

How Can Lower-Income Countries Collect More Taxes?

The Role of Technology, Tax Agents, and Politics

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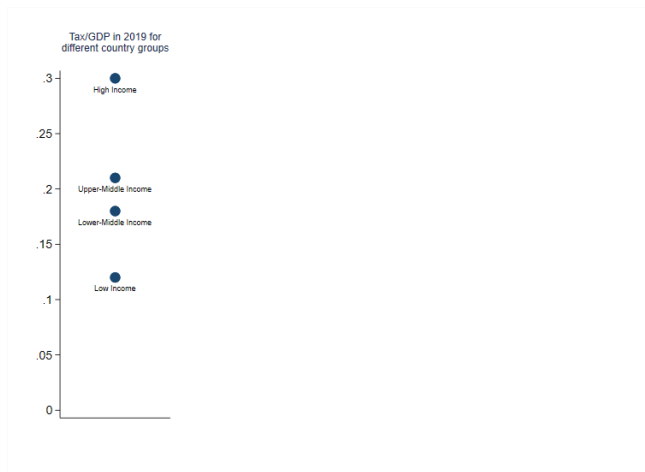
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¹ Acknowledgements: Kairat Umargaliyev provided outstanding research assistance in preparing these slides.

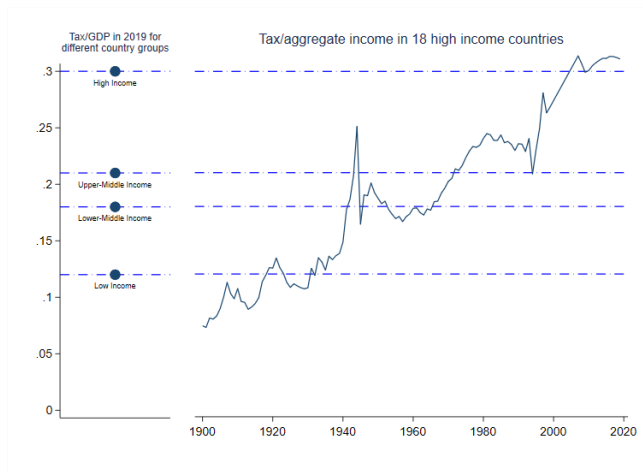
Taxes are crucial for development, but lower income countries do not collect enough taxes

- Low-income countries today, on average, collect much lower tax/GDP



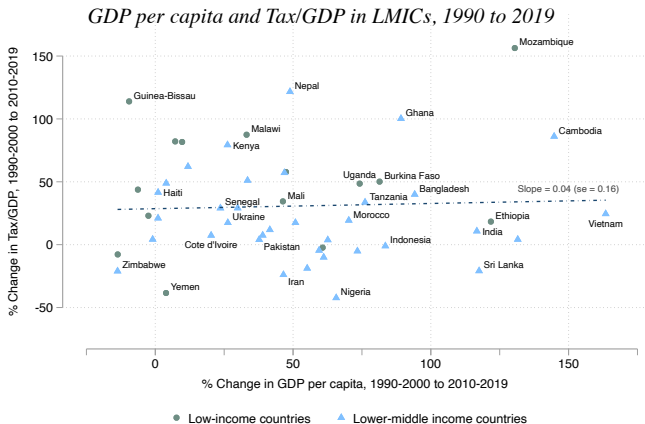
Taxes are crucial for development, but lower income countries do not collect enough taxes

- Low-income countries today, on average, collect much lower tax/GDP
- Levels similar to high income countries a century ago
- Is tax capacity a 'by-product' of economic growth?



Data sources: UNU WIDER 2022a, Besley and Persson 2014, Mitchell 2007

Tax collection does not automatically rise with economic growth



Data sources: UNU-WIDER (2022a, b)

Countries need to invest in tax capacity to increase tax collection

- Tax rates and policies in lower income countries are often similar to developed countries → suggests important role of tax administration capacity
- Three key dimensions of tax capacity governments must invest in (Cotton and Dark 2017, Okunogbe 2023):
 - ▶ **Identification:** identify taxpayers/ tax base
 - ▶ **Detection:** verify amount of tax liability
 - ▶ **Collection:** collect revenues into state coffers
 - ★ Facilitation
 - ★ Enforcement

This paper highlights key lessons from evidence on increasing tax capacity and collecting more revenues

TECHNOLOGY

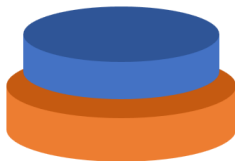
Powerful tools for identification, detection and collection



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TECHNOLOGY

Powerful tools for identification, detection and collection



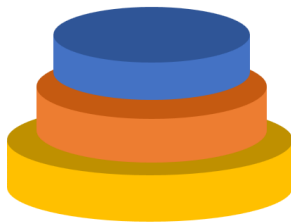
TAX OFFICIALS

Deployment and incentives

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TECHNOLOGY

Powerful tools for identification, detection and collection



TAX OFFICIALS

Deployment and incentives

POLITICS

Ultimately determines tax capacity investments

Technology provides tools for increasing different dimensions of tax capacity

- Identification:

- ▶ taxpayer identification e.g. biometric IDs
- ▶ business registries
- ▶ geocoded property databases

- Detection:

- ▶ Collecting and processing third-party information e.g. electronic fiscal devices to report sales, electronic payments, electronic invoicing for VAT crosschecks, cross-country data sharing

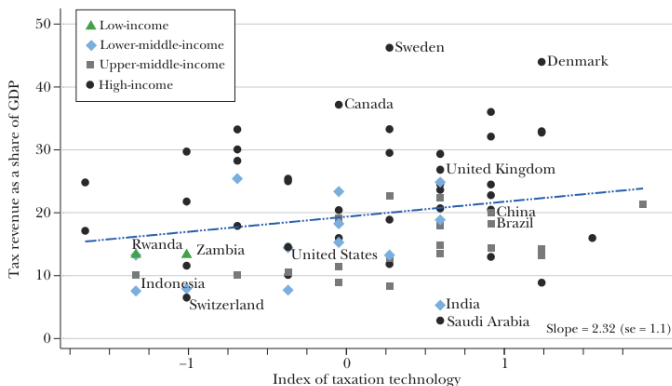
- Collection (facilitation):

- ▶ Electronic tax transactions e.g. e-filing and e-payment

See also Okunogbe and Santoro 2023 (WBRO), 2023 (JAE) and Policy Research Talk 2021

Use of **technology** is positively correlated with tax collection

Taxation Technology and Tax-to-GDP



Data source: CIAT, IMF, IOTA and OECD (2022) and OECD (2023)

Practices to maximize impact of technology

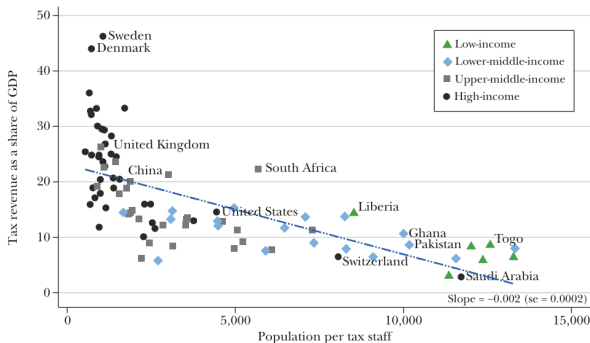
- Don't just collect information, use it systematically
 - ▶ e.g. to inform risk-based audits to target enforcement (Almunia et al 2023)
- Anticipate strategic taxpayer responses and close loopholes
 - ▶ e.g. when government collects revenue data, taxpayers increase deductions (Carillo et al 2017, Mascagni et al 2021, Naritomi 2019)
- Ensure complementary investments in enforcement capacity to translate uncovered liabilities into revenues (Okunogbe 2023)

Tax officials are a crucial input to tax capacity

Countries that collect more taxes:

- use more staff
- use them differently

Population per Tax Staff and Tax-to-GDP



Data source: International Survey on Revenue Administration (CIAT, IMF, IOTA and OECD 2022)

Beyond numbers, incentives and deployment of tax officials matter for their performance

- **Deployment:**

- ▶ Assigning more staff to larger tax bases (Basri et al 2021)
- ▶ Prioritizing enforcement (Kapon, Del Carpio and Chassang 2022)
- ▶ Team assignments (Bergeron, Tourek and Weigel 2023)

- **Incentives:**

- ▶ Financial bonuses (Khan, Khwaja and Olken 2016)
- ▶ Location preference (Khan, Khwaja, Olken 2019)

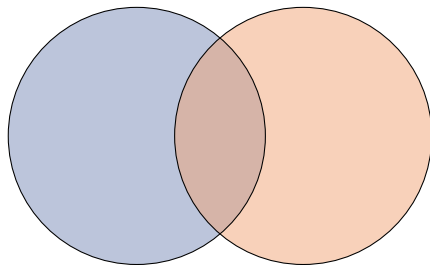
Key challenge is to balance the strengths of **technology** and **human tax agents**

- **Technology-based systems**

- ▶ standardized interface for all taxpayers
- ▶ process massive amounts of tax data
- ▶ may disadvantage certain taxpayers

- **Manual systems with tax officials**

- ▶ rich contextual knowledge from repeated interactions with taxpayers
- ▶ possibility of bias, collusion or extortion



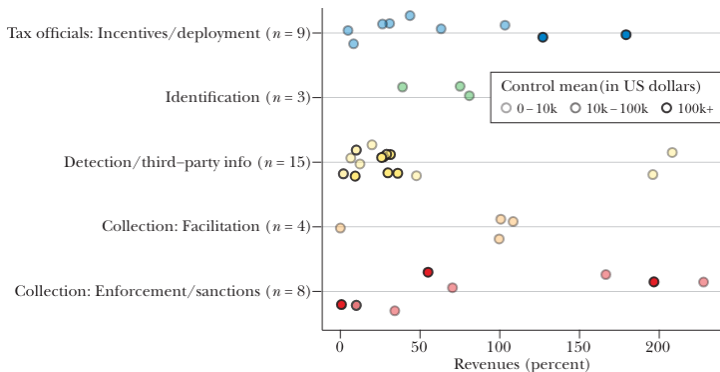
A wide range of interventions have increased tax collection substantially

- **39 interventions across 26 studies:** Ghana, Dem Rep Congo, Liberia, Pakistan, Uganda, Rwanda, Peru, Costa Rica, Ecuador, China, Colombia, Ethiopia, Brazil, India, Tajikistan, Venezuela

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Impact of tax interventions (Okunogbe and Tourek 2024)



Political incentives will ultimately determine tax capacity

- Politicians may be unwilling to bear political cost of taxation so may limit investments in tax capacity and enforcement of tax laws
 - ▶ Asking citizens to pay taxes increases their political engagement (Weigel 2020)
 - ▶ Cross-country evidence of lower tax collection prior to competitive elections (Prichard 2018)

- Some key factors that may shape the cost-benefit calculus of politicians in determining how much taxation to pursue:
 - ▶ alternative revenue sources (Ferraz et al 2024)
 - ▶ political competition
 - ▶ available technologies for reducing the salience and cost of collection

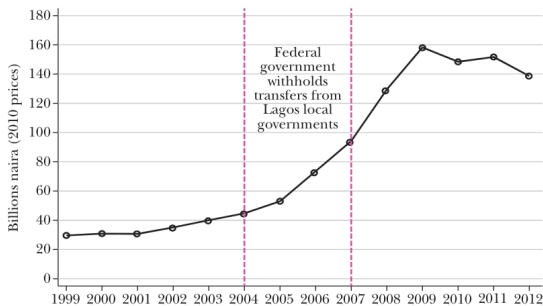
The case of Lagos, Nigeria illustrates how **political motives** shape tax efforts

Transformative tax capacity gains may require a combination of factors:

- Motivated government
- Technology investments
- Personnel investments

de Gramont 2015; Gaspar, Jaramillo, and Wingender 2016; Cheeseman and de Gramont 2017; Bodea and LeBas 2016

Tax Revenues in Lagos State, Nigeria



Data source: Lagos State Ministry of Economic Planning and Budget (2006, 2010, 2013)

Going Forward

- Areas for future research:
 - ▶ How to maximize complementarities between technology and tax officials
 - ▶ How to adapt to future technological changes like digital currencies and take advantage of innovations like AI
 - ▶ How to build broad-based political support for strengthening taxation

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- New World Bank initiative to harness electronic tax data for research and policy and provide technical support to tax administrations in using such data

The logo for DATAX features the word "DATAX" in a bold, sans-serif font. The letter "D" is a vibrant blue and contains a white graphic of three vertical bars of increasing height, resembling a bar chart. The letters "A", "T", "A", and "X" are a dark navy blue. The "T" has a unique, slightly curved top bar.

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