

# The Industrial Revolution in Services

by Hsieh and Rossi-Hansberg

**Discussion by Kerem Coşar**

U. of Virginia, CEPR, NBER

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# Tradability of industries



Source: Jensen and Gervais (2019)

# Facts

1. Markets per firm  $\uparrow$  heterogeneously across industries
2.  $\text{corr}(\Delta \text{ market per firm within industry}, \Delta \text{ industry}) > 0$
3.  $\text{corr}(\Delta \text{ market per firm within industry}, \Delta \text{ industry HQ services}) > 0$
4. Markets per firm  $\uparrow$  driven by top firms
5. Top firms' spatial extensive margin drives  $\uparrow$  in national industry concentration
6. Top firms' spatial extensive margin into small MSAs

# Model

- Higher fixed cost - lower marginal cost
- or
- Higher HQ fixed cost - lower establishment fixed cost
- More productive firms adapt high fixed cost technology
- Rationalizes the facts & allows authors to account for unmeasured growth due to love of variety

# (Conceptually) related work

- micro/IO:
  - Basker et al. (2012) *Supersize It: The Growth of Retail Chains and the Rise of the 'Big Box' Store*
  - Basker and Simcoe (2021) *Upstream, Downstream: Diffusion and Impacts of the Universal Product Code*
- trade/FDI: “headquarter services” theory of multinational firms
  - Helpman (1984) and Markusen (1984)
  - Keller and Yeaple (2013) *Gravity of Knowledge*
  - Antràs and Yeaple (2014) *Multinational Firms and the Structure of International Trade*

# Directly related work

Jiang (2022) *Efficiency Gains from Information and Communication Technology:  
A Spatial Analysis of Firm Geographic Expansion*

Evidence on causal relationship between (manufacturing) firms' ICT adoption and geographic expansion using US micro data.

# Alternative/additional mechanisms

Cost of business travel:

For inspections, training, managerial services etc. – air connectivity

Blonigen and Cristea (2015): evidence of air connectivity and regional growth & impacted industries

Deregulation in late 1970s disadvantaged small cities, so the effect actually goes in the opposite direction.

# Quibbles on missing growth

- Demand side: acknowledged by authors.  
Structural transformation literature: supply vs demand factors.
- Hard to take the missing growth accounting seriously without explicitly incorporating the demand channel.



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Structural transformation literature: supply vs demand factors.
- Hard to take the missing growth accounting seriously without explicitly incorporating the demand channel.
- Elasticity of substitution matters:  $\sigma = 3$

**Table 3**  
Summary statistics for the elasticity of substitution.

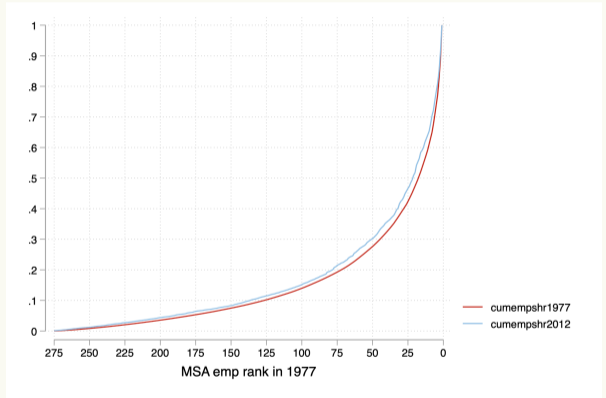
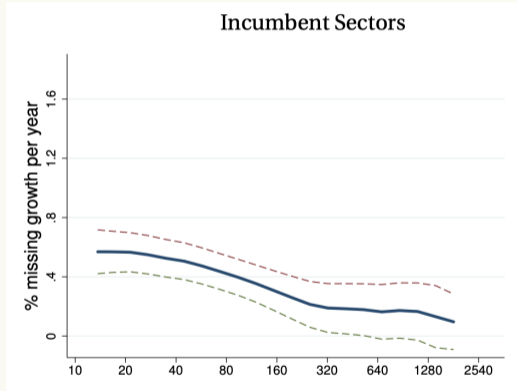
NAICS	Sector description	Mean	S.D.
31–33	Manufacturing	8.14	2.87
42	Wholesale trade	5.17	–
44–45	Retail trade	6.31	–
48–49	Transportation	6.35	2.18
51	Information	3.02	0.18
52	Finance and insurance	5.91	3.41
53	Real estate and leasing	1.90	0.22
54	Professional services	5.60	1.92
56	Administrative services	5.98	0.34
61–62	Education and health care	12.17	5.57
71–72	Recreation and food service	6.09	1.84
81	Other personal services	6.23	–
	Overall	7.14	3.20

*Notes:* This table presents the mean and standard deviation across industries within broad groups for the estimated elasticity of substitution.

# Quibbles on missing growth aggregation

Larger effect in small MSAs:

...but population distribution is very skewed:



How does the left-hand side distribution aggregate to 0.5%?