Global Firm Dynamics, Productivity, (Mis)Allocations

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Misallocation Facts

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1. TFPR is more dispersed in developing economies than in advanced economies

2. TFPR is strongly increasing in TFPQ, especially in developing economies

3. Most dispersion is in TFPR rather than in relative VAPK, VAPL, and VAPM

4. Much of the TFPR dispersion is persistent over time

5. Much of the VAPK dispersion is within firms
Fact 1: TFPR dispersion
TFPQ dispersion

DENSITY

QUANTITY TFP, TFPQ

China

U.S.

India
Fact 2: TFPR is increasing in TFPQ (data from India)
The Life Cycle of Plants
Dynamic effects of static misallocation

If barriers are increasing in productivity ...

- firms may invest less in productivity and quality before they enter
  - Bento and Restuccia (2017 AEJ-Macro)

- innovate less after they enter

- and enter in greater numbers
  - Atkeson and Burstein (2010 JPE)
Fact 3: Scale vs. Mix Distortions

- Scale: common component of VAPK, VAPL, and VAPM

- Mix: ratios of VAPK/VAPL, VAPK/VAPM, VAPL/VAPM

- David and Venky (2019) and BKR (2020) find mostly *scale* distortions

- Suggestive of markups, revenue taxes/subsidies, errors in revenue/(all inputs)

- Suggests not a dominant role for only financial frictions, wage markdowns, etc.
Fact 4: Persistence of TFPR differences

- Most of the variance in TFPR is in the firm or plant fixed effect

- David and Venky (2019) for U.S. publicly listed firms, and Chinese industrial firms

- BKR (2020) for Indian plants and U.S. plants, both in manufacturing

- Suggestive of persistent markups, measurement error, and taxes/subsidies

- Not consistent with a dominant role for financial frictions or adjustment costs
Fact 5: Lots of VAPK dispersion across plants within firms

- Kehrig and Vincent (2019) for U.S. manufacturing

- Most of the variance in VAPK is across plants within firms

- So cannot be financial frictions?

- They say it reflects the interaction of lumpy adjustment costs and financial frictions

- Also consistent with markup differences across plants within firms
Surveys

- Syverson (2011 JEL) – within U.S. manufacturing

- Hopenhayn (2014 Annual Reviews) – concepts

- Donaldson (2015 Annual Reviews) – trade within and across countries

- Restuccia and Rogerson (2017 JEP) – evidence for agriculture as well
Some publicly available datasets

- Chilean manufacturing plants, 1985–2014 (e.g., Asturias et al., 2019)
- Indonesian manufacturing firms, 1965–1999 (e.g., Peters, 2020 Econometrica)
- Colombian manufacturing plants, 1982–1998 (e.g., Midrigan and Xu, 2014)
- Compustat publicly-traded firms in the U.S. (e.g., David and Venky, 2019)
More detail on the Indian ASI

- Census of large plants (> 100 or 200 workers), 1/3 sample of smaller plants

- In some years, unit prices for output and detailed intermediate inputs

- Downloadable at http://microdata.gov.in/nada43/index.php/catalog/ASI/about

  - Code to calculate AE, TFPR, TFPQ, VAP’s via the Big Data Initiative
Allocative Efficiency (AE) in India over time
Some harder to get datasets

- Chinese Industrial Firms, 1998–2013 (e.g. David and Venky, 2013)

- Korean manufacturing plants, 1985–2014 (e.g., Midrigan and Xu, 2014)

- Vietnamese firms, 2006–2010 (e.g., Bai, et al., 2017 Economic Journal)

- Mexican establishments 1998, 2003 and 2008; (e.g., Hsieh and Klenow, 2014)

- Orbis — firms in many countries (e.g., Gopinath et al., 2017 QJE)