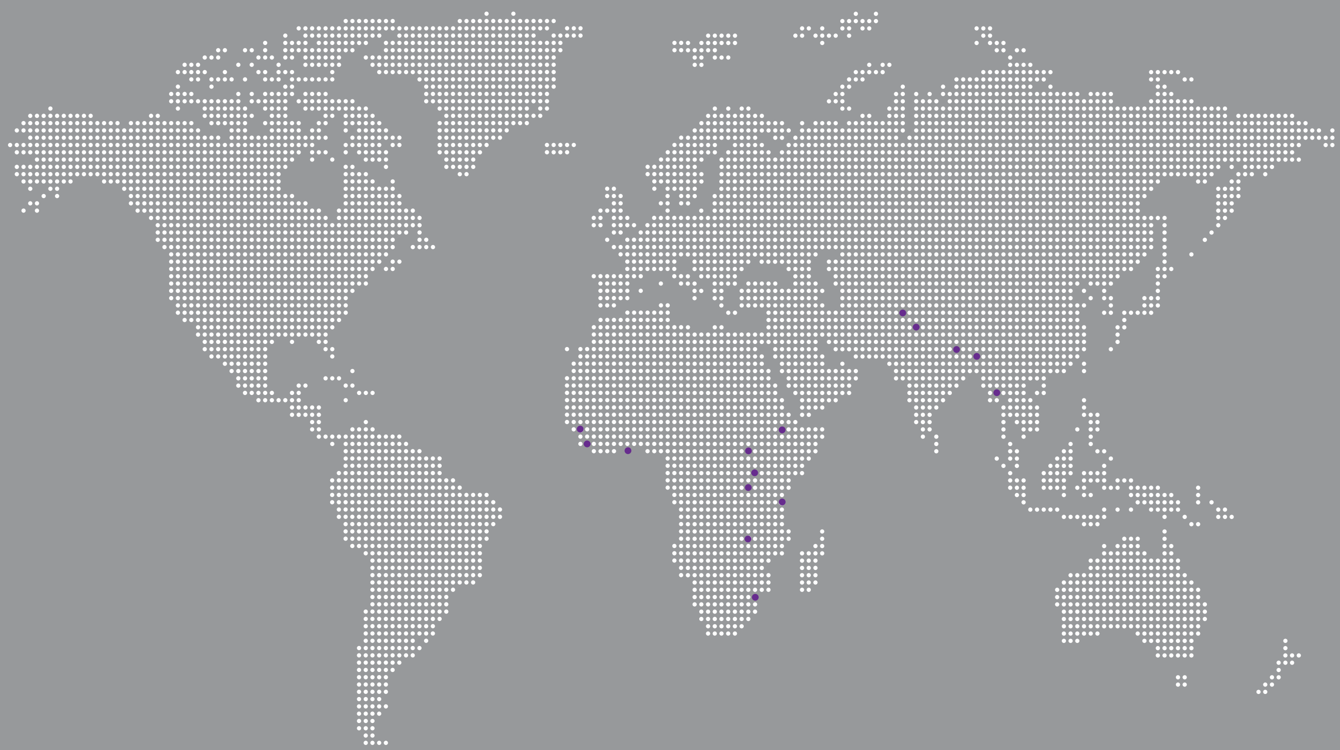
Event report

International experience in tax policy design and enforcement



International Growth Centre

Event report: International experience in tax policy design and enforcement

IGC Regional Conference
Lusaka, Zambia
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I. Background

IGC works closely with its partner governments to promote effective tax policies and systems and increase revenue generation. Historically, research and analysis on these important policy issues has been surprising limited due in part to the sensitivity and low availability of data. IGC's established relationships at the highest levels of government has made it possible to develop strong partnerships with revenue authorities, enabling the IGC to develop collaborative strategies and gain the data access needed to tackle pressing challenges in tax policy and administration. Our work focuses in particular on four areas: tax design, tax enforcement, tax morale, and local taxation.

This IGC regional conference, co-hosted with the Zambia Ministry of Finance, comprised sessions focused on international research in tax design and enforcement, presenting a series of research projects completed in the past two years and including panel discussions for researchers and African policymakers to share lessons learned and experiences. Officials from revenue authorities across Africa participated in the conference from Zambia, Mozambique, Uganda, Ghana, Rwanda, Kenya, and Malawi. The event had buy-in from the highest levels of both the Ministry of Finance and the Zambia Revenue Authority (ZRA) with Permanent Secretary Emmanuel Pamu and ZRA Commissioner General Kingsley Chanda opening and closing the event, respectively. The conference was closed with a signing of a Memorandum of Understanding between the ZRA and the IGC to partner on research and data sharing to strengthen Zambia's tax system. Over 100 attendees representing government, private sector, academia, civil society, and donor organisations participated in the conference.

II. Opening: Taxation in Zambia

Permanent Secretary for Budget and Economic Affairs Emmanuel Pamu opened the conference outlining the tax reforms the government has undertaken over the past few years, aimed not only at increasing revenue collection, but also ensuring that collection is efficient. He added that "there is still room for improvement especially with opportunities to strengthen the use of internal and external data for robust analysis and use of data from the outcome of tax audits, for instance, to improve tax compliance."

He saw the conference as contributing "towards the standards of informed policy formulation" and pointed out the key focus areas of the conference that are particularly relevant for Zambia as it seeks to broaden its tax base:

1. The taxation of high net worth individuals
2. Enhancing VAT compliance
3. The taxation of the SMME sector, in which the majority of the labour force works.

III. Setting the context: Taxation and development in developing countries

Speaker: Adnan Khan, IGC Research and Policy Director

Adnan Khan, IGC Research and Policy Director, situated the keynote address in the context of the low tax capacity in Africa and how research could inform better policy design and implementation. He emphasised the importance of taxation in building effective states and development. He observed that while advanced countries collect 40% of GDP in taxes, on average, a typical African country collects 10%. The challenge therefore is how to get developing countries from collecting 10% of GDP in taxes to 40%. However, he cautioned against copying advanced country solutions in Africa.

Adnan also touched on the challenges of tax design, administration, compliance, enforcement and the importance of third party information and argued that research is needed to shed light on the various aspects of taxation. He concluded by calling for strong collaboration between researchers and tax authorities. He intimated that such collaborations have provided new insights for effective and practical solutions for tax policy design and implementation.

Q&A

Nalukwago Milly Isingoma, Assistant Commissioner, Uganda Revenue Authority: Milly reiterated the importance of research in designing and implementing tax policy. She went on to discuss how collaborations between the Ugandan Revenue Authority and IGC researchers have informed tax reforms in Uganda.

One audience member wondered whether collecting 40% of GDP in taxes is an appropriate target for developing countries, contending that the structure of most African countries are such that this target may not be optimal for them.

With regards to this concern, Adnan clarified that he was not suggesting that African countries should aim at a tax-GDP ratio of 40%. What is optimal for each country needs to be underpinned by vigorous research undertaken preferably by researchers in collaboration with tax authorities, he added.

IV. International experience in tax policy design and enforcement

Chair: Dennis Mukama (Rwanda Revenue Authority)

This session focused on Value Added Tax (VAT), which has been adopted by 80% of countries in Sub-Saharan Africa and generates up to one-quarter of all tax revenue (Keen, 2016). The presenters focused on policy reforms and VAT design by countries in the region.

Strengthening consumers' participation in VAT compliance strategies in Rwanda
Presenter: Anders Jensen (Harvard University)

The focus of Anders' study was to understand to what extent customers can encourage VAT compliance by firms.

- VAT is one of the most important sources of revenue around the world but faces several administrative challenges especially at the final stage of the value chain, particularly because unlike B2B transactions, which create incentives for buyers to ask sellers for receipts, final consumers do not have similar incentives to ask for receipts.
- In the recent past several countries such as Rwanda have adopted Electronic Billing Machines (EBMs) as a powerful enforcement tool to ensure higher compliance and solve the 'last-mile problem'.
- However, because of the poor incentives for customers to ask for receipts (it is costly both in times of time and effort for the customer), issues regarding non-compliance persist.
- Some of the common customer incentive schemes include:
  - **Tax rebate:** customers submit EBM receipt electronically, the receipts are centralised at the tax authority and customers receive a percentage reimbursement of the total receipt.
  - **Lottery scheme:** a good example of this policy was implemented by the state of Sao Paulo, Brazil – where consumers had the option of providing their Taxpayer Identification Number to retailers for it to be recorded on receipts, Retailers would then submit the information of all receipts (including customers ID Numbers) to the tax authority for the chance to win a lottery prize.
  - **The difference between the tax rebate and lottery scheme** is that with a tax rebate, the customer has a more frequent possibility to win a lower prize while with the lottery there is a less frequent probability to win high prize
  - **Whistleblowing scheme:** this incentive scheme works by encouraging consumers to flag firms that are not providing receipts, it is usually supplemented with a lottery or rebate system
- In this vein, there was an IGC research-policy engagement with the Rwanda Revenue Authority (RRA) to design an innovative compliance incentive-scheme that would help ensure consumer participation in the use of EBMs and VAT tax compliance.

The study

- The objective of the survey was to understand the constraints to consumer participation. The research team together with the RRA, designed a survey that would ask consumers what would help them comply with VAT.
- Sample areas were chosen based on administrative data to target areas of high concentration of EBM use.
- The survey questionnaire covered various themes, for example:
  - Knowledge of EBMs and what they were intended for
  - Knowledge of and participation in the EBM receipt lottery
  - Beliefs about alterative incentive schemes (e.g. tax rebates)
  - Constraints on consumers asking for EBM receipts

The findings

- Participation in the RRA's lottery scheme was constrained by two things: 1) the criteria for participation and 2) a lack of knowledge that the scheme existed.
  - While over 95% were eligible based on usage (i.e. these were consumers who possessed a mobile phone or bank/mobile money account), up to 31% were ineligible to sign-up for the lottery as they did not have internet access.
  - There was also a large variation across different parts of the country.
  - On the lack of knowledge that the scheme existed: 40% just didn't know – so widespread and effective information about the scheme can have a large impact.

- The potential impact of the EBMs on tax evasion breaks down due to customers shopping in non-EBM stores, and due to customers not asking for receipts in EBM stores
    - 40% of receipts are made at non-EBM stores. Within the set of EBM-using stores, **up to 45% customers don't ask for receipts**. There is only a marginal percentage where no receipt issued from EBM store and where no receipt is issued when requested for.
    - **If customers ask for a receipt, there is a 90% chance of getting it, but only 15% of customers actually ask.**
- Participation is driven by a rational cost-benefit analysis on the part of the customer: i.e., the benefit of winning over the cost that you may face a price penalty if you ask for receipt.
    - **55% of surveyed customers reported having to pay a 'price penalty'** if they asked for a receipt in an EBM store.
    - The main motivation for participation was the possibility of winning the lottery (81% of customers reported having participated for this reason).
- Most people who participate are younger and follow the TV or news more frequently but only participate once (this is deduced from the fact that 60% have only one unique phone number). Those who do participate more than once do so for only two months.

Policy implications

- When asked what potential reform would maximise their participation in VAT compliance schemes, customers noted that they would like **more frequent and more certain rewards**: so it could be that pay outs are smaller in monetary value and occur on a more frequent basis (e.g., monthly vs quarterly).
- In this regard, a rebate system may be more optimal as it removes uncertainty – the survey also indicated that customers did not appreciate the probability inherent in a lottery system and so seemed to feel cheated or that they had done something wrong, if they didn't win.
- Also with the VAT rebate, you can lessen the 'price penalty' in EBM stores by setting the rebate rate.
- Still, even the VAT rebate scheme has its own administrative issues, for example: misunderstanding about which firms are eligible, set-up costs incurred to participate may be higher than the lottery system (e.g., internet usage), and transition from the current lottery system to rebate system may create confusion.
- The researchers are currently in discussion with RRA on which policy design is most cost-effective, suitable, and sustainable.

Information, fiscal capacity, and tax enforcement: An experimental evaluation in Uganda

Presenter: Justine Knebelmann (Paris School of Economics)

The objective of this study was to understand how effective the VAT paper trail is as a disincentive to evasion and also how it can it be used to encourage tax compliance.

- Over 40 African countries have so far implemented VAT- however, the weight of evidence is still mixed on whether the adoption of VAT has led to greater tax revenue (Keen and Lockwood, 2010).
- Justifications for VAT adoption include the fact that the tax is revenue efficient since it :
(a) generates opposite incentives which prevent collusion, (b) provides a paper trail from the buyer and seller side, and (c) also prevents unilateral collusion.

- However for the above justifications to hold: the tax authority must have capacity to analyse the returns and tax payer must expect the authority to carry out the verification of paper trail.
- Since 2017, the research team was designing a compliance RCT to see how paper trails can be used to improve compliance.
- VAT in Uganda:
  - VAT makes up one-third of the total tax revenue collected and is evenly split between domestic and import VAT.
  - 85% of the Net VAT revenue comes from the largest 10% of firms.
  - 30% of VAT firms report a non-positive VAT liability in 2015.
  - Because firms file monthly VAT declarations, including unique firm identifiers, the research team is able to cross check buyer-supplier information for discrepancies.

The study

- Based on the firm-level transaction data, the research team sums up transactions between firm pairs (buyers and sellers) with three possible outcomes:
  - **S=B** (VAT reported as paid by seller matches VAT input reported by buyer or case of collusive evasion)
  - **S<B** (***Misreporting*** i.e. VAT reported as paid by seller is less than VAT input reported by buyer)
  - **S>B** (***Underreporting*** i.e. VAT reported as paid by seller is greater than VAT input reported by buyer)
- If you were to correct all discrepancies (i.e. by correcting all cases of misreporting and underreporting), this would translate **to 40% of total net VAT due** for that fiscal year.
- To ascertain if the URA can make systematic use of the VAT paper trail to influence and change firm behaviour in the long run, the research team is implementing a randomised control trial (RCT) based on an information intervention.
- From Feb to April 2018, the team has sent letters to S, B or both where misreporting (S<B) has been identified as a discrepancy.
- So far, 91% of the targeted firms have received a communication from the URA regarding identified mismatches in VAT reported (vis-a-vis a trading partner).
- Outcomes to be measured from this RCT include: Is there an overall impact on VAT liability? Is there a change in firm behaviour or does the pattern of tax filing change?
- So far, preliminary results show that
  - Treated firms (20%) file more amendments after receiving the letter.
  - Also treated firms are less likely to misreport after receiving the letter, and if they do, by a less amount.
  - 18% of firms who amend indicate that they had lumped the listed sale as a sale to final consumer (B2C) instead of reporting it as a sale to a trading partner with a TIN (B2B).
  - 32% of firms who do not amend, indicate that the discrepancy is due to misreporting on the part of their trading partner
  - Overall, there's an increase in VAT liability for 62% of the buyers and 21% for the sellers.
- Some interesting questions for the URA on the follow up of these results, for example:
  - For the 18% of firms that accuse the discrepancy to be on part of trading partner – how will URA treat this?
  - For firms that claim they had lump figures to buyer with sales to final consumer – can URA follow up with EBMs?

Q&A

- *To Anders from* ***Dennis M. (RRA):***

Question 1. How do you overcome challenge of customers NOT requesting for receipt given misalignment of incentives: lower price vs. price penalty or longer wait for a lottery?

- *To Justine from* ***Dennis M.(RRA):***

Question 2. Revenue impacts from correcting all the discrepancies (misreporting and underreporting) are quite significant, what are the assumptions behind the 40% of VAT impact?
Question 3. Did you look at the discrepancies in individual reporting (i.e. unilateral evasion) e.g. by comparing total VAT reported to annexes and other breakdowns in company returns?
Question 4. How do you ensure that there is no collusion between firm pairs?

- *Comments from* ***Milly N. (URA*****):**

Comment 1. Both presentations/ papers need to reflect the co-authorship with local counterparts (e.g. RRA for Anders and URA for Justine). This will encourage transfer of skills and learning
Comment 2. What the URA is doing as a result of findings presented:
  - VAT fraud scheme: As a result of the analysis of tax returns carried out during the study, the URA discovered that there were fly-by-night firms that were printing and selling invoices. Identified TINs of such firms are to be revoked and removed from the tax system
  - Regulation of tax auditors: Following up the discrepancies with an investigation, the URA discovered that it was private tax agents who are supporting this misreporting practice – the URA has therefore embarked on the regulation and registration of all of tax agents and auditors. Additionally, one of the key checklists in regulating these tax agents will be cross-checking for misreporting in the returns submitted.

- *To Anders from* ***Ronald W. (URA):***

Question 5. How effective is the receipt system in Rwanda?

- *Comments and Questions from* ***Joseph Sirengo (Manager for Research, Knowledge and Corporate Planning, Kenya Revenue Authority*** **):**

Comment 3. The receipt system had been undermined by printing of illegal receipts (similar to Uganda) and culprits are now facing legal penalties.
However there have also been a few challenge with enforcement of receipts in the courts: and there is need to work with judicial system on this – some cases against non-EBM using firms, have been blocked because the judges have ruled that it is not a must to request a receipt.
Comment 4. In Kenya, main issue with the EBMs is the non-use of the machines (e.g. various counters in a firm, not using receipts linked to the EBM while other counters are connected)
Question 6. To Justine from Joseph Sirengo: Would the results be different if disaggregated by firm size: (e.g. In Kenya, one issue the KRA is still trying to understand is why small firms are claiming large portion of VAT refunds – why are small firms making large claims yet they pay the smallest portion of VAT payments?)

- Questions from Zambia Revenue Authority

Question 7. *To Anders:* Zambia is currently rolling out Electronic Fiscal Devices (EFDs) – so far these have been piloted in some firms. What are some of the quick measures that could be implemented to ensure maximum usage of machines – because from the presentation, 40% non-usage is significant yet RRA has been doing this for the last 5 years.

Question 8. *To Justine:* There was not much emphasis on underreporting – what was the extent of the mismatch as a ratio to GDP or tax revenue collection?

Responses

Anders:
1. How to combat the issue of consumers not asking for receipts:

- There is a need for further research to better understand the customer's incentives (e.g. why do customers choose to shop in one shop versus another? Are customers indifferent between firms and are simply searching for the lowest-price or is there an aspect of attachment/loyalty)? If there is no attachment and customers are simply seeking for the lowest price, then one could look at how to induce competition. But if customer decisions are based on loyalty and attachment, as opposed to price-seeking, it is then harder to induce competition in such a scenario.
- Another alternative is use of "the carrot" – reward firms that implement the EBMs and are not enforcing the price penalty on customers. Firms might then be encouraged to shop through public displays or ads that show complaint firms.

2. EBMs – to Ronald's point: adoption of the EBMs is costly as the cost of implementation for firms (esp. small firms) is quite high and even the cost to government/tax authority for follow-up. If the cost of take-up is too high, you may see small firms actually choose to drop off the tax base.

Justine:
1. To answer Dennis' question on the 40% revenue impact: More details in final report and brief. However, the main assumption: misreporting was due to seller.
   Also took into account the rules for refunds – if you firms had a negative liability (which was 30% of firms), then they were not eligible for a tax refund.
2. Regarding the discrepancies in individual reporting: this is built into the E-tax system - there's an automatic check that the total VAT value needs to match annexes. What's not currently automated is the offset that you can enter (and so currently some firms are simply carrying over the offset from previous month while some firms have been found to enter an offset that's larger from previous month) This is an area that the team could do further analysis on.

3. Regarding the Heterogeneity between small and large firms: large firms are more likely to physically visit the URA as opposed to phone or email. So future responses and behaviour may be different. Upcoming findings will better reflect this.

Final takeaway from the chair: A lot of information and data, but usage is low. Need to think of ways in which we can use this data for compliance and tax administration.

V. Business taxation

Chair: Dennis Chiwele (Country Manager, IGC Zambia)

This session focussed on the taxation of businesses – including SMEs and large firms. Presenters focussed on tax evasion, compliance, and the importance of raising revenues without impeding economic activity through onerous regulations.

Tax compliance costs

Presenter: Sharon Smulders (University of South Africa)

- The presenter motivated the study by citing the high unemployment rate in South Africa of 26% of which youth unemployment is high at 56%. This indicates that small business have a big role to play in the addressing unemployment. However, there are a number of challenges facing small businesses including, funding, access to markets, labour laws, crime, lack of skill, regulatory compliance. In South Africa the government developed the integrated small business development strategy that has the aim of;
    - Increased financial support
    - Created small business products and services
    - Reduce regulatory constraints
- The strategy also has incentive mechanisms by identifying high performing small businesses. High performing businesses are identified using a five criteria assessment. The high performing ones get various incentives including tax benefits and the ability to participate in government contracts.

The study

- This particular study focusses on regulatory constraints to the tax system and tax compliance. Tax compliance has two costs associated with administrative costs and compliance costs. The former pertains to the ease and fairness of transacting with revenue authority while the latter pertains to costs incurred by the tax payers. The administrative costs by the South African Revenue Services (SARS) operates as around 1% of the total revenue collected. However, the tax payer compliance costs are not known.
- It is important to know the costs associated with tax compliance for tax payers for a number of reasons. First of all it diminishes business resources without raising income. It helps to assess the efficiency of the tax regime and tax complexity and it also affects tax compliance behaviour of tax payers.
- It is possible to calculate the costs incurred by the taxpayers on tax compliance. How are compliance costs calculated? Here are the components:
    - Internal time spent by owner - number of hours spent by the owner on tax compliance
    - Advisors time (external) – this can be measured using the cost paid to advisors
    - Incidental stationery, training, software etc – this can also be measured at cost
    - Possibly psychological costs – This is difficult to measure
- The preliminary findings of this study indicate that tax compliance costs are high for individuals. The tax compliance costs of medium and large businesses are not made public by the study. For small business the tax compliance costs are high and regressive. Frequently, SBs are not aware of the incentives provided by the authority. The eligibility criteria for the incentives are not inclusive and they are hard to understand for small business owners. The study also finds that the laws and operational procedures are complex.

Policy recommendations

- On the operational side improving education and outreach to SMMEs and revenue authority staff is essential. In addition, making e-filing easier and introducing apps with zero data fees can be helpful.
- On the policy side it is important to conduct tax compliance cost surveys to measure the effects of reforms on tax compliance costs. It is also important to do regulatory impact analysis on the legislation.

Future research

The following are identified as future research areas

- Continual TCC studies
- Determine best education and outreach practices
- Review effectiveness of small business tax concession
- Simplify operational procedures

On the legislative side there are some specific areas worth exploring. Particularly,

- Review complexity of legislation
- Legislative complexity
- Layout and length of legislation

- Readability is a challenge when it comes to legislation The Gunning Fog Index – estimates the years of formal education a person needs. Some of studies estimates the small business tax Gunning fog index to be 21.6 (which means it requires 21.6 years of education to understand the legislation. This is considerably high and requires intervention.

Tax evasion and missing imports evidence using transaction level data

Presenter: Kiflu Molla (Ethiopian Development Research Institute)

- Developing countries collect less taxes as a share of economies (informal sectors and structure). It is paramount to raise as much revenue as possible to finance development efforts. In order to achieve this it is important to raise revenue without impeding economic activity which requires closing loopholes and effectively capturing tax avoidance. This is however a daunting task.
- Foreign trade taxes account for 36% of total tax revenue. Though constrained by capacity focussing on enforcement is an important target. This would also require optimising tax rates to maximise revenue. This in turn requires understanding the relationship between tax rates and tax evasion. Understanding this relationship is further important to understand the loss of tax revenue from a reduction in tax rates which is common in the decision to join free trade agreement like the WTO.

The study

- This study asks if there is a relationship between tax rate and tax evasion. It uses a panel data and a variation created by an introduction of SUR tax in 2007. It also uses transaction level trade data to estimate evasion gap and trade taxes. In the literature the relationship between tax rates and evasion is ambiguous.
- We assume that exporters mostly report a correct amount as exports are usually not taxed. Importers are likely to under-report the value of the import to avoid taxation which is made on CIF levels. Using data from UN's COMTRADE database, the study analyses export and import data from more trustworthy trade partners of Ethiopia.

Findings

- There is no relationship between statutory tax rate and tax evasion. However, the study finds a positive relationship between tax rates and effective tax rates. This result holds in a few specifications. This relationship is declining over time. In addition, the study finds that differentiated products are easier to evade as expected but this is not statistically significant. There is suggestive evidence that Importers also use mislabelling to evade taxes.

- Due to shortage in foreign exchange, the central bank in Ethiopia (National Bank of Ethiopia) rations foreign exchange. This encourages importers to request lower value of foreign exchange and purchase the difference from the parallel market. The researchers anticipate two counteracting effects of this shortage. One is that importers may evade taxes as they are less likely to get foreign exchange for luxury items which encourages them to report less. On the other hand, forex shortage will increase the price of imported items which will lead to less evasion by importers.
- The study also adjusts for the value of trade costs.

Further research

- Estimating the amount of tax evasion
- Evasion for different sectors and products

Q&A

- **Allan W. Mtonga (Budget Office, Ministry of Finance)**: To Sharon: SSME products free trade agreements which promote free trade agreements. How do you promote domestic demand for domestic goods against foreign? **Response:** Promote local products is a key priority once we help local products we can start helping others. We have preferential trade
- **Simsala Musa (small scale miners):** To Sharon: We don't have the capital. Authority introduced a report system without engagement with small scale enterprises. It goes against the authority so they don't report. They don't report because they don't get any support. **Response:** How the money is spent is important
- **Mr. Tatila Lonely (Civil Society Media Aid- Zambia):** To Sharon: Outreach and education How can we educate for people effectively when they are more illiterate. Response: they started with individuals (start at the primary schools is key. Introducing it in the school system). There is a political problem as well some politicians don't want people to know taxes. Training on young SME is also another method. All trades need to learn about taxation.
- **Justine Knebelmann:** To Kiflu: For the sample of 10 countries what is the order of magnitude of the gap**? Response:** It was not our aim but we will do that in further research.

VI. Collaborating on evidence for tax design

Chair: Justine Knebelmann (Paris School of Economics)

This session focussed on collaboration between researchers and policymakers in designing effective tax policies. Presentations covered a collaboration in Uganda targeting high net worth individuals and one in Zambia targeting personal income tax.

Taxing high net worth individuals
Presenters: Milly Nalukwago and Ronald Waiswa (Uganda Revenue Authority)

- Milly and Ronald from the URA presented on their efforts to tax high net worth individuals (HNWIs) in Uganda through a special unit dedicated to this taxpayer group.

The study
- The objectives of the study were:
  Phase I
    - Categorising and identifying potential HNWIs in Uganda;

    - Analyzing the legal and URA administrative strengths and weaknesses in taxing this segment of taxpayers;

  Phase II
    - Understanding criteria for the identification of HNWIs;
    - Assess the URA approach to taxing HNWIs,
    - Draw lessons for and from URA
- Following the first phase of this research, the URA established a HNWI unit in September 2015 with 5 staff.
- They created a register of VIPs and updated the register.
- The study found HNWIs typically invest in real estate and invest off shore and are policymakers or those who can influence policy.
- They hide income in less sophisticated methods (property, businesses, transactions under family members' names).

Policy lessons
- Unit in URA dedicated to HNWIs has been very successful in recovering taxes. Lessons: encourage voluntary compliance, build staff capacity of unit (staff to taxpayer ration 1:54).
- The unit uses info available in databases (duties on property) to interact with HNWIs.
- Staff come to these meetings armed with knowledge and use soft skills – individuals in public offices encouraged to speak with Commissioner General and other leaders. Information is kept confidential.
- The unit also tries to collect info from other agencies and carries out research that can be operationalised
- The unit has advised Kenya on the topic of taxing HNWIs
- Lessons for other African revenue authorities:
    - It is important to have the support of senior management.
    - Sometimes it is important to simply start with the little information available without waiting until one has good definitions and comprehensive lists. The learning process is continuous and definitions and lists can be revised along the way.
    - Use public knowledge: the rich are known.
    - Do a national identification survey- HMRC got 40,000 and retained 2,000 after subjecting them to criteria. Some were richer than those on the register.
    - Technical expertise vs soft skills. If HNWIs wield a lot of political influence, communication skills are more important.
    - More internal and external collaborations.

Reforming personal income taxation in Zambia

Presenters: Kelvin Mpempamoto, Evaristo Mwale (Zambia Revenue Authority), and Anders Jensen (Harvard)

- This study investigated the tax gap in the taxation of personal income tax in Zambia.
- The focuses on the failure of tax agents that filed and paid Turnover Tax (TOT), to simultaneously file and pay the liabilities under Pay As You Earn (PAYE).
- The study used the PAYE and the TOT databases, to identify the most likely groups of non-compliers on the TOT base and estimate the potential PAYE gains from this group of non-compliers.

Findings
- In 2016, only 11.8 percent of all returns in the TOT database were compliant for PAYE. Companies were the predominant taxpayers registered for TOT and paying PAYE representing (87.88% of merged sample).
    - In 2016, there were 1,958 unique complier firms, and 6,342 unique non-complier firms
- The key characteristics of the complier group were

    - Average number of employees: 8.3 employees
    - Average amount of monthly PAYE: K 1,232.5
    - Average ratio of monthly wages to monthly turnover: 16 percent
    - Total PAYE tax of K 18,003,775 was paid in 2016 by TOT registered compliant taxpayers.
- Under the assumption that non-complier firms had similar characteristics to complier firms, the estimated the potential tax in the non-compliant group as follows:
    - Total annual number of uncovered employees: 171,007 employees
    - Total annual PAYE taxes: K 23,430,151
    - Average annual PAYE per newly uncovered employee: K137.01

Policy recommendations

- There are three sets of recommendations that emerge from the analysis:
    - In increasing compliance enforcement, there is need to target those taxpayers that file exact round-number amounts below K10,000 (that is 1000, 2000, 3000, … , 8000, 9000, 10,000)
    - Target identified non-compliant group of firms who file monthly turnover between K90,000 and K150,000. This is because such taxpayers tend to under-report their turnovers while their compliant counterparts often pay PAYE for their employees.
    - Propose systematic TOT-PAYE cross-match to integrate TOT risk element into PAYE audits.

VII. Experience in tax design and administration

Chair: Sharon Smulders (University of South Africa)

This session focussed on innovations in tax design and administration. Two studies examine the role of technology in building tax capacity (Ghana) and reducing evasion (India), and the other study uses a microsimulation of a few developing countries to determine the welfare effects of preferential VAT rates.

Building tax capacity: Evidence from technology investments in Ghana

Presenters: Anders Jensen (Harvard University) and James Dzansi (IGC Ghana)

- One of the primary constraints in Ghana is the inability of the government to collect taxes. Taxes are vital for raising economic productivity and ensuring sustainable development. Taxes fund public goods provision and can help increase the pace of economic and political devolution. Jensen emphasised that there was broad understanding and appreciation of the revenue potential for local taxation but consensus on the best way to improve local tax systems was lacking.

The study

- The study’s main research questions were:
    1. What are the key constraints to raising revenue in Ghana?
    2. What is the current cost of collection?
    3. What are revenue returns to improve tax collection?
- To answer the above research questions, the researchers in partnership with the Ghana Revenue Authority surveyed 5,300 respondents. The survey:
    - Covered all 216 local governments in Ghana.
    - Included all local officials involved tax collection: chief executives, top legislator, administrators and revenue collectors plus a random sample of residents in each local district capital.

- Considered a wide range of relevant dimensions of tax capacity: billing, collection and enforcement processes, technology and the use of databases, cost of collection etc.

Findings

- The study found human capital is very high among local tax officials with 76% of respondents having a college degree compared to 10.6% among the surveyed residents. This impressive level of education means that local tax authorities might have a high capacity to quickly absorb innovative, cutting-edge tax policies such as the use of technology.
- Compliance rate is high. From the survey, 76% of respondents report paying property tax however the tax base could be higher since a reported 52% of respondents report not receiving a tax bill.
- Use of technology among tax officials is deficient, and cost of collection is high.
- To address these issues, the researchers explore the most optimal way to design a high potential and feasible policy solution. In particular, the potential for an appropriately designed and implemented IT solution to help with valuation, registration, and payment.

Randomised control trial scheduled to start July 2018

- To capture the effect that an IT solution would have on the baseline they conduct an RCT where the order in which local governments get the IT system is randomised. Local governments are then evaluated on:
  - Revenue performance: overall local tax collection, coverage rate, and compliance
  - Cost of collection: number of salaried revenue collectors, salary as a percent of revenue collected.
  - Expenditure and citizen engagement: citizen awareness, participation, and satisfaction

Preferential VAT rates, cash transfers and redistribution

Presenter: Ross Warwick (Institute for Fiscal Studies)

- Warwick presented on the welfare effects of preferential VAT rates, a standard policy feature in developing countries, and how it compares to welfare effects of pure cash transfers. Using a microsimulation in Ghana, Ethiopia, Sri Lank and Zambia. He concludes that preferential VAT rates are not well targeted towards low consumption households and can contribute to a wider income gap.
- According to Warwick, preferential VAT rates are usually used to:
  - Enhance economic efficiency; however, there is little evidence of this from LMIC
  - For administrative reasons
  - To ease the tax burden on specific vulnerable groups in the population
- The primary data set used is household survey data which Warwick then combined with budget data. Where available input-output tables and social accounting matrix where incorporated into the analysis.

Findings

- Preferential VAT rates are expensive costing up to 25% of the VAT revenue in Ethiopia. Costs vary across other countries studied and this is driven by differences in VAT rules. Warwick also finds that households at the top benefit more from VAT exemptions in Ghana and Zambia.
- Warwick then looks at how a universal basic income program that saves 75% of revenue stacks up. He looks at effects on redistribution, poverty headcount and inequality.
- The main conclusion of the paper is that preferential VAT rates are not well targeted toward low consumption households.

Who's bogus? Machine learning to tackle VAT evasion

Presenter: Ofir Reich (Center for Effective Global Action, UC Berkeley)

- The research team was commissioned by the National Capital Territory of Delhi to use machine learning techniques to create a cost-effective way to identify bogus firms. Traditional methods of monitoring take a lot of time and human resources. The project is estimated to save Delhi around $30 million.
- Ofir et al. used VAT returns of all registered private firms. They used the data of previously identified bogus firms to create a training set on which to train the machine learning algorithm. The algorithm was then used on a data set to identify suspicious behaviour for follow up by the tax authority.
- Two key characteristics of bogus firms are: their transactions reduce the tax liability of real firms and they themselves have low levels of profitability. From the machine learning algorithm, the researchers can expect 30% of the firms they flag to be bogus firms.
- The research approach can be applied towards other tax evasion issues and can leverage tax data to reduce the cost of current traditional monitoring practices. The two main criteria for an eligible project is the availability of tax data that can be anonymised and the problem at hand must be clearly outlined.

Q&A

- The audience was very interested in all the projects presented. The first comment came from a member of the Zambia Chamber of Mines. They expressed their frustration with frequently changing tax laws and urged policymakers to make tax policy decision using strong empirical evidence.
- Justine asked how much coordination typically happens in Delhi between bogus and real firms. Ofir said it is a difficult question to answer with the current analysis and it would benefit from an RCT design that looks at how firms respond to inspection particularly firms in the upstream. Milly (Uganda Revenue Authority) jumped in and invited Ofir to potentially collaborate with them on a project.
- Ofir asked Ross Warwick if he had any insights into what goods governments could consider removing VAT preferential rates from. Warwick said it depends on the country context, but general non-essential goods might be a good place to start.
- Sharon Smulders asked Anders Jensen and James Dzansi to elaborate on how they calculated the cost of Ghana’s tax system. The authors said the estimates presented were lower bound costs since they only included the salaries of collectors. They said this makes the potential of an IT intervention particularly interesting because it could either fully displace current tax collectors or it could free up their time to take on other responsibilities.

VIII. Challenges and opportunities in using evidence to inform tax administration and reform

Chair: Adnan Khan (IGC)

This policy panel featured representatives from the revenue authorities of several African countries including Uganda, Ghana, Zambia, Rwanda, Kenya, and Malawi sharing their views and experiences on the challenges and opportunities in using research in tax policy design and implementation.

- Adnan began the panel with an open-ended question on where research would be the most useful for tax authorities.
- **Milly Nalukwago (Uganda Revenue Authority)**
    - o Identified property taxation as a key area. Challenge is that taxpayers think they're being double taxed. How do we increase awareness about taxation amongst the population?
    - o Taxation and trade liberalisation – 40% of Uganda's revenue from international trade taxes. International taxation issues – illicit financial flows – how can we address these issues?
    - o Policymakers need operational research. Researchers must work closely with implementers from the beginning, and use simple and non-technical language. For example, the URA is working with UNU-WIDER to anonymise data.
- **Charles Addae (Ghana Revenue Authority)**
    - o Focused on the 6 pillars of tax policy design – why the policy is needed, who is affected by the policy, when or where taxpayers would be affected, how will they behave once policy is in place, and what is required of them.
    - o He said the following would help:
        - Research into interests and motives of actors/stakeholders in policy design and implementation
        - Research into the phases of tax policies
        - Research into institutions (i.e. norms and traditions) that tax policy affect.
        - Research into acceptability of tax policies (e.g. tax rates, fairness, burden/incidence, compliance cost etc.)
        - Carry out intensive tax education
- **Ezekiel Phiri (Zambia Revenue Authority)**
    - o Issue of target setting and how Ministry of Finance sets targets for ZRA
    - o Need to understand optimal levels of revenue for different areas (how can research support in this area?).
    - o At what cost are revenues collected? We should be mindful of this and wary of cost of administration and compliance.
    - o Fairness also key: consider the taxation of informal sector in this regard and the practicality of implementing certain policies.

    Areas for research:
    - o Gaps in personal income tax (extend the work by Kelvin, Anders etc.) & explore further.
    - o People who do not declare (diplomats) a concern.
    - o HNWIs – only identified 40 in Zambia (learn from Uganda).
    - o VAT gap work – 2013/2015 (IGC) – not publicised, clear policy gap around compliance.
    - o Taxation of SMEs – potential work here with GIZ.

- Monitoring of real-time transactions (IMF project for data matching, note that systems are not talking to one another – expect this to bring results).

- **Denis Mukama (Rwanda Revenue Authority)**
  - The most important questions around tax policy design are: purpose, impact, proportionality, practicality, regional integration, and unintended consequences.
  - Quality of information is very important in operationalising research. RRA has placed a lot of effort on cleaning up data as we recognise the importance of quality data.
  - A simple communications strategy with personalised messages to taxpayers raised millions in revenues.
  - Policymakers can have good intentions but they can only achieve reality with research. Research informs us of what isn't working.

- **Joseph Sirengo (Kenya Revenue Authority)**
  - Kenya's Tax to GDP about 17% and cost of Collection is 1.3%
    - Need to consider optimal mobilisation of revenue
    - Need to support the growth and development goals of the Government
    - Need to ensure the goal of distribution or allocation of resources is taken into account
    - Ensure that the tax burden is equitably and fairly shared
    - Align the tax structure and design to the overarching goals of the government
    - Ensure the tax policy and design does not impact negatively on the ease of doing business.
    - Should minimise potential for tax base erosion
    - Should ensure stability in the fiscal policy
    - Flexibility – ensure the tax law can accommodate changes in the structure of the economy.
  - Evidence and research could help in the following areas:
    - Need support from the highest political office
    - Tax incentives and exemptions should be based on evidence and research
    - Confidence in the tax system is important – this could be demonstrated from evidence and research findings
    - Support to particular segments of the society should be provided from the expenditure side of the budget and not the revenue side
    - Evidence has shown that certain tax incentives such as VAT zero rating or duty free importation of essential products never benefit the intended consumers (the poor in the society)
    - The poor could be cushioned from the expenditure side of the budget.
  - Some of the challenges for KRA include:
    - Taxation of high net worth individuals – Learning from Uganda Revenue Authority's experience
    - Informal sector taxation – Plans to change from turnover tax to presumptive tax pegged on single business permit
    - Base erosion and profit shifting
    - Increase in exemptions and tax incentives
    - Taxation of e-commerce
    - Big data analytics.

Q&A

- **On mining tax compliance in Zambia:** Ezekiel said companies hire tax experts with whom the ZRA cannot compete skill-wise. They have upskilled mining unit and are working more on transfer pricing.

- **On VAT collection efforts in Zambia**: Ezekiel referenced ZRA implementing a VAT lottery in 2013, seemed to be successful (jump in VAT collection) but no research was done and MoF needed to look at the bigger picture. E-fiscal devices came into being afterwards. Expect these to be a longer-term solution. After presentation it is clear they need more research in this area.

IX. Key takeaways

The conference drew to a close with a signing of a Memorandum of Understanding (MoU) between the International Growth Centre and the Zambia Revenue Authority (ZRA), formalising the two organisations' ongoing collaboration on research and data sharing to strengthen Zambia's tax system.

ZRA Commissioner General Kingsley Chanda said the relationship between the two organisations would "enrich our research skills and ultimately the quality of our tax policy advice to government."
He went on to say that the role of tax research is to deliver research that enhances tax policy and administration which can provide lasting benefits to the economy, and is confident the presentations from the conference would help inform ZRA's work.

Anand Rajaram, IGC Zambia Country Director, also summarised some of his key takeaways from the conference.

1. **The quality of data matters:** this echoed Denis Mukama's (Rwanda Revenue Authority) comments about the RRA putting much effort into the cleaning of their data, recognising the importance of data quality in operationalising research evidence.
2. **The importance of collaboration between researchers and policymakers:** this was a connecting theme throughout the conference with several successful examples of this being presented including IGC projects developed in close collaboration with the revenue authorities throughout Africa.
3. **Research builds trust in the tax system:** researchers and policymakers agreed that ensuring policies are evidence based builds credibility for revenue authorities and increases taxpayer trust in the tax system.