

# How Can Lower-Income Countries Collect More Taxes?

## The Role of Technology, Tax Agents, and Politics

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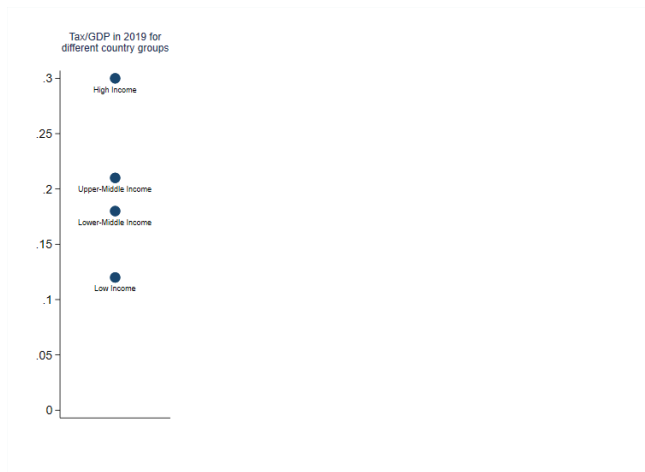
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University of Pittsburgh

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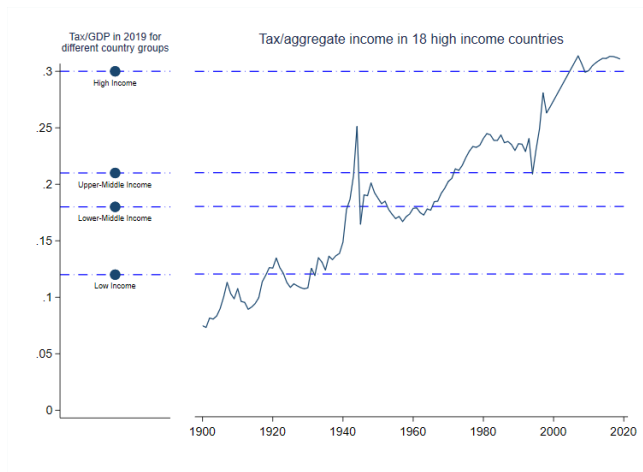
# Taxes are crucial for development, but lower income countries do not collect enough taxes

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



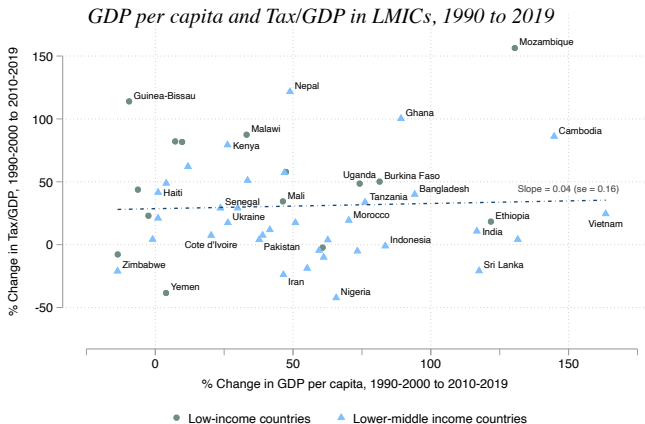
# Taxes are crucial for development, but lower income countries do not collect enough taxes

- 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
    - F Facilitation
    - F Enforcement

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

## TECHNOLOGY

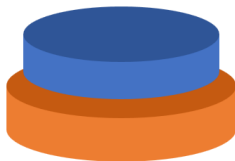
Powerful tools for identification, detection and collection



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## TECHNOLOGY

Powerful tools for identification, detection and collection



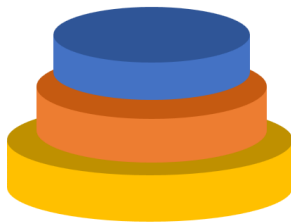
## TAX OFFICIALS

Deployment and incentives

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

## 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

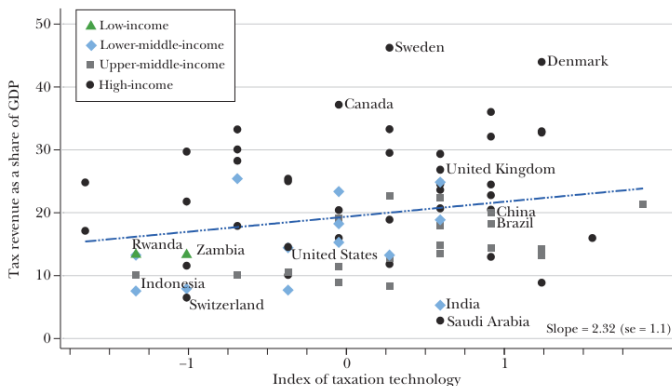
- Collection (facilitation):

- | 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

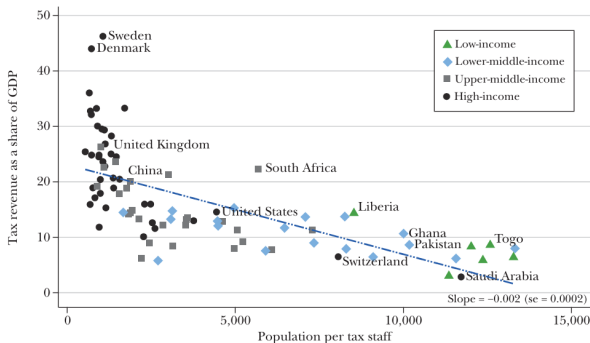
- Don't just collect information, use it systematically
  - ┆ e.g. to inform risk-based audits to target enforcement (Almunia et al 2023)
- Anticipate strategic taxpayer responses and close loopholes
  - ┆ e.g. when government collects revenue data, taxpayers increase deductions (Carillo et al 2017, 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)

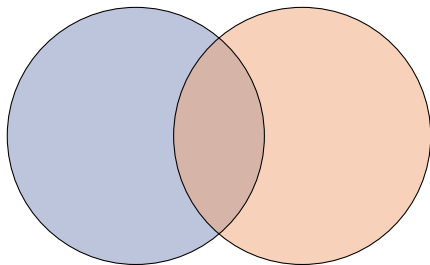
# Key challenge is to balance the strengths of **technology** and **human tax agents**

- **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



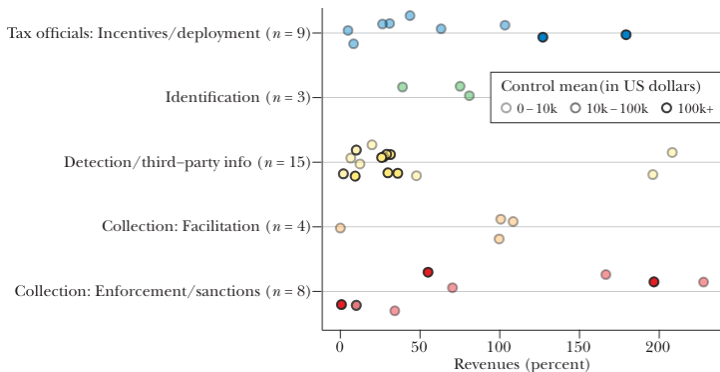
# A wide range of interventions have increased tax collection substantially

- **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

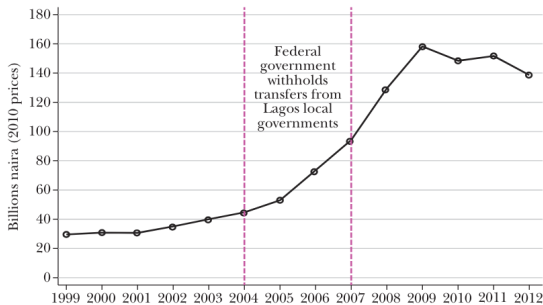
# The case of Lagos, Nigeria illustrates how **political motives** shape tax efforts

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

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

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