The use of mirror statistics for customs reforms.

Lessons of a decade of operational use

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Main takeaways

- Mirror statistics are a *low-cost instrument/easy* that can help identify sectors/operators and facilitate risk analysis (especially in a low governance environment),
- Instrument *very relevant operationally* because it enables losses quantification and better targeting,
- *Even more powerful complemented* with other investigation methods.

Definition and early use

- Mirror analysis=the **comparison** between **import** data of the **importing country** and the corresponding **export** data of the **exporting country**

- A trade economist tool to cope with absence of trade data (Bhagwati 1964).

- A proxy to measure transport costs (cif/fob ratio). But only 50% of flows reasonable (Hummels and Lugovskyy 2006)

The limits

- **Measurement errors?**

- Some parts of discrepancies in trade statistics are due to factors other than tax evasion such as statistical reasons
  - Difference in (c.i.f - f.o.b) valuation
  - Exchange rate conversion issues
  - Unintentional misclassifications and errors
  - Weak export control laws

BUT discrepancies only in a limited number of tariff lines AND extent of discrepancies can be up to several thousand of percent.

A second step: an instrument to capture governance problems

- *At global level*: negative correlation between trade gaps and governance level/tariff level demonstrated empirically (Carrere/Grigoriou 2014, Javorcik 2017).

- *At national level* (numerous studies): same findings. Fisman (2004) for China, Kaminski et al. (2009) for Central Asia, Javorcik (2008) for Germany, Rijkers (2015) for Tunisia, Bensassi et al. (2015) for Mali.

Main findings

- A strong correlation between tariff peaks (and tariff complexity) and statistics gaps.
- Gaps are limited to less than 10 products BUT in all countries, statistics gaps are for the same types of products (which are usually considered at risk by customs administrations).
- The main gaps concern some food products (vegetable oil, sugar, rice), clothes and footwear, some manufactured products (motorcycles, phones), construction materials (including cement), fuel, low-selling price density (such as fertilizers) or products exempted from duties/VAT in some countries (like rice).
- In terms of estimates of revenue losses, even though they are minimal estimates, at least 20 to 30 per cent of total customs revenues.

Some lessons on the use of mirror statistics

- Easy to initiate or improve rapidly risk analysis – in the absence of strong data quality,
- Generates numbers that can contribute to change dialogue with importers and brokers,
- Can be used by frontline officers/post-clearance audit,
- Can help evaluate customs initiatives to curb fraud,
- Even more powerful when complemented with other sources of information (tax department and separate investigations).
- Even more relevant when complement other initiatives (green channel/OEA, staff monitoring…)

Selected references

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