

Discussion of:

**Misallocation and Capital Market Integration:  
Evidence from India**

by Bau and Matray

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# Key Questions / Outline of Discussion

A very nice paper! But also, a very short discussion, so:

- 1 Does TFPR dispersion = misallocation?
- 2 What causes misallocation?
- 3 What exactly does foreign investment do?
- 4 How general can one be with these answers?

## Static Misallocation (Quick Refresher)

$$y_i = z_i \left( \frac{k_i}{\alpha_i} \right)^{\alpha_i} \left( \frac{l_i}{1 - \alpha_i} \right)^{1 - \alpha_i}$$

$$p_i = \mu_i mc_i = \mu_i \frac{1}{z_i} R_i^{\alpha_i} w_i^{1 - \alpha_i}$$

$$\begin{aligned} TFPR_i &= p_i z_i = \mu_i R_i^{\alpha_i} w_i^{1 - \alpha_i} \\ &= \underbrace{(\mu_i (1 + \tau_i^k) R)^{\alpha_i}}_{MRPK_i} \times \underbrace{(\mu_i (1 + \tau_i^l) W)^{1 - \alpha_i}}_{MRPL_i} \end{aligned}$$

- $(\tau_i^k = \tau^k) + (\mu_i = \mu) \implies MRPK_i = MRPK$
- $CD + (\alpha_i = \alpha) \implies MRPK_i \propto \frac{Revenues_i}{k_i}$

# Does TFPR Dispersion = Misallocation?

- *Threat 1: Persistent firm-level differences? Measurement error? Mean reversion? Differential trends?*
- For example, what about permanent misstatement of  $p_i y_i$  or lumpy adjustment or uneven utilization of  $k_i$ ?
- Key contribution: Rule out Threat 1 by looking at differential response to (highly relevant) shock. A big deal, convincing.

# Does TFPR Dispersion = Misallocation?

- *Threat 2: Different within-industry elasticities or markups*
- For example, what if high MRPK firms simply reflect lower  $\alpha_i$ ? What if Cobb-Douglas assumption is bad approximation?
- Limited analysis. Opportunity: Data rich enough to do more!
  - Stability of  $\frac{w_i l_i}{p_i^M M_i}$ ?
  - Is response of  $\frac{Revenue_i}{k_i}$  generally consistent with assumed  $\alpha$ ?
  - Use price data to analyze stability of  $\mu_i$ ?

# What Causes Misallocation?

- Perhaps biggest question in literature! Variation with local banking is fascinating, but can do more to answer.
- Which firms are the high or low MRPK firms? Big or small?
- Which treated firms contribute most to results? Give names!
- For public companies, can we learn from narratives in their filings? Complementary evidence from debt issuance?
- Only 10 percent of manufacturing firms are treated ... do more to show which firms are driving things.

# What Exactly Does Foreign Investment Do?

- Inflows are likely hugely concentrated?
- From MNS (JPE 2019) data for 2006, large equity positions by US funds in Indian companies account for huge share:
  - Oil & Natural Gas Corp
  - ICICI Bank
  - Reliance Industries
  - Infosys Technologies
  - Bharti Airtel
- Might size  $\times$  age bins, 4-digit industries, soak up key variation? Characterize distribution beyond just the median?
- *Headline*: treated high MRPK firms got more capital.  
*Buried*: TFPQ does not significantly change ... no evidence of tech transfer, knowledge spillovers, etc. This is equity FDI!

## How General Are these Conclusions?

- Comparison with Gopinath et al. (QJE 2017) admittedly difficult, but still unsatisfying.
- Equity vs. Debt? For public firms, explore changes in composition?
- Rich vs. Poor? How about cross-state variation?
- Little discussion of sequencing of liberalization, which industries chosen, etc. (See Chari and Gupta, *JFE* 2008)



# Conclusion

- Careful work, clear writing, great paper.
- Is it ready to read? Yes. Should be on syllabi for courses covering misallocation.
- Did this help unpack the black box of TFPR dispersion and how liberalization might reduce it? A very good start, and some opportunities to go even further.