

Behavioral Insights for **Tax Compliance**





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CONTEXT

Governments need sustainable funding in order to uphold the social contract with citizens, as well as provide the public goods that can foster growth and development.

In most contexts, raising said revenues requires an efficient, effective tax system (World Bank, 2019). But standard policy measures for improving taxpayer compliance – such as reforming legislation and administration – may not be enough. They may also be time-consuming or infeasible due to technology infrastructure, limited resources, and political constraints.

A thorough understanding of human behavior and how individuals interact with policies and programs can provide creative and cost-effective solutions to these challenges. This policy note provides evidence from World Bank field experiments that consider the social, psychological, and economic factors influencing taxpayer decision-making. Complementary studies from Costa Rica, Guatemala, Poland, Latvia, Kosovo, and Indonesia demonstrate how context-specific, behaviorally informed messaging can offer an immediate, low-cost solution to bureaucratic and technological barriers.

The trends we observe build upon pioneering tax compliance work and additional examples from around the world. A subset of this evidence is highlighted here as well.

While unknowns remain, interventions that consider human behavior help individuals and firms better process information, make decisions, and submit their tax declarations accurately and on time, and help tax administration officials improve the way they do their job. The evidence presented in this policy note confirms that context is key when it comes to motivating taxpayers. For example, reminders informed by social norms work well in one place, while punitive language performs better in others. We expect similar variation across other settings, presenting an opportunity for future experimentation and exploration about how tax-related decisions are made around the world.

DESIGNING BEHAVIORALLY INFORMED SOLUTIONS

Behaviorally informed policy emphasizes the importance of context for decision making and behavior.

It examines the social, psychological, and economic factors that affect what people think and do. It addresses details in bureaucracies, technologies, and service delivery that are often overlooked in standard policy design, but that can dramatically influence the effectiveness of development programs and projects, especially in low-income contexts. Behaviorally informed policy can provide creative solutions to difficult challenges, often at low cost.

HOW WE WORK



CONTEXT-DRIVEN

Resources are devoted to carefully define the behaviors underpinning the development challenge and appropriate diagnosis of the causes of those behaviors.



EMPIRICAL

We test multiple designs, each based on different assumptions about individuals' choices and behavior.



AGILE

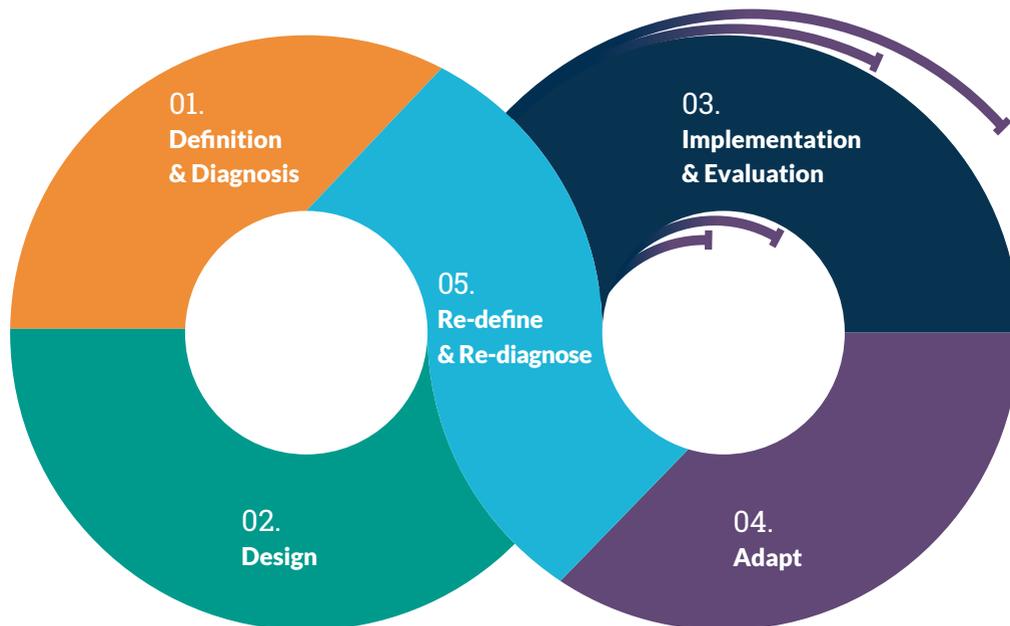
Results are used to learn and adapt the program design and feed into a new round of definition, diagnosis, design, implementation, and testing; this process of refinement continues as the intervention is scaled up.

01.

- Identify the problem
- Collect background information and available data
- Diagnostic sessions to develop behavioral map
- Fieldwork to finalize behavioral map

03.

- Set up process for randomization
- Trial intervention
- Monitor treatment and control groups
- Analyze data at endline



02.

- Develop list of potential interventions
- Narrow down to most feasible

04.

- Identify key learnings
- Identify areas for further work

05.

- Investigate constraints to scaling work
- Identify further behavioral challenges

EARLIER EVIDENCE

This section outlines previous work about the beliefs and norms underlying tax-related behavior. These examples provided motivation for the experimental designs we tested alongside tax authorities. They demonstrate how behavioral insights can be a significant driver of tax compliance and, in turn, government revenues. Strategies to increase tax compliance have included:

I. Making the tax declaration process easier to navigate.

Provide timely, relevant information to as many taxpayers as possible.

Tax authorities need low-cost ways to communicate at scale, but not every taxpayer relies on the same information channels. Thus, tax authorities should consider trying different mechanisms of communication. In Colombia, in-person visits were more effective at motivating delinquent taxpayers than emails and letters. In Kenya, SMS messages led to the greatest compliance (Ortega et al., 2015). These examples, among others, demonstrate again how context is key in identifying the appropriate communication channel.

Avoid bandwidth overload by simplifying the messages taxpayers receive.

Reducing complexity makes it easier for citizens to comply with what might be an otherwise overwhelming process. This is true for both communication strategies and the tax declaration process itself. For example, using easy to understand images alongside messaging to communicate information about the tax process, as was tested in Rwanda, was seen to provide better information to taxpayers (Mascagni et al., 2017)

Help citizens identify the clear steps needed to comply with tax declarations.

The Behavioural Insights Team deployed simplified letters in an effort to increase tax compliance among doctors and dentists in the United Kingdom. The letters, which clearly delineated the actions required of an individual, saw a 15 to 30 percent higher response rate than other types of messaging (Behavioural Insights Team, 2012).

II. Prioritizing tax morale by engaging with taxpayer's beliefs about duty, the extent of compliance, and benefits of paying taxes.

Appeal to an individual's sense of duty and good citizenship.

People prefer to think of themselves as honest and moral. This may be why individuals are less comfortable when their unethical behavior is described as a choice rather than simply a failure to take action (Ritov & Baron, 1990). Framing non-compliance as intentional has increased compliance among taxpayers, likely by reminding taxpayers of their desire to be a good citizen.

Promote compliance by making timeliness and accuracy of other's filing commonplace.

People are social creatures and highlighting the behavior of others can have a strong influence. When a field experiment in the United Kingdom invoked social norms, such as referencing the average number of people who pay on time, payment rates for overdue taxes increased. The payment of declared tax liabilities was boosted by up to 5.1 percentage points after 23 days of delivery, comparing to a control group (Hallsworth et al., 2017). Similarly, the decision not to comply may be further influenced by feelings of unfairness. As individuals will be less inclined to pay one's taxes if they believe others are not paying their fair share, strategies can focus on demonstrating that others are, in fact, complying (Frey & Torgler, 2007; Bazart & Bonein, 2014).

Emphasize how paying taxes is valuable.

Helping taxpayers see how their actions can positively impact their own community may make a difference. One way to do this is by specifying what public goods one's taxes are used for. An experiment showed that public service messages in Rwanda (a low-income setting) that emphasized how taxes help provide education, healthcare, and safety led to persistent tax compliance (Mascagni et al., 2017). Similarly, in Democratic Republic of the Congo, citizens in neighborhoods where tax payments were enforced were more likely to attend townhall meetings and demand public goods and accountability. As the

enforcement mechanisms signaled state capacity, taxpayers felt more confident that there would be returns to their compliance (Weigel, 2018).

Invite active taxpayer participation by allowing them to specify spending priorities.

Evidence from lab and lab in the field studies suggests that compliance may increase when taxpayers have a say in how tax revenue is spent, including through the provision of a feedback channel (Torgler, 2004).

III. Using deterrence messages, which can lead to compliance, to update citizens' beliefs about the costs of evasion.

Encourage honesty by making punishment, such as an audit or perception of its likelihood, more salient.

Signaling an increase in enforcement mechanisms can make it feel risky and costly for an individual to engage in non-compliance. For example, American taxpayers were more likely to accurately self-report their taxes when they perceived a higher likelihood of being audited. In Denmark, those that were to be audited with certainty were significantly more likely to comply (almost double) compared to those with a 50 percent audit probability. In Uruguay, providing firms with details on past audit statistics and penalties increased compliance, and in Chile, notifying firms that they are being monitored and may be audited ultimately increased VAT payments (Slemrod et al., 2001; Kleven et al., 2011; Bergolo et al., 2017; Pomeranz, 2015).

IV. Using monetary or social rewards to incentivize taxpayers directly.

Provide incentives to motivate citizens to continue timely tax payment.

Offering a tangible reward for the payment of taxes can increase the intrinsic motivation of citizens while also resulting in positive spillovers for their neighbors. In Argentina, the winners of the “Good Taxpayer Award” lottery were entitled to the construction or renovation of a sidewalk. The potential to win the lottery positively encouraged compliance in the short term while also allowing taxpayers to feel recognized and able to better evaluate the work of the local government in the long term (Carrillo et al., 2017).

Create a means of comparison with other firms by using social shaming as a motivator.

If a firm is to adapt their own behavior, it may be necessary for them to understand how similar firms act. In Bangladesh, when an intervention informed firms that details of their compliance would be shared with others, VAT payments increased. This is true for firms in clusters where at least 15 percent were complying at baseline. A similar exploration found that an SMS message threatening to publish non-compliant firm names online increased filings significantly (Chetty et al., 2014; Brockmeyer et al., 2016).

PARTNERSHIP ENTRY POINTS AND DIAGNOSTIC MAPPING

The World Bank partnered with the tax authorities of Poland, Latvia, Kosovo, and Indonesia to test how behaviorally-driven solutions can improve tax declaration and payment rates, enhance a tax authority’s processes, and ultimately increase government revenues. Similar efforts were carried out in Guatemala and Costa Rica in partnership between the World Bank and the Behavioural Insights Team.

Informed by earlier evidence, we identified opportunities to increase the effectiveness of tax collection, including:

Recognizing that state authorities are well-positioned to help taxpayers understand the tax process and the importance of their tax-related choices.

A state’s tax entity has the legal authority to assess, levy, and collect taxes. They can also use behavioral insights to provide taxpayers with information and education about the tax declaration process. For example, context-specific messaging may motivate taxpayers about the process in a timely, accessible way. The local tax authority can iterate on the content of these messages and mechanisms of message delivery, from letters to simple technologies. Doing so can ultimately close the intention-action gap for individuals and firms, reminding them to submit their declarations accurately and on time.

Improving on or developing quality tax systems bolsters the capacity of the tax authority, building necessary efficiency.

Behavioral insights can motivate tax administrators to update their systems. This will help them better communicate with non-compliers. A commitment to reducing implementation challenges, such as data quality issues, can become self-reinforcing should the tax authority recognize that effective solutions require strong systems. These strong but adaptive systems should be the norm.

Valuing tax revenues should be a priority for governments, but compliance is low in many places.

In the developing world, many people do not just submit their tax declarations late. They may not submit them at all. As compliance involves action by the taxpayer, it is something that needs to be motivated. Efforts to increase government revenues should focus on how to reach non-compliers, those at risk of non-compliance, and previous delinquents.

TAX COMPLIANCE

Social, psychological, and economic factors influencing taxpayer decision-making

PERCEPTION OF CONSEQUENCES

WILL I GET PUNISHED IF I DON'T PAY??

BANDWIDTH OVERLOAD

HOW DO I PAY?

LIQUIDITY CONSTRAINTS

CAN I AFFORD TO PAY MY TAX BURDEN TODAY?

PERCEIVED SOCIAL NORMS

DO OTHERS PAY THEIR TAXES?

PROCESS COMPLEXITY

HOW MUCH DO I OWE?

PROCRASTINATION

CAN I DELAY MY PAYMENT?

LACK OF KNOWLEDGE

AM I REQUIRED TO DECLARE MY TAXES?

LOW SALIENCE OF RECIPROCITY

WHAT DOES THE GOVERNMENT DO WITH MY MONEY?

INFORMATION OVERLOAD

WHERE DO I PAY?

CHOICE OVERLOAD

WHICH IS THE BEST PAYING OPTION?

POOR FRAMING

WHAT EXACTLY DO I NEED TO DO?



1

Understanding Tax Processes



2

Deciding to Pay Taxes



3

Declaring Taxes



4

Paying Taxes



CASE STUDIES

Modifying existing tax systems and processes is strategic and likely more cost effective than relying on new laws or costly incentives to enforce compliance.

But the success of a behavioral strategy depends greatly on the setting. Thus, iterating based on specific policy goals, one's target audience, types of taxes, and related environmental factors is necessary across contexts.

The following case studies demonstrate how behaviorally informed messaging helps increase tax compliance in diverse settings. They also show how rigorously testing messaging design and delivery is key, encouraging opportunities for comparison.



CASE STUDY 1:
COSTA RICA

When the World Bank and the Costa Rican government collaborated to improve tax filing rates among firms, a simple email reminder made a big difference. The government has contact information for registered firms, so they were able to reach the taxpayers directly and credibly threaten consequences for those who did not comply.

The Experiment:

This experiment looked at the effect of enforcement messaging on income tax filing and related compliance issues among 50,000 non-filers in Costa Rica. Non-filers included firms that were tax-registered but had not filed their income tax declaration for 2014. Two-thirds of the target firms were randomly selected to receive an enforcement email while the remaining received nothing. The emails contained three features:

- **Making punishment salient**, mentioning potential sanctions a taxpayer could be subject to, including shop closure, audit, or online publication of names.
- **Behaviorally-informed messaging**, such as personalization, simplification and highlighting social norms.
- **Use of third-party information**, emphasizing that reports from clients, suppliers, and financial service providers could be used to validate a non-complier's sales and spending.

The Results:

The intervention improved income tax compliance, as expected. The income tax filing rate for 2014 increased by 20 percentage points within five weeks. Filing rates increased by two additional percentage points for those who received a message mentioning examples of third-party information. This also led to improved accuracy in reporting from unincorporated businesses, which are notoriously evasion-prone.

Plus, firms that received an email became 2.5 percentage points more likely to file a third-party report about a client or supplier firm. These reports provide the tax authority with additional information that may help with future enforcement efforts.

WHY IT MATTERS

Globally, many firms are formally registered but still fail to file their tax declarations. This leads to lost government revenue and may encourage those who already comply to stop doing so. Even if a communications intervention appears successful, there is a risk that a temporary uptick in filings could lead to non-compliance later on.

But, in Costa Rica, taxpayers in the treatment group remained significantly more likely to file income tax declarations in subsequent years. This was persistent even when measured 2.5 years later. This is likely because of the mention of enforcement tools in the behaviorally-informed email. Facing a shop closure, audit, or phone call about discrepancies on tax returns is viewed as highly credible in Costa Rica. This confirms that people may change their behavior when what they were doing before (noncompliance, in this case) puts them at risk of an undesirable consequence.



CASE STUDY 2:
GUATEMALA

Between 2011 and 2015, tax revenue made up only 12 percent of Guatemala's GDP. That's less than half the average of other Latin American countries (World Bank, 2012). The World Bank, the Behavioural Insights Team, and Guatemala's Superintendence of the Tax Administration (SAT) responded to this challenge with a behaviorally informed communications campaign. This nationwide intervention increased tax filings and improved income tax collection, with positive results that continue to this day.

The Experiment:

A randomized control trial targeted 43,387 individuals and firms who failed to pay their income taxes in 2013. Delinquent taxpayers were randomly assigned to receive no letter or a letter with one of five messages:

- **Reminder:** A simple reminder to declare taxes, with no information on how to do so.
- **Behavioral Design:** Information on where to declare, the possibility of paying in installments, and the deterrence message: “If you do not declare, you may be audited and face the procedure established by law.”
- **Behavioral Design + Social Norm:** “According to our records, 64.5 percent of Guatemalans declared their income tax for the year 2013 on time. You are part of the minority of Guatemalans who are yet to declare for this tax.”
- **Behavioral Design + Deliberate Choice:** “Previously, we have considered your failure to declare an oversight. However, if you don’t declare now, we will consider it an active choice, and you may, therefore, be audited and could face the procedure established by law.”
- **Behavioral Design + National Pride:** “You are a Guatemalan citizen, and Guatemala needs you. Be a good citizen and submit the 2013 annual return of income tax. Are you going to support your country?”

The “Behavioral Design” served as the basis for all other letters. The variations in framing helped confirm which messages were most effective in the Guatemalan context.

The Results:

While all letters increased tax declarations, two were most successful. The deterrence message, which framed non-declaration as intentional, and the social norms message, referring to declaring one’s taxes as the status quo, increased

both payments and average amounts paid. For example, the deliberate choice letter helped raise the average amount paid per taxpayer by \$17.95, or 269 percent.

In addition to changing taxpayer behavior, we saw changes in how tax officials approached communications and policy design. Once our collaboration ended, officials continued integrating behavioral lessons into their communication with taxpayers, demonstrating sustainable shifts in tax officials’ attitudes and behaviors as well.

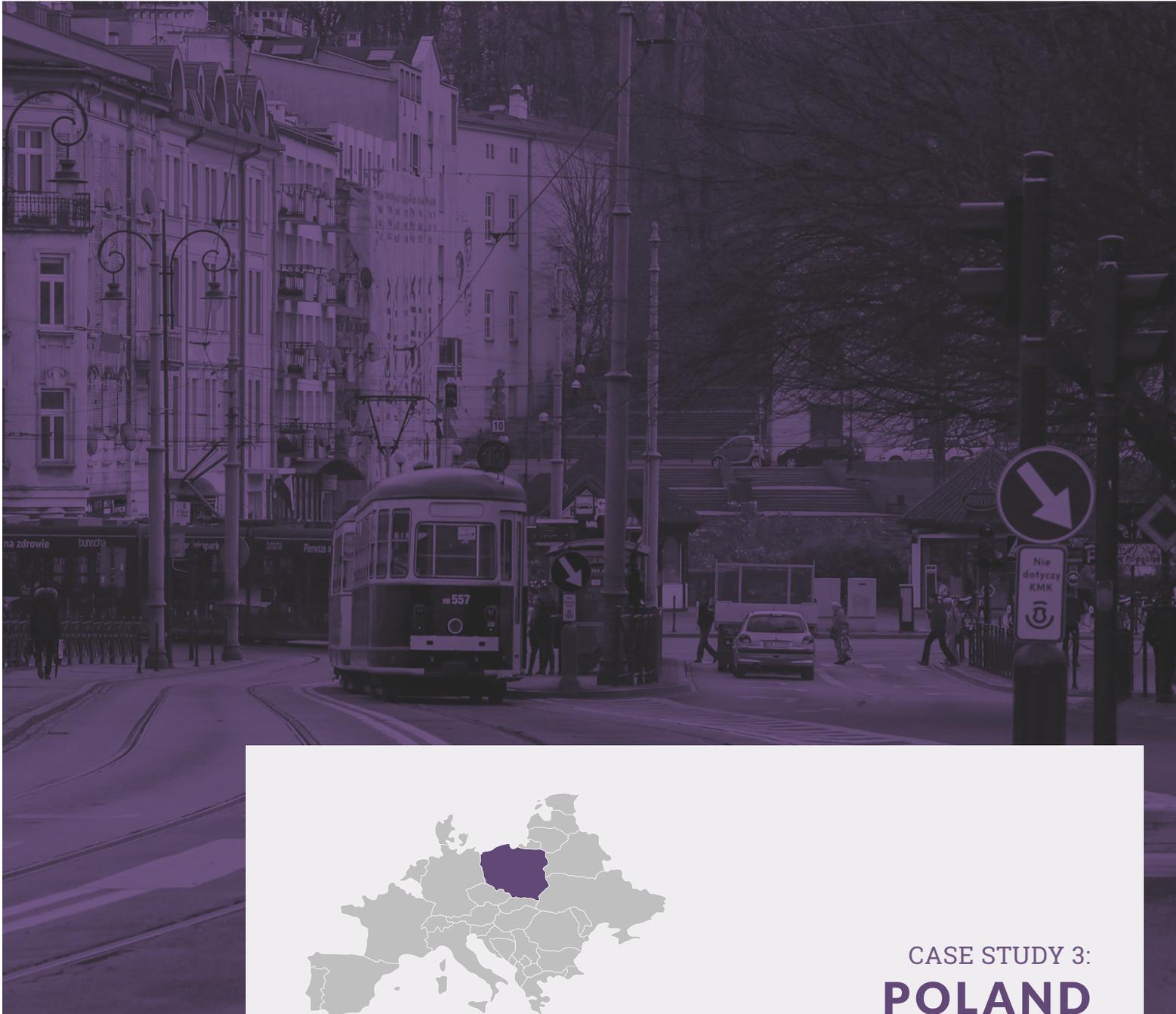
WHY IT MATTERS

Taxes were historically a small part of Guatemala’s GDP, but behavioral insights were able to fuel lasting change and build capacity at the policymaker level.

These findings are important, firstly, because this strategy is particularly cost-effective. It was estimated that the social norms message would have generated revenues of approximately US\$760,000 if sent to the entire sample. This is 36 times the cost of sending the letters.

Secondly, the intervention’s success persists. 12 months later, individuals and firms were still complying with the tax declaration process without needing an additional reminder. Behavioral techniques have also become ingrained in the operations of SAT and the wider fiscal authority. To this day, SAT continues to repeat and revise the experiment while the fiscal authority explores how to apply these learnings to other areas of taxation and business. SAT has continued to work with World Bank teams towards strengthening these efforts.

Finally, this study sets an example for other regions with chronically low tax compliance. Initial compliance of just 64.5 percent is just marginally a norm. But, likely due to the perceived culture of tax evasion already existing in Guatemala, the social norm message was still enough to increase the moral cost of noncompliance.



CASE STUDY 3: **POLAND**

Polish authorities and the World Bank sent behaviorally informed letters to late taxpayers in order to combat extremely low tax compliance rates. The letters' success emphasizes that investing in enhanced communication processes can be more strategic than adapting legislation. The letters tested ten different reminder messages and two methods of delivery. They successfully increased income tax compliance and, in turn, government revenues.

The Experiment:

This randomized control trial reached 149,925 individual taxpayers across Poland. Taxpayers from both urban and rural areas were randomly assigned to receive either a default reminder letter (known as a Dunning letter) or one of nine behaviorally informed letters. The letters were sent to individuals who had declared their taxes for the 2015 fiscal year but had failed to pay what they owed by the deadline.

The behaviorally informed letters included different introductory paragraphs and varied in tone:

- **Soft-Tone Messages:** These messages highlight social incentives. This included reinforcing social norms by informing taxpayers about the high percentage of residents that had paid their taxes on time. Positive framing was used to explain how taxes finance schools, roads, and safety, and negative framing outlined how those services cannot be provided without taxes.
- **Hard-Tone Messages:** These deterrent messages highlight sanctions for non-compliance or frame non-payment as an intentional, deliberate choice.

Some letters used a blend of these **techniques**.

The method of delivery also varied. Some taxpayers received the letter via regular mail, where the post office delivers the letter to the mailbox of the taxpayer. Others received the original Dunning letter via registered mail, a highly formalized process where the taxpayer confirms receipt with a signature, and the tax office is notified that the letter was successfully delivered. Not all combinations of delivery methods and messages were tested, which would have unnecessarily complicated the experiment.

The Results:

Behaviorally informed letters have a large impact on inducing tax payments, increasing payment amounts, and reducing tax liabilities in Poland. The most successful letter saw a 20.8 percent increase in the number of compliant taxpayers. Taxpayers in Poland were more likely to pay the income tax due, pay higher amounts of taxes, and reduce their tax liabilities after receiving a harder tone message.

Letters sent by regular mail were just as effective as those sent via registered mail. Thus, the tax administration could save substantially by changing its delivery method to the lower-cost option.

Finally, demographics make a difference. Women had a higher repayment rate overall and responded best to the hard-toned message. Letters with public goods messages were not as effective among people 50 to 64-years-old but increased compliance among younger people and rural taxpayers. An explanation could be that youth and rural taxpayers see themselves as more likely to benefit from the public goods listed in the letter.

WHY IT MATTERS

Subsets of the population responded to different types of behavioral messaging, reconfirming how attitudes and behaviors are highly context-dependent. While further analysis is needed to better understand the specific reasons for differences in compliance, calibrating reminder messages to different audiences can effectively increase both tax compliance and government revenues. Plus, where Poland differs from previous experimental cases is that hard-toned messages worked best. This type of message had been least effective in other studies, including Guatemala and the United Kingdom. In all cases, however, the behavioral messaging strategy led to similar cost savings for governments. This exploration demonstrates that policymakers might want to review the delivery methods used to communicate with citizens. This may increase efficiency and cost-effectiveness, especially in the era of digital communication.



CASE STUDY 4:
LATVIA

It is estimated that Latvia's shadow economy makes up close to a quarter of the country's GDP, well above the average of 14 percent among other OECD countries (Hazans, 2011; World Bank, 2017). Part of this shadow economy includes individuals who are partially or fully self-employed and had been delaying or failing to submit their tax returns in the past few years. Our field experiment targeting taxpayers presumed to be part of the shadow economy shows that behaviorally informed messages – this time sent by email – can improve compliance with the tax declaration submission process even among a group that is challenging to reach.

The Experiment:

This experiment involved sending preemptive, behaviorally-informed email messages to taxpayers presumed to be part of the shadow economy. These individuals are formally part of the tax system, although they do not receive a regular salaried income. Those targeted, too, had previously delayed or failed to declare tax obligations in one or more of the previous three years.

In advance of the 2017 filing deadline, 4,324 taxpayers identified by the State Revenue Service (SRS) were randomly assigned to receive one of three treatment emails or no message, if part of a control group. Consequently, 1,081 individuals received each message or were randomly placed in the control group:

- **Simple Reminder:** The first included three short, easy-to-read sentences reminding individuals of the tax timeline. It provided a link to the online submission system and contact information (i.e., a phone number) in case of questions. Signing off with the name of the Chief Tax Inspector made the message more personal, as the names of the recipients could not be included for technical reasons.
- **Omission/Commission Approach:** The second message stated that previously missed deadlines were considered unintentional and inadvertent (i.e., an honest omission). However, future failures would be considered deliberate (i.e. commission).
- **Social Norms:** The third message highlighted the descriptive norm that an increasing number of taxpayers filed by the deadline each year. While social norms messaging typically includes specific statistics, language on the increasing trend was included as descriptive data was unavailable.

The Results:

Tax declaration submission rates were higher than the control group for every treatment group. Individuals in the treatment groups were also more likely to submit their Annual Income Declaration sooner, and before the deadline. On average, those who received the social norm message submitted almost three days sooner than those in the control group.

In Latvia, as in Poland, the most successful message included a harder tone that made salient the role of one's deliberate, active choice to not comply. The harder toned message improved subsequent compliance more than a social norms message by 9.4 percent. Still, both a simple reminder and a social norm message also increased timely submission.

The impact becomes stronger when controlling for other drivers of compliance, such as demographics, past income, and tax payment behavior. Females who had higher revenue in the 2015 tax year were more likely to submit by the deadline. Those who delayed submission only in 2015, compared to in years prior, were also more likely to submit by the deadline.

WHY IT MATTERS

This intervention again demonstrates that context matters when integrating behavioral science into messaging for taxpayer compliance. But perhaps more important is the unique nature of the target audience. Tax authorities are actively seeking opportunities to reduce the shadow economy. Thus, this study has positive implications on the type of programming and messaging that may be replicated in other regions.



CASE STUDY 5:
KOSOVO

Unlike other countries that collect significant non-tax revenues (for example, from natural resources), the Kosovar government relies on taxes for more than 85 percent of its revenues. Thus, it is critical to ensure tax collection is not expensive for the public administration, and all comply with the process. The Tax Administration of Kosovo (TAK) worked with the World Bank and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) to address this challenge using behavioral insights. Three experiments successfully increased the number and timeliness of tax declarations while helping identify ways to improve the tax administration's capacity.

The Experiment:

Enhancing tax compliance in Kosovo involved sending behaviorally informed letters, e-mails, and short messaging service messages (SMS) to taxpayers. The messages were designed to induce timely and honest declarations and payments at low cost or no cost. These interventions targeted taxpayers subject to the personal income tax (PIT) and value-added tax (VAT):

- **Letters:** Trial 1 targeted a letter at taxpayers who, by four days after the deadline, had not submitted their PIT declarations for the 2017 fiscal year.
- **E-mails:** Trial 2 targeted all firms required to submit June VAT declarations with e-mail-based reminders. The first reminder was sent well in advance of the monthly due date. The second was sent on the declaration's due date.
- **SMS Reminders:** Trial 3 targeted all firms required to submit August VAT declarations with SMS-based reminders, sent a few days in advance of the due date.

A key component of the experimental design centers on the taxpayer as a client, informing the decision to promote positively framed messages, such as the benefits of paying taxes, rather than the negatively framed messages that worked in other contexts.

The Results:

Within four to six weeks, all three trials induced more people to submit their declarations on time or to submit at all. For example, submissions by PIT taxpayers increased by 2-4 percentage points within one month of the transmission of the letters.

But, despite statistically significant results, process errors were rampant. Only 48 percent of letters made it to their intended recipients, and less than one in four e-mails was opened. The messages themselves were not always interpreted as intended as well. These implementation challenges highlighted the need to establish and update tax collection functions and data systems while carefully evaluating word choice in communications.

WHY IT MATTERS

Kosovo is one of the poorest and youngest countries in Europe in terms of gross domestic product (GDP) per capita, demographics, and statehood. Between 2011 and 2017, total government revenue amounted to about 14 percent of GDP, below the average of 19 percent among European and Central Asian countries. As a small country that depends greatly on revenue capture, this experiment suggests that investing in process upgrades will help ensure people get the information they need in a timely and motivating way.

By participating in the design and implementation of the trials, TAK staff were able to understand the value of behavioral science tools, motivating them to engage in improving the systems that will improve their interactions with taxpayers.



Indonesia is the largest economy in Southeast Asia. Here, the 59 million Small and Medium Enterprises (SMEs) make up 89% of all employment, contribute to 14% of exports and provide 58% of domestic investment. After a recent tax reform in 2018, SME tax compliance has reached 15% nationally, providing the potential to expand further the tax revenue. The Directorate General of Taxes (DGT), the country's tax authority, worked with the World Bank to look at whether behaviorally designed information to taxpayers could impact compliance rates and payment amounts.

The Experiment:

Following the introduction of a new Government Regulation in 2018 (no. 23/2018), SMEs with a yearly turnover of up to Rp 4.8 billion (approximately USD 350,000) are required to declare and pay 0.5% of their monthly gross revenue. To motivate these behaviors among firms, the project provided an official letter accompanied by a behaviorally-informed calendar to 18,000 SMEs from across 40 tax districts in Java, where 61% of SMEs in the country are based. Participating firms were randomly assigned to a control group or one of three experimental groups, each with different calendars. The groups were balanced, with 6,000 firms in each one.

The calendars included the following messages:

- **Salient Information:** providing essential information about the tax regime in a salient way using clear and simple language, including an explanation on how to estimate the monthly payment following a rule of thumb, a reminder of the due date for each month, and a step-by-step guide on how to pay. SMEs were addressed as “BIJAK”, an acronym for a compliant business which also means “wise” in Indonesian.
- **Salient Information + Public Goods:** emphasizing public investments financed with tax revenue through seven messages, such as “34% of tax revenue contributes to an equal income distribution”; “taxes help 19.7 million poor students go to school”; and “taxes provide Rp 410 trillion to build roads, bridges, and infrastructure.”
- **Salient Information + Deterrence:** with eight messages stressing that timely payment helps businesses avoid fines and reinforcing the negative consequences of late or non-payment, such as “the DGT has access to financial information of firms”; “after the due date, you are subject to a 2% interest payment”; “tax arrears can lead to actions like freezing of bank accounts, restriction to travel abroad, confiscation of assets, or arrest.”

Letters and calendars were mailed to participants between September and November 2018.

The Results:

Fifteen months after delivering the calendars, participating SMEs improved their payment rates by 4%, increasing their compliance rate to 25%. Their monthly paid amount was also improved by 7% to Rp 115,000 (USD 10), compared to the control group.

The results also showed that the calendar with deterrence messages was the most effective in attracting SMEs to pay their tax obligations (i.e., increasing tax compliance), while the calendar providing salient information increased to the largest extent the amount paid by compliant SMEs.

At the end of the analysis period, the experiment yielded a total revenue 37 times larger than the net cost of implementation. It also increased the revenue collected for participating offices by 3%.

Calendar distribution was highly successful, with a delivery rate of 86% of the intended recipients. Implementation costs were estimated at a modest average of USD 3 per participant.

WHY IT MATTERS:

The experiment in Indonesia added to the value of testing different content to motivate different behavioral change and information resources to improve tax compliance. However, and most importantly, the experience is unique regarding the context and the tax regime considered. First, the experiment’s target population was SMEs, a key element in the economy of any developing country, including Indonesia. Furthermore, the behavior promoted for these taxpayers was that of paying and reporting consistently every month, not merely once during a fiscal year. Finally, by working closely with a network of 40 local tax offices, the tax authority is now eager and prepared to scale up this impactful intervention and to conduct its own evaluations that inform its programs and policies.

CONCLUSION

Approaching communication with taxpayers from a behavioral lens can produce considerable gains. The World Bank's experimental efforts alongside the tax administrations of Costa Rica, Guatemala, Poland, Latvia, Kosovo, and Indonesia suggest promising results.

These interventions are meaningful in that they do not require onerous, administratively expensive, or politically sensitive reforms or programs. They also highlight the power of experimentation: testing different messages with one's audience. The effects of a particular message may be different in one country when compared to the next, and even within demographic groups and regions in a country. The mechanism with which a message is received, such as letters, email or text message, will also vary in effectiveness.

This exploration also points out the need for tax administrations to focus on their methods and structures as well. For example, should a tax authority lack reliable contact information or data on taxpayers, all methods of communication may fail to reach the intended recipient. Thus, behaviorally informed capacity building of local partners can ensure each intervention creates space for the adaptation and learning required to motivate the most effective tax policies and programming possible.

ABOUT EMBED

The *Mind, Behavior, and Development Unit* (eMBeD), the World Bank's behavioral science team in the Poverty and Equity Global Practice, works closely with project teams, governments, and other partners to diagnose, design, and evaluate behaviorally informed interventions. By collaborating with a worldwide network of scientists and practitioners, the eMBeD team provides answers to important economic and social questions, and contributes to the global effort to eliminate poverty and increase equity.

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ANNEX

Figure 1a. Kosovo - Simple Reminder Letter



Republika e Kosovës - Republika Kosova - Republic of Kosovo
 Qeveria - Vlada - Government
 Ministria e Financave - Ministarstvo za Finasije Ministry of Finance
 Administrata Tatimore e Kosovës - Poreska Administracija Kosova - Tax Administration of Kosovo



April 4, 2018

Please declare your income tax by April 13, 2018

Dear taxpayer,

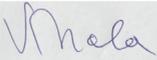
According to our records, you have not declared your annual income tax for 2017.

If you do not declare your taxable income and pay your tax liability and any accumulated interest by April 13, 2018, you may be subject to penalties. Individuals and businesses with an active fiscal number are required by law to prepare an annual declaration even if no income was earned in 2017.

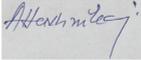
You can declare and pay your tax liability by visiting the ATK electronic declaration system (EDI) (<https://edeklarimi.atk-ks.org/Account/Login?ReturnUrl=%2F>) or by visiting one of our taxpayer services centers.

If you are not able to pay your total amount due at this time, or if you have any questions, please call us urgently at 038 222 165.

We will monitor your response to this letter.



Valdet Shala
 U.d. Drejtor
 Departamenti për Borxhe dhe Menaxhim të Logarive



Ardita Haxhnikaj
 Drejtor
 Departamenti për Shërbimin e Tatimpaguesve dhe Edukim

Figure 2a. Poland - Simple Reminder Letter



XXXXXXXX, May 23, 2016

Jan Kowalski
 Naczelnik Urzędu Skarbowego
 Urząd Skarbowy XXXXXXXXXXXX
 ul. XXXXXXXXXXXX

Mr.
 Jan Nowak
 ul. Białobrzaska 40 m. 14
 62-544 Warszawa

Please pay your income tax due by June 3, 2016

Dear Sir,

According to our records, you have not paid your income tax for 2015.

If you do not pay your liability of PLN XXXX + any accumulated interest by June 3, 2016, you will be subject to execution proceedings.

Please pay your total amount due as specified in the table on the back of this page by bank transfer to the account XX XXXX XXXX XXXX XXXX XXXX, or by visiting your bank, postal service, or tax office.

If you are not able to pay your total amount due at this time or you have any questions, please call us urgently at XX XXX XX XX.

We will monitor your reaction to this letter.

Sincerely,

(Signature and stamp of Head of Tax Office)

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