

THE RWANDA REVENUE AUTHORITY'S RESEARCH MAGAZINE

First Edition, 2022

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RWANDA REVENUE AUTHORITY
TAXES FOR GROWTH AND DEVELOPMENT



This is the first edition of the Rwanda Revenue Authority’s Research Magazine.

The magazine follows on from the Rwanda Revenue Authority’s Research Day that took place on 4th August 2022 and hopes to summarize the research that was presented. Both the research day and this magazine will continue to be organized as a regular annual event by the Strategy and Risk Analysis Department.

The structure of this magazine matches the structure of the research day main sessions. The day started with speeches from the Commissioner General and the Commissioner of Strategy and Risk Analysis. There was then a keynote address by Hon Richard TUSHABE, State Minister – MINECOFIN¹, a panel of experts discussing the role of research in tax policy and tax administration in Rwanda, and four paper presentations. Each of these sessions is briefly summarized within this magazine.

The papers presented were chosen based on a competition where RRA² staff and researchers from other institutions in Rwanda were able to submit their work. Those deemed to be of the highest quality of research were then selected for presentation. We have also taken the opportunity to highlight some of the papers, which were not selected for presentation, but were strong candidates and may be of interest within the RRA.

The aim of the RRA Research day is to promote the exchange of ideas and research among Rwanda’s tax experts and stakeholders. It brings together researchers, policy makers, and practitioners to discuss recent research on taxation in Rwanda and constitute an opportunity to enhance cooperation and knowledge transfer through the exchange of innovative ideas to improve the tax system. Moreover, the research day helps to improve the quality of research within the RRA.

¹ MINECOFIN: Ministry of Finance and Economic Planning

² RRA: Rwanda Revenue Authority



A Note from the Commissioner General



It gives me great pleasure to present to you the first edition of the Rwandan Revenue Authority's Research Magazine. This magazine summarizes the events and ideas from the RRA's Inaugural Research Day, which took place earlier in 2022.

The research day allowed researchers across the RRA to showcase their work to an audience of fellow researchers, practitioners,

policymakers and academics. Continuous feedback is how research improves, and knowledge exchange is how new ideas arise. By making our research open to scrutiny and inviting external stakeholders to discuss research questions with us, we can foster a culture of research and maintain our status as a progressive, forward thinking tax authority.

This magazine aims to spread the research, ideas, and questions discussed at the Research Day to a wider audience, including those who were unable to physically make it on the day and those with limited time and spare capacity to directly engage with frontier research. It will also act as a record of the RRA's research work that, in time, can show the progress that has been made towards creating high quality research within the RRA.

Research work can directly improve Rwanda's development outcomes. For example, in 2016 through an innovative tax experiment, we were able to raise \$9m in additional revenue after sending messages to taxpayers within our registry encouraging them to voluntarily comply with and pay their taxes. As the amount of data we store increases, so does the potential for us to produce novel insights that can improve policy in Rwanda.

Finally, this magazine hopes to inspire curiosity around the policy problems facing the RRA today. We hope that readers go on to curate research proposals, develop papers, and collaborate with the Rwandan Revenue Authority on topical research.



A Note from the Commissioner of Risk and Analytics

As the Commissioner in charge of supervising the Research function at the Rwanda Revenue Authority (RRA), I am thrilled to oversee the release of the RRA's very first Research Magazine, a follow up effort to our very first Research Day that also took place earlier this year.



For quite some time at the RRA, we have realized the importance of research as a critical function in decision-making and in shaping policy. In addition to this, because the research function is a supporting tool to other operational divisions at the RRA, we also wanted to open our department to submissions, collaborations, and partnerships with stakeholders whose mission is closely aligned with that of the RRA.

It is with these ideals in mind that we decided to host a Research Day where we would allow external submissions, collaborate with various government institutions, and clearly signal our intent to use rigorous, evidence-based research, as the basis through which policy decisions are made at the Revenue Authority.

Our readers will note that within the array of papers presented here, the authors and collaborators were not solely from the RRA. On the contrary, we have collaborated with multiple external organizations, and have papers authored by writers that sit across various government institutions. This is the precedent that we would like to set going forward as we aim to use the RRA as a springboard where meaningful tax policy research is conducted.

Having said all of this, and without further delay, I am pleased to invite you to be a part of this wonderful journey in reading, and eventually contributing to our ongoing research at the Rwanda Revenue Authority. We look forward to welcoming your contributions for future publications and presentations within the Research Department.

Keynote address – Hon Richard Tusabe, State Minister – MINECOFIN



Hon Richard Tusabe, talked about the importance of research for achieving long-term national development goals. To become a middle-income country by 2030, he notes the need for self-reliance in domestic revenue generation and strong, private sector led economic growth. To do this, the government needs to use research to foster a culture of evidence-based policy making and of monitoring. These improve accountability and promote only the policies, which work.

Mr Tusabe’s speech also spoke of the research day specifically, and its potential for spreading ideas to improve tax compliance and optimize revenue collection. The timing of this research day in 2022 follows the COVID-19 pandemic and the rise in remote operations, virtual meetings, cashless payments, and online transactions. Government departments are now sitting on rich pools of data, which are waiting to be analyzed and turned into meaningful research projects and policy decisions.

He finished by stating that research is important not only for Rwanda’s development, but it also enables Rwanda to share high quality evidence of its experiences and lessons learned across countries, especially on the African continent, thereby helping decision-makers elsewhere.



Panel session: The role of research in tax policy and tax administration in Rwanda.

Panelists, left to right: Mr Jean Louis Kaliningondo (Deputy Commissioner General – RRA), Dr Giulia Mascagni (International Center for Tax and Development), Mr Seth Kwizera (Economic Policy Research Network), Dr Thierry Kalisa (National Bank of Rwanda) and Denis Mukama (RRA), moderated (RRA)



This panel discussed the role of research in policymaking, specifically discussing the role of collaborative partnerships and the role of data, technology and digitization.

They noted that past RRA collaborations have been successful and long-lasting. However, they also cautioned that collaborators should be chosen with care, with good management and aligned expectations important for the success of any given partnership.

The digital transformation of the Rwandan government has generated huge amounts of digital data, which has in turn created large opportunities for policy-oriented research. EBMs, digitized systems for data collection, and other technological transformations will continue this trend. The key questions to think about next are how to use this data effectively for research and policy purposes.



PAPER 1: ACTIVE GHOSTS: NIL-FILING IN RWANDA.

Written by Giulia Mascagni, Fabrizio Santoro, Denis Mukuma, John Karangwa, and Naphtal Hakizimana.
Presented by Naphtal Hakizimana.



CONTEXT:

- In 2017, nil-filing made up half of all Corporate Income Tax (CIT) and a quarter of all Personal Income Tax (PIT) returns.
- It is unknown why so many taxpayers register and submit a tax return with no information in it – it does not make sense as a form of tax evasion and it does not make sense for so many non-income generating businesses to exist.
- This paper conducts a series of randomised control trials and a series of interviews to work out why nil-filers exist.

RESULTS:

- One of the key points of this paper is to challenge the narrative that formalising the informal sector (through large registration campaigns that target even small and yet unregistered firms,) is a good strategy to increase revenue. This paper shows that many of these new taxpayers end up being nil-filers.
- Some nil-filers exist due to failure to deregister and for tax evasion reasons, but these reasons do not explain the majority of nil-filers.
- The nudge to deregister a business that does not generate income was the most effective nudge.
- Qualitative interviews found nil-filing due to revenue authority tax registration campaigns and taxpayer confusion.
- The majority of interviewed nil-filers reported to have registered a business that has never operated.
- Most nil-filers do not end up evading tax as they are below the tax exempt threshold. They have no incentive to accurately file declarations as it does not change their outcome.

RECOMMENDATIONS:

- Better communication needed at the point of registration to reduce confusion.
- RRA should review practices that are not necessarily in line with the law and assess whether they are useful and necessary.
- Simplify procedures as much as possible throughout the tax administration.
- Review the practical rules of tax administration which are not prescribed in law to ensure their usefulness and necessity.
- Target a small portion of nil-filers with checks to close any evasion gap and for deterrence.



PAPER 2: DO TAX AUDITS HAVE A DYNAMIC IMPACT? EVIDENCE FROM CORPORATE INCOME TAX ADMINISTRATIVE DATA.

Written by Christos Kotsogiannis, Luca Salvadori, John Karangwa and Theonille Mukamana. Presented by John Karangwa.



CONTEXT:

- Recent literature on audits has found an ambiguous impact of tax audits on tax compliance.
- Some taxpayers will believe they are less likely to be audited next year if they have been audited this year and therefore less likely to be compliant.
- Different audit types may have different impacts. “Narrow scope” audits have a narrow focus and are much cheaper. “Comprehensive audits” include an in-depth examination of the accounting books and transactions.

RESULTS:

- Significant and robust evidence that audits increase tax compliance one year after the audit.
- Corporate Taxable Income (CTI) increases by an average 20.7% one year after the audit, with 12.3% higher Corporate Income Tax (CIT) payable. The effect after 1 year is not significant.
- The increase in tax compliance is due to the impact of comprehensive audits
- Narrow scope audits have a non-significant effect after 1 year and can decrease tax compliance after 2 years. This may be due to lower intensity of narrow scope audits, and possibly lower accuracy in identifying underreporting.
- The impact on CIT compliance is driven by audited enterprises who have been found non-compliant. For the enterprises who have been found compliant the evidence is inconclusive.

RECOMMENDATIONS:

- Revenue Authorities should review the evaluation of tax audits and their types as behavioral responses might be unpredictable and revenue reducing.
- The positive impact of comprehensive audits on compliance is short-lived (one year).
- Carefully designed ‘nudging’ (which reduces ‘noise’) may positively impact on compliance.
- An information campaign targeting audited enterprises before, during, but also after the audit process might extend the compliance impact of those audits.
- Evaluate the risk criteria used to select who is audited.
- Consider interdependence and the impacts of networks on tax evasion. Individuals typically exchange their experiences with their peers and so can influence or be influenced by the tax evasion of others. Further research should look at the indirect impacts of audits on the peers of those audited.



- Further research should look at the impact of VAT audits.

PAPER 3: HOW RELIABLE IS THE TAXPAYER REGISTER IN RWANDA REVENUE AUTHORITY?

Written by John Kirenga. Presented by John Kirenga.

CONTEXT:

- The quality of the taxpayer registries is crucial for a tax authorities' ability to effectively mobilise taxes.
- Registration and identification underpins key administrative processes such as filing, payment, assessment, collection, and reporting to government.
- Often the registration function is overlooked by tax administrations.

RESULTS:

- A number of gaps have been identified in the tax register including:
- Inaccurate or missing email address.
- Missing 'Main Business Activity' label (ISIC)
- Wrong or no telephone number
- Missing business particulars such as location, wrong or missing identification, and duplicate TINs.

RECOMMENDATIONS:

- Controls needed in the E-Tax system to prevent duplicate TINs (Tax Identification Numbers) for one taxpayer.
- E-Tax system should validate telephone numbers and email addresses.
- Support RDB to upgrade their system, registering taxpayers using ISIC level 6.
- Sensitize taxpayers to remind them to update their details when they change.
- Look at ways to integrate the registries with other government agencies, e.g. Rwanda Utilities Regulatory Agency (RURA) has a database of telephone numbers of all subscribers.
- Tax administrator should put in place a unit in charge of regularly monitoring and updating the taxpayer register.



PAPER 4: IDENTIFYING FACTORS OF TAX FRAUD IN RWANDA USING LOGISTIC REGRESSION MODEL.

Written by Belle Felle Murorunkwere. Presented by Belle Felle Murorunkwere

CONTEXT:

- Tax evasion and tax avoidance are frequent practices among taxpayers across the world.
- Understanding which factors are associated with tax fraud can help address and prevent it.

RESULTS:

Several factors are found to correlate with a higher probability that a taxpayer decides to commit fraud.

Specifically, these were:

- An extra year in business,
- Being a small taxpayer,
- Working in an urban area,
- Being in the industry sector,
- Being an individual taxpayer have been linked, by the study to committing a tax fraud.

Whereas the following factors were found to correlate with a lower probability that a taxpayer decides to commit fraud:

- Being a deregistered taxpayer,
- Being large or medium in size,
- Working at the district city.

RECOMMENDATIONS:

- Follow up on identified factors and use to inform auditing choices.
- Conduct further studies to look at demographic factors and tax fraud.
- Automate these studies to create real-time dashboard with information on tax fraud.



The Research day champions and awards

The two papers that were selected by the review committee and presented to the research day received awards for the Research day champions. These are “Identifying Factors of Tax Fraud in Rwanda using Logistic regression model,” by Ms Belle Fille Murorunkwere and “How reliable is the taxpayer register in Rwanda Revenue Authority?” by Mr John Kirenga

Following the announcement of the winners or the Research day champions 2022, the RRA DCG officially presented the prizes to the two RRA staff whose papers received the highest rating by the Review committee.

Each paper was awarded equal prize of Rwf 500,000, meaning a total of Rwf 1, 000, 000 was given out in cash-prize.

Participants

Participants of the first RRA research day came from a wide range of institutions including universities, international researchers, audit firms, various government institutions, private sector and development partners. Below are some photos of the participants:





RRA research papers: submitted but not presented

Tax controls setting towards SMEs' voluntary tax compliance: A case study of Rwanda Revenue Authority. By Victor Uwayezu.

Context: This paper looked at the influence of tax control on tax compliance among SMEs.

Key Findings: This paper found that the EBM system, which provide a minimum annual revenue to report, did not considerably increase the annual tax or tax due relative to the self-assessment system.

The impact of Tax Expenditure on Revenue Performance, Investment, and Economic Growth in Rwanda. By Adrian Bizumugabe and Naphtal Hakizaman.

Context: Tax expenditures are tax policy measures which mean some groups of taxpayers have a lower tax burden than others. These are often implemented to promote a certain type of activity, sector, or taxpayer, but are costly as they reduce the amount of revenue that is collected.

Key Findings: The following results were significant (in the short run unless stated otherwise):

- VAT foregone in customs has a negative effect on tax revenues but a positive effect on GDP.
- VAT exempted sales has a positive effect on tax revenue in the short run but a negative effect in the long run.
- VAT exempted sales also has a similar effect on FDI and a positive impact on GDP.
- Excise duty foregone negatively affects tax revenues and positively impacts GDP.
- Investment allowances has a positive impact on tax revenue both in short and long run. A long run negative effect on FDI and a short run positive impact on GDP.
- Zero-rated sales have a positive impact on tax revenue and negative impact on GDP.
- Import duty foregone has a long run negative impact on tax revenues, short run negative effect on GDP and a short run positive impact on FDI.

Impact of Tax revenue on economic growth in Rwanda from 2006-2021. By Nzabirida Etienne, Nyirimana Juste, and Gaudence Uwimana.

Context: This paper looked at the impact of direct taxes, taxes on goods and services and tax on international trade on economic growth

Key Findings: This time series analysis finds that there is a long run relationship between tax revenue and growth, but no short-run causality. They find that domestic taxes (direct taxes and tax on goods and services) have a positive and significant relationship with economic growth, whilst there was no evidence of a relationship between taxes on international trade and economic growth.



Magazine Editorial Team

This magazine was produced within the Strategy and Risk Analysis Department of the RRA. The following members were involved in the creation of this magazine.

- John Karangwa, Ag. Head of Research and Policy Analysis (Writer and Editor)
- Annabel Manley, Tax Policy Analyst (Lead Writer)
- Karia Sekumbo, Research Assistant (Writer)
- Innocente Murasi, PhD, Commissioner for Strategy and Risk Analysis (Editor)
- Denis Mukama, Assistant Commissioner Research, Planning, and Statistics (Editor)

If you have any feedback on this magazine or the research day, please get in touch with the research team using the email: rraresearch@rra.gov.rw

