

Notes on Chatterjee (2018)

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1 Overview

- Indian farmers are very poor (median annual income \approx \$365).
- Low farmer revenue is partly due to the low prices they receive for their produce.
- One potential reason for low prices may be the monopsony power of intermediaries, who are the main buyers of farmers' output in India.
- A source of intermediaries' market power is policy: farmers are only allowed to sell output to government-licensed intermediaries at regulated market locations in their home state.
- Chatterjee asks:
 - does more spatial competition between intermediaries increase the price farmers receive?
 - how does removing the interstate trade restriction affect farmer prices/production/income?

2 Data

Data on:

- Market locations
- Crop prices at each market
- Local controls: rainfall, production, WHAT ELSE?
- Other stuff...

3 Reduced-form stuff

3.1 Empirical methodology

For the causal estimates, the basic idea is to choose market pairs close to each other but separated by a border. If the markets are close enough, it's like we're comparing apples with apples: demand, soil quality, rainfall, etc. should all be very similar for both markets. Then the only thing driving the difference in prices should be the extent of spatial competition faced by each market.

3.2 Empirical results

4 Model

4.1 Environment

- S regions in the economy
- One crop (we'll add more later)
- Within each region,
 - farmers, $f \in \{1, \dots, F\} \equiv \mathcal{F}$
 - intermediaries, $m \in \{1, \dots, M\} \equiv \mathcal{M}$
- Iceberg trade costs: $\tau_{fm} > 1$.

4.2 Production

- Farmers have Cobb-Douglas production technology,

$$y_f = \tilde{A}_f \left(h_f^\gamma l_f^\nu \prod_{k=1}^K (x_f^k)^{\alpha_k} \right),$$

- $\{x^k\}$ are intermediate inputs, with prices $\{w^k\}$ (exogenously given)
- h_f and l_f are endowments of land and labor (i.e. fixed).

4.3 Market choice

- Farmer's problem is to choose the market m that maximizes profit:

$$\max_{m \in \mathcal{M}} \left\{ \frac{p^f(m) y_f}{\tau_{fm}} \right\}$$

4.4 Price determination

- Once farmer f reaches market m , all costs are sunk.
- Farmer's price is determined via Nash Bargaining.
- Farmer's outside option:

$$\underline{p}(m) = \max_{k \in \mathcal{M} \setminus \{m\}} \left\{ \frac{p^f(k)}{\tau_{mk}} \right\}$$

5 Counterfactuals