Value-Added-Taxes and Supply chain: Evidence from India

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TAXDEV research on VAT in West Bengal, India

- Data sharing agreement between CSSS Kolkata, Office of Commissioner for Commercial Taxes, Kolkata, and TAXDEV.
- Several outputs:
  - Policy note: impact of tax simplification reform on entries into tax system + tax payments.
  - Academic work: impact of tax system on supply chains in developing country setting [in-progress].
  - Policy note: implications of 🔄 for VAT reform in West Bengal [in-progress].
  - ...

...
Firm taxation in West Bengal

West Bengal: 95 million inhabitants, GDP per capita 1,200 USD.

- State government levies a VAT on sale of non-agricultural goods: main source of revenue. Main tax rates: 4%, 14%.
- 180,000 firms pay taxes to state over period 2010-2016.
- Large informal sector (survey data: only 30% of VAT-liable firms are registered with tax authorities).
- VAT tax returns: at least 10 pages.

- Simplified “turnover” scheme:
  - Small (turnover < 5 million INR ≈ 55k GBP) firms can choose to pay a 0.25% turnover tax instead of VAT.
  - Turnover tax returns: 2 pages.
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West Bengal’s ultra-simplified tax scheme

Introduction of ‘ultra-simplified’ lump-sum scheme in 2013

▶ Small firms can choose to pay a lump-sum tax once a year.
▶ Lump-sum scheme tax returns: 0.5 pages, simplified tax registration.
▶ Lump-sum amounts: 7000 Rps if turnover < 3 mill., 12000 Rps otherwise (Equal to turnover tax payments for median firm).
Pros and cons of simplified tax schemes

- VAT compliance costs likely very high, turnover tax compliance costs probably still too high for many firms ⇒ firms remain informal because high compliance cost?
- Advantage of simplified tax scheme: induces registration with tax authorities and small tax payments of otherwise informal firms.
- Potential cost: otherwise compliant firms choose simplified tax scheme, pay less taxes and provide less information to tax authorities.
- Effects on supply chains?
Impact of ‘ultra-simplified’ scheme

10,000 firms join the new scheme from 2010 onwards

- 9642 are ‘new’: never paid taxes before. 13% increase in the number of tax-registered small firms.
- 481 are ‘old’: use to pay turnover tax before. Loss in tax revenues? No! On average pay more under the new scheme.
  - Great for policy, puzzle for researchers: most existing firms eligible to join new scheme didn’t, but some were willing to pay more taxes to do so ⇒ (very) heterogeneous compliance costs?
- Impact on tax revenues? Very small - increase of less than 0.2% in total tax collected.
- Medium-run impact could be higher if ‘new’ firms grow and remain in the tax system + effects on tax morale.
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VAT and supply chains in developing countries

- VAT levied on sales minus purchases, *if VAT was paid on those purchases.*
- If VAT and non-VAT registered firms co-exist: *market segmentation* (VAT firms will prefer sourcing inputs from other VAT firms).
- Why do we care?
  - Supply chain distortions: tax system may induce firms to source inputs from worse supplier ⇒ efficiency loss.
  - Complementarities in tax status choice: tax shocks to some firms may affect their entire supply chains ⇒ useful for policy?
- West Bengal data: observe VAT and non-VAT registered firms, and transactions between them ⇒ can look for these effects.

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## Market segmentation: correlations

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Mean dependent variable: 0.72. Standard errors clustered at the firm level in parentheses. Significance levels: * p<0.1; ** p<0.05; *** p<0.01.
Establishing causal effects

Correlation ≠ causation...

- From 2014 onwards: reform increases the VAT rate on some goods, no other changes in tax system.
- Theory predicts this should change firm’s sourcing and tax status decisions.
- Can compare impact of reform on firms i) whose own VAT rate changes ii) whose suppliers’ rate changes iii) whose clients’ rate change iv) who are not affected at all.
Impact of an increase in tax rates

Key results:

▶ VAT (turnover) firms facing a higher VAT rate have lower (higher) sales because of reform.
▶ These firms are less likely to choose to be VAT because of reform.
▶ And so are their suppliers ⇒ tax shock spreads throughout supply chains.
▶ Turnover firms less likely to buy from VAT firms facing a higher rate after the reform ⇒ distortions in supply chains increase.
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Next steps

- How big are supply chain distortions? Try to quantify effect in GDP points.
- What does this mean for the optimal form of VAT/simplified tax schemes? Work-in-progress (preview: it’s complicated).
- What else spreads through supply chains? ‘Multiplier’ effects of audits.
- Implications for India’s GST reform.
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