GTED Global Tax Expenditures Database

Regional Workshop on Tax Expenditures

Session 3: Estimating Revenue Forgone

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Introduction (1/2)

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Governments pursue different policy goals, e.g. greening the economy, boosting investment and, creating jobs, through:

1. Direct spending
2. **Tax expenditures (TEs)** – tax benefits that reduce taxpayers' liability as well as revenue collection

Besides minor differences (e.g. behavioral economics) the overall budget impact for the government (and taxpayers) is the same

- Giving (receiving) 100 USD = reducing tax revenue collection (liability) by 100 USD

Definition: "*TEs are tax provisions that deviate from a normative or a* ***benchmark tax system***" (World Bank, 2006)

Introduction (2/2)

1. *Opaque* → Global Tax Expenditures Database (GTED) – www.GTED.Net
   - 116/218 jurisdictions are non-reporting countries, i.e. have never released any TE report
2. ***Costly → Revenue forgone***
   - 5-year global average revenue forgone: lies at 4% of GDP and 24% of Tax Revenue
3. (Often) *ineffective* in reaching stated goals, and can trigger *side effects or externalities*, e.g. inequality
4. Potential for *TE reform* → Rationalizing the use of TEs is an additional avenue for domestic resources mobilization (DRM)

Methodology and data (1/2)

Three methodologies or approaches to measure TEs:

- ***Revenue forgone***: estimates the amount by which taxpayers have their tax liabilities reduced as a result of a TE based on their actual current economic behavior
- *Revenue gain*: estimates the additional revenue that would be collected if a TE was removed, accounting for potential behavioral changes resulting from this removal
- *Outlay equivalent*: estimates the government cash outlay required for an alternative direct spending program replacing the TE that would have the same benefit for the taxpayers - also, assuming no behavioral changes

Methodology and data (2/2)

- **Consumption taxes**, estimates are based on national accounts data and/or household expenditure data, and calculated by simply multiplying the pre-tax consumption value of a tax-preferred item with the size of the rate reduction

- **Direct tax** rates can differ across taxpayers. Hence, TEs channeled through PIT or CIT, can be estimated based on tax administrative data (tax returns) or based on **micro-simulation models**, which are based on data from a representative sample of taxpayers

  - Most of microsimulation models use a three-step approach to compute revenue forgone estimates:

1. baseline specification is defined by applying the actual or benchmark tax law to the data to compute tax liabilities,
2. impact of removing one (or several) TE(s) is computed by running the model without the TE(s), and comparing the results to the benchmark scenario, and
3. results are scaled-up in order to obtain the aggregate revenue forgone

Examples: Types of Tax Expenditures (2/5)

Deduction: Amount deducted from the tax base

- In 2020, Oil company X recorded a taxable income of USD 100 M
- The government grants a USD 30 M **deduction**
  - USD 100 M – 30 M = USD 70 M (new, smaller taxable income base)
  - **Revenue forgone**: USD 30 M x CIT rate

Examples: Types of Tax Expenditures (3/5)

Tax Credit: Amount deducted from tax liability

- In 2020, Oil company X recorded a CIT liability of USD 30 M
- The Government grants a USD 10 M **tax credit**
  - USD 30 M – 10 M = USD 20 M (new, smaller CIT liability)
  - **Revenue forgone**: USD 30 M – 20 M = USD 10 M

Case Study: Brazil's PIS/COFINS fuel tax reduction

- Rate relief for fuel consumption introduced in 2004 to limit domestic fuel-price variations
- Reduction in the fuel tax levied on all retail sales of refined petroleum products, e.g. diesel, gasoline, natural gas, kerosene
- The tax is levied on the basis of fixed prices and volume sold
- **Revenue forgone**: revenue generated when standard tax rate is applied - revenue generated using the reduced fuel-tax rate

Case Study: Rate relief consumer support. Brazil's PIS/COFINS fuel tax reduction

I. The **benchmark and preferential tax rates** are obtained from the Ministry of Finance, the Internal Revenue Authority or Customs sources:

Diesel tax rate	**2019**
PIS/COFINS standard sales tax rate (BRL/m3)	BRL 461.5/m3
PIS/COFINS effective reduced sales tax rate (BRL/m3)	BRL 351.5/m3
Differential rate (standard – reduced)	**BRL 110/m3**

Case Study: Rate relief consumer support. Brazil's PIS/COFINS fuel tax reduction

II. Determine fuel consumption

Sources of consumption figures (in order of priority)

- Tax authorities, Internal Revenue Office, Ministry of Finance, Customs
  - VAT returns
- Ministry of Energy
- National energy balance data based on sectoral and fuel breakdown
  - IEA World Energy Balances (data in kilotonne of oil equivalent - ktoe) or United Nations Energy Balances (data in terajules - TJ)
- Household or Industry surveys on final consumption

Case Study: Rate relief consumer support. Brazil's PIS/COFINS fuel tax reduction

In this case, data IEA was used (ktoe)

- The PIS/COFINS affects all domestic fuel sales of diesel in Brazil
  - Total Final Consumption is in ktoe
  - But, tax rates are expressed in $\frac{BRL}{m^3}$
  - Hence, convert ktoe into equivalent m^3 using dimensional analysis as follows:

$$1\ ktoe\ diesel\ x\ \frac{1\ kt}{1.01\ ktoe}\ x\ \frac{1{,}186{,}000\ l}{1\ kt}\ x\ \frac{1\ m^3}{1000\ l} = 1{,}174.26\ m^3$$

Case Study: Rate relief consumer support. Brazil's PIS/COFINS fuel tax reduction

- Final consumer diesel sales (IEA, 2019): 42,071 ktoe
- Applying the conversion factor:

$$42{,}071\ ktoe\ diesel\ x\ \frac{1\ kt}{1.01\ ktoe}\ x\ \frac{1{,}186{,}000\ l}{1\ kt}\ x\ \frac{1\ m^3}{1{,}000\ l} = 49{,}402{,}017\ m^3\ diesel$$

III. Compute revenue forgone

$$Revenue\ forgone = equivalent\ consumption\ in\ m^3\ x\ differential\ tax\ rate$$

$$\boldsymbol{Revenue\ forgone} = 49{,}402{,}017\ m^3\ x\ 110\frac{BRL}{m^3} = \boldsymbol{BRL\ 5.43\ billion}$$

GTED Global Tax Expenditures Database

Thank you!

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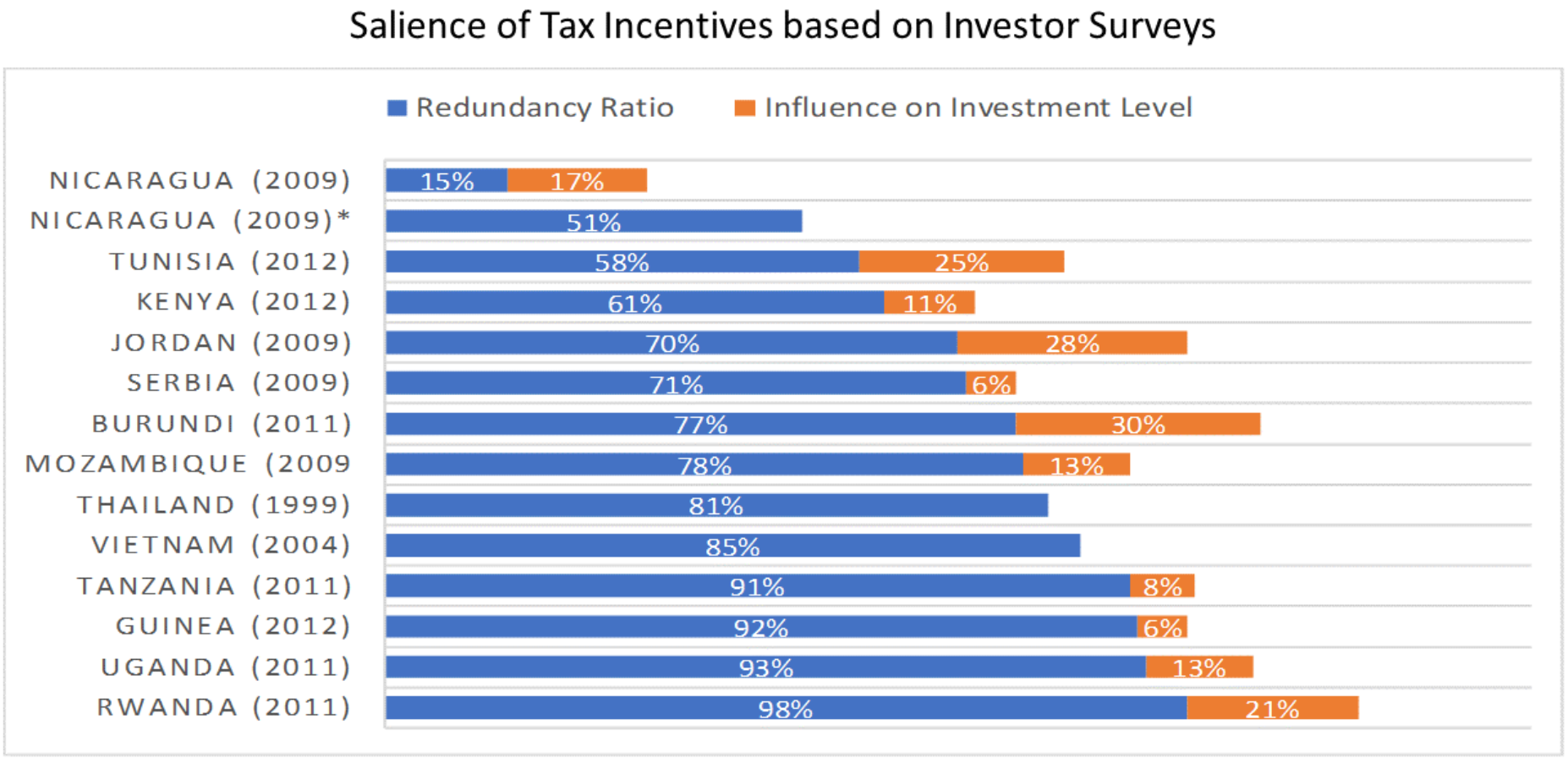
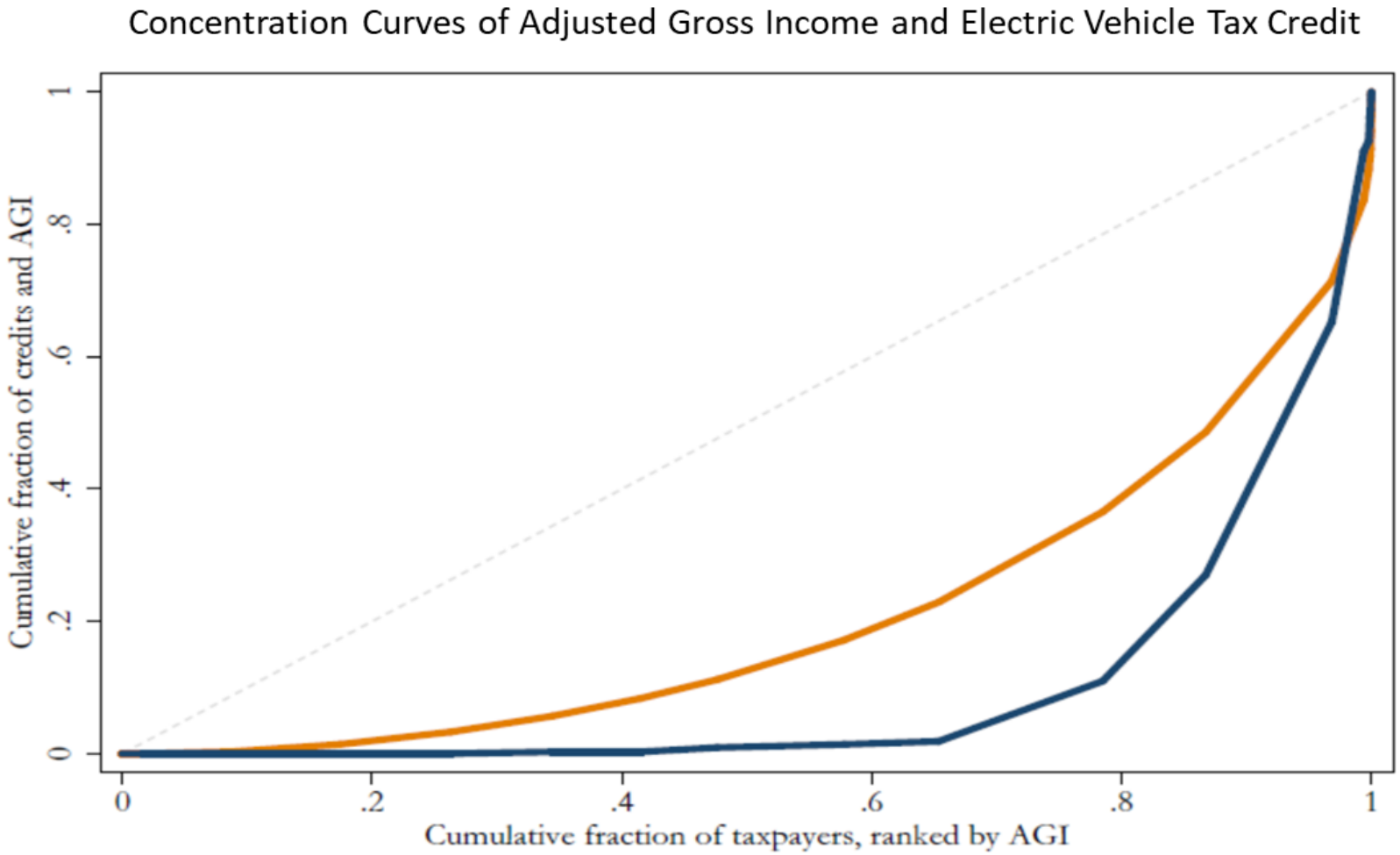
Salience of Tax Incentives



Note: *Non-exportingfirms outsidefree zones.
Source: Own elaboration based on James, 2013.

Side effects: Regressive Impact



Source: Borenstein and Davis (2016).