

**Comments on “Technological Links and FDI  
Spillovers” by  
Chen, Shao, and Zhu**

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# Summary

- Classical question: FDI spillovers
- Approach:
  - Construct technological links between foreign and domestic firms to identify knowledge spillovers from FDI, following Bloom et al. (2013).
  - Exploit exogenous variations in FDI deregulation changes in China across sectors, as in Lu, Tao, Zhu (2017).
- Main findings:
  - Domestic firms with closer technological links with foreign multinationals in the deregulated industries experienced larger TFP growth after the FDI deregulation in 2002
    - Positive knowledge spillovers
  - FDI spillovers are stronger for:
    - Vertical FDI
    - Local FDI
    - FDI from developed countries
  - FDI promoted innovation and exports, and reduced firm exit.

# Contribution

- Adopt a new approach to identify FDI spillovers in China.
  - Incorporate technological links between foreign and domestic firms by using patent data
- Find positive FDI spillovers for a developing country (In contrast to Lu, Tao, Zhu, 2017)
- Confirm the role of FDI types (horizontal v.s. vertical), distance, country of origin, and absorptive capacity in driving FDI spillovers.
- Examine a wide array of outcomes.
- Nicely executed and well written.

# Comment 1: Relationship with The Literature

- Lu, Tao, Zhu (2017) generally found negative FDI spillovers for China.
- This paper generally finds positive spillovers.
- How to reconcile these two sets of results with each other?
  
- The spillover identified through technological links are more likely to be *knowledge spillovers*.
  
- The spillover identified in LTZ (2017) may reflect various effects such as technology spillovers, product-market rivalry, input sharing, labor-market pooling, etc.
  
- Another interpretation: Heterogeneous effects across firms (firms with high or low technological links)

# Comment 2: Empirical Strategy (1)

- Key regression

$$\log TFP_{ikrt} = \lambda_i + \lambda_{kt} + \lambda_{rt} + \beta FDI\_SPILLTEC_i \times Post_t + \gamma FDI\_SPILLPROX_i \times Post_t + \theta \mathbf{X}_{it} + \varepsilon_{ikrt}$$

- Where

$$FDI\_SPILLTEC_i = \sum_{j \neq i} TEC_{i,js} \cdot G_{js} \cdot DeregFDI_s.$$

- The effect of foreign R&D stock depends on whether the industry is deregulated?
- Bloom et al. (2013) directly used  $FDI\_SPILLTEC_i = \sum_{j \neq i} TEC_{i,js} \cdot G_{j,t}$
- I would suggest to use  $DeregFDI_s \times Post_t$  as an instrument for  $G_{j,t}$

## Comment 3: Empirical Strategy (2)

- Initial foreign R&D stocks are used to construct technological links.

$$FDI\_SPILLTEC_i = \sum_{j \neq i} TEC_{i,js} \cdot G_{js} \cdot DeregFDI_s.$$

- Misses the impact of entry of foreign firms induced by deregulation.
- The story: deregulation — more foreign firms — more opportunities to learn

# Comment 4: An alternative approach

- Branstetter (2006, JIE) used patent citations to measure knowledge spillovers.
- To what extent domestic firms cite the patents filed by foreign firms?
- Does the citation vary with technological closeness of foreign and domestic firms?
- How does citation of foreign patents contribute to productivity growth?
- An exciting avenue for future research!