

Tax Evasion and missing imports: Evidence using Transaction Level Data

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Motivation

- ▶ Developing countries collect less taxes as a share of their economy compared to DCs ([Besley and Persson \(2014\)](#))
- ▶ Tax revenue is badly needed for their development efforts.
- ▶ Need to raise taxes without distorting economic activities. ⇒:
 - ✓ closing loopholes & effectively capturing evasions & avoidance
 - ✓ avoid over taxing the already complying taxpayers
- ▶ Ethiopia's tax to GDP ratio is particularly low, even compared to other LDCs
- ▶ Reliance on foreign trade tax revenue - in 2013/14, 36%

Motivation

- ▶ Low tax capacity and significant need for investment required for development means:
 - ✓ there is a need for increasing tax enforcement and
 - ✓ optimizing the tax rates to encourage compliance
- ▶ Optimizing the tax rate requires understanding the relationship between tax rates and tax evasion
- ▶ This will also help in better understanding of the elasticity of tax loss to a decrease in tax rate
 - ✓ That in turn is important in relation to Ethiopia's accession to the WTO and other trade negotiations/reforms

Research questions and preview of results

- ▶ Is there any relationship between tax rates and tax evasion in Ethiopia's foreign trade tax system?
 - ✓ we find evidence that tax rates and evasion are related
- ▶ Contribution to the literature, methodology wise
 - ✓ panel data and introduction of SUR tax in April 2007 → better estimation of the r/s b/n tax rates and tax evasion
 - ✓ a more precise measure of evasion gap and trade tax (effective tax rate) using info. from transaction level data
 - ✓ exchange rate regime → foreign currency rationing

Related Literature:

- ▶ **Allingham and Sandmo (1972)** makes ambiguous prediction on the impact of tax rates on evasion
- ▶ Not much has been done to empirically test this ← difficult to observe and measure evasion
- ▶ Tax rates and evasion based on international trade data
 - ✓ records of trade by both the exporting and importing countries
 - ✓ gap between exports as reported by the exporting & imports as reported by the importing country
- ▶ **Fisman and Wei (2004)** seminal work in the area
 - ✓ Quantify effects of tax rates on evasion using highly disaggregated (HS6) trade data between China and Hong Kong
 - ✓ under reporting of prices, quantities and misclassification

Methodology

- ▶ Assumption in the literature \Rightarrow
 - ✓ Exporters tend to report the true amount of their exports as exports are usually tax free (FOB value)
 - ✓ Importers are likely to report lower value of their imports as imports are taxed (in CIF terms)
 - ✓ The gap that arises due to differences in recording (FOB vs CIF etc) are not related to the tax rate. Can be questioned
- ▶ Standard approach relating the gap with tax rates as follows.

$$missingtrade_{ptc} = \alpha + \beta_1 tax_{pt} + \varepsilon_{ptc} \quad (1)$$

- ▶ Two sources of variation in tax rates to estimate β_1 :
 - ✓ variation in ETR across products and
 - ✓ variation in ETR for a given commodity over time.
- ▶ Product fixed effect requires changes in tax rates across time. We use introduction the SUR tax in 2007.

$$missingtrade_{pct} = \alpha + \beta_1 tax_{pt} + \delta_{pc} + \gamma_t + \varepsilon_{pct} \quad (2)$$

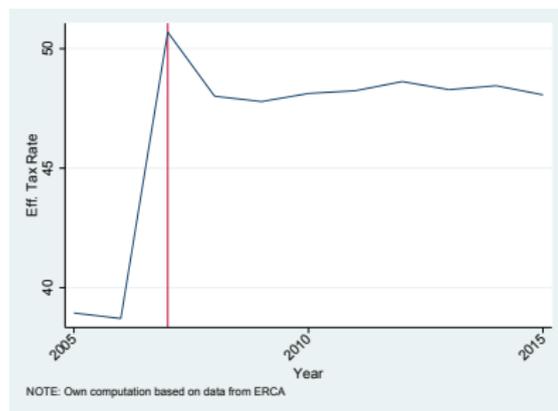
Data

- ▶ Data on trade flows from UN's COMTRADE database
 - ▶ available at 6-digit HS product classification
 - ▶ 10 relatively less corrupt partner countries which are also main trading partners to Ethiopia: USA, GBR, DEU, FRA, etc
- ▶ Variable measuring tariff evasion is generated at HS6 level

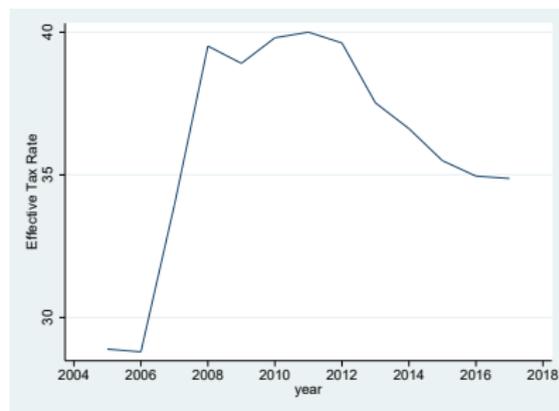
$$ValueGap_{pct} = \log(Exp Value_{pct}) - \log(Imp Value_{pct})$$

- ▶ Data on import tax (MFN) rates comes from ERCA
 - ▶ putting together the Duty Rate, Excise, VAT and SUR \Rightarrow ETR (Statutory)
 - ▶ dividing the total tax paid by value of imports \rightarrow Actual ETR

Descriptive Statistics



(a) All Countries: Statutory



(b) All Countries: Actual ETR

Figure: Trends in Average Effective Tax Rate across years

Baseline Results

- ▶ We do not find any relationship between Statutory tax rate and evasion
- ▶ When we use the Effective Tax rate, there is a positive relationship between tax rates and evasion
- ▶ This holds true even when we estimate a first difference model (before and after introduction of the SUR tax)
- ▶ Using a cross-sectional setting, we observe that this relationship is declining over time

Role of Product Differentiation

- ▶ Product characteristics can make it easier or difficult to evade
- ▶ Differentiated products \Rightarrow no standard price and of different variety \Rightarrow easier to evade
- ▶ Homogeneous products \Rightarrow standard price and less variety \Rightarrow difficult to evade
- ▶ Literature ([Javorcik and Narciso \(2008\)](#)) \Rightarrow evasion is almost entirely due to differentiated products
- ▶ In the case of Ethiopia, our results point to the same direction but the difference is not statistically significant

Evasion through mislabeling

- ▶ Evasion can also take place through disguising of products
- ▶ Declaring goods as if they belong to another (similar) product with a lower tax rate
- ▶ To capture evasion through misclassification of products → the Avg or Median tax rate of all other products within the product's 4-digit category.
- ▶ Suggestive evidence that importers evade taxes through mislabeling

Role of Foreign Currency Rationing

- ▶ Rationing \Rightarrow long wait to get (limited amount of) foreign currency
- ▶ Request an LC for a lower value of imports than they intend to import, and fill the gap by buying foreign currency from the parallel market
- ▶ Two counteracting effects on the relationship between tax rates and evasion
 - 1 High evasion: and since luxury goods are highly taxed and less likely to get an LC, the impact of tax rates on tax evasion may depend on level of foreign currency shortage
 - 2 Less evasion: at times of foreign currency shortages getting an LC \Rightarrow higher returns on imports \Rightarrow more honest reporting
- ▶ Our results support the second hypothesis

Correcting for Trade Costs

- ▶ Comparing FOB values of exports and CIF values of imports of each HS6 product of/from partner
- ▶ Part of this gap is obviously explained by trade cost and not due to evasion
- ▶ Assumption: Trade cost and tax rates are not correlated
 - ▶ We find negative correlation and this may cause an upward bias in the effect of tax rates on evasion
 - ▶ adjusted the value of import gap for trade costs
 - ▶ does not change the results much \Rightarrow the assumption works once we include product and year effects

Conclusion and Points for Further Exploration

- ▶ evasion of import taxes is positively related to the tax rate
 - ✓ A 1 ppt increase in ETR is associated with about 1% increase in evasion gap
 - ✓ lowering import taxes (as part of trade reforms) may not lead to as much tax revenue loss as part of the decrease in revenue will be compensated by a decrease in evasion.
- ▶ Evasion also takes place through mislabeling of products
- ▶ Further work:
 - ✓ Estimating the amount of tax evasion
 - ✓ Evasion by sector or product group

Thank you!