Chatterjee (2018), 'Market Power and Spatial Competition in Rural India'

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Outline

1. Motivation and overview
2. Reduced-form evidence
3. Model
4. Counterfactuals

Motivation

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- Low farmer revenue partly due to the low prices they receive
- Intermediaries (main buyers of crops) have monopsony power due to government regulations
- Farmers are mandated to sell crops to licensed intermediaries at government-designated marketplaces *in their own state*.

Questions

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2. How does removing the interstate trade restriction affect farmer prices/incomes/production?

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   prices $\uparrow$ **11%**, **output** $\uparrow$ **7%**

Institutional setting

- State-level legislation (APMC Acts) mandate that the first sale of crops after harvest must be at government-designated marketplaces, and buyers must obtain a license.

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- Effectively prohibits farmers from selling crops in neighbouring states.
- Reduces competition between marketplaces across state borders.
- Treat each physical marketplace as having only one intermediary buyer.

Empirical methodology

- Measure of spatial competition faced by a market m:

$$\text{comp}_m = \sum_{j \in \mathcal{M}/\{m\}} \left\{ \frac{1}{\text{distance}_{mj}} \right\} \mathbf{1}[m \text{ and } j \text{ are in the same state}]$$

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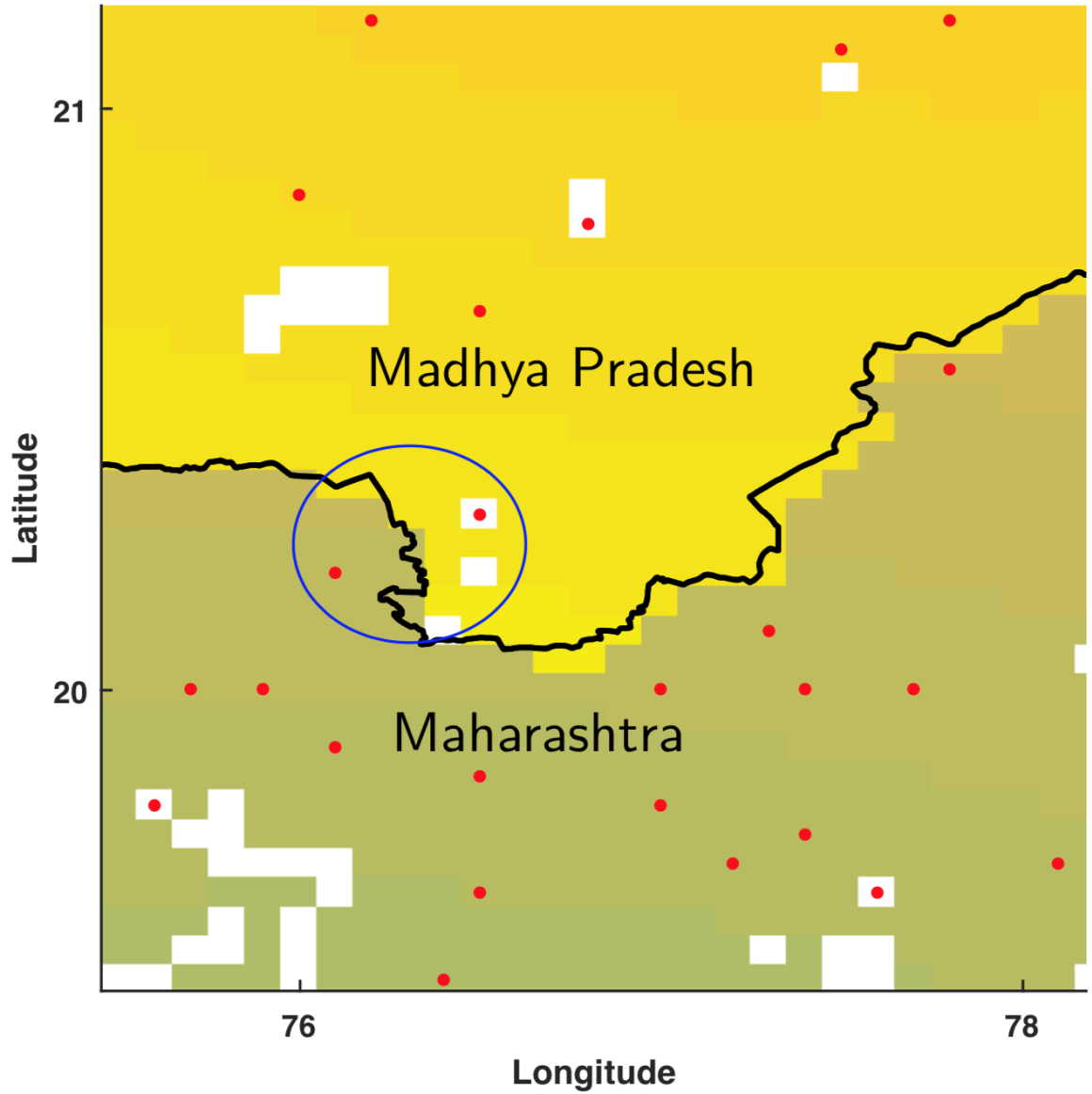
- Analogous measure of interstate spatial competition:

$$\text{comp}'_m = \sum_{j \in \mathcal{M}/\{m\}} \left\{ \frac{1}{\text{distance}_{mj}} \right\} \mathbf{1}[m \text{ and } j \text{ not in the same state}]$$

Example



Empirical methodology

- Main specification:

$$\log p^f_{cmdst} = \beta_0 + \beta_1 \text{comp}_m + \beta_2 \text{comp}'_m + \mathbf{X}'_{cdt}\beta_3 + \gamma_t + \gamma_c + \gamma_s + \epsilon_{cmdt}$$

where p^f_{cmdst} is the price a farmer receives for crop c, at market m, in district d, state s, and month t.

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- Sample: 10 years (2005–2014), 2978 markets.

Empirical results

	$\hat{\beta}_1$	$\hat{\beta}_2$
Point estimate	0.0163	−0.0005
Std. err.	0.0043	0.0012

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- Greater spatial competition increases farmer prices!

Appendix

Causal estimates

- Basic idea: choose market pairs that are close together but separated by a border
- Factors that affect price (other than spatial competition) should be similar for the market pairs.
- For each market pair (m, m') estimate:

$$\Delta \log p^f_{cmdt} = \beta_1(\Delta \text{comp}_m) + \gamma_{ss'} + \tilde{\epsilon}_{cmdt}$$

Causal estimates

Table: Border Discontinuity Regressions

	Distance between market pairs (km)		
	< 25	< 30	< 35
$\hat{\beta}_1$	0.025	0.035	0.036
Robust std. err.	0.011	0.013	0.009