

Visual nudges: how deterrence and equity shape tax compliance attitudes and behaviour in Rwanda

Summary of Working Paper 145 by Celeste Scarpini, Fabrizio Santoro and Giulia Mascagni

Tax administrations in low-income countries engage in a variety of interventions to improve taxpayer compliance and close their countries' financing gap. With this aim, the Rwanda Revenue Authority (RRA) has implemented measures of enforcement, facilitation, and promotion of professionalism and trust in the revenue administration. Despite these efforts, the country's tax-to-GDP ratio remains slightly below the average for sub-Saharan African countries. Thus, understanding the drivers of compliance and how to leverage them is crucial, especially since Covid-19 has exacerbated revenue needs in LICs. Remote engagement with taxpayers through mass-media communication represents a promising solution, as it is a cheap option that budget-constrained revenue administrations could use to improve compliance.

Our survey experiment implemented in Rwanda sheds light on the potential impact of videos as a new way to deliver tax messages. We randomly exposed over 2,000 small and medium firms filing for CIT and PIT to two information videos, and a control group, and surveyed them before and after the viewing. The videos were two-minute-long animated films on tax matters, focusing respectively on deterrence and equity of the tax system¹ - which are considered two key factors explaining compliance. Using combined survey and administrative data, we identified the videos' causal impact on the taxpayers' perceptions and behaviours.

Perceptions

As expected, the deterrence video effectively increases the perceived probability of detection, while the equity video increases awareness of how progressive of the tax system is. The impact of both treatments is driven mainly by individuals, compared to companies.

Interestingly, both videos decrease the perception of the tax system's fairness. The deterrence video might

have deteriorated intrinsic motivation to comply, as documented by the broader literature. In fact, the data suggests that the negative impact is due to the subgroup with high fairness perceptions at baseline. They might have adjusted their conception of fairness after better understanding the penalty structure for non-compliance, which they might consider too strict. Conversely, the negative impact of the equity video is more difficult to understand and may suggest that perceived fairness might depend more on real experiences with the taxpaying process and government-citizen relations, than on short communication interventions.

Moreover, while the deterrence video does not impact the perception of RRA's enforcement severity, the equity one does, showing that taxpayers induced to value the progressive nature of taxes might be more inclined to accept a heavy level of enforcement from the tax agency.

Behaviours

None of the videos affects the probability of filing a return, suggesting that filing decisions are not easily influenced by short communication interventions, neither around deterrence nor equity. Nevertheless, the deterrence video slightly decreases the probability of filing zero and increases the tax due. This is consistent with the significant increase in the perceived probability of detection and abundant evidence on the power of deterrent appeals. Strikingly, the equity video had no impact on any behavioural outcomes, resonating with more mixed findings on moral appeals in the general literature.

We also try to connect changes in perceptions and behavioural responses – showing that taxpayers' prior perceptions are quite important in understanding mechanisms of impact. Further analysis indicates that deterrence improves behaviours more when combined

¹ See <https://www.youtube.com/watch?v=1UxFAQ57Elq0&feature=youtu.be> for video 1 and <https://www.youtube.com/watch?v=c5zALgtZTmA&feature=youtu.be> for video 2.

with high initial perceptions on the probability of detection, fairness, and unconditional compliance. Equity, instead, is not enough in improving behaviour in the presence of good prior perceptions. We also show that taxpayers with good priors are much more compliant to begin with. However, it is unclear why positive priors play a role in explaining the impact of deterrence, but not that of equity. Much more research on the transmission channels between perceptions and behaviours is needed here.

Policy implications

Based on these findings and a cost-benefit analysis, we draw the following lessons for policymakers:

- The use of information videos about deterrence as measures to encourage voluntary compliance might be highly cost-effective. The videos are relatively cheap to produce and have a large impact on revenues. Moreover, they are easily scalable on TV and social media, which the data suggest taxpayers would welcome more as channels for engagement on tax matters.

- There might be a need for more intense measures to increase tax filing (e.g., tax training) since both the short information videos failed to nudge taxpayers into filing.
- Some caution should be observed when designing such videos, keeping in mind that they could easily backfire and deteriorate soft motivations to comply. A more targeted approach could be followed, as certain taxpayer segments, who have poorer attitudes and less compliant behaviour – are not responding to the videos.

“... deterrence improves behaviours more when combined with high initial perceptions on the probability of detection, fairness, and unconditional compliance. Equity, instead, is not enough in improving behaviour in the presence of good prior perceptions.”

Further reading

Mascagni, G., Santoro, F. (2022) Visual nudges: how deterrence and equity shape tax compliance attitudes and behaviour in Rwanda, Working Paper 145, Brighton: Institute of Development Studies.

Mascagni, G., Santoro, F. and Mukama, D. (2019) Teach to Comply? Evidence from a Taxpayer Education Programme in Rwanda, Working Paper 91, Brighton: Institute of Development Studies.

Mascagni, G. and Nell, C. (2021) 'Tax Compliance in Rwanda: Evidence from a Field Message Experiment', Economic Development and Cultural Change 69.2

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Credits

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