

Evaluating the Impact of a Small Taxpayer Guide on Tax Compliance

Final Project Report

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In Partnership With



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Executive Summary

In February 2017, the Behavioural Insights Team (BIT) and Guatemala’s Tax Authority - Superintendencia de Administración Tributaria (SAT) - formed a partnership supported by the Global Innovation Fund (GIF) to apply behavioural insights and rigorous evaluation to tax administration in Guatemala.

Background

Following fieldwork with SAT’s Customer Service department, two predominant issues were identified: (a) a lack of clear information given to Small Taxpayers at the point of registration and (b) limited interactions between Small Taxpayers and SAT.

Under SAT’s previous onboarding process, Small Taxpayers are given high-level, technical information about their obligations upon registration. The majority of this information is relayed verbally, thus relying on the taxpayer to either note information down or memorise it.

This project seeks to provide Small Taxpayers with clear, written information about their declaration and payment obligations. Specifically, it involves evaluating the impact of the Customer Service Department’s (Intendencia de Atención al Contribuyente) ‘Small Taxpayer Guide’ on Small Taxpayer’s declarations over the six months after their registration

The overall policy objective for the project is to increase declaration rates among newly registered Small Taxpayers.

Intervention

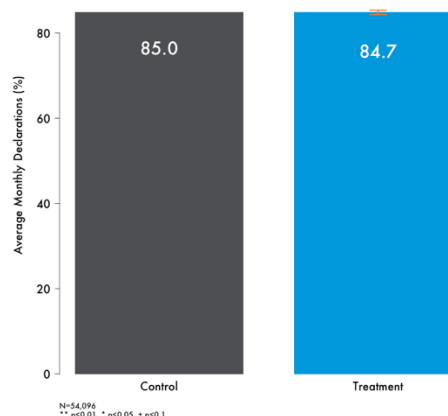
BIT provided guidance on how SAT could introduce behavioural principles into their Small Taxpayer Guide. We helped SAT simplify the language and content of the guide to make it easier for taxpayers to understand what they have to do to comply with their obligations. Tools such as checklists to break down tasks, personalisation, and other behavioural principles were employed.

The guide was rolled out across all 32 of SAT’s tax offices at two-month intervals for an eight-month period between May and December 2018, allowing evaluation through a stepped-wedge randomised controlled trial. This provides a sample of 54,096 registering Small Taxpayers.

Main findings

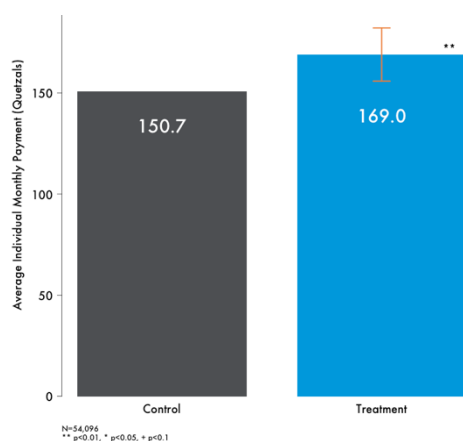
We found that the Small Taxpayer Guide had no effect on average declaration rates in the first six months after registration, however there was a positive impact on the average payment. For declaration there was no statistically significant difference between the control group (85%), and the treatment group (84.7%).

Figure 1: Average monthly declarations



The average payment among Small Taxpayers (that made a positive payment) in the Treatment group was 12% higher (equating to an additional GTQ 18, \$2.34 per person per month) compared to the control group. Factoring in the cost of producing the guides (approximately \$0.50 per guide), this would amount to an additional \$100,000 per month if the guide had been given to the full sample.

Figure 2: Average monthly payments



Recommendations

As we found no significant impact of the Small Taxpayer Guide on declaration rates, we recommend:

- **Conduct qualitative evaluation before scaling.** Our results suggest that the guide does not have the desired effect on Small Taxpayer declaration rates, but does increase average payment. Before scaling the guide further we recommend that SAT conduct qualitative interviews with taxpayers to understand the mechanisms through which the guide impacted on payment (e.g. through understanding their payment obligations better, or better book-keeping habits)
- **Intervene at later stages of the declaration process.** Declaration rates among Small Taxpayers remain high for the first year after registration. An intervention at a later stage, aimed at sustaining long-term declaration rates, might be better placed.
- **Develop potential new projects to increase tax compliance among Small Taxpayers.** Focusing on the application of behavioural insights on other initiatives, such as SAT's online platform, and providing tailored support for harder-to-reach populations.

01 / Introduction

In February 2017, the Behavioural Insights Team (BIT) and Guatemala's Tax Authority -

Superintendencia de Administración Tributaria (SAT) - formed a partnership supported by the Global Innovation Fund (GIF) to apply behavioural insights and rigorous evaluation to tax administration in Guatemala. The purpose of the partnership is to: (i) increase tax compliance and tax revenues; and (ii) embed behavioural insights capacity within SAT, enabling staff to independently apply behavioural techniques and rigorously evaluate their impact.

Since 2017, BIT has conducted two projects with SAT's Tax Collection Department. The first tested the effect of email and letter reminders on declaration and payment of overdue taxes during the May 2017 tax amnesty, while the second evaluated the impact of SMS reminders on General Taxpayers' monthly VAT declarations. This report describes BIT's third project with SAT, which evaluated the impact of the Small Taxpayer Guide.

The Customer Service department at SAT (Intendencia de Atención al Contribuyente) had been developing a Small Taxpayer Guide aimed at providing step-by-step information to Small Taxpayers about how to comply with their fiscal obligations. BIT supported the development of the guide, providing feedback and guidance about the inclusion of behaviourally-informed content. In addition, we collaborated with SAT to rigorously evaluate the effect of the guide, testing its impact on Small Taxpayers' compliance with their monthly tax obligations over the six months after they register with SAT.

Who are Small Taxpayers?

Small Taxpayers, who are either individual taxpayers or small businesses, are obliged to declare and pay their tax liabilities on a monthly basis. However, they are exempt from paying income tax. If operating as businesses or self-employed individuals, they are required to pay 5% Value Added Tax (VAT) on sales or purchases. The upper income threshold for this tax regime is GTQ 150,000 (USD 20,400) annually.

Currently there are approximately 900,000 registered Small Taxpayers, of which over 440,000 had outstanding payments in 2018, estimated to total GTQ 44 million GTQ (USD 5.7 million).¹

02 / Background

SAT's initial onboarding process was vague

Under SAT's previous onboarding process, Small Taxpayers are given high-level, technical information about their obligations upon registration. The majority of this information was relayed verbally, thus relying on the taxpayer to either note information down or memorise it.

Our capacity to perform mental work is a limited resource that can be taken up by planning, remembering, worrying, self-control, etc. Cognitive load refers to the total amount of mental effort being used in our working memory. Running a small business, working long hours, caring for children and family members (etc.), will likely place a heavy cognitive burden on Small Taxpayers, this in turn may lead them to forget to key information around their tax obligations or lead to them forgetting to submit declarations.

There is a lack of support provided to Small Taxpayers

Following fieldwork with SAT's Customer Service department, two predominant issues

were identified (a) the lack of clear information given to Small Taxpayers at the point of registration (as explored above) and (b) the limited interactions between Small Taxpayers and SAT.

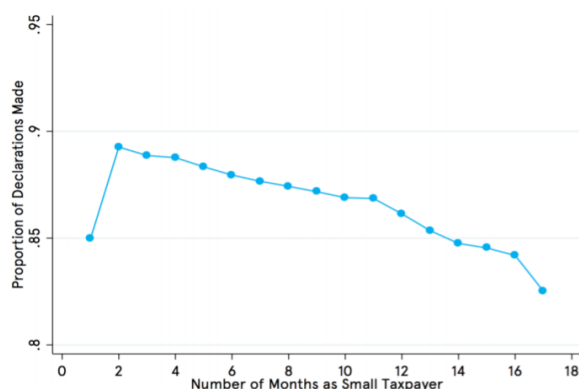
The ‘interaction climate’ between tax authorities and taxpayers - trust that taxpayers have in the tax authorities and the control that tax authorities have over taxpayers - can play a determining role in shaping tax compliance. Evidence suggests that issues related to service provision, such as unclear processes or tax code complexity, and limited information provision can impact taxpayer compliance².

The average declaration rate of Small Taxpayers decreases over time

Figure 1 shows the average tax declaration rates among Small Taxpayers over time following registration. Declaration peaks in the second month after registration, with a lower rate in the first month after declaration. Following this, there is a sustained decrease in the average declaration rates every month.

There are multiple reasons as to why compliance could decline over time, from extrinsic factors, e.g. decrease in perceived likelihood of penalties and audits, to intrinsic motivations, such as social norms, tax morale, fairness and provision of service. The guide sought to encourage taxpayers to form good tax habits from the start and highlight information to taxpayers about their rights and obligations as a taxpayer.

Figure 3: Average compliance rate of Small Taxpayers following registration



03 / Intervention

The aim of this project was to test the impact of the Small Taxpayer Guide on newly registered Small Taxpayers’ compliance with their monthly filing and payment responsibilities over the first six months after they register to the regime. The Guide was handed out to taxpayers who were registered at SAT tax offices³.

The Small Taxpayer Guide was created by SAT’s Customer Service department. BIT supported them by providing feedback and guidance about the inclusion of behaviourally-informed content. The following behavioural principles were employed within the guide:

Simplification: Making it easier for Small Taxpayers to understand their obligations

The harder it is for an individual to undertake a behaviour, the less likely they are to do it. Even small, seemingly irrelevant details that make a task more challenging or effortful can make the difference between doing something and putting it off – sometimes indefinitely.⁴ Simplifying the language and highlighting the required actions can help to increase comprehension and impact of official communications, which are often long and use complex, technical language.

For instance, SAT’s original guide included legal references and technicalities in the compliance process list of steps. BIT supported with the simplification of this description to shorten the list and make it more straightforward.

In addition, to simplify the process for taxpayers who do not speak or read Spanish, SAT translated the guide into several Mayan languages.

Chunking: Breaking down the goal of complying with tax obligations

Breaking down a complex goal (such as complying with tax obligations) into concrete, manageable actions can help to boost task completion and overcome cognitive overload (explained above). Tools such as checklists, that break down tasks into discrete actions, have shown to improve compliance with complicated processes⁵.

To make the compliance process easier to Small Taxpayers, we incorporated a clear step-by-step guide and a checklist to keep track of the taxpayer’s progress (see Figure 2).

Timing: Interacting with taxpayers at the right time

People’s behaviour can vary significantly depending on when information is received⁶. Communicating with people at the right moment - when the context makes an individual more receptive and susceptible to altering their behaviour - can enhance compliance. Research has shown that we are particularly likely to change our habits during periods of transition⁷. These periods can disrupt habits, facilitate reflection and provide a unique opportunity to encourage a behaviour change.

By providing taxpayers with the guide when they are registering - a point of transition we

hoped to facilitate reflection and encourage good tax habit formation.

Personalisation: Making the Small Taxpayer Guide personal

Several BIT-led trials have shown that making a message personal can have a considerable impact on the behaviour of the recipient⁸. The frontpage of the guide had a blank space where taxpayers were asked to write their names and unique taxpayer number.

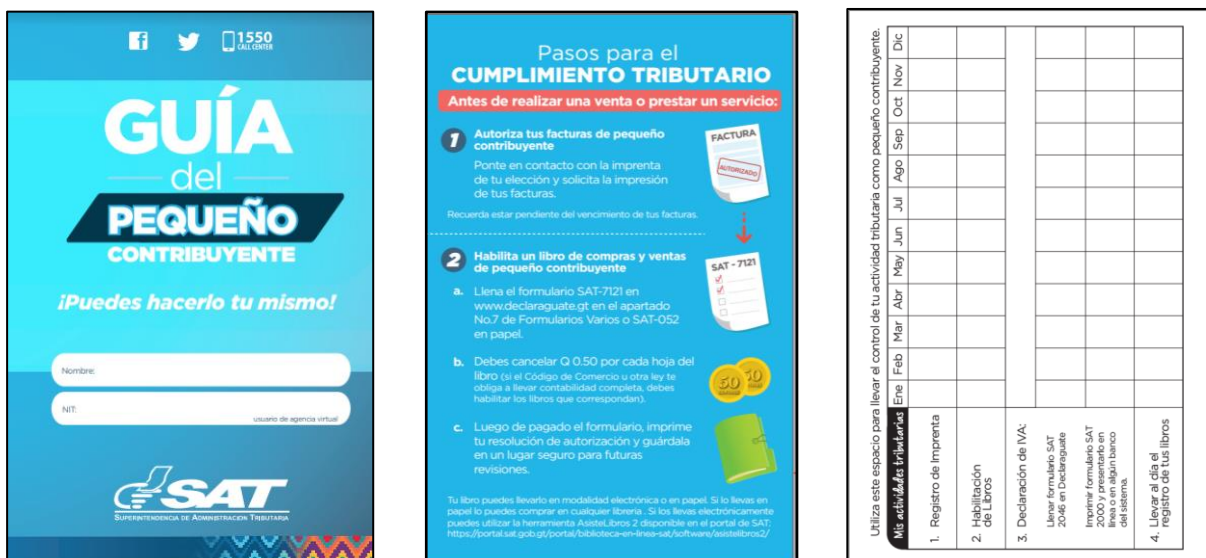
04 / Trial design and implementation

Sample

The intervention was implemented in all 32 of SAT’s tax offices across Guatemala and rolled out at two-month intervals between May and December 2018 (see Figure 3).

Our sample included all taxpayers registering as Small Taxpayers for the first time and those registering as a result of changing tax regimes during the trial period. This resulted in a sample of 54,096 newly registered Small Taxpayers.

Figure 4: Pages of the Small Taxpayer Guide, including the steps required to complete a sale or deliver a service (middle) and a monthly declaration checklist (right)



Randomisation

The evaluation was conducted as a cluster-randomised stepped wedge trial, clustered at the level of the tax office. Stepped-wedge designs use random, but sequential roll-out of the treatment over multiple time-periods. For the first two months of the trial period, all clusters (tax offices) delivered the control condition, where no guide was delivered. Every two months, a group of tax offices switched to implementing the intervention. Taxpayers that registered in these offices after this switch, and before the end of the implementation phase, received the guide.

This process continued until all offices had implemented the intervention for at least two months as depicted in the diagram below. The trial ran for eight months, beginning in May 2018.

Implementation Challenges

The implementation and evaluation of the trial presented some challenges, particularly related to data collection. The names of the offices provided at the beginning of the trial, for instance, did not all match the names provided at the end and the data provided at the end of the trial was missing from two offices. SAT staff helped BIT researchers match the different variations of office names and recovered the missing data for us. While we were able to overcome these challenges without it impacting the evaluation itself, they helped us realise the importance of working collaboratively with partner organisations to install efficient data collection strategies.

Figure 5: Roll-out of intervention across SAT tax offices

Tax Office cohort	May	June	July	Aug	Sept	Oct	Nov	Dec
1 (10 offices)	Control	Control	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment
2 (12 offices)	Control	Control	Control	Control	Treatment	Treatment	Treatment	Treatment
3 (10 offices)	Control	Control	Control	Control	Control	Control	Treatment	Treatment

05 / Main findings

Declaration and payment outcomes were measured for individual taxpayers over a minimum six-month period after the intervention was implemented in each tax office^{ix}. All analysis was performed at the aggregated tax office and month level^x by BIT researchers in STATA.

The Small Taxpayer Guide had no effect on average taxpayer declaration rates over the first six months following registration. In contrast, the guide did increase the average monthly payment value for taxpayers that did make a monthly positive payment.

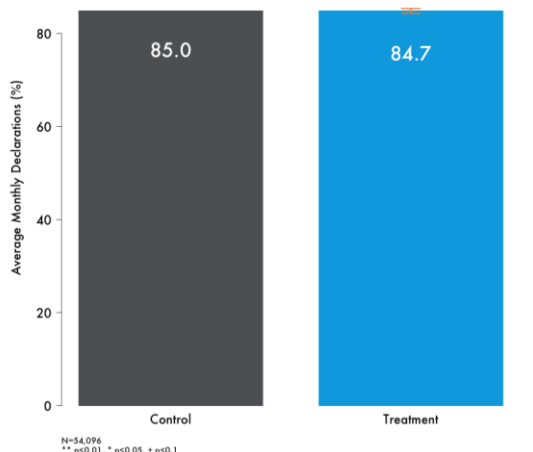
We discuss the potential mechanisms behind the two results in the discussion section below.

Tax declaration

Among taxpayers in the control group, we observe an average monthly declaration rate of 85% over the six months post-registration.

We found no statistically significant differences in declaration rates between our Treatment and Control groups, with an almost identical declaration rate for our Treatment group of 84.7% (see Figure 4).

Figure 6: Average monthly declarations

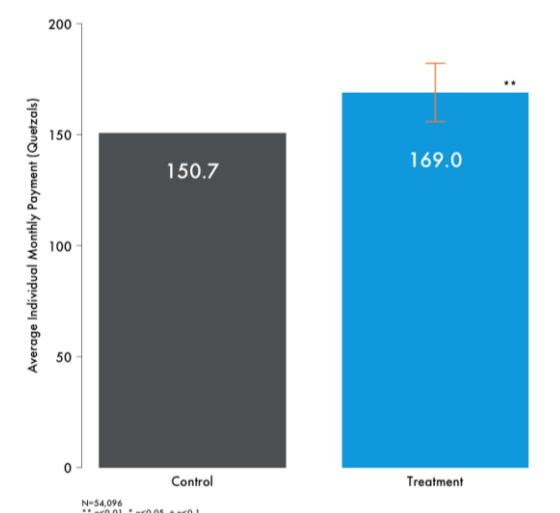


Tax payment value (GTQ)

Among taxpayers in the control group (that made a positive payment), we observe an average individual monthly payment value of GTQ150 (USD19.50).

We found a statistically significant increase of an estimated monthly GTQ18 (USD2.34) ($p < 0.05$) for taxpayers in the Treatment group (that made a positive payment).

Figure 7: Average monthly payments



Discussion

It is important to note the high baseline declaration rate following registration (85%) when interpreting the result regarding declaration rates. It is likely to be the case that changing the behaviour of the remaining undeclaring individuals is difficult, and requires a more intensive intervention than information provision.

As a consequence, we can conclude that the increased tax payment value is not driven by increased declaration (and thus payment compliance) when assessing the two findings.

It is instead likely a result of existing, complying taxpayers making higher declaration values (on average). Given the guide focused on information provision, including information about how to bookkeep effectively, these results could be driven by the Small Taxpayers Guide increasing adherence to the payment and declaration system.

However, we must still interpret this result with caution given the exact mechanism behind this increase is difficult to pinpoint. We cannot rule out other possible factors that are external to the intervention, for instance differing underlying time trends between the treatment and control groups.^{xi}

06 / Recommendations

Based on the findings of this trial, we recommend the following:

Evaluate before scaling

- The findings from this project present an illustration of the importance of evaluating the impact of an intervention before scaling it. SAT had intended to roll-out the Small Taxpayer's Guide nationally without evaluating its effect. However, these results indicate that the guide did not have the desired effect on Small Taxpayer declaration rates.

- The high baseline (an average of 85% of Small Taxpayers in the Control group made monthly declarations over their first six months) demonstrates that the majority of newly registered Small Taxpayers are aware of, and comply with, with their fiscal obligations. For the remaining 15% of newly registered Small Taxpayers, additional barriers to declaration - aside from the provision of information within the guide - may be impeding compliance, such as access to tax offices, access to SAT's online declaration portal or low levels of literacy.
- The average monthly payments among taxpayers in the Treatment group was 12% higher than the Control group (GTQ 18 average increase per taxpayer). Factoring in the cost of production for the guides, this equates to an additional \$100,000, if the guide had been given to the full sample. The guide provided step-by-step guidance about how to bookkeep effectively and how to calculate the amount of tax they owe. This guidance could have helped existing, complying taxpayers to improve their recording habits, leading to higher average declarations.
- Before scaling the guide further we recommend that SAT conduct qualitative interviews with taxpayers to understand the mechanisms through which the guide impacted on payment (e.g. through understanding their payment obligations better, or better book-keeping habits)

Intervene at a later stage

- Given the declaration rate remains high following registration, we believe that interventions implemented at a later stage may be better-placed. Such intervention should seek to tackle lack of information, but instead, overcome other behavioural barriers, such as a decrease in tax morale. Interventions could be delivered, for instance, 18

months after registering, (at which point the average declaration rate falls below 80%) or use a taxpayer's tax registration anniversary as an opportunity to reinforce the positive impact tax contributions are having on Guatemalan society.

Develop new projects

The Customer Service Department are responsible for a number of communication channels that could be used to increase taxpayer compliance. SAT is increasingly trying to digitise its processes and encourage taxpayers to make declarations and payments through online services. There could be further opportunities to support the Customer Service Department's existing initiatives:

- Provide information and assistance to taxpayers on how to use SAT's online platform. For instance, provide taxpayers clear information about how to navigate the online declaration process and/or simplify taxpayer's access to useful and relevant information (e.g. present to taxpayers only the forms and information that is relevant to them). Considerations should also be made for harder-to-reach populations, e.g. Mayan language resources for taxpayers whose native language is not Spanish, mobile apps for those who do not have access to a computer or audio and video services for taxpayers with low literacy levels.
- Break down tasks presented on the online platform into discrete actions to improve compliance with the declaration process. We recommend presenting useful information to taxpayers in simple steps that makes it easier to complete the process (e.g. providing tools such as checklists). The online services offer a more agile platform for SAT to, for example, insert timely prompts for taxpayers, incorporate elements of the guide or test different content variations. For instance, testing different behavioural

messages such as an appeal to national pride, personalisation and/or social norms to forms to promote declaration.^{xii}

07 / SAT Project Team

This was our first collaboration with SAT's Customer Service Department and, after two projects with the Tax Collection Department. Our intervention was an opportunity to build capacity in behavioural science and rigorous evaluation within a different area of SAT.

Madeleine Meza Linares, Marketing and Publicity Advisor in the Customer Service Department

For Madeleine, BIT's behavioural input was very useful for the creation and implementation of the guide. *"It's always useful to have an external opinion to understand our work from another perspective. I realized how small changes can make big differences for the guide's impact"*.

Our collaboration with the SAT's Customer Service Department has also given them the tools and guidance to work on other projects independently. *"Inspired by what we learned from this guide, we are now working on a guide for income tax and VAT compliance"*. They have also been conducting recurrent visits to SAT offices to get feedback on the implementation and impact of the guide.



Salvador López García, Director of the Customer Service Department

We interviewed Salvador together with other SAT officers from different areas of the country. They agreed that the guide was

widely accepted by both office staff and taxpayers.

Working on the guide applying BIT's methodology and input has also inspired new ideas. *"We are thinking of making a video and recording content to reach those taxpayers who cannot read."*

Salvador wants to use rigorous evaluation techniques with other ongoing projects and build further evidence within his department *"I would want to evaluate the impact of two projects we are currently conducting: an online platform to automatically upload receipts and a virtual assistant in SAT's website."*

08 / Conclusion

With the aim of increasing declaration rates, SAT developed a guide providing step-by-step information to Small Taxpayers about how to comply with their monthly obligations. BIT supported SAT by incorporating behavioural insights and feedback in the guide and developing a stepped wedge trial to test the impact of the guide.

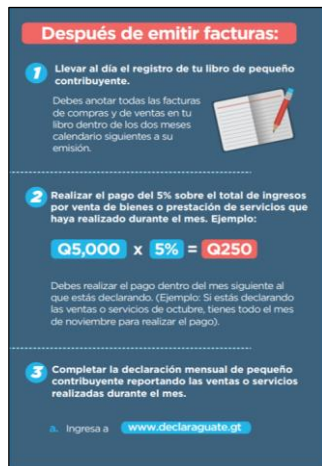
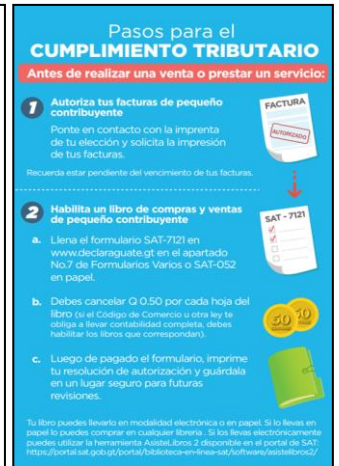
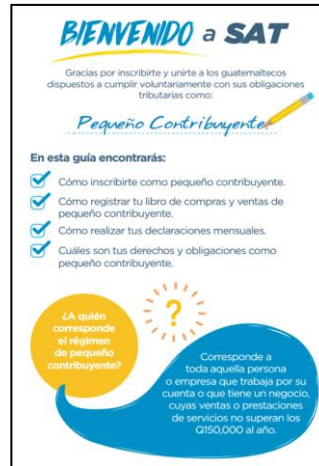
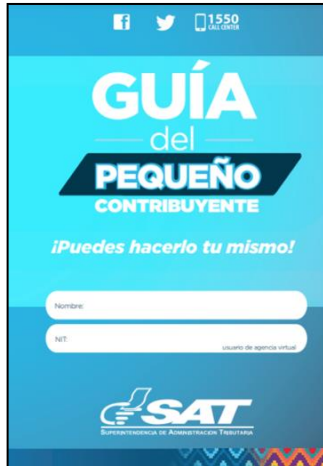
We found that the guide had no effect on declaration rates within the first six months after registering. We therefore recommend that SAT considers intervening at later stages of the declaration process and implementing projects through different channels.

Declaration rates are high in the first month after registration, indicating that most Small Taxpayers have the information necessary for filing but that other barriers lead to a drop in compliance over time. Interventions aimed at facilitating the use of SAT's online platform might increase declaration at later stages of the process.

We thank SAT's Customer Service Department for their collaboration on this project and their constant enthusiasm for applying behavioural insights to their initiatives.

Annex

Screenshots of the Small Taxpayer Guide



Utiliza este espacio para llevar el control de tu actividad tributaria como pequeño contribuyente.

Mis actividades tributarias

	Ene	Feb	Mar	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic
1. Registro de Imprenta												
2. Habilitación de Libros												
3. Declaración de IVA: Usar Archivo SAT 2016 en Declaración												
4. Llevar al día el registro de tus libros												

RECUERDA

- Actualizar tus datos**
Si realizas cambio de dirección fiscal, dirección comercial, contador u otros, debes de dar aviso a la SAT en los siguientes 30 días hábiles inmediatos. Para este proceso debes presentarte a una agencia tributaria.
- Ratificar tus datos**
Ratifica (confirma) tus datos ante la SAT anualmente. El año para personas individuales cuenta a partir de su fecha de nacimiento y para empresas a partir de su fecha de constitución. Este proceso puedes hacerlo desde tu Agencia Virtual.

Desde el portal de la SAT www.sat.gob.gt puedes realizar las siguientes actividades:

- Imprimir tu RTU (Registro Tributario Unificado)**
<https://portal.sat.gob.gt/portal/consulta-registro-tributario-unificado/>
- Consultar tu solvencia (omisos)**
<https://portal.sat.gob.gt/portal/consulta-omisos-morosos/>
- Realizar un curso de pequeño contribuyente**
<https://portal.sat.gob.gt/portal/capacitaciones/capacitacion-virtual/cursos-virtuales-2/>

Notes

¹ Based on SAT data from 2018.

² Erich Kirchler (2007), *The Economic Psychology of Tax Behaviour*

³ All Small Taxpayers are required to go to a SAT office to register and have a photo taken. This assured that all newly registered Small Taxpayers should receive a guide.

⁴ The Behavioural Insights Team. (2014). EAST: Four simple ways to apply behavioural insights

⁵ Spector, Jonathan M., Priya Agrawal, Bhala Kodkany, Stuart Lipsitz, Angela Lashoher, Gerald Dziekan, Rajiv Bahl et al. "Improving quality of care for maternal and newborn health: prospective pilot study of the WHO safe childbirth checklist program." (2012): e35151.

⁶ The Behavioural Insights Team. 2014. EAST: Four simple ways to apply behavioural insights, p. 37

⁷ Thompson, S., Michaelson, J., Abdallah, S., Johnson, V., Morris, D., Riley, K., & Simms, A. (2011). 'Moments of change' as opportunities for influencing behaviour: A report to the Department for Environment, Food and Rural Affairs. Defra, London

⁸ Public Health England (2014) *Public Health England Marketing Strategy 2014 to 2017*. At:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/326548/PHE_StrategyDoc_2014_10.pdf

^{ix} Due to the stepped-wedge nature of the rollout, we observed more months of outcome data for taxpayers who registered at the start of the trial. However, to ensure we have a balanced panel we keep only the first six months of data post-registration for all individuals

^x Each observation measured the declaration rate in the observation Month (ie. October) for all taxpayers that initially registered in given Tax Office (ie. Sacatepequez) within a given Month 'i' (ie. May).

^{xi} Stepped-wedge RCTs are vulnerable to 'time effects'. Given the intervention is rolled out over time, results may be confounded by underlying time trends. Although we found no evidence of a general trend of Small Taxpayers paying more over time, there may have been localised time trends which confounded results.

^{xii} Kettle, S., Hernandez, M., Ruda, S., & Sanders, M. (2016). Behavioral interventions in tax compliance: evidence from Guatemala. The World Bank.