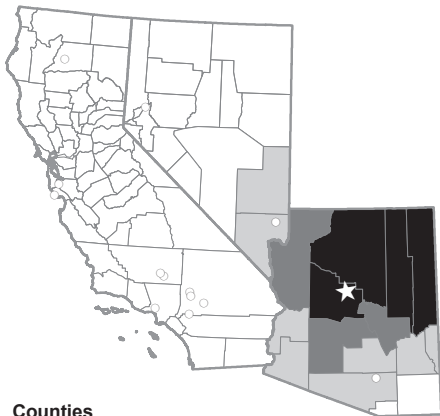# Discussion of "Competition of Spatially Differentiated Firms: An Estimator with an Application to Cement"

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Spatial Markets

Counties

- Market Segmentation is difficult problem with overlapping markets.
- Neighbour's Neighbour problem shows up, and soon the entire country is in the state space.
- Spatial Segmentation is a big issue in Cement, and other bulk commodities; e.g. chemicals, electricity and coal.

Spatial Price Discrimination

- Global Model of Shipments: each plant ships a certain fraction of cement to each market.
- What makes this model different is the focus on spatial price discrimination: p_{jn} instead of p_j.
- Huge Increase in the number of prices in this model $J \times N$ versus J.
- Fixed Point of the FOC with respect to price are solvable because of:
  - Logit shocks ν_{nij} to smooth the demand system.
  - High performance solvers.
- Not clear what the difference in the predictions of the model look like between the spatial price discrimination versus no discrimination.

Demand Estimates

Improvement on elasticity over Ryan (2009):

- Aggregate: $\varepsilon = -0.16$ versus $\varepsilon = -2.96$.
- Firm Level: $\varepsilon_i = -5.70$.

Aggregate Model

- Note that this model is very flexible on the exact data required for estimation: minimum distance estimator.
- Intersection of Trade and Industrial Organization: who ships where.
- Topology of trade costs is not only measured in distance: water bulk cargo is much cheaper than land transportation.

Future Work

- Hard to take this to the dynamics: the state space became the configuration of the entire southwest.
- Look at issues at how we deal with spatial price discrimination:
  - Welfare of price discrimination versus no spatial discrimination.
  - Basing point controversy: price from a common location la Steel in the 1950s.
- Issue of the role of international competition in cement.