Retirement Savings Laboratory

Applying Behavioral Insights to Worker Formalization in Mexico: Tax and Social Security Compliance

WHAT IS IT

Mexico's Fiscal Incorporation Regime (RIF, per its Spanish abbreviation) has successfully registered small businesses and small business owners with the Mexican tax authority. However, among recently registered Mexican small business owners and workers, despite high initial enrollment, as well as significant tax and social security subsidies, compliance with tax and social security obligations remained low two years after the launch of the program. In this experimental intervention, SMS text messages were sent to provide different types of nudges (Deterrence, Easy, and Reciprocity) intended to prompt these workers to submit their tax declarations. A subsequent intervention, aimed at those workers who employed other people, involved sending formal letters to provide nudges (Deterrence and Social Norms) to register these employees for social security coverage.

TITLE
Applying Behavioral Insights to Worker Formalization in Mexico: Tax and Social Security Compliance.

TAGLINE
Supporting worker formalization in Mexico, specifically, compliance with fiscal and social security obligations.

FIELD OF WORK
Labor formalization.

SUBTOPICS
Tax compliance, Social security coverage and compliance.

YEAR
2016-2017

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COST
Not available.

FUNDING SOURCE
Inter-American Development Bank.

AIM
Increase tax and social security compliance for workers in Mexico.

BEHAVIORAL TOOLS
Reminders.

EXECUTING AGENCY
Mexican Government, Behavioural Insights Team.

TARGET POPULATION
Independent workers/business owners who recently registered to comply with a special tax regime in Mexico, and their employees.

DELIVERY MECHANISMS
SMS and letters.

SAMPLE SIZE
748,499 Mexican workers who recently registered with a special tax regime, and a subset of the sample, which consists of 7,648 workers, who employ other workers, and have more employees on payroll than are registered for social security.

EVALUATION DESIGN
Randomized Controlled Trials (RCTs).

IMPACT

1. All the SMS effectively increased the likelihood of (1) timely submission of a tax declaration and (2) tax payment.

a. The 'Deterrence' message, which demonstrated the best performance, increased the declaration rate by 9.4 percentage points (a 39% increase, or 70,500 additional declarations) over the control group, and also increased the total taxes paid by 6 MXN (.3 USD) on average per person (representing an 18% increase).

b. For each SMS sent, the tax authorities incurred a cost under 1.2 MXN (less than .05 USD): this represents a 400% return on investment which makes this intervention highly cost-effective and scalable.

2. Letters encouraging social security registration of dependent workers effectively increased employee registration in the Mexican Social Security Institute (IMSS, per its Spanish abbreviation) after 3 months. Employers in the Deterrence and the Social Norms groups were both 2.5 percentage points more likely to have registered at least one new employee than employers in the control group, corresponding to a 14% increase from the control group average.

Although these effects have a small magnitude, they are highly encouraging: Compliance with social security obligations has a clear social impact, but represents a costly commitment, especially for small businesses. As such, it is a difficult behavior to encourage through simple nudges. The success of these low-cost letters, facilitated by a novel targeting approach, is therefore promising for the future.

CHALLENGE

Crezcamos Juntos is the Mexican government's program aimed at reducing labor informality and increasing tax compliance by independent workers who earn less than approximately US$ 50,000 per year. The program allows recently formalized workers (in non-professional fields) access to a highly subsidized tax regime, along with subsidized social security. This special tax regime, the Fiscal Incorporation Regime (RIF, for its Spanish abbreviation), was introduced in January 2014 to encourage formalization. Pursuant to this tax regime, independent workers who registered received a 100% subsidy in year one, 90% in year two, 80% in year three, and so on, for 10 years –first, to encourage the act of formalization itself, and then to establish its permanence in the formal economy.

Despite high initial enrollment, two years after the program's launch, compliance with tax obligations remained low, with 25% reporting to the tax authority. Furthermore, social security compliance, for these workers and their employees, was also extremely low.

The Inter-American Development Bank (IDB), in partnership with the Behavioural Insights Team (BIT), the Mexican Ministry of Finance (SHCP), the Mexican Tax Authority (SAT), and the Mexican Institute for Social Security (IMSS), conducted two experimental trials, using behavioral insights to encourage recently formalized entrepreneurs to: 1) comply with their new tax obligations; and 2) register their workers, if they had any, for social security.

INTERVENTION DESIGN

The first intervention studied a sample of 748,499 small businesses, that were due to declare their revenue for the previous bimonthly period (May/June) of 2016, but had still failed to do so, as of two weeks before the deadline. These businesses were randomly assigned to four groups: the first three received a behaviorally informed SMS, and the control group received no message.

There were three different variations of the messages: (1) a Deterrence message, highlighting potential fine associated to noncompliance; (2) an Easy message, outlining how to declare; and (3) a Reciprocity message, highlighting the subsidies provided by the government. The SMS were also randomly allocated to be sent either 5 days or 12 days before the declaration deadline. The effects of the SMS on tax compliance were then calculated through rates of declaration for the tax statements due on July 31st, September 30th, and November 30th, 2016.

For the first intervention, SAT's administrative records of individuals registered with RIF provided the universe of study participants. Participants needed to have a valid mobile phone number on record to receive SMS text messages.

The sample for the second intervention consisted of 7,648 small businesses that were likely misreporting some of their workers. These employers had more employees registered with the tax authority (per SAT's records of their payment via electronic invoice) than were registered for social security with IMSS; this smaller group represents approximately 10% of the total sample of small businesses. These 7,648 employers were randomly assigned to receive one of two behaviorally informed letters from IMSS, or to a control group receiving no letter.

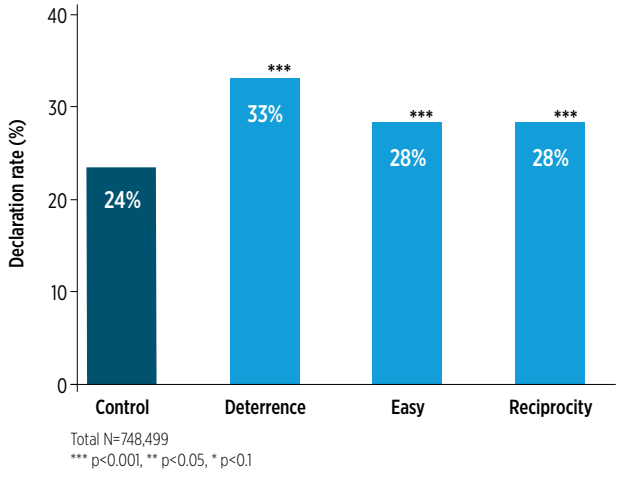
Both letters included information about the obligation to register employees, and the steps involved in registration. The first, a 'Deterrence' message, also highlighted the potential consequences of noncompliance. The second, a 'Social Norms' message, stated that over 90% of employers register their employees with IMSS, and encouraged recipients to do the same. The letters were sent at the end of November 2016. Their effects on employee registrations with IMSS were measured after 1 month and then after 3 months.

Within the group of RIF employers, the intervention focused on those who paid their employees via electronic invoice (79,000 employers, or approximately 20% of all RIF employers), as they were the only members of the sample for whom it was possible to generate an up-to-date estimate of the number of employees on payroll. Comparing this number with the current number of employees registered with IMSS enabled identification of a sub-sample of 7,648 employers who did not appear to have registered all of their employees for social security. This corresponds to approximately 10% of all RIF employers who rely on electronic invoices. Letters were sent to these employers by IMSS.

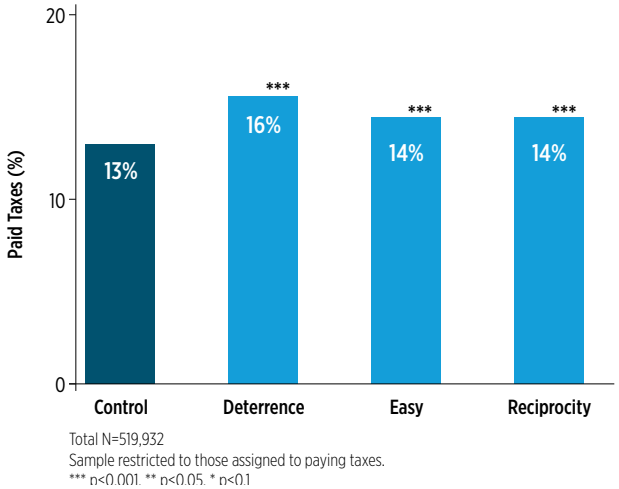
IMPACT

For the first intervention, results indicate that all SMS effectively increased the likelihood of: (1) submitting a timely tax declaration; and (2) paying taxes. The 'Deterrence' message, which demonstrated the best performance increased the timely declaration rate by 9.4 percentage points (a 39% increase, or 70,500 additional timely declarations) over the control group, and total taxes paid by 6 MXN on average per person (an 18% increase). For each SMS sent, the tax authorities incurred a cost of under 1.2 MXN to send: this represents a 400% return on investment, which makes this intervention highly cost-effective and scalable.

EFFECTS OF SMS REMINDERS ON TAX DECLARATION (LEFT) AND PAYMENT RATES (RIGHT)



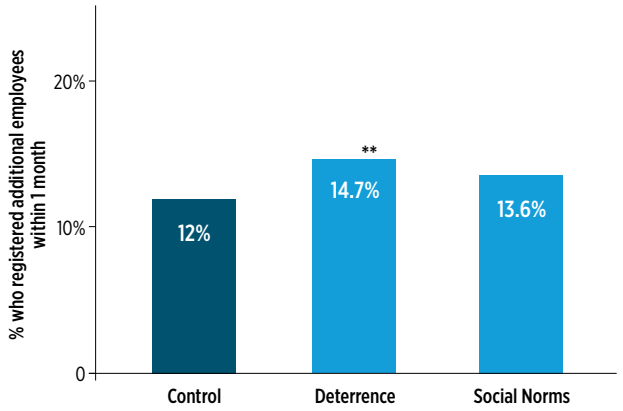
Total N=748,499
*** p<0.001, ** p<0.05, * p<0.1



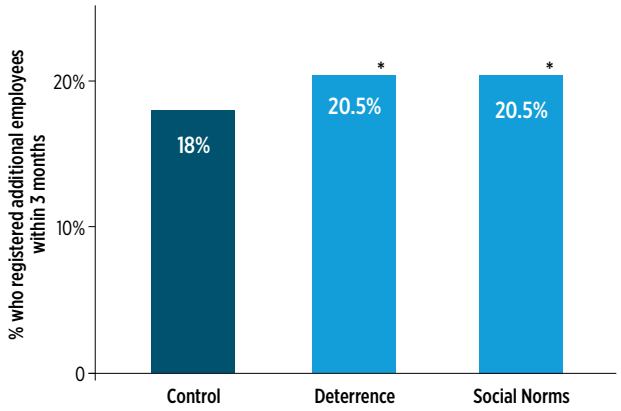
Total N=519,932
Sample restricted to those assigned to paying taxes.
*** p<0.001, ** p<0.05, * p<0.1

For the second intervention, results indicate that, one month after the letters were sent, employers who received the Deterrence letter were 2.6 percentage points likelier to have registered at least one additional employee than employers assigned to the control group. These effects are sustained in the medium run: Three months after the letters were sent, employers who received either letter were 2.5 percentage points likelier to have registered an employee than employers in the control group.

EFFECTS OF FORMAL LETTER REMINDERS ONE MONTH (LEFT) AND THREE MONTHS (RIGHT) AFTER SENDING THE LETTER



Total N=7,648
*** p<0.001, ** p<0.1, * p<0.05



Total N=7,648
*** p<0.001, ** p<0.1, * p<0.05

POLICY LESSONS

This study shows that tax compliance among entrepreneurs can be increased cost effectively using simple nudges deployed by the tax authority.

The success of these low-cost SMS messages, and letters, facilitated by a novel targeting approach, is therefore promising for the future. Consistent with the literature, deterrence messages seem to be the most effective.

Although these effects are highly cost effective in encouraging small firms to comply, they are small in magnitude, and have very limited effects in the ability of tax administration to substantially increase tax collection.

IDB
Inter-American Development Bank