

An Analysis of Discrepancies in Taxpayers' VAT Declarations in Rwanda

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In recent years, one of the most important developments in African tax administration has been the widespread adoption of value added tax (VAT). A key feature of VAT is its self-enforcement mechanism, which incentivises buyers to request a receipt and claim refunds on VAT paid. This should in principle go against the seller's incentive to under-report sales and pay less VAT. VAT also generates a paper trail: sellers and buyers need to keep records and report data to the revenue authority, which gains information to use for enforcement.

However, VAT can be challenging to implement in low and middle-income countries for at least two reasons: (i) administrative complexity, as the authority needs to check more information to prevent evasion and fraud than for a simple sales tax; (ii) evasion and informality, as the VAT chain can break down when formal taxpayers trade with informal ones, or when under-reporting is widespread.

Working with the Rwanda Revenue Authority (RRA), we focus on the challenge of administrative complexity. This could be solved by better use of available administrative data to spot incorrect reporting. We map the extent and depth of VAT discrepancies in Rwanda from July 2016-June 2017. Two types of discrepancies are studied: (i) internal

discrepancies, i.e. divergent information reported by the same taxpayer in different data sources; and (ii) external discrepancies, i.e. divergent information reported by sellers and buyers for the same transactions. We also measure the effectiveness of the RRA's new (January 2017) refund validation control, which tackles buyers' fake refund claims.

Data description

Our analysis uses anonymised RRA data sources:

1. **VAT declarations:** firm-level quarterly or monthly returns.
2. **Local purchases annex:** transaction level, covering inputs purchased locally (excluding imports); submitted with VAT declaration.
3. **Sales annex:** reporting all sales to any type of purchaser; submitted with VAT declaration.
4. **Electronic billing machine (EBM) data:** transaction-level data transmitted by all EBMs directly to the RRA.

Analysis of discrepancies

We measure internal discrepancies by comparing, for the same taxpayer in the same period: (i) the sum of transactions in

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the local purchases annex with VAT declared in the VAT declaration; and (ii) the sum of transactions reported in the sales annex (or EBM data) with VAT declared on sales. We measure external discrepancies by cross-matching what buyers claim, in the local purchases annex, to have purchased from sellers, with what the same sellers declare, in the sales annex or EBM data, they have sold to those buyers. In principle, the internal discrepancy should be nil as the seller should report in their return the same amount of VAT on sales as reported in the annexes or issued with the EBM. External discrepancy should not arise given the conflicting incentives of buyers and sellers.

However, our analysis tells a different story. Regarding internal discrepancies, while both annexes and declarations are highly consistent, the key finding is that 43 per cent of VAT returns report VAT on sales than is different to the EBM data. Twenty-five per cent show a VAT lower than that reported by the EBM, suggesting sellers are under-reporting sales. External discrepancies are also widespread: comparing transactions in the local purchases annex with those in the sales annex, 64 per cent of purchases claimed by buyers are not reported by sellers. This falls to 25 per cent when using EBM data instead of the sales annex. Sixty-five per cent of sales declared are not claimed back by buyers, both when looking at the sales annex and at EBM data. When the refund validation control is introduced, we see a drastic and statistically significant decrease of buyers over-claiming, mostly due to more rejected claims.

These discrepancies are widespread despite the RRA's great efforts on enforcement, including the introduction of EBMs and the refund validation procedure.

Why do such discrepancies arise?

Regarding internal discrepancies, we see two reasons for the 25 per cent of cases for which VAT declared < VAT EBM, which means sellers are under-reporting. First, evasion: sellers, not realising that the RRA

can cross-check different datasets, issue EBM receipts but omit them from their returns. Second, sellers may use EBMs inaccurately, issuing receipts for larger amounts. In principle, an EBM user should ask for a refund when a mistake is made. However, just 1 per cent of all EBM data is labelled 'refund', meaning that the vast majority don't correct mistakes.

Regarding external discrepancies, we address the surprisingly high number of sales not claimed back by buyers. First, buyers may not know how to claim. Second, buyers may strategically postpone claims to offset future VAT due. Third, buyers may not trust that RRA will refund them in time. Fourth, buyers may want to appear small both on inputs and sales, so they avoid claiming and under-report sales.

Conclusions and recommendations

Our study identifies several issues related to non-compliance, which undermine the functioning of the VAT system. It also shows that the full potential of existing systems to collect information and support enforcement remains untapped.

Our study is purely descriptive, and more efforts are needed to explore what determines discrepancies and what policy measures should be taken to tackle them. We make several recommendations. First, more could be done to clean the EBM data to minimise mistakes. Second, the RRA could systematically cross-check different data sources and report on discrepancies. However, adequate capacity and staff would be needed to follow up on potential cases. A better option might be to add some random cases of discrepancy, on top of the (sensible) criterion of investigating only large ones. Third, further research is needed: through focus group discussions in Kigali, we are exploring the reasons why such discrepancies arise. The qualitative evidence collected will inform the design of a large-scale survey and a possible field experiment targeting non-compliant VAT payers.

Further reading

Mascagni G; Mukama, D. and Santoro, F. (2019) *An Analysis of Discrepancies in Taxpayers' VAT Declarations in Rwanda*, ICTD Working Paper 92, Brighton, IDS

Credits

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