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# MEASURING AND REDUCING TAX GAPS: KEY ISSUES FOR EFFECTIVE DOMESTIC RESOURCE MOBILIZATION IN DEVELOPING COUNTRIES

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# Plan

- Tax gaps estimations
  - Main methodology: Tax Effort  $\Rightarrow$  TaxPotential  $\Rightarrow$  Tax Gaps
  - Alternative approach: Input-Output tables.
- A particular issue
  - The regressivity of some tax incentives: CIT holidays

# Main Methodology

- Tax Gaps
  - Difference between Potential Tax Revenue and Actual Tax Revenues
  - Two dimensions:
    - Policy Gap  $\Leftrightarrow$  Tax expenditures
    - Compliance Gap : Tax fraud/evasion, administration issues...
- Empirical estimation of tax effort.
  - Stochastic Frontier Analysis
  - Based on macroeconomic database, IMF World Database.
- Tax effort estimation  $\Rightarrow$  Tax potential  $\Rightarrow$  Tax gap
  - Tax expenditures assessment report  $\Rightarrow$  Policy gap.
    - Tax exp.: Benchmark tax system and derogatory tax regimes
  - $\Rightarrow$  Deduce Compliance Gap.

# Tax Effort

- Empirical approach
- Determining the tax revenue potential based on available macroeconomic data.
- Relevant variables (very standard approach in the literature)
  - GDP per inhabitant (niveau de revenu),
  - Size of the agricultural sector in the economy,
  - Trade, openness, (import+export)/GDP,
  - Natural resources wealth (World Bank estimates).

<https://shiny.mesocentre.uca.fr/app/taxeffort>

# Results (1)

| Countries         | Tax<br>revenue/GDP | Tax Effort<br>(total) | Tax<br>Revenue<br>Potential | Tax Gaps     |
|-------------------|--------------------|-----------------------|-----------------------------|--------------|
|                   | <i>A</i>           | <i>B</i>              | <i>E=A/B</i>                | <i>E-A</i>   |
| Equatorial Guinea | 7,15               | 0,335                 | 21,36                       | 14,21        |
| Gabon             | 11,14              | 0,391                 | 28,48                       | 17,34        |
| Mauritius         | 19,97              | 0,393                 | 50,83                       | 30,86        |
| Congo, Rep.       | 8,52               | 0,394                 | 21,59                       | 13,07        |
| Botswana          | 15,13              | 0,404                 | 37,47                       | 22,34        |
| Sudan             | 5,09               | 0,405                 | 12,59                       | 7,50         |
| Seychelles        | 30,11              | 0,414                 | 72,69                       | 42,58        |
| Nigeria           | 6,14               | 0,422                 | 14,55                       | 8,41         |
| ...               | ...                | ...                   | ...                         | ...          |
| Cameroon          | 13,55              | 0,532                 | 25,46                       | 11,91        |
| Tanzania          | 11,25              | 0,532                 | 21,12                       | 9,87         |
| Uganda            | 11,77              | 0,533                 | 22,06                       | 10,29        |
| South Africa      | 26,26              | 0,537                 | 48,95                       | 22,68        |
| Kenya             | 15,67              | 0,548                 | 28,62                       | 12,95        |
| Mozambique        | 23,13              | 0,570                 | 40,58                       | 17,46        |
| Burundi           | 17,04              | 0,606                 | 28,12                       | 11,08        |
| <b>Average</b>    | <b>13,74</b>       | <b>0,486</b>          | <b>28,27</b>                | <b>14,53</b> |

# Results (2): The case of WAEMU countries

|                | <i>Average 2018-2022</i> |                   | <i>FY 2021</i> |                   |            |                       |            |
|----------------|--------------------------|-------------------|----------------|-------------------|------------|-----------------------|------------|
|                | <b>Tax Revenue</b>       | <b>Tax Effort</b> | <b>Tax Gap</b> | <b>Policy Gap</b> |            | <b>Compliance Gap</b> |            |
| Benin          | 11                       | 0,47              | 12,40          | 2,00              | 16%        | 10,404                | 84%        |
| Burkina Faso   | 15,4                     | 0,52              | 14,22          | 1,20              | 8%         | 13,015                | 92%        |
| Côte d'Ivoire  | 12,8                     | 0,49              | 13,32          | 1,03              | 8%         | 12,292                | 92%        |
| Mali           | 15,3                     | 0,52              | 14,12          | 3,00              | 21%        | 11,123                | 79%        |
| Niger          | 10,4                     | 0,53              | 9,22           | 1,92              | 21%        | 7,303                 | 79%        |
| Senegal        | 17                       | 0,52              | 15,69          | 6,20              | 40%        | 9,492                 | 60%        |
| Togo           | 14                       | 0,53              | 12,42          | 2,30              | 19%        | 10,115                | 81%        |
| <i>Average</i> | <i>13,70</i>             | <i>0,51</i>       | <i>13,06</i>   | <i>2,52</i>       | <i>19%</i> | <i>10,54</i>          | <i>81%</i> |
| <b>SSA</b>     | <b>13,95</b>             | <b>0,56</b>       | <b>13,15</b>   |                   |            |                       |            |

# Alternative Approach: Input-Output Tables

- Advantages:
  - Allows distinguishing both types of gap (policy and compliance)
  - Allows appreciating sector-specific gaps
  - Introduce legal dimension of the tax
- Issues:
  - Sensitivity to assumptions
  - Size of the informal sector across sectors
  - Threshold effect: Intermediary consumptions,

# Results (1): VAT gaps

|                      |      | Actual VAT<br>Revenue | VAT revenue<br>without tax<br>expenditure | VAT revenue<br>without<br>informality | Policy<br>Gap | Compl.<br>Gap | Total<br>Gap |
|----------------------|------|-----------------------|-------------------------------------------|---------------------------------------|---------------|---------------|--------------|
| <b>Benin</b>         | 2016 | 3,73%                 | 8,71%                                     | 3,93%                                 | 4,98%         | 0,20%         | 5,19%        |
| <b>Burkina Faso</b>  | 2019 | 4,04%                 | 7,90%                                     | 1,86%                                 | 3,86%         | -2,18%        | 1,68%        |
| <b>Côte d'Ivoire</b> | 2017 | 7,11%                 | 9,55%                                     | 7,41%                                 | 2,44%         | 0,30%         | 2,74%        |
| <b>Mali</b>          | 2017 | 4,19%                 | 5,34%                                     | 3,82%                                 | 3,51%         | -0,38%        | 3,14%        |
| <b>Senegal</b>       | 2022 | 5,00%                 | 11,16%                                    | 1,88%                                 | 6,17%         | -3,12%        | 3,05%        |
| <b>Togo</b>          | 2017 | 8,40%                 | 10,01%                                    | 9,39%                                 | 1,61%         | 0,99%         | 2,60%        |
| <b>Average</b>       |      | 5,41%                 | 8,78%                                     | 4,71%                                 | 3,76%         | -0,70%        | 3,07%        |

# Results (2): VAT gaps by sector

|                                                     | Benin | Burkina Faso (1) | Côte d'Ivoire | Mali (1) | Senegal (1) | Togo  |
|-----------------------------------------------------|-------|------------------|---------------|----------|-------------|-------|
| Food products incl. Agriculture, cattering, fishing | 66.41 | 67.12            | 34.09         | 88.20    | 63.26       | 40.97 |
| Manufacturing                                       | 3.54  | 2.72             | 0.13          | 1.48     | 9.24        | 28.38 |
| Transport                                           | 14.32 | 0.11             | 39.47         | 4.88     | 8.31        | 1.42  |
| Accommodation and food service activities           | 17.63 | 0.70             | 13.66         | 17.59    | -           | -0.67 |

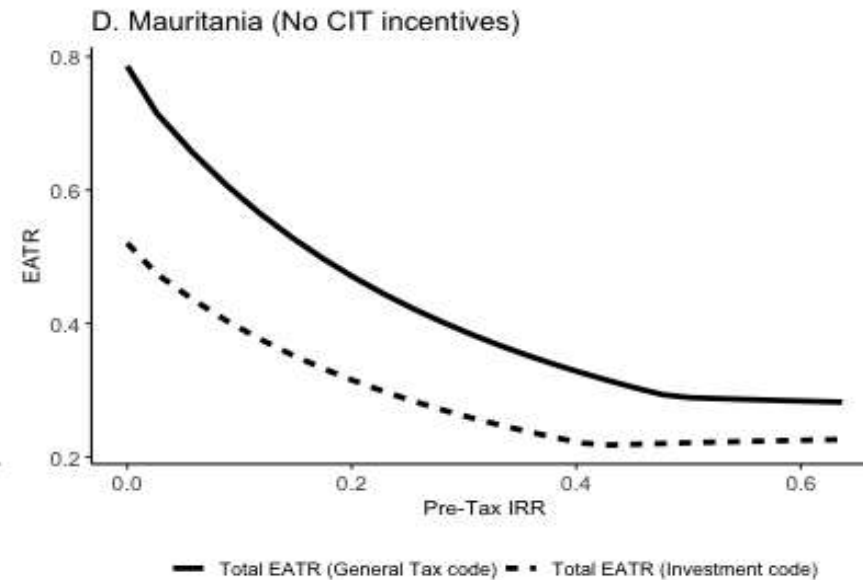
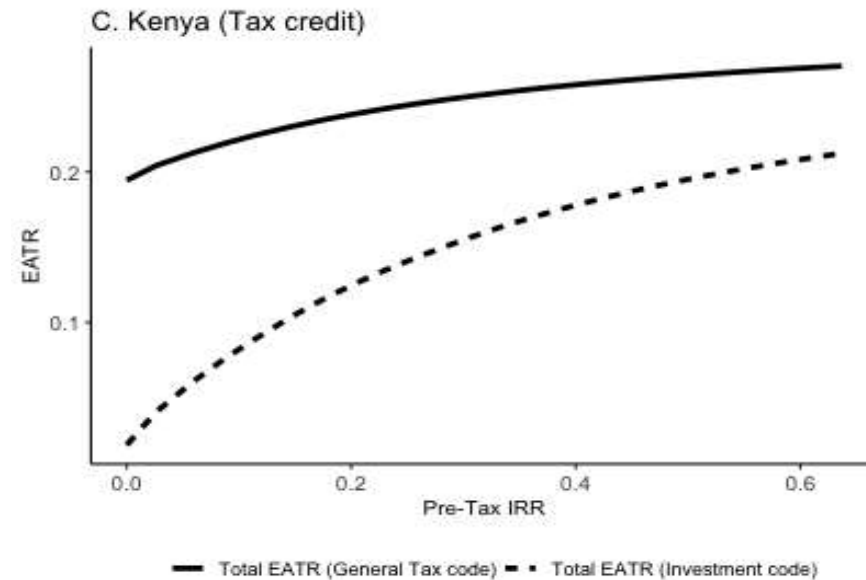
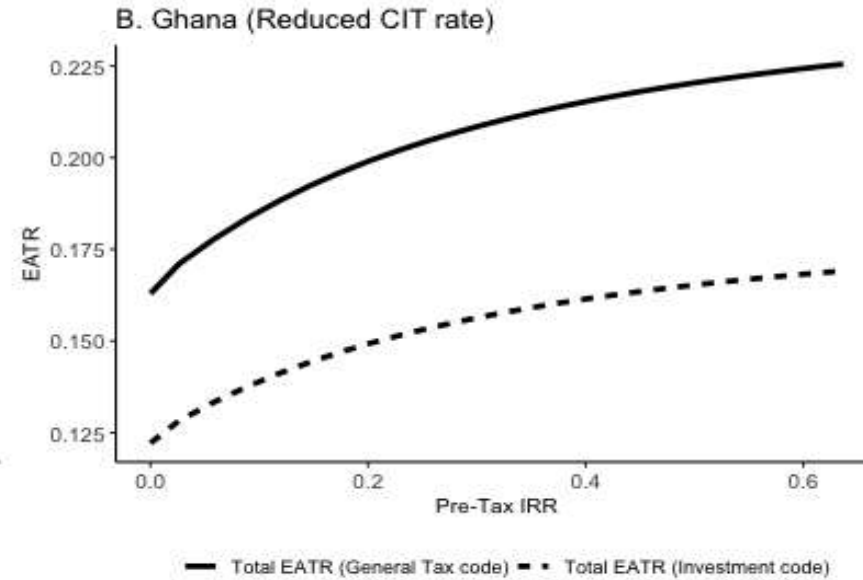
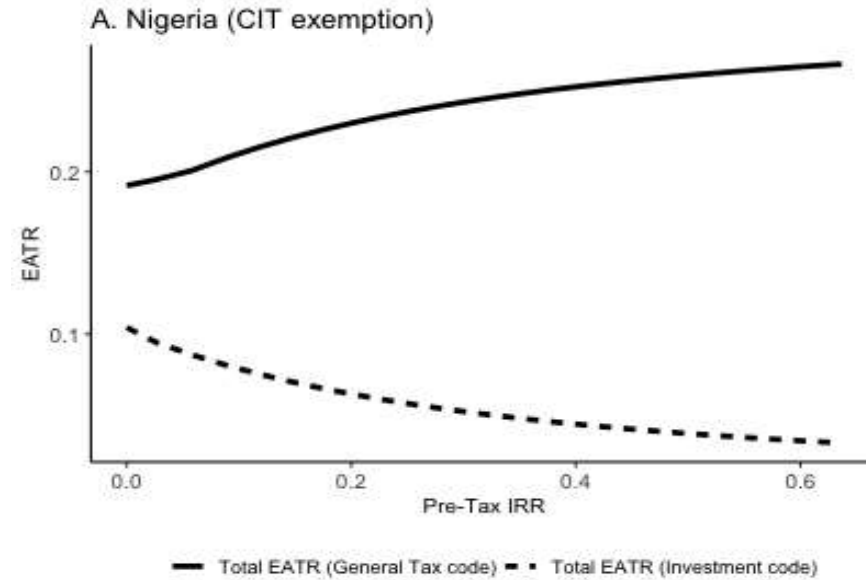
1: Policy Gap only

# One issue: The regressivity of some tax incentives (A wrong tax expenditure)

- To attract FDI, multiple tax incentives
  - Part of an (harmful) tax competition?
- Beyond their effectiveness, how to design them?
- Progressive (regressive) tax system.
  - Does the tax burden increase (or decreases) in the reported income?
  - Usually associated with PIT and VAT.
  - CIT used to be progressive in USA (until 2017), is progressive in Morocco (since 2016)
  - EU discussion on the taxation of excess profit, windfall tax, Extractive industries...

# Methodology

- Compute a representative firm's Effective Average Tax Rate (EATR) with and without investment tax incentives.
  - Similar to Djankov et al. (2010) and the *Doing Business* report appr.
  - Main taxes applied to a standard firm
    - CIT, Minimum Income Tax (MIT) if any usually based on firms' turnover, Custom duties (CD), Employer Lump-sum Contribution (ELC)
  - Main tax incentives in the Investment Code
    - CIT exemption, CIT rate reduction, Tax credits.
- How do EATRs vary when the before-tax profitability of the firm increases from 1 to 60 percent with and without tax incentives?
- R-Shiny application for replication and updates:
  - <https://shiny.mesocentre.uca.fr/public/app/citregressivity>



# Conclusion and Recommendation

- CIT exemptions => Regressive tax system.
- Highly redundant since it boosts the revenue of firms that would have invested without these incentives.
  - 20 out of the 44 SSA studied countries have a regressive EATR profile.
- By contrast, CIT credits may restore the tax system's progressivity by taxing relatively more profitable firms.
- ***Move from CIT exemption to CIT credit***
  - Tax credit advantage capped by the invested amount or targeted expenditures.
  - Reverse the burden of proof (administrative cost vs compliance costs)