FTC/DOJ Hearing on Health Care and Competition Law and Policy

For-Profit and Non-Profit Pricing: The Empirical Evidence

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Outline

- Hospital Nonprofit Status and Antitrust: Background
- Anecdotal Evidence
- Empirical evidence
- Modeling hospital competition in a network setting
  - Are for-profits and nonprofits different?
- Conclusion

The Old Standard

- District Court in *Rockford*, ruling for DOJ:

  "*Accordingly, the court finds that the defendants' 'consumer-aligned' boards and* ***not-for-profit status will not necessarily prevent the defendants from engaging in anti-competitive activity*** *… the court finds that the post-merger market is ripe for anti-competitive behavior.*"

- Similar language also appears in *University Health* and *Mercy Health Services*.

Opening the Door

- Judge Posner, (*Rockford* Appeal*)* 1990:

  "If the government is right in these cases, then other things being equal, hospital prices should be higher in markets with fewer hospitals. This is a studiable hypothesis, by modern methods of multivariate statistical analysis, and some studies have been conducted correlating prices and concentration in the hospital industry … Unfortunately, this literature is at an early and inconclusive stage."

  - Literally, asking for empirical analysis of hospital pricing.

Grand Rapids, MI

- The district judge cites *Rockford*, *University Health*, and *Mercy Health Services*, but then goes on to say that

  > *"The courts* [in those three cases] *thus enforced the traditional rule that nonprofit enterprises are not exempt from the antitrust laws, but implied openness to considering nonprofit status as a relevant consideration if supported by other evidence that anticomptetive effects would not be produced. Here, such evidence exists in the form of Dr. Lynk's findings that* ***market concentration among nonprofit hospitals is not correlated with higher prices, but with lower prices****."*

- The ruling generally appeared to be heavily influenced by Dr. Lynk's testimony and 1995 paper (*J. Law and Economics*).

After *Grand Rapids*

- Much complaining about a number of hospital mergers.
  - E.g., Tenet on the For-Profit side.
  - But also about Non-Profits:
    - Boston, MA: Partners Health Care
    - Oakland, CA: Sutter Health (Alta Bates)
    - Sacramento, CA: Sutter Health/Blue Cross impasse
    - Grand Rapids, MI: Butterworth/Blodgett
    - Waukegan, IL: Victory/St. Therese
    - Long Island, NY: Long Island Jewish Medical Center/Northshore Health System
    - Chicago, Il: Northwestern Memorial/Evanston Hospital

The Empirical Issues

- Generally, to what extent are these complaints valid?
  - This is, of course, the subject of this entire series of hearings.

- For today, *what do the studies since Lynk's 1995 paper tell us about nonprofit vs. for profit pricing*?
  - Note: Most of these studies examine hospital pricing and concentration in general. Today, I focus on results that pertain to the FP/NFP issue.

Partial Summary of Reduced Form Empirical Work, 1996-Present

- Keeler, Melnick, and Zwanzinger (*JHE 1999*):
  - "*…the most interesting result for antitrust policy is the finding that* ***non-profit hospital mergers lead to higher prices, not lower ones, and that the price increases resulting from a non-profit merger are getting larger over time."***
    - Dranove and Ludwick (*JHE* 1999) obtain similar results.
    - But see Lynk and Neumann (*JHE* 1999).

Reduced Form Empirical Work, cont'd.

- Connor, Feldman, and Dowd (*IJEB* 1998).
  - "…*the* [coefficients] *suggest that, independent of market concentration,* ***for-profit hospitals generally had higher prices than not-for-profit hospitals in 1986 but increased their prices less during the period 1986-1994****."*
  - "*… Despite expectations that for-profit status would influence merger effects, the* ***coefficients for the interactions of merger and for-profit status are not significant****."*
  - Note: CFD do find an average cost saving from a merger of about 5%.
    - See also Spang, Bazzoli, and Arnould (*Manuscript* 2001).

Reduced Form Empirical Work, cont'd.

- Brooks, Dor, and Wong (*JHE* 1997): Study nationwide appendectomy prices from 1988-1992.
  - "*Rather paradoxically*, [in the estimated model] ***for-profit hospitals had significantly less bargaining power*** *than either public or voluntary* [non-profit] *hospitals*."

- Vita and Sacher (*JIE 2001*):
  - A case study of a merger of non-profit hospitals in Santa Cruz, CA.
  - "*Though post-merger quality improvements cannot be ruled out completely, they cannot fully account for the observed increase* [post-merger] *in average* ***price…These price increases….suggest that mergers involving not-for-profit hospitals are a legitimate focus of antitrust concern****."*

Reduced Form Empirical Work, cont'd.

- Gowrisankaran and Town (*Manuscript* 2001):
  - Examine effect of concentration on risk-adjusted mortality rates for AMI and pneumonia.
  - Find that competition for HMO patients is good, in terms of reducing inpatient mortality, but that **there is no difference by for-profit/not-for-profit status**.

Recent Structural Empirical Work

- Gaynor and Vogt (*Manuscript*, November 2002):
  - ***"Not-for-profit hospitals face less elastic demand and have lower marginal costs. Their prices are lower, but markups are higher*** *than those of for-profits. We simulate the effects of the 1997 merger of two hospital chains. In unconcentrated markets such as Los Angeles and San Diego, the merger has virtually no effect on prices. However, in San Luis Obispo County, where the merger creates a near monopoly,* ***prices rise by up to 58%, and the predicted price increase would not be substantially smaller were the chains to be not-for- profit****."*

Structural Empirical Work, cont'd.

- Town and Vistnes (*JHE* 2001):
  - Estimate hospital leverage in negotiations with MCOs, and regress inpatient price on the leverage measure.
  - "*Interestingly, we* ***do not find statistically significant differences between not-for-profit and for-profit hospitals' pricing behavior****.*"

Structural Empirical Work, cont'd.

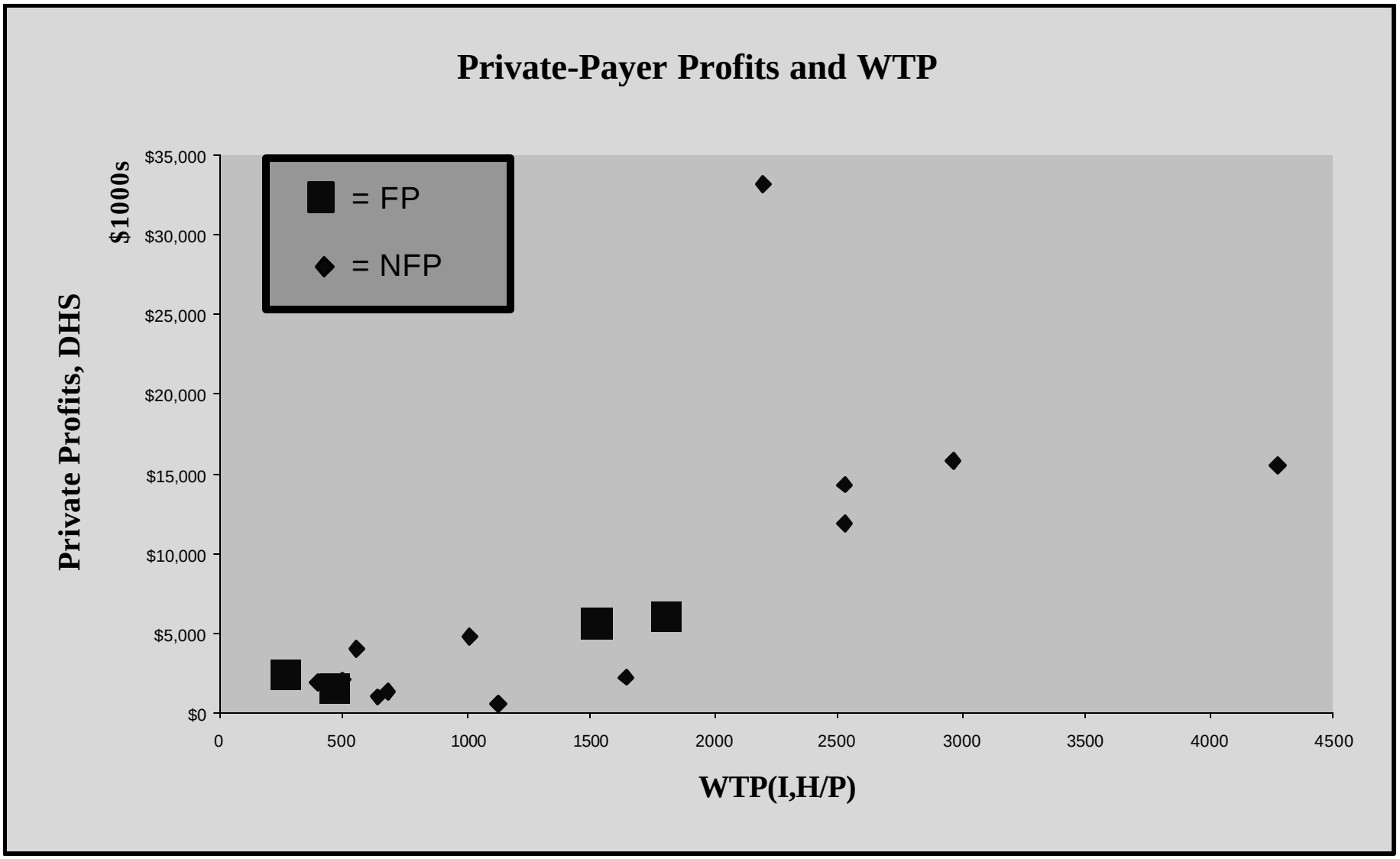
- Capps, Dranove, and Satterthwaite (*Manuscript*, 2003):
  - Primary focus is on geographic market definition and predicting the price effects of mergers; also look at the FP/NFP issue.
  - Similar to Town and Vistnes (2001).
  - Computes consumers' willingness-to-pay (WTP) for inclusion of a given hospital in their network (as the difference between the value of the network with and without that hospital).
    - WTP measures both quality in the traditional sense and the leverage a hospital obtains when it has no close substitutes (in product or geographic space).
  - Regress hospitals' profits on this measure to estimate the split of the surplus between hospitals and MCOs.

Capps, Dranove, and Satterthwaite, cont'd.

Hospital	WTP Rank	Control	Teach	Transplants
Sharp Memorial Hospital	1	**NFP**	Y	Y
Mercy Hospital	2	**NFP**	Y	N
Scripps Memorial, La Jolla	3	**NFP**	N	N
Children's Hospital, San Diego	4	**NFP**	Y	N
UCSD Medical Center	5	**NFP**	Y	Y
NME Hospitals,Inc.	6	FP	N	N

Capps, Dranove, and Satterthwaite, cont'd.

- Consumers do value non-profit hospitals.
- Generally, firms with highly valued products will charge consumers a premium.
- Will a hospital not use that leverage if it is a non-profit?
- No apparent difference between FP/NFP hospitals.
  - Regress profits on WTP and interaction of WTP with a non-profit dummy.
  - Coefficient on the interaction term is positive and insignificant.
  - **No evidence of differing behavior.**


Private-Payer Profits and WTP
Private Profits, DHS
$1000s
$35,000
$30,000
$25,000
$20,000
$15,000
$10,000
$5,000
$0
= FP
= NFP
0
500
1000
1500
2000
2500
3000
3500
4000
4500
WTP(I,H/P)

- CDS also examine whether a suburb of San Diego would constitute a relevant geographic market, in the sense of the SNIP.
  - Simulate the effects of mergers involving the three hospitals (all non-profit) in Chula Vista, a suburb 10 miles south of downtown San Diego.
  - Find that (1) **Chula Vista is a relevant market,** and (2) this is **true in spite of the non-profit status of the hospitals**.

Predicted Price Effects of Potential Chula Vista Mergers

Merger	% Increase in Price
Scripps Memorial (CV) and Paradise Valley	11.11%
Scripps Memorial (CV) and Community Hospital of Chula Vista	3.15%
Paradise Valley and Community Hospital of Chula Vista	3.38%
All Three	13.16%

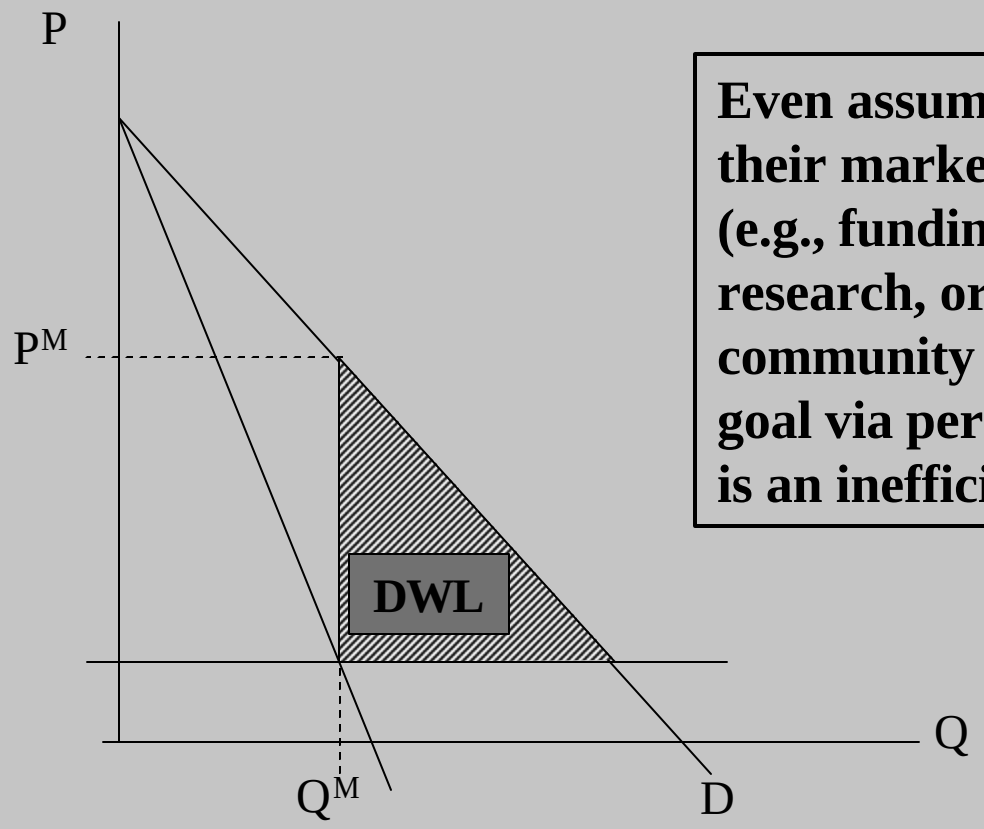
Summary

- This does not mean that non-profits are bad, nor that they are of more antitrust concern than for-profit hospitals.

- Rather, the preponderance of the empirical evidence indicates that **non-profit hospitals use their market power in roughly the same fashion as for-profit hospitals**.

- Accordingly, the equal treatment reasoning in *Rockford*, *University Health*, and *Mercy Health Services* appears wiser than the preferential treatment accorded in *Butterworth/Blodgett.*

Final Note: An Inefficient Way to do a Good Thing



Even assuming that non-profits use their market power in "good" ways (e.g., funding indigent care, research, or other forms of community service), facilitating this goal via permissive antitrust policy is an inefficient way to do so.

References

- Balto, David and Geertsma, Meleah, “Why Hospital Merger Antitrust Enforcement Remains Necessary: A Retrospective on the Butterworth Merger” 34 Journal of Health Law 129 (Spring 2001).
- David Blumenthal and Nigel Edwards, *The Tale of Two Systems: The Changing Academic Health Center,* 19 Health Affairs, 87-101 (2000).
- Brooks JM, Dor A, Wong H. "The Hospital-Insurer Bargaining Process: An Empirical Investigation of Appendectomy Pricing", Journal of Health Economics, 16(4), August 1997, pp.417-434.
- Capps, Dranove, and Satterthwaite, “Competition and Market Power in Option Demand Markets”. *Manuscript*, Northwestern University, 2003.
- Connor, Robert, Feldman, Roger, and Dowd, Bryan, “The Effects of Market Concentration Horizontal Mergers on Hospital Costs and Prices,” *International Journal of the Economics of Business*, Vol. 5 (1998) pp. 159-80.
- Dranove and Ludwick, “Competition and pricing by nonprofit hospitals: a reassessment of Lynk's analysis,” J*ournal of Health Economics*, Vol 18 (1998), pp. 87-98.
- Keeler, Melnick, and Zwanziger, “The Changing Effects Of Competition On Nonprofit And For-Profit Hospital Pricing Behavior,” *Journal of Health Economics*, Vol. 18 (1999), pp. 69-86.
- Lynk, William, “Nonprofit Hospital Mergers And The Exercise Of Market Power,” *Journal of Law and Economics*, Vol 38 (1995), pp. 437-461.
- Town, R. and G. Vistnes, “Competition in networks: An Analysis Of Hospital Pricing Behavior,” *Journal of Health Economics*, Vol. 20 (2001) , pp. 733-753.
- The Competitive Effects of Not-For-Profit Hospital Mergers: A Case Study. By: M.G. Vita and S. Sacher, Journal of Industrial Economics, Vol. XLIX, March 2001

References, cont'd.

- Connolly, Allison *Harvard Pilgrim to succumb to Partners' power?*, Boston Bus. J., Dec. 22, 2000.
- Robertson, Kathy, *Sutter flexes its muscle on Blue Cross*, Sacramento Bus. J., January 5, 2001.
- Robertson, Kathy, *Adventist is latest to test Blue Cross*, Sacramento Bus. J., March 28, 2001.

- *United States v. Rockford Mem. Corp.*, 898 F.2d 1278 (7th Cir.), *cert. denied*, 498 U.S. 920 (1990).
- *United States v. Mercy Health Services et al*., 902 F. Supp. 968 (N.D. Iowa 1995), *vacating as moot*, 107 F.3d 632 (8th Cir. 1997).
- *FTC v. Butterworth Health Corp*., 946 F. Supp. 1285 (W.D. Mich. 1996), *aff'd per curiam*, No. 96-2440 (6th Cir. July 8, 1997).
- *FTC v. University Health, Inc*., 115 F.T.C. 880 (1992) (consent order); 1991-1 Trade Cases 69,400 (S.D.Ga.) and 1991-1 Trade Cases 69,444 (S.D. Ga.), *rev'd*, 938 F.2d 1206 (11th Cir. 1991).