

# Mandating digital tax tools as a response to Covid: Evidence from Eswatini

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## Introduction

To reduce physical contact, Covid-19 forced many tax authorities to embrace digital technologies for filing and payment. Pandemic control aside, e-filing and e-payment hold great promise in facilitating taxpayer compliance, increasing transparency and curbing opportunity for collusion (Okunogbe and Santoro 2021). Eswatini mandated e-filing for all income taxpayers in September 2020, through the online e-Tax platform. Subsequently, the tax administration launched a zero-cash-handling policy for tax payments in April 2021.

Our paper evaluated the impact of the e-Tax mandate on income taxpayers' filing and payment behaviour, examining the following questions: (i) What is the impact of mandating e-filing on filing and payment compliance? (ii) Are there any spillover effects on filing and payment accuracy? (iii) What are the key mechanisms that explain the results?

## Data and methodology

To address our questions, we used datasets provided by Eswatini Revenue Service (ERS), accessed in May 2021 – eight months after the mandate. These datasets were:

1. **Taxpayer and e-Tax registry:** which indicates the broader population of taxpayers and, among them, those who registered for e-Tax.
2. **Tax filings and payments data:** available for the years 2013–2020 – spanning six years before the mandate, and one year after. We focussed on income tax, which we also compared with value-added tax (VAT) to measure accuracy.

We used a difference-in-difference (DID) strategy, reinforced by a propensity score matching (PSM), which aids in selecting the proper control group, based on a wide range of observable variables. We compared taxpayers who registered after the e-Tax mandate in September 2020 (treatment group) with those who failed to do so (control group). We dropped all early e-Tax registrations.

Despite it being a 'mandate', not all taxpayers actually respected it (less than half, at 41%). This partial uptake allowed us to adopt the DID strategy. We measured the impact on filing behaviour and payment behaviour for two outcomes each: (a) the probability of positive filing and the amount of tax declared, and (b) the probability to pay tax and amount paid. We also looked at income, expenses and deductions. To investigate the accuracy of taxpayers' filings, we studied on-time filing and discrepancies between income tax and VAT returns. And to investigate payment behaviour, we considered the accuracy of tax payments, proxied by whether the taxpayer managed to pay their tax liability in full.

## Key findings, and their drivers

Our analysis yielded several findings. First, before running our DID, we mapped the drivers of e-Tax adoption, irrespective of the mandate. Thanks to the mandate, in just two years, e-Tax registrations dramatically increased by more than 1,700%. Unsurprisingly, we found that larger and more IT-savvy firms are more likely to register on the platform. And it was the same for digital payments of taxes. This evidence appears to imply that less sophisticated and smaller firms struggle to adopt technology, corroborating other studies (Okunogbe and Santoro, 2022).

Second, considering the actual impacts of the mandate, we showed that e-Tax uptake significantly improves filing behaviour. E-Tax registered taxpayers are 60% less likely to file nil returns, and they declare more turnover (+32 per cent) and taxable income (+50 per cent). Intriguingly, final tax liability remains unchanged, indicating that taxpayers find ways to leave their tax obligations unaltered.

Third, on payment behaviour, we documented a similar positive impact. We found a strong impact of e-Tax registration on the probability to pay conditional on filing (+70 per cent), as well as on the final tax amount paid (+64 per cent).

Lastly, we delved deeper into the mechanisms behind our results. These are:

- Technology seems to facilitate compliance, thanks to the important information on deadlines and penalties it communicates to users. Through a reminder and salience effect, treated taxpayers increase on-time filing (+47 per cent) and the likelihood to file VAT, conditional on having filed for income tax (+135 per cent).
- Technology is probably helping taxpayers to track their records, as they are reporting more expenses and deductions, which they had probably failed to declare with manual filing.
- Accuracy of payments also improves, as treated taxpayers are 53% more likely to pay their full liability.
- The e-payment option – which is not directly integrated in e-Tax – does not incrementally improve the positive impacts on payments of the e-filing mandate.
- The largest response to the mandate was from individuals, small-scale enterprises, and urban dwellers – with larger taxpayers still failing to pay their full dues. These findings raise equity concerns. They indicate that larger taxpayers may still be finding ways to avoid taxes even after adopting the technology.

## Policy recommendations

The positive evidence we obtained suggests that ERS should further promote IT adoption to foster positive compliance. However, it is a concern that nearly a year (eight months) after the mandate, less than half (41%) of taxpayers had taken up the technology. ERS should strengthen awareness on the technology and willingness

to adopt it, aiming for the majority of taxpayers to file digitally. Coupled with awareness, the performance of the e-Tax platform can be improved by:

- Boosting its resilience to survive peak times and not break down: most taxpayers file their taxes as the deadline approaches.
- Introduce more stringent, data-driven checks and validations for larger taxpayers, who have a stronger tendency to avoid taxes.
- Having an e-payment module to facilitate payment compliance and to enhance tracking of defaulters.

Our research continues. To track and understand the evolution of the mandate uptake, and the medium-term effect, we will use updated data on e-Tax registrations, filings and payments. To complement the quantitative analysis, we plan qualitative surveys to better understand taxpayer challengers, and their perceptions on the technology. In all this, we will continue working closely with ERS so that our research is grounded in a real-world context, investigating the implications of the mandate on data quality and IT practices within ERS. There is much work to be done (Santoro et al, 2021).

**“Due to the mandate, in just two years, e-Tax registrations increased by over 1,700%... The largest response to the mandate was from individuals, small-scale enterprises, and urban dwellers – with larger taxpayers still failing to pay their full dues.”**

## Further reading

Okunogbe, O. and Santoro, F. (2022) The Promise and Limitations of Information Technology for Tax Mobilisation, ICTD Working Paper 135, Brighton: Institute of Development Studies

Kochanova, A., Hasnain, Z. and Larson, B. (2020) 'Does E-Government Improve Government Capacity? Evidence from Tax Compliance Costs, Tax Revenue, and Public Procurement Competitiveness', *The World Bank Economic Review* 34 (1): 101-20

Arewa, M. and Santoro, F. (2022) An Introduction to Digital Tax Payment Systems in Low-and Middle-Income Countries, ICTD Working Paper 152, Brighton: Institute of Development Studies, DOI: [10.19088/ICTD.2022.019](https://doi.org/10.19088/ICTD.2022.019)

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## Credits

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