Special Issues Involving Price-Concentration Estimation

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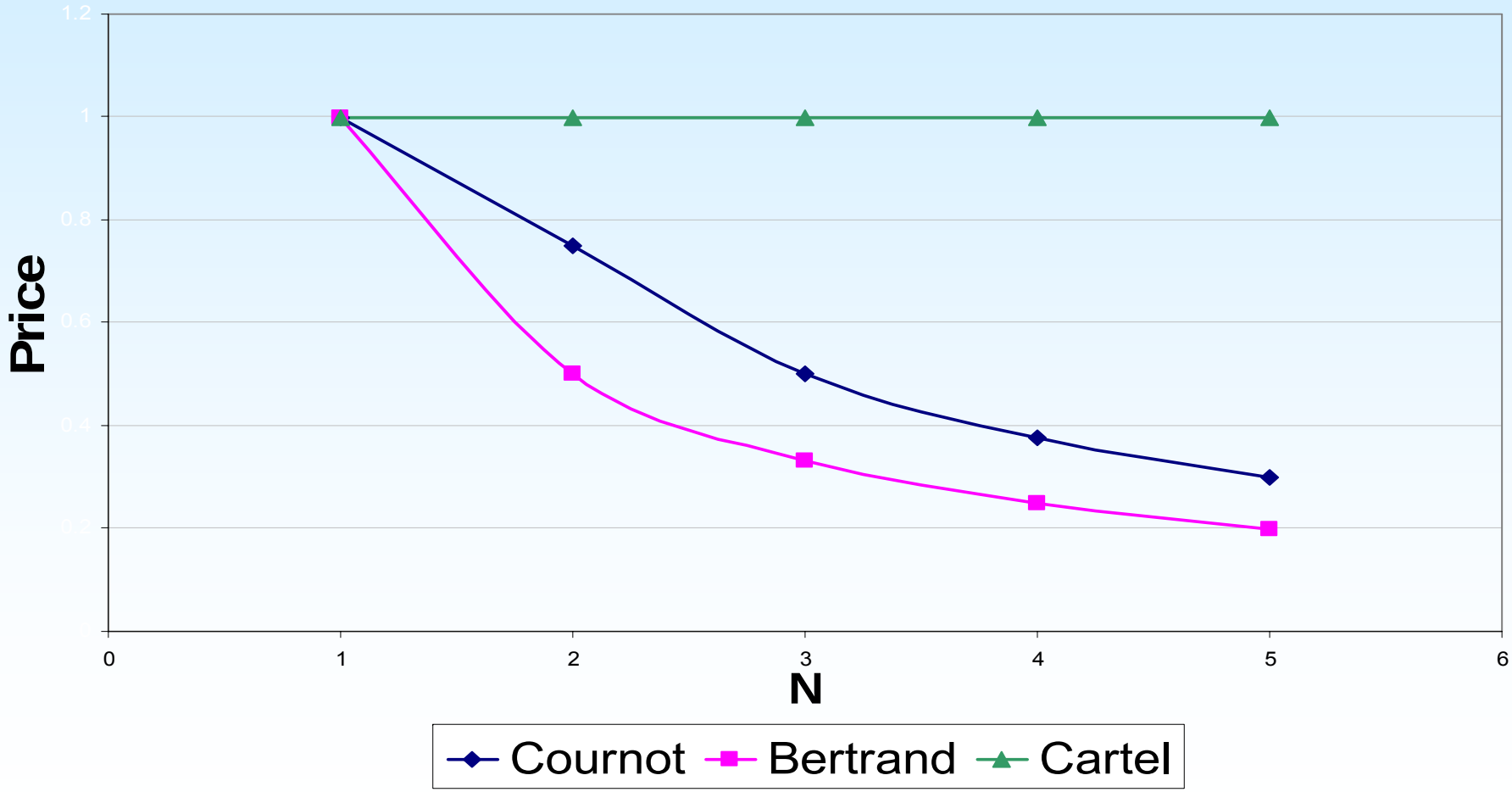
Price vs. Concentration

Why Is There a Relation?



Cournot

$$\pi_i = P(\sum q_i)q_i - Cq_i$$

$$\frac{\partial \pi_i}{\partial q_i} = 0 \Rightarrow p - c + \frac{\partial P}{\partial q_i} q_i = 0$$

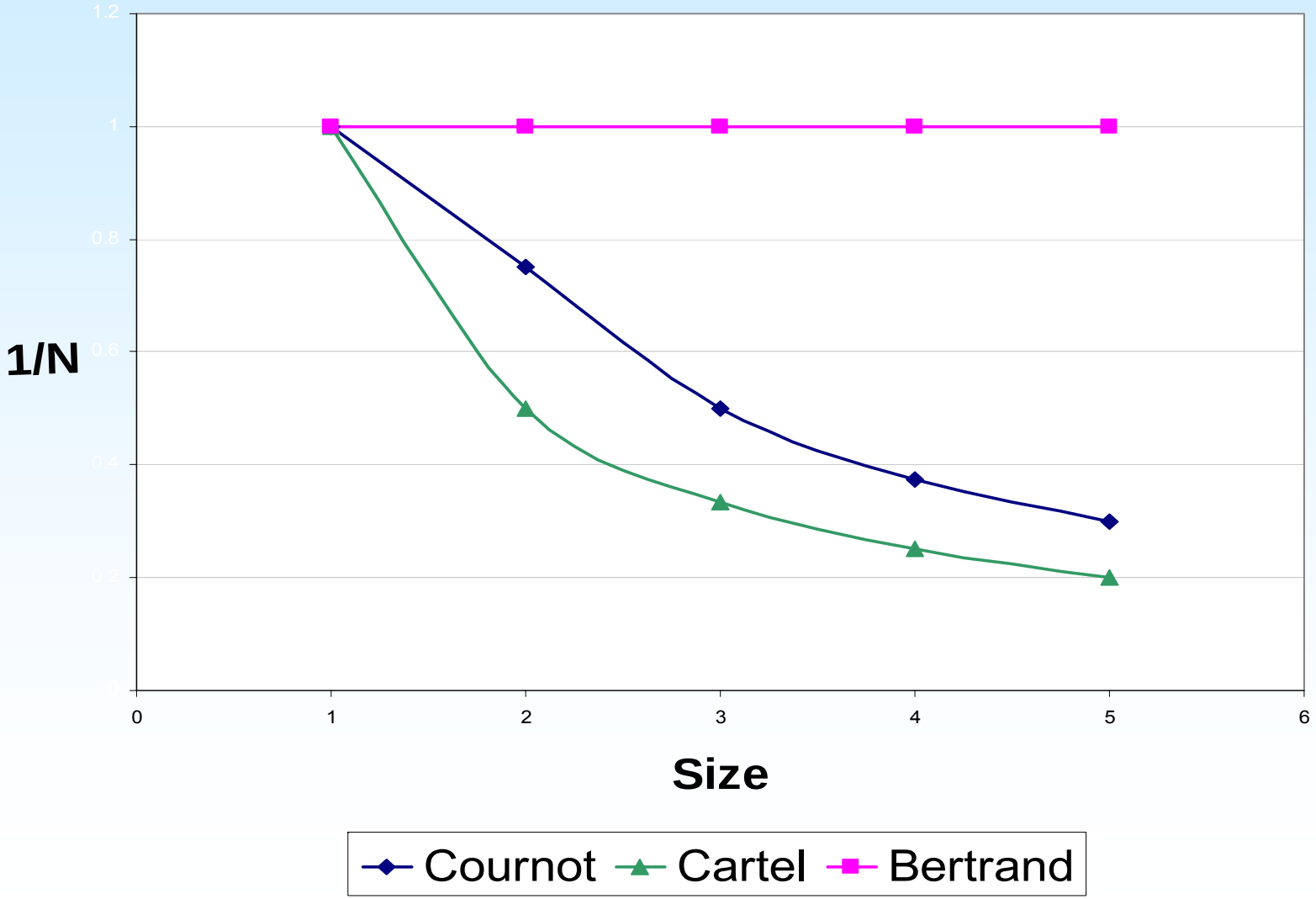
$$\frac{p - c}{p} + \frac{\partial P}{\partial q_i} \cdot \frac{\theta}{p} \cdot \frac{q_i}{p} = 0$$

$$\frac{p - c}{p} = -\frac{1}{E_D} s_i$$

(BUT) $$\frac{p - c}{p} = -\frac{1}{E_D} \text{HHI}$$!!

- Why does N vary?
- Free Entry $\rightarrow \pi = 0$ determines N
- Sutton

Inverse Relation Between Vigor of Competition and Concentration



Estimating Price Concentration Relationships

- Dangerous to compare across industries.
- Best to *assume*:
  - Short run
  - Game constant
- Merger
  - Why?

BUT → Cournot: No incentive to merge

$$p = 12 - q_i - q_2 - q_3$$

$$EX: \pi = p \cdot q_i \Rightarrow$$

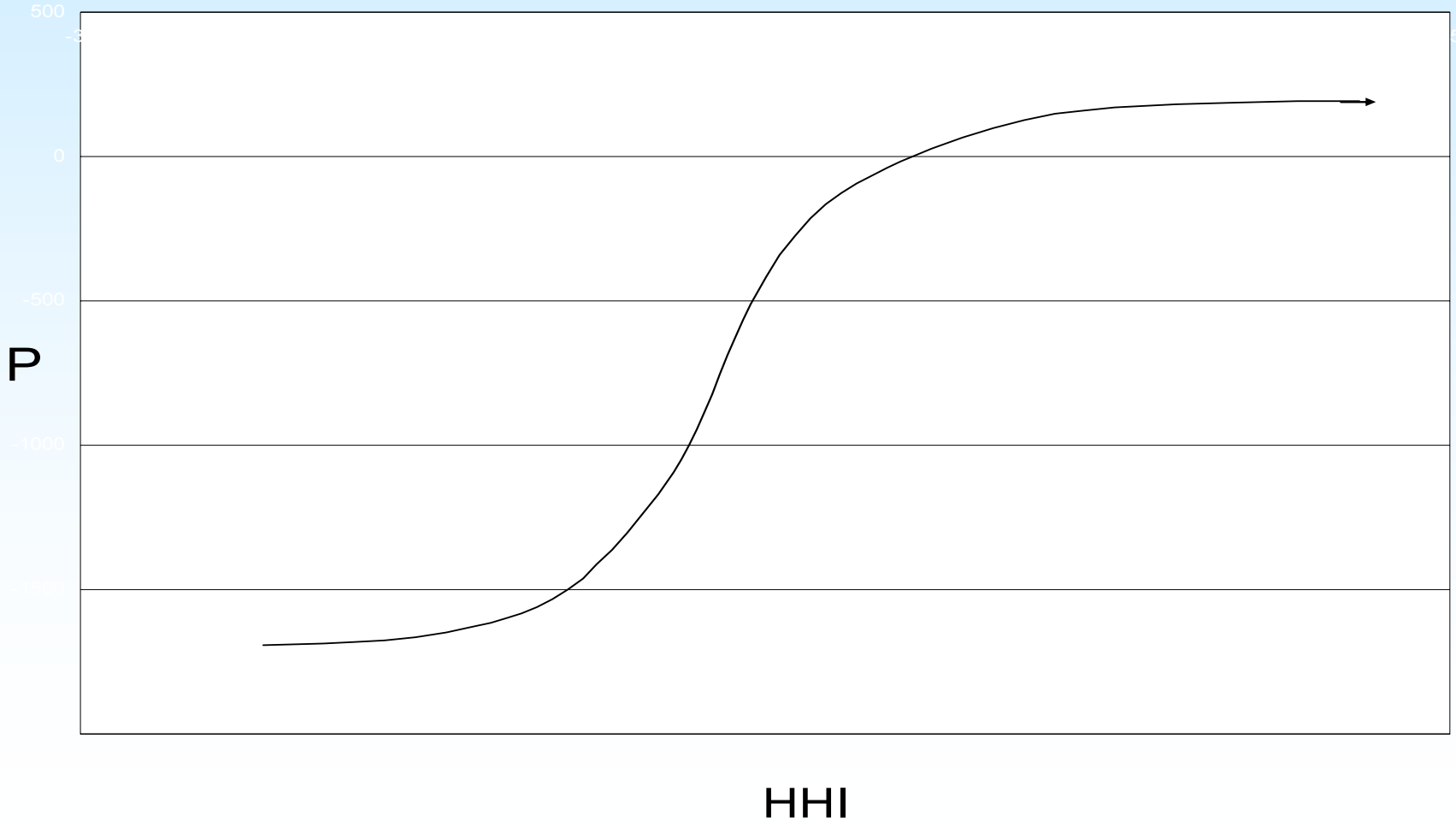
$$N = 3 \quad \frac{\partial \pi_i}{\partial q_i} = 0 \Rightarrow q_i = q_2 = q_3 = 3$$

$$\Rightarrow \pi_1 = \pi_2 = \pi_3 = 9$$

$$\pi_1 + \pi_2 = 18$$

$$N = 2 \quad \frac{\partial \pi_i}{\partial q_i} = 0 \Rightarrow q_1 = q_3 = 4$$

$$\pi_1 = 16$$


500
0
-500
-1000
P
HHI

Studies of Price and Concentration

- Lots
- Across Industries
- Over Time
- Results

GAO Study

- Robustness
- Why structural
- Deflator
- Rack is market?
- Variables measured differently, i.e. time, geography
- Low HHIs?
    - Correctly measured?
- S > 0 → supply interactions
- Crises
- Econometric Technique
- Merger Window

FTC Study

- Where is Marginal Supply?
- Why is St. Louis Not Anticipated?
- Price : St. Louis vs. Louisville
- Controls -- Adequate?
- Adjustment Time
- Odd Result
- NOW – Is Price Now Lower?