

What Causes Industry Agglomeration? Evidence from Coagglomeration Patterns (AER, 2010)

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- Why do firms cluster near one another?
- Location Vs. Coagglomeration ???
- Test Marshall's three theories of agglomeration

Three types of transportation costs

- cost of moving goods
- cost of moving people
- cost of moving ideas

Three types of transportation costs

- These costs can be reduced by industrial agglomeration

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Did changing occupation barriers in India between 1983 and 2005 have a large macroeconomic effect?

- Hyperlinks below allow opens a browser to the website in the link [1](#) [2](#)

Estimating Relative Occupational Barrier

$$\frac{p_{ig}}{p_{i,hcm}} = \underbrace{\frac{T_{ig}}{T_{i,hcm}}}_{\text{Mean Talent}} \underbrace{\left(\frac{\tau_{ig}}{\tau_{i,hcm}} \right)^{-\theta}}_{\text{Barrier}} \cdot \left(\frac{\overline{wage}_g}{\overline{wage}_{hcm}} \right)^{-\theta(1-\eta)}$$

- Distribution of a group across occupations relative to hcm depends on
 - Mean talent of group g in occupation i
 - The relative barriers that group g faces in i
 - Wage gap (also a function of barriers)
- Equation suggests that one must simultaneously account for distribution across occupations and wage gap to infer frictions facing group g Wage Gap

Implication on Wage Gap

- Given g and hcm , wage gap across all occupation is the same

$$\frac{\overline{wage}_{ig}}{\overline{wage}_{i,hcm}} = \left(\frac{\sum_s \tilde{w}_{sg}^\theta}{\sum_s \tilde{w}_{s,wm}^\theta} \right)^{\frac{1}{\theta(1-\eta)}}$$

- Intuition:**

- High barriers in occupation $i \implies$ only most talented group g enter \implies increase average wage of group g
- Low barriers in occupation $i' \implies$ attracts low talented group g workers \implies lower average wage of group g
- In the model, selection effect exactly offset each other so that

$$\frac{\overline{wage}_{ig}}{\overline{wage}_{i,hcm}} = \frac{\overline{wage}_{i'g}}{\overline{wage}_{i',hcm}}, \forall i, i'$$

- Implication:** The wage gap is a poor measure of the frictions faced by a group in an occupation

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