recount experiences in Argentina and the world, the third presents results and hypotheses obtained in controlled conditions, and finally reviews the main lessons learned from these studies.

DEVELOPMENT

Literature about rewards and punishments

The literature about tax evasion has a long way, but a common point of the studies developed to understand and solve the informality, it is most focused on diagnosing the problem, analyzing the cause and assess the impact of different combinations of controls and penalties on the individual decision to pay taxes. Many of these studies, started in the late '60s analyzing individual behavior supported the hypothesis that the decision to pay taxes is determined by the expected utility of that action and that utility depends on expected income, the probability to be discovered, the amount of the penalty, the tax rate research and risk aversion (Allingham and Sandmo, 1972; Yitzhaki, 1974). From there, several research lines were opened, both theoretical and empirical. On the one hand, there were lines that sought to deepen and modeling how individuals estimate individual expected utility (Schmolders, 1960, 1962, 1970; Kantona, 1975; Christiansen, 1980; Koskela, 1983; Graetz and Wilde, 1985). In addition, those seeking to establish the correlation between the level of compliance and some influential variables such action, as the level of sanctions, tax rates, macroeconomic variables (inflation, unemployment, employment, poverty), income level, gender, age (Mork, 1975; Clotfelter, 1983; Slemrod, 1985; Witte and Woodbury, 1985; Crane and Nouzard, 1986; Dubin et al., 1987; Feinstein, 1991; Klepper, Mazur, Nagin, 1991; Das-Gupta and Mookherjee, 1998). Some of the suggestions of these studies were that, undoubtedly, the State must establish disincentives to deter evasion and following these suggestions, many researches were devoted to establish which variables should move the Treasury to influence the individual expected utility (more controls, harsher penalties, etc).

Individual tax behavior: the search for new grounds

Not satisfied with the results of the study of traditional explanatory variables of individual tax behavior, researches became interested in the basics of less obvious tax noncompliance. The

moral, guilt, social norms, ethical values, perceptions of fairness in the tax system, corruption of public officials, advanced as explanatory variables of individual decisions to pay or evade taxes. Thus, the incidence of more traditional explanatory factors were added on the avoidance motivation latent less visible but essential to understand allowing individual tax behavior, for example, why in the same way some people pay and others evade, why in the same society some consider a crime does not pay and others do not; or why no penalties or controls also helps some people.

The analysis of the influence of behavioral and subjective motivations were opening researches into border areas and nurturing evasion studies with theories from science such as psychology, sociology or politics. At the same time, they were using empirical research methods allowing more directly studying the problem. As a result, in recent decades theories were improved and models related to tax evasion and tax compliance is no longer seen only as a function both of objective variables as the probability of being detected, the tax rate, tax rates or the penalty imposed, but also linked to the predisposition of the individual or intimate will pay or not, which is determined by subjective factors such as beliefs, values, or social norms.

Among the many turns, an innovation that came from social psychology was the study of positive incentives on individual behavior. This generated a new turning point in the traditional approach of tax evasion: the aim of these new lines of research was to seek friendly mechanisms to induce taxpayers to pay their taxes. Indeed, the dominant approach to combat tax evasion, focused for centuries on coercive (sanctions and controls). And with the studies undertaken since the late '60s, that had not changed the incentives suggested by traditional models and approaches were clearly coercive (negative incentives).

Positive incentives and the crowding out

The new studies began to suggest evasion also positive incentives, such as friendly persuasion or rewards, they can be good for addressing individual actions so that individuals could improve their levels of tax compliance. It was clear that without checks and penalties taxpayers did not have sufficient incentives to comply. Tax morale, social norms and ethical values related to the

payment of taxes should be extremely robust to controls and sanctions without taxpayer help. At the same time, especially in economies with high intrinsic motivation not to pay, it also became clear that the negative incentives were insufficient to move the motivations that led the individual to not pay, and actions needed to be supplemented with more friendly: the positive incentives.

Theories of incentives, however, were not free of challenges. While suggesting that external incentives (positive and negative) could have strong influence on human behavior, it was unclear what kind of effects they cause. A common argument in the '70s, provided that external incentives could have perverse effects and end up undermining the natural will of individuals to meet a standard or a specified voluntary action. An originator of that stream was Richard Titmuss in 1970, suggesting that monetary incentives to donate blood voluntarily reduced the willingness of individuals to donate because the altruistic motivation was destroyed. This hypothesis was not well received by economists of that time, who defended the positive effects of incentives (Solow, 1971; Arrow 1972).

Over the years economists added evidence for and against the displacement theory of intrinsic motivation (crowding-out of intrinsic motivation) showing, through experiments and empirical data, how situations could change negative incentives positive individual motivations to comply with a standard (pay taxes, meet a traffic rule, respect a schedule, etc.) or perform another action (donating blood). So while many economic models predict a positive impact of incentives (Andreoni, 1990), field studies suggest ambiguous effects. For example, Frey and Oberholzer-Gee in 1997 confirmed the theory of displacement in the reception from Swiss people to build nuclear waste storage. Insofar the Swiss government offered incentives to municipalities to harbor them, the population declined its acceptance, that is, undermining the incentive ended initial willingness to accept them. In 2000, Gneezy and Rustichini made another contribution in favor of crowding-out: an experiment in 11 kindergartens showed that in institutions where they fined parents who were late to pick up their children, the percentage of delayed parents, but then came the most surprising thing: by removing the fine, delay levels remained high. That is, the punishment (fine) applied served to parents to arrive late without guilt and even after removal of the penalty; the action of being late did

not generate awareness among parents. More recently, in 2008 Mellström and Johannesson confirmed the hypothesis of Titmuss to re-do an experiment to evaluate the response of potential blood donors with incentives. The authors prove that monetary compensation is crowding out effect on blood donations: given the incentive, reduced the number of donors. But in the same year, Goette and Stutzer obtained opposite results, when analyzed the impact of offering a lottery ticket to potential blood donors. Over a sample of 10,000 donors, during a period of three months, the result obtained was that the lottery tickets did increase significantly donations.

Rewards and tax compliance: a relationship under study

The literature on positive incentives (rewards) applied to tax compliance is much more modest than the literature on negative incentives (penalties). The current work on incentives can be divided in three areas. On the one hand, those seeking to establish the real impact of rewards on tax compliance. Furthermore, those who have a particular use of controlled experiments to compare the impact of the prizes with that of punishment and assess which are more powerful. A third line of work tries to establish what kind of rewards is more efficient to improve compliance without displacing intrinsic motivation.

One point of consensus in the study of the impact of rewards on tax compliance is that as punishment increase the relative cost of evasion, the rewards increase the benefits of paying. In 1991, Falkinger and Walther presented the impact of rewards on tax compliance as a ratio between relative prices suggesting that this ratio changes them for pay and against to avoid them. A year later, Alm et al (1992) demonstrated by an experiment that rewards have a positive effect on compliance. To add evidence, Torgler (2003, 2007) studies how the incentives for cooperation (reward systems to taxpayers) have a positive impact on the payment, while Sour and Gutierrez (2008) highlight the importance of rewards to recognize contributors honest and increase compliance, and suggest that temporal rewards can help improve the willingness to pay and improve the tax relationship between taxpayers and tax authorities.

At the same time, several studies were devoted to collate and compare awards punishments efficiency. Social psychology for years worked in that direction applied to compliance with institutional rules. These studies emphasize that rewards and punishments induce different behavior where the rewards seem to generate better results than punishments (Skinner 1953; Sims, 1980; George, 1995). Experimental economics can confront these dilemmas with games under controlled conditions, where participants make statements of income and tax payments. Depending on specific inspection rate, participants decide if they risk paying penalties or receiving the prize for good performance (Sour, 2008; Ostrom, 2000). The other question is what kind of rewards to offer. The rewards can be divided into two categories combined including: non-monetary rewards, certain and probable rewards. Monetary rewards can take many forms, as a direct payment, a discount or bonus payment of a fee in periodic taxes. While monetary rewards can be commensurate with the amount of tax or a flat amount for all (Feld and Frey, 2007). But the rewards can also be non-monetary. Fehr, Gächter and Kirchsteigerd (1997) found that a gift can strengthen the relationship of exchange between the government and taxpayers based on reciprocity and increase compliance to a greater extent than monetary awards. For Feld and Frey, a way to reward good contributors with high impact on tax morale is low cost and offer discounts on access to public services. In turn, other rewards can be free tickets to theaters, museums, concerts, supermarket discounts, travel, or other gifts (Feld and Frey, 2007; Giarrizzo and Chelala, 2011).

Fighting evasion: types of measures in Argentina

Following the lines of traditional research, policies to combat tax evasion in Argentina and in the world have focused on applying negative incentives. The increased controls and penalties are the mechanisms used to combat tax evasion. However, the application of positive incentive to encourage payment is growing in the world. In Argentina, the large body of measures implemented in recent decades to reduce informality, negative incentives are the most frequent. In Giarrizzo-

Redel (2012) can be found a categorization of the measures implemented in the country between 1996 and 2010.

This is a sample of 125 tax measures implemented at the national level, announced by the Federal Administration of Public Revenues made based on a search of the mainstream media. From there nine categories of measures have been established, according to their primary objective. Work shows that 59.2% of the tax measures implemented were aimed at improving tax compliance exert more control over taxpayers and improving the efficiency of collection agency. In turn, 12% of the measures sought to increase the penalties to taxpayers. In total, control and punishment explained 71.2% of the measures in those years. In contrast, only 4% of positive incentive measures applied, i.e. prizes or rewards for good payers.

Figure 1: Measures applied in Argentina to combat tax evasion (1996-2010)

Types of Measures to combat tax evasion		Total measures	% of total
Cost – efficiency	Control measures that seek to implement mechanisms agile and sophisticated that hinder evasion	32	25.6%
Control	Measures that seek to control the payment	42	33.6%
Efficiency	Measures intended to streamline the payment and collection of taxes	8	6.4%
Forgiveness	Measures granting credit facilities or condone debts on condition that they be laundered	9	7.2%
Pressure	Measures that increase aliquots or implement new taxes	9	7.2%
Relief	Measures that reduce taxes	4	3.2%
Prize	Measures that seek to reward the paying	5	4.0%
Reputation	Measures that seek to affect the public image of evaders	1	0.8%
Punishment	Measures that increase the penalties for evading	15	12.0%
Total		125	100%

Source: Giarrizzo-Redel, 2012. Work Paper

Despite this the dominant methodology continues to focus on controls and penalties in recent years many countries have introduced scheme awards to good contributor when two simultaneous effects is looked for: a) Reward good payer to retain their behavior, b) Encourage the evader to comply with their taxes.

With different features and designs, in Latin America there are seen experiences in Peru, Colombia, Venezuela, Mexico, Uruguay, Ecuador and Bolivia, while European countries like Spain and Switzerland also are incorporating. The most common incentives are discounts for annual payment of periodic taxes such as real estate or automotive, but the variety of rewards is broader. In Peru, there are programs that reward the good taxpayers with tax rebates and preferential treatment in the proceedings relating to tax payments. At the municipal level, there are programs like the one applied in the town of Puno, where taxpayers have their taxes to date stamp recipients draw cars and appliances. A unique program applies in Teziutlán, Mexico, where 40 are drawn monthly gifts such as furniture and electrical appliances for compliant taxpayers.

In Argentina, at all levels of government (national, province and municipal) have been performing experiences as a mechanism of positive incentives to encourage tax compliance. Nationally, the best known were those that induce individuals to be agents in direct control of the payment of Value Added Tax to stimulate demand after the ticket purchase. The first experience was the Lottery IVA, which ran between 1990 and 1998. It was a probabilistic monetary reward system, where the public agency must send the control purchase invoices by mail. These bills were put into a draw and the prize money handed entity (cash). The system had a very high participation at first by the novelty and excitement of winning the prize. But soon the excitement was slowed by the cost involved the participation of the taxpayer (postage) and the low probability of receiving the prize. In 2009 we began implementing a new variant of Lottery Iva and Return. It was also a probability reward, but not money. Taxpayers should send the billing information via the Internet in exchange of which would receive a number to win a car. The initial marketing program was high but the enthusiasm dropped when advertising was reduced compared to the low probability assigned by the public to win. Finally the program was withdrawn. Another mechanism of current national awards is the reduction of annual fee of mono-tribute if the taxpayer adheres to the monthly tax payment by automatic debit.

Where there are more variety of programs is in provinces and municipalities that are implementing experiences of positive incentives for payment in certain taxes. The most common incentives are monetary, particularly those that give a discount of a portion of the fee or discount for annual payment made in advance of regular payments. However, existing programs are non-economic awards, involving other rewards to reward good fiscal behavior.

Experiences of Argentina's economic awards

Monetary incentives are the most common rewards within the policies of positive incentives. Monetary incentives may include tax rebates or reward money that is allocated but not as a prize and that usually is probabilistic (lottery money). Monetary incentives are frequently carried out on discount or bonus for advance annual payment of periodic taxes. In Argentina it is common to apply those discounts on property taxes and automobiles. The objective of the Treasury is to reduce the default rate on those payments, which by oversight or decision, many taxpayers incur in.

In the city of Buenos Aires, for example, in 2012 people, who paid property tax in one annual fee, received a bonus of 20% of the tax. Such bonuses are common and frequent in most provinces. A similar bonus for some years governed the city of San Salvador de Jujuy: taxpayers who cancelled municipal taxes in advance received discounts of 20% and the reward is extended to 30% for residents who also have their taxes up to date. Similar mechanisms apply in Catamarca 25% discount for annual payment, Rio Negro to remove between 10% and 50% if the taxpayer has no debt, or other as the Province of Buenos Aires, Chaco, Corrientes and San Luis, where the annual bonus payment of motor tax reaches 40%.

Another typology of monetary prizes consists in rewarding the taxpayer with a sum of money. Experiences of that type can be found in Santa Rosa, La Pampa: since 2001 the municipality circumvents 1,000 USD among neighbors without debts, and the amount climbs 50% if the benefited is adhered to payment by automatic debit.

Experiences of noneconomic incentives

One type of rewards that is gaining place within positive incentives, are the non-monetary prizes. They consist in rewarding with some good or service to persons fulfilling with your taxes. In Argentina they are applied, in provinces and municipalities for some years, but there are not joint actions between municipalities, but that these are individual experiences that are usually discontinued when the political authorities change. In the Province of Buenos Aires, many downtown municipalities began applying nonmonetary incentives from the years 2000-2001 as an alternative to traditional moratoria. Prize range goes from monthly sweepstakes products, credit cards with balances to privileges in waiting times for certain formalities. The most recent experiences and in force of this type of incentives are:

- In the Province of Buenos Aires, there was implemented in 2011 ArbaTracks program that enables taxpayers to have to update their property taxes, motor and gross national artists download songs for free. The program's goal is to award tax compliance and deter hacking.
- In The City of San Nicolas, Buenos Aires, the program was implemented Voucher Benefit that rewards the good City taxpayers through discounts and promotions on everyday purchases of all items at enterprises of the city. Each taxpayer with their tax payments City withdraws its worth and access discounts in supermarkets, clothing, service stations, butchers, etc.
- In Diamante, Entre Rios, in recognition that taxpayers comply with their tax obligations in the summer were awarded tickets to the 2012 National Folklore and Rodeo Festival and the Spa Valley City Inlet.
- In the city of Santa Fe since 2009 the property taxpayer is awarded participation in a lottery where the province government will fix their sidewalks.
- In Tigre, Buenos Aires, from February 2010 governing the program you gain If you live where the good taxpayers participating in the draw for a TV.

Although these are small measures, designed in isolation, without continuity, without a theoretical framework that allows one to develop a systematic and more general theory in the field of

tax economy, it reflects the emerging need to seek alternative and complementary methods to encourage tax compliance.

Individual behavior compared to positive incentives

While formal models that approach the problem of tax evasion and public policies that try to combat them are focused on expected impact of controls and sanctions, lines of work evaluating the allocation of incentives to comply are growing. The available evidence suggests that when for taxpayers the use of state tax funds is not an incentive to pay taxes because they evaluate positively the social return they get from the individual contribution (Giarrizzo-Scolnic, 2011) and when the mechanisms Inspections and penalties are not enough to induce payment, governments should create incentives to increase the benefit to be served. However, theoretical studies on the impact of positive incentives applied to the subject are scarce and evasion that would explain why policies are not considered awards even a relevant tool in the fight against tax evasion. Covering the lack of studies, through a controlled experiment two hypotheses will be proved:

a) Scenario A: to show that when the natural incentives to comply are low and negative and incentives are insufficient to induce the payment is effectively complemented by positive incentives.

b) Scenario B: to show that not all positive incentives are useful. There are incentives used to reward those who already pay but have no impact on the population that does not help, others do not work at all, while there are programs that impact on the population that does not contribute or which contribute partially.

To test the hypothesis B awards were categorized into four types:

- a) A monetary prize: paying off for all compliant (100% chance to get it).
- b) Likely monetary prize: draw an amount of money where the probability of obtaining it depends on the number of awards allocated and the number of achievers.
- c) Certain non-monetary prize: a prize assignment of objects or services to everyone who played (100% chances to get it).

d) Prize money is not likely: participation in a drawing for a prize where the probability of obtaining it depends on the number of prizes allocated.

Experimental design

To prove the hypothesis there was conducted a simple experiment with 40 university students between 21 and 30 of age. The experiment was conducted in December 2011, in two runs, with an interval of two weeks between each. The objective was to test how individuals respond to compliance with tax law when, in addition to penalties for not complying, are assigned to fulfill prizes. Simultaneously, were tested behavioral differences between certain monetary awards and certain no monetary awards.

The call for participants was conducted with the aim of participating in a discussion session on poverty in Argentina. During the selection process will be reported to those interested in participating, the activity lasted 2 hours and to be paid \$ 100 (pesos). Participation had one condition: to end the session, the participant would receive payment on which pay a tax of 40%. Group discussion sessions were conducted under the direction of a coordinator and developed normally: they threw ideas; hypotheses were discussed, participants trying to perceive the activity as work. At the end of the session, participants received a set of instructions (I) and standards (N) to receive payment (\$ 100). Some of these I and N were common to all groups, while in groups 1 and 3 changes were made.

Common guidelines were:

I1: to collect the money, each participant would enter a classroom, individually. Upon entry, the coordinator will deliver an envelope with their name, with \$ 100.

N1: the participant must pay \$ 40 tax (40% of the amount received).

I2: The participant would contribute the \$ 40 tax in a classroom, where they would be alone.

The participant had to enter the classroom with the envelop and once inside take \$ 60 and leave the remaining \$ 40 in the envelope. The envelope should be placed in an urn located in the classroom.

As specified that decisions are individual and independent, in the classroom each participant could make the decision he wanted, as it would be observed during this action. This, in turn, each participant in the classroom could choose between three options:

- a) Comply fully with N1 and pay all the tax;
- b) Partially meet N1 and pay only a portion of the tax;
- c) Failure to comply with N1.

In its decision should take into account the following N2 and N3:

N2: once all the participants turn in their envelopes, it would audit randomly 20% of the participants. Of a total of 20 participants, 4 envelopes would be taken from the urn.

N3: whether the audited failed partially or completely with N1, should pay not only all the tax due (\$ 40 if evaded all or remaining to reach \$ 40) but also a fine equivalent to 50% of the amount evaded (e.g. if evaded all pay \$ 60).

These were the instructions and rules common to all groups. However, in groups 1 and 3 were added incentives.

In Group 1, N4 added: after the audit, would open all about and who met with N1 and contributed \$ 40, receive a bonus equal to 12.5% of tax paid (\$ 5). That is, it certainly added a monetary award of \$ 5 for all compliant.

In Group 3, meanwhile, said N5: all participants who have met the regulated supply N1 and provided the \$ 40 receive a soda or a chocolate gift of choice.

The experiment was a peculiarity: in Group 1 it was conducted independently and in Groups 2 and 3 they were given directions simultaneously. In the concurrent session between Groups 2 and 3, Group 2 knew they would not receive awards and the other group 3 receive a prize if they met. Participants in Group 3 were the same that made up the Group 1, only which were cited in two weeks. The target was divided into three groups to test how an impact on the compliance rate of positive incentives. If prizes can be an incentive to increase the rate of compliance within an institutional framework such as that make tax obligations, if monetary rewards are more effective than non-

monetary or anyway resist paying individuals seeking to maximize their disposable income. With this regard was that the Group 2 was given incentives not to comply and in groups 1 and 3, yes. The difference between Groups 1 and 3 was that in group 1 was assigned a monetary award and in 3 non-monetary prize. The characteristics of the experiment are summarized as follows:

Figure 2: General characteristics of the experiment

	Group1	Group 2	Group 3
Tax rate	40%	40%	40%
Audited players	20%	20%	20%
Penalties for noncompliance	Pay the entire tax+50% of the evaded amount		
Type of incentive to comply	Certain monetary	None	Certain non monetary
Incentive to comply	\$5 (100% of probability of obtaining)	None	Drink or chocolate (cost \$5 and 100% of probability of obtaining)

Source: Own Elaboration

Hypothesis A: positive incentives as complementary fiscal policy

The experiment results confirmed the hypothesis A: when the natural incentives to comply are low and negative incentives are insufficient to induce payment, positive incentives can be a good addition.

The comparison of results between Groups 1, 2 and 3 confirm that the same conditions, same tax, same tax rate, equal probability of being detected and population groups with similar characteristics, individuals who were given incentives to meet standards increased their level of compliance.

In Group 1, which awarded the achiever with a monetary award true that consisted of a bonus of \$ 5 which reduced by 5 percentage points the tax burden (from 40% to 35%), 45% of participants met with N1 and deposited all tax. The \$ 5 discounted is equivalent to 12.5% of reduction in the required tax.

In Group 2, where there was no incentive to pay the tax but, as in the other groups, won a 20% chance of control and a fine for failure, only 30% of participants met N1 and paid the entire tax. The remaining 70% fully or partially evaded tax required.

In Group 3, which assigned a monetary award is not true that consisted of a soda or a chocolate (choice of the participant), compliance rose to 50%.

Figure 3: Results of the game

	Group 1	Group 2	Group 3
Full compliance	45%	30%	50%
Noncompliance	55%	70%	50%
Partial noncompliance	20%	15%	15%
Full noncompliance	35%	33.3%	33.3%

Source: Own Elaboration

The differences in compliance between the groups with incentives (1 and 3) and without incentives (Group 2) show the effect of the awards in payment. However, two issues arise from the experiment. On one hand, surprised by the rise of compliance between Groups 1 and 3, when, instead of being assigned a monetary award was given some non-monetary prize a target value which was the same. That is, the (monetary) value of the monetary award in Group 1 was equal to the monetary value of the prize in Group 3. But despite this equality, the subjective value assigned participants was different and that in Group 3 had higher compliance rate.

The second issue is that Groups 2 and 3 played simultaneously and the difference in the compliance rate was significant, 20 percentage points (30% in Group 2 without prizes and 50% in Group 3 with prize). One possible hypothesis is that the behavior of Group 2 had an impact did not receive prize to know that while their peers do, and that upset reduced the rate of compliance. However, in a similar experiment conducted in Chelala and Giarrizzo, 2011, the compliance rate with no incentive group was 35%, just over 5 percentage points. The feature of this game was that each group did not know the rules of others. At that time, also implemented a tax rate of 40% in both the probability of audit was slightly higher (25%) and that possibly explains the difference in performance. As a result, the incentive groups had a better performance than those without incentives, but where

were also tested other rewards. That would rule that the lower compliance in Group 2 was the effect of anger of the participants, regardless of whether it was generated.

An interesting point in the experiment presented is what participants stated in Group 2 after the game:

a) Among those who failed (either partially or completely) 50% said that if it had been prize, they would have complied. That is, if you consider those who met or expressed intent to comply if they had been awarded, it could project a potential compliance rate of 65%. Of course that is the stated intention of compliance, which may not coincide with the effective discharge is obtained if this group is to repeat the test with incentives.

b) Participants who complied, 33% said they hesitated to comply because it felt unfair that some others do not receive a prize.

These two results are relevant readings for policy design awards. In case a) the non-monetary rewards because they generate a positive impact visual effect. Possibly not the same announce that those who comply will be rewarded with a gift (travel, towels, pen drive or other object to choose among others possible) also generate the desire to announce the award show. In the prize assigned to Group 3, soft drinks and chocolates were visibly on the table, and in accordance with similar experiments in the context of this work can be seen that the incidence is higher when the prize shown.

In case b) an implication of the manifestation of injustice expressed by the participants, is that policies should be coordinatedly awarded between the provinces and municipalities that apply. Thus, a citizen of a town that receives a reward for having given tax does not end up receiving the award as unfair because another municipality assigns a top prize. In that case the incentive may become neutral or negative.

Hypothesis B: more efficient types of incentives

In the experiment presented, the non-monetary incentives had better outcome than money, even when objective economic value was the same. The result was intriguing because most participants preferred the prize defined (soda or chocolate), to receive money to spend according to their own taste or judgment.

It is the aim of this paper to analyze the subjective factors that determine such behavior among individuals, which probably is modified according to variables such as the amount of prize money, the kind of prize money or how it communicates. But think about how the kind of awards that are implemented and how they communicate, play an important role in generating membership. For example, visual communication of positive incentives seems to play a significant role in individual behavior, not only because it generates the desire but because it affects the credibility of the participants who actually receive the award.

In Argentina and the world the first experiences of positive incentives to tax rewards were probabilistic where taxpayers participated in raffles for prizes (cash or high value products like a car). However, the results of these programs and experiments in this and other work, can induce these incentives generate high initial adhesion driven by marketing agencies that make people control and the visual impact leads to the award. But after the first lottery, when the public begins to perceive that the probability of winning is low, participation fell. Faced with that choice, it is preferable to prizes of less value, but more of them: for example, it could have greater impact to convert a car drawn by 200 or 300 non-monetary prizes of lesser value.

CONCLUSION

Control and punishment to control, punish and reward

Throughout the centuries, many mechanisms have been implemented to induce tax compliance. These measures involve from greater controls, heavy fines, changes in tax rates, improvements in collection systems and, more recently, the use of sophisticated computer

technology to force payment. All these mechanisms have the same goal: to improve the behavior of taxpayers. But after decades using these mechanisms and sophisticated control, management and punishment, possibly what is making the combination of the number of measures implemented and the lack of results, is that coercive policies are not enough. Against this the question is, why not complement the traditional model of control and punish a model of controls, punishments and rewards?

Experiences with positive incentives are increasing, and the empirical results show that under certain conditions it may be useful to increase the performance of some taxes. Laboratory experiments show the same efficiency: many taxpayers who respond positively when they include a carrot in his basket of options. Paying taxes is not an action per se that creates incentives to comply. As a result, for a long time the main incentives to induce payment had a negative character. Inadequate performance from this historic battle will likely show that it was time to give a significant place to positive incentives in the design of policies to increase dependability. If for taxpayers the use of tax funds from state is not an incentive to comply, you must create parallel incentives. These incentives involve complements to the traditional control scheme and penalties for one that also involves good contributor awards.

However, the positive incentive policies require their own study. For individuals to achieve an optimal solution it is necessary to choose the appropriate incentive mechanism. In experimental studies in Argentina, it shows that in economies where there are significant income restrictions, where tax morale is not sufficiently robust (Giarrizzo-Sivori, 2010) or where people perceive corruption and inefficiencies in the management of government revenue (Giarrizzo-Scolnic, 2011, 2012), positive incentives increase the compliance rate at the same time if there are controls and punishments. If there is no control, the natural tendency of the average individual is to avoid because it primarily maximize income, but when there are checks and penalties, evasion begins to weigh against certain taxpayers and in front of incentive award, their decision to contribute or not contribute is modified. The intensity of the change (how many people it reaches and if we can keep that behavior) depends on the type of incentives and those options have to continue exploring.

This study produced evidence to compare the effects of providing non-monetary prizes. It was found that when noncash awards allocated and made visible by creating a desire among the beneficiaries, increased participation in higher proportion of good taxpayers when conducting cash discounts for paying with the same objective value. Results in this direction were obtained in 1997 by Fehr, Gächter and Kirchsteigerd finding that a gift can strengthen the relationship between government and taxpayers exchange based on reciprocity and increase compliance to a greater extent than monetary awards. The experiment has reinforced those results applied to the Argentine taxpayer.

Many countries around the world have been applying positive incentive programs to combat tax evasion. However, for these programs to earn credit, they must move forward on several fronts. One of them is to continue with these actions regardless of political changes that occur in public administrations. Simultaneously, the control agencies of provinces and municipalities should work in coordinated actions to implement homogeneous programs. Thus avoiding the discouragement effect may result in a taxpayer in the neighboring town are allocated better benefits. Finally, we must continue to explore the behavior of taxpayers, knowing their preferences and desires, to find the optimal combinations of rewards and avoid inefficient expenditure of resources in these programs.

BIBLIOGRAPHY

Please refer to articles Spanish bibliography.