Diagnosing Hospital System Bargaining Power in Managed Care Networks

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- Supply-side factors
  1. *Market Power*: increased hospital concentration within patient markets increases the value of system hospitals (Traditional antitrust analysis)
  2. *Bargaining Power*: different types of hospitals are able to extract more of their value to MCOs

Research Questions

1. To what degree is the price differential attributable to differences in *market power* vs. *bargaining power*?

2. If system hospitals have higher bargaining power, what system characteristics are associated with bargaining power?

- Predominant form of health insurance was indemnity for several decades
- HMO act signed into law in 1973 ushered in a paradigm shift away from *Indemnity* to *Managed Care*
  - Switch from patient-driven to payer-driven competition (Dranove, Shanley and White, 1993)
- HMO backlash in 1990s led to the formation of new forms of MC: PPOs and POSs
- PPOs have experienced tremendous growth since the 1990s and are now the predominant form of insurance
- Overwhelming majority of private insurance takes the form of managed care: negotiated prices

- System growth has also been strong: about 60% of hospitals now belong to a system
- FTC and DOJ have poor track record of stopping mergers: *No* successes (7 attempts) from 1991 to 2007
  - Hospitals have successfully argued that not-for-profits will not exploit market-power
  - Traditional definition of the market for acute-care hospitals has been the patient market and the size of the market may be over-estimated

Our Approach to the Problem

- Estimate the value (surplus) generated by a hospital-MCO contract
- Explicitly model the price negotiation as a bilateral bargaining game
- Examine how the hospital's share of the generated surplus varies with system membership

Summary of Findings

- About 80% of the price differential between system and non-system hospitals is attributable to differences in bargaining power
- Systems that create concentration in the patient market have higher bargaining power (in addition to higher market power)
- Some evidence that the scope of a hospital system is associated with higher bargaining power
  - Primarily a for-profit phenomenon
  - Multi-market systems have higher bargaining power
- National chains:
  - No higher bargaining power
  - Valued more by consumers
- Some evidence that vertical arrangements with physicians are associated with bargaining power

Related Literature

- Traditional price-concentration analyses:
  - Dranove, Shanley and White (1993); Link (1995); Melnick and Zanzwiger (1992); and Melnick and Keeler (2007)
- Structural analyses of hospital prices:
  - Brooks, Dor and Wong (1997); Town and Vistnes (2001); Capps, Dranove and Satterthwaite (2003), Gaynor and Vogt (2003), Ho (2009), Grennan (2010)

Empirical Strategy: Overview

$$\max_{p_{hm}} V = \left[\Delta\Pi_m(h)\right]^{1-\alpha_h} \left[\Delta\Pi_h(m)\right]^{\alpha_h}$$

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1. We first estimate hospital demand in order to:
   - Predict the number of managed care patients that will visit a given hospital upon falling ill
   - Estimate the incremental value to patients of adding a hospital or system to an MCO's network: ΔWTP
   - Estimate the cost to the hospital of treating the managed care patients and estimate change in expected profit from network membership: ΔCost
   - Estimate how an MCO's cost of covering patients changes if a given hospital or system is removed from the choice set: Δ Expenditures

Empirical Strategy: Overview

2. Using the estimates for the option value, hospital cost of treatment, and change in MCO expenditures we estimate the available surplus that is divided between an MCO and hospital:

$$\Delta S = \Delta\text{Willingness-to-pay} + \Delta\text{Expenditures} - \Delta\text{Cost of treatment}$$

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3. Estimate the bargaining power of the hospital as a function of hospital and system characteristics

$$\Delta\Pi_h = (\alpha_0 + \alpha_1 Hosp_h + \alpha_2 Sys_h) \times \Delta S_h + \epsilon_h$$

$$U_{i,h}(H_h, X_i, \lambda_i) = \alpha R_h + H_h' \Gamma X_i + \beta_1 T_h(\lambda_i) + \beta_2 T_h(\lambda_i) \cdot X_i + \beta_3 T_h(\lambda_i) \cdot R_h - \gamma(X_i) P_h(Z_i) + \epsilon_{ih}$$

- $H_h = [R_h, S_h]$
  - H_h: hospital h's general characteristics
  - R_h: hospital h's diagnosis specific characteristics
- $X_i = [Y_i, Z_i]$
  - Y_i: patient i's personal characteristics
  - Z_i: patient i's diagnostic attributes
- λ_i: patient i's location
- $T_h(\lambda_i)$: travel time from patient i to hospital h
- P_h: the charges by hospital h for diagnosis characteristics Z_h
- $\gamma(X_i)$: the *util*-to-dollar conversion factor for patient i
- ϵ_{ih}: i.i.d. extreme value random variable

The option value for patient i of having hospital h in MCO m's network M is:

$$\begin{aligned}\Delta V_h(M \mid H_h, X_i, \lambda_i) &= V(M \mid H_h, X_i, \lambda_i) - V(M \setminus h \mid H_h, X_i, \lambda_i) \\ &= \ln\left(\frac{1}{1 - s_h(H_h, X_i, \lambda_i)}\right)\end{aligned}$$

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The willingness-to-pay by patient i of having hospital h in MCO network M is:

$$\Delta W_h(M \mid H_h, X_i, \lambda_i) = \frac{1}{\gamma_p}\Delta V_h(M \mid H_h, X_i, \lambda_i)$$

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$$\Delta W_h(M \mid H_h, X_i, \lambda_i) = \frac{1}{\gamma_p}\Delta V_h(M \mid H_h, X_i, \lambda_i)$$

The market value ($) of having hospital h in MCO M is:

$$\Delta W_h(M) = N \int_{X,\lambda} \frac{1}{\gamma_p} \ln\left(\frac{1}{1 - s_h(M, X_i, \lambda_i)}\right) dF(X_i, \lambda_i)$$

- N: number of patients who become sufficiently ill and will visit hospital h

$$\begin{aligned}\ln(Cost_{ht}) =& \alpha_0 + \beta_Y \ln(Y_{ht}) + \beta_{YY} \ln(Y_{ht}) \times \ln(Y_{ht}) \\ &+ \beta_{WW} \ln(W_{ht}) \times \ln(W_{ht}) + \beta_{YW} \ln(Y_{ht}) \times \ln(W_{ht}) \\ &+ H_h + \mu_t + \epsilon_{ht}\end{aligned}$$

- Y: vector of hospital h's m outputs
- W: vector of hospital h's n inputs
- H: vector of hospital h's characteristics
- μ_t: time fixed effects
- ϵ_{ht}: i.i.d. error term

Bargaining game modeled as an asymmetric Nash bargaining problem:

$$\max_{p_{hm}} V = \left[\Pi_m(M) - \Pi_m(M \setminus h)\right]^{1-\alpha_h} \left[\Pi_h(H) - \Pi_h(H \setminus m)\right]^{\alpha_h}$$

- p_{hm}: the reimbursement rate from MCO m to hospital h
- α_h: hospital h's bargaining power vis-á-vis MCO m
- $\Pi_m(M)$: MCO m's profit derived from network M with price vector P_M
  - $P_M = \{p_{1m}, p_{2m}, \ldots, p_{hm}, \ldots, p_{Mm}\}$
- $\Pi_m(M \setminus h)$: MCO m's profit from network $M \setminus h$
- $\Pi_h(H)$: hospital h's profit when it is in H networks
  - $P_H = \{p_{h1}, p_{h2}, \ldots, p_{hm}, \ldots, p_{hH}\}$
- $\Pi_h(H \setminus m)$: hospital h's profit when it is not in MCO m's network

$$\Delta\Pi_m(p_{hm}) = \Pi_m\big(M\big) - \Pi_m(M \setminus h) = \Delta W_m(h) - \Delta_p R\big(D_m(h)\big)$$

$$\Delta\Pi_h(p_{hm}) = \Pi_h(H) - \Pi_h(H \setminus m) = R\big(p_{hm}, D_m(h)\big) - \Delta C_h(m)$$

- $D_m(h)$: *ex ante* expected demand for hospital h from enrollees in MCO m's network
- $\Delta R\big(D_m(h)\big)$: MOC m's change in expenditures from adding hospital h
- $R\big(p_{hm}, D_m(h)\big)$: hospital h's revenue from MCO m's enrollees
- $\Delta C_h(m)$: expected change in cost to hospital h when it joins MCO m's network

FOC yields:

$$\Delta\Pi_h(p_{hm}) = \alpha_h\left[\Delta W_m(h) - \Delta C_h(m) + R\big(M \setminus h, D_m(h)\big)\right]$$

Parameterize bargaining power:

$$\alpha_h \equiv \alpha_0 + \delta H_h + \eta M_h$$

- H_h: vector of hospital characteristics that affect bargaining power
- M_h: vector of market characteristics that affect bargaining power

Model for estimation:

$$\overline{\Delta\Pi}_{h,t}(p_{hm}) = (\alpha_0+\delta H_h+\eta M_h)\times[\gamma_{p,t}^{-1}\overline{\Delta V}_{h,t}(M)-\overline{\Delta C}_{h,t}(m)+\overline{R}\big(M\backslash h, D_m(h)\big)]+\epsilon_{h,t}$$

$\overline{\Delta\Pi}_{h,t}(p_{hm})$: average change in profit from contracting with a MCO

$\overline{\Delta V}_{h,t}$: average change in *ex ante* value for adding the hospital to an MCO's network

$\overline{\Delta C}_{h,t}(m)$: average change in cost for hospital h of joining a MCO's network

$\overline{R}\big(M \setminus h, D_m(h)\big)$: average change in expenditures to an MCO from adding hospital h to its network

$\epsilon_{h,t}$: i.i.d. mean-zero error term

Data

Three primary data sources:

1. American Hospital Association Annual Survey of Hospitals, 2008
2. American Hospital Association Hospital Statistics, 2007-2008
3. CA OSHPD Financial Disclosure Reports, 2001-2009
4. CA OSHPD Patient Discharge Reports, 2007-2008

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Matching and clean-up:

- AHA survey has data for 399 of the 459 California hospitals
- All discharges from Government, KP, Shriner, LTC, and MDDC hospitals removed
- Discharges originating out-of-state and over 90 minutes away removed
- Final sample contains 2,027,323 discharges

- Revenue is a function of bargaining power
  - Use discharge, visits, and total revenues to estimate average daily revenue by payer
- OSHPD reports gross revenues by payer type grouped by in- and out-patient
- OSHPD reports net revenues by payer type only
- Average daily revenue is estimated by payer type grouped by admittance type (E.R., scheduled)

McM=managed care, Medicare;
McM-ER=managed care, Medicare admitted through E.R.

$$\text{Avg. Rev./Day} = \frac{\text{Net Rev. for McM}}{\sum_{ip,\ op} \text{Gross Rev. for McM}} \times \frac{\text{Total Charges for McM-ER}}{\text{Total I.P. days for McM-ER}}$$

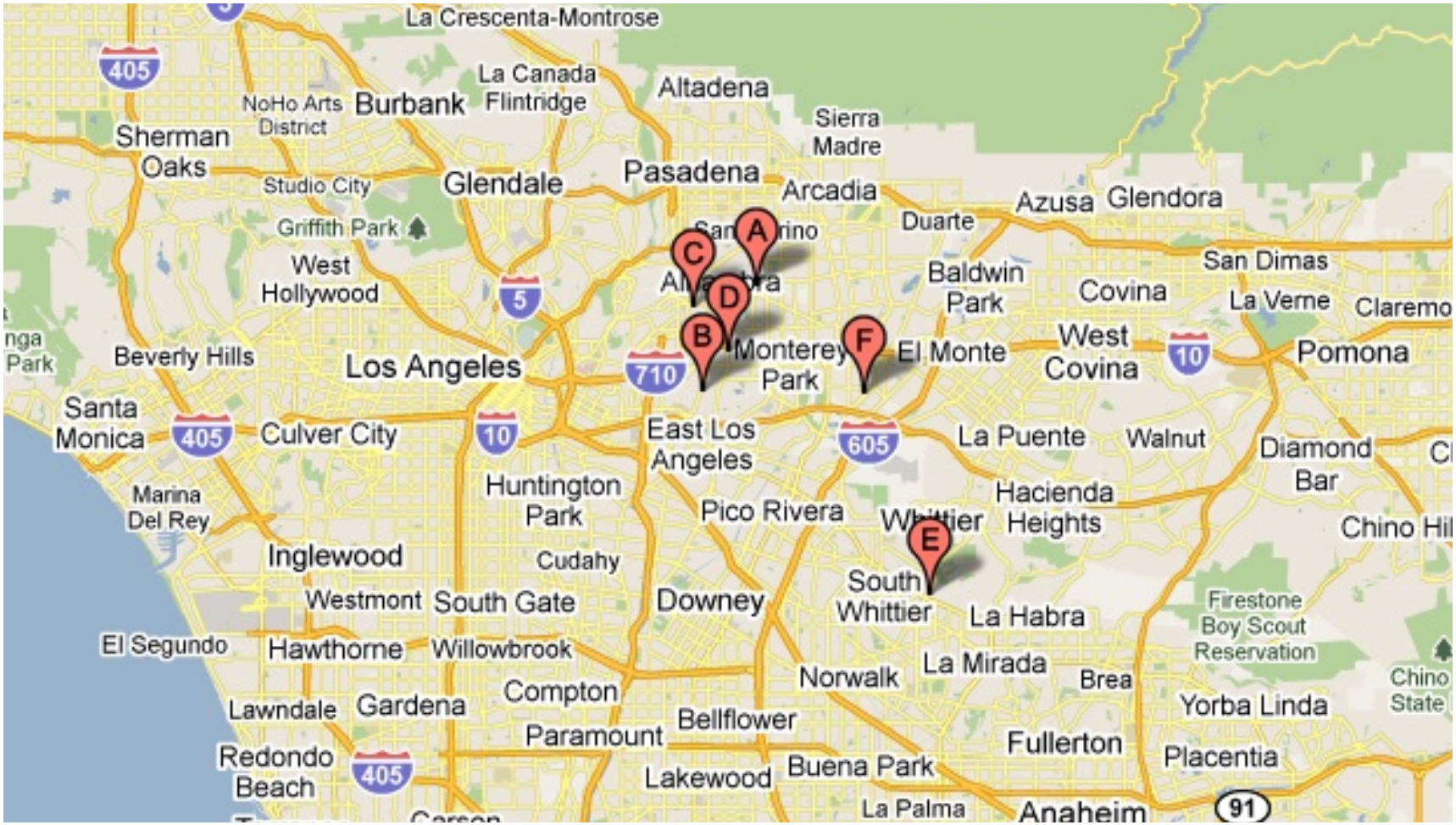
- 4 Average daily revenue estimates per hospital

Table: Private System Hospital Operation Characteristics ($N = 196$)

Item	Mean	Std. Dev.	Min.	Max.
System Size (# Hospitals in CA)	5.0182	6.0887	1.0	31.0
Avg. Distance B/W Partners (miles)	140.96	101.52	4.29	396.00
Min. Distance B/W Partners (miles)	31.04	66.82	0.04	356.97
Max. Distance B/W Partners (miles)	189.13	195.97	6.40	614.72
Close Partner (%) ($\leq$2.5 miles)	0.1429	0.3499	0	1
System Market Share ($\leq$10 miles)	0.0882	0.1378	0	0.7533
% System Hospitals ($\leq$ 10 miles)	0.5726	0.3632	0	1
Multi-market System	0.6983	0.4590	0	1
Multi-market System conditional on FP	0.7297	0.4441	0	1
Multi-market System conditional on NFP	0.6835	0.4651	0	1

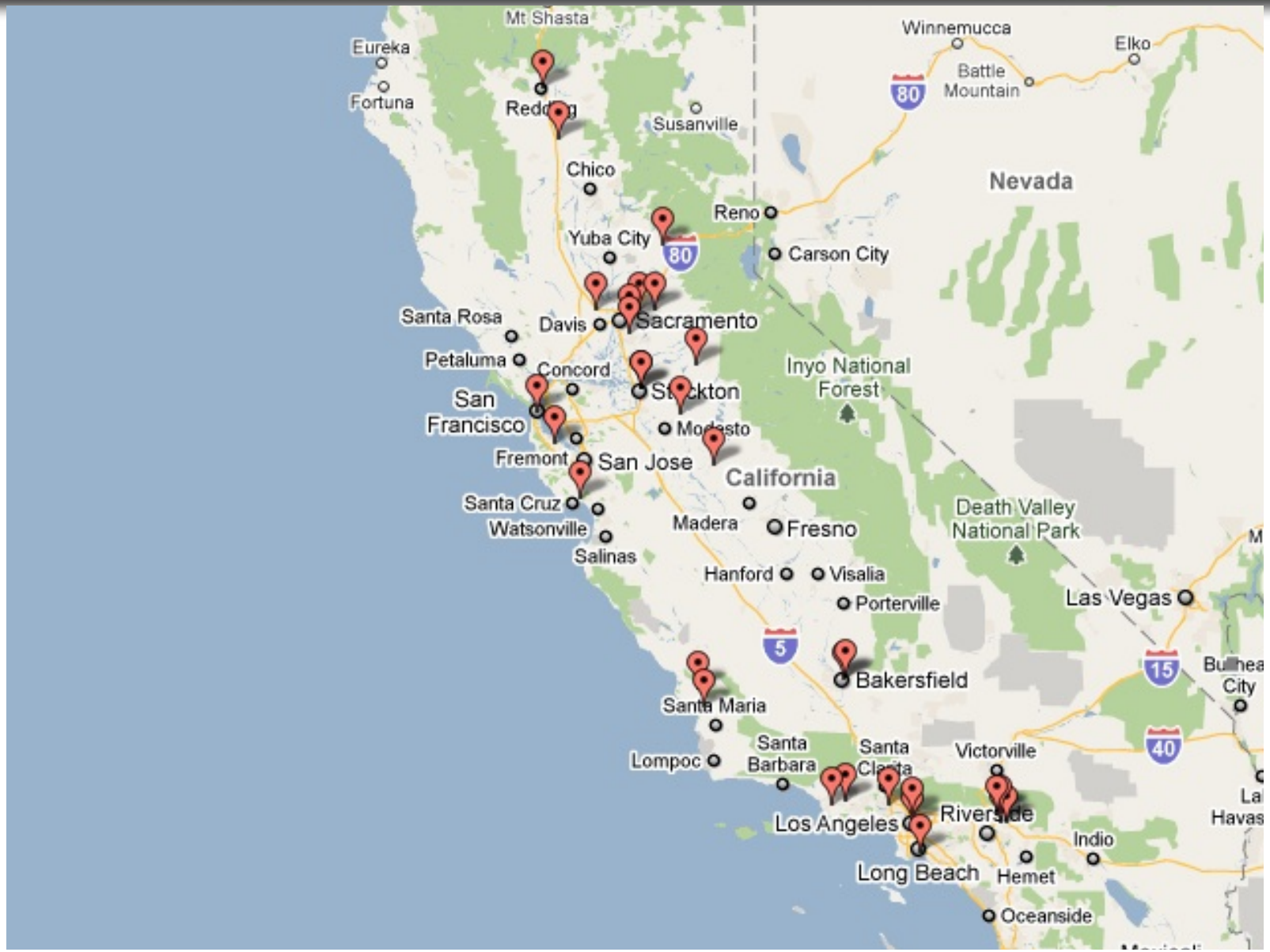
System Geographical Dispersion

Localized Systems: AHMC, Inc.



System Geographical Dispersion

Dispersed Systems: Catholic Healthcare West



Summary Statistics

Discharges *(N=2,027,323)*

Category	Characteristic	Mean	S.D.	Min.	Max.
Insurer	Private	.635	.232	0	1
	Medicare	.365	.232	0	1
Type	Managed Care	.620	.236	0	1
	Fee For Service	.365	.232	0	1
Diagnosis	Length of stay (days)	4.514	6.493	1	501
Patient	Male	.319	.269	0	1
	Age < 18	.058	.055	0	1
	$18 \leq$ Age < 35	.197	.158	0	1
	$35 \leq$ Age < 65	.467	.249	0	1
	$65 \leq$ Age < 75	.278	.922	0	1
	White	.579	.243	0	1
	Black	.044	.042	0	1
	Asian	.070	.065	0	1
	Other/Unknown	.323	.218	0	1
	Choice Set Size	39.163	30.751	2	91
	Travel Time (minutes to chosen hospital)	20.66	15.05	1	90
	Travel Time (minutes to all hospitals)	35.69	13.19	1	60
	Rural	.029	.028	0	1
	Income ($1,000s)	51.50	19.86	0	200

Parameter	2008	
Travel Time	-0.1684	(0.0013)
Teaching Hospital	0.2023	(0.0135)
Teaching Hospital × Travel Time	0.0091	(0.0005)
Nurse-to-Bed	0.0470	(0.0070)
Nurse-to-Bed × Travel Time	0.0193	(0.0003)
Income × Travel Time	0.0111	(9.64E-6)
Length of Stay × Travel Time	0.0004	(1.87E-5)
For-Profit	0.1911	(0.0194)
For-Profit × Travel Time	-0.0322	(0.0009)
Government (State, County)	-0.6214	(0.0205)
Government (State, County) × Travel Time	-0.0023	(0.0008)
Rural × Travel Time	-0.0589	(0.0004)
$18 \leq$ Age $< 35 \times$ Travel Time	-0.0109	(0.0013)
$35 \leq$ Age $< 65 \times$ Travel Time	-0.0246	(0.0011)
$65 \leq$ Age $< 75 \times$ Travel Time	-0.0333	(0.0011)
Female × Travel Time	-0.0077	(0.0004)
E.R. × Travel Time	-0.0031	(0.0002)

Results

Value Differential for System Membership

		Not-For-Profit		For-Profit	
MDC	Travel Time	Local	National	Local	National
Respiratory System	16	-0.1946 (0.0100)	0.2586 (0.0178)	-0.2440 (0.0326)	0.2092 (0.0321)
Circulatory System	16	-0.0988 (0.0087)	0.1405 (0.0145)	0.0298 (0.0293)	0.2691 (0.0148)
Digestive System	16	-0.1333 (0.0107)	0.3586 (0.0185)	-0.3707 (0.0320)	0.1212 (0.0280)
Hepatobiliary System	16	-0.0314 (0.0166)	0.3854 (0.0292)	-0.2321 (0.0413)	0.1847 (0.0325)
Musculoskeletal System	18	0.0269 (0.0094)	0.5451 (0.0169)	-0.2276 (0.0309)	0.2906 (0.0045)
Skin, Subcutaneous Tissue	16	-0.1417 (0.0163)	0.2912 (0.0338)	-0.2601 (0.0418)	0.1729 (0.0374)
Endocrine, Nutritional	17	-0.0712 (0.0155)	0.2479 (0.0306)	-0.2903 (0.0401)	0.0289 (0.0295)
Kidney	16	0.0518 (0.0118)	0.3423 (0.0262)	-0.1840 (0.0364)	0.1065 (0.0305)
Pregnancy & Childbirth	16	0.0137 (0.0200)	0.4275 (0.0397)	0.1992 (0.0446)	0.6130 (0.0342)
Blood & Immunologic	17	0.0375 (0.0220)	0.3771 (0.0442)	-0.4137 (0.0580)	-0.0740 (0.0479)
Infectious & Parasitic	15	-0.0638 (0.0134)	0.2428 (0.0231)	-0.0246 (0.0347)	0.2820 (0.0314)

Results

Cost Differences: FP and NFP

Characteristic	Type	Mean	Std. Dev.
Total I.P. Days	For-Profit	36,044	24,523
	Not-For-Profit	58,276	45,395
Total Discharges	For-Profit	6,249	5,007
	Not-For-Profit	11,356	8,474

Cost Model	Total Difference	Diff. Due to Characteristics	Diff. Due to Parameters
C1	285.4%	268.5%	16.9%
C2	321.2%	304.4%	16.7%
C3	274.7%	259.3%	15.4%
C4	291.0%	275.6%	15.4%
C5	253.5%	234.6%	18.9%

$$\text{Total Difference} = \ln \hat{C}^{NP} - \ln \hat{C}^{FP}$$

$$\text{Difference due to characteristics} = \sum [X_i^{NP} - X_i^{FP}] \hat{\beta}_i$$

$$\text{Difference due to parameters} = \sum X_i^{NP} \hat{\beta}_i$$

Predictions are evaluated at the sample means for not-for-profit hospitals, X^{NP}, and for-profit hospitals X^{FP}.

Cost Model	Total Difference	Diff. Due to Characteristics	Diff. Due to Parameters
C1	-	-	-
C2	40.7%	33.5%	7.2%
C3	27.7%	22.2%	5.5%
C4	32.7%	29.3%	3.4%
C5	26.7%	24.3%	2.3%

$$\text{Total Difference} = \ln \hat{C}^{SYS} - \ln \hat{C}^{N}$$

$$\text{Difference due to characteristics} = \sum [X_i^{SYS} - X_i^{N}]\hat{\beta}_i$$

$$\text{Difference due to parameters} = \sum X_i^{SYS}\hat{\beta}_i$$

Predictions are evaluated at the sample means for system hospitals, X^{SYS}, and non-system hospitals X^{N}.

Dependent Var. $= \Delta\Pi_h$	Cost Specification					
	C3		C4		C5	
	Hosp.	System	Hosp.	System	Hosp.	System
Base Bargaining Pwr	0.4599**	0.3112**	0.4852***	0.3143**	0.5290***	0.3613**
	(0.1799)	(0.1523)	(0.1847)	(0.1531)	(0.1967)	(0.1739)
CPHO	0.1641	0.0925	0.1178	0.0590	0.1292	0.0678
	(0.2816)	(0.2175)	(0.2841)	(0.2304)	(0.3259)	(0.2652)
OPHO	-0.1354	-0.1059	-0.2166	-0.1629	-0.1721	-0.1283
	(0.1973)	(0.1923)	(0.1943)	(0.1919)	(0.2105)	(0.2149)
IPA	-0.0019	-0.0072	0.0162	0.0044	-0.0010	-0.0085
	(0.0872)	(0.0696)	(0.0725)	(0.0601)	(0.0869)	(0.0731)
GPWW	0.2863**	0.1986	0.2741***	0.2016*	0.3232***	0.2507**
	(0.1209)	(0.1417)	(0.0903)	(0.1025)	(0.1062)	(0.1252)
Teaching	0.2472	0.2370	0.2155	0.1959	0.2329	0.2257
	(0.1875)	(0.1967)	(0.1922)	(0.2003)	(0.1967)	(0.2127)
Rural	-0.2319**	-0.1154	-0.2328**	-0.1236*	-0.2587**	-0.1339
	(0.1125)	(0.0823)	(0.0942)	(0.0705)	(0.1087)	(0.0857)
# Beds $(/100)$	-0.0782	-0.0182	-0.0744	-0.0105	-0.0934	-0.0202
	(0.0861)	(0.0634)	(0.0877)	(0.0635)	(0.0994)	(0.0781)
# Beds Sqrd. $(/100^2)$	0.0185	0.0083	0.0175	0.0072	0.0207	0.0090
	(0.0142)	(0.0113)	(0.0152)	(0.0116)	(0.0169)	(0.0140)
For Profit	-0.0274	0.0165	-0.0044	0.0388	-0.0071	0.0447
	(0.0954)	(0.0714)	(0.0813)	(0.0634)	(0.0947)	(0.0761)
Market Share	1.2813**	0.8661*	0.9485**	0.6752*	1.2352**	0.9070*
	(0.5341)	(0.4510)	(0.4263)	(0.3442)	(0.5215)	(0.4694)
Market Share Sqrd.	-1.6168***	-1.1533**	-1.2488***	-0.9359***	-1.5693***	-1.2036**
	(0.5236)	(0.4606)	(0.4130)	(0.3410)	(0.5040)	(0.4625)
System Mem.	0.1217	0.0537	0.1201	0.0645	0.1336	0.0529
	(0.0977)	(0.0731)	(0.0808)	(0.0608)	(0.0987)	(0.0798)
BCBS Market Share	-0.4816*	-0.2906	-0.4536**	-0.2695	-0.4912*	-0.2895
	(0.2622)	(0.2126)	(0.2288)	(0.1889)	(0.2592)	(0.2208)
Adj. R^2	0.7980	0.7788	0.8069	0.7902	0.8032	0.7809

System Characteristics and Bargaining Power

Dependent Var. $= \Delta\Pi_h$	Regression Specification					
	A		C		F	
	Hosp.	System	Hosp.	System	Hosp.	System
Base Bargaining Pwr	0.5448***	0.3697**	0.4659**	0.3112*	0.4774**	0.3573**
	(0.2050)	(0.1797)	(0.1987)	(0.1739)	(0.1895)	(0.1791)
Market Share	1.2111**	0.8924*	1.2952***	0.9973**	1.4979***	1.1628**
	(0.5286)	(0.4738)	(0.4932)	(0.4677)	(0.5416)	(0.5239)
Market Share Sqrd.	-1.5502***	-1.1920**	-1.5581***	-1.2334***	-1.7387***	-1.4021***
	(0.5092)	(0.4651)	(0.4506)	(0.4460)	(0.4990)	(0.5075)
FP $\times$ Sys. Member	0.2481*	0.1115	0.0838	-0.0172	-0.6301***	-0.5910**
	(0.1459)	(0.1744)	(0.1751)	(0.1866)	(0.2407)	(0.2592)
NFP $\times$ Sys. Member	0.1237	0.0476	0.0508	0.0209	0.1854	0.1123
	(0.1066)	(0.0854)	(0.1077)	(0.0922)	(0.1235)	(0.0979)
FP $\times$ Sys. Mrkt Share			2.3377*	1.8853**	2.6239**	2.1381**
			(1.1870)	(0.8817)	(1.1540)	(0.8713)
NFP $\times$ Sys. Mrkt Share			0.8361**	0.3147	0.2955	0.0093
			(0.3337)	(0.2474)	(0.3468)	(0.2401)
FP $\times$ Close Partner					1.0362**	0.7715**
					(0.4077)	(0.3360)
NFP $\times$ Close Partner					0.2548*	0.1654
					(0.1294)	(0.1160)
FP $\times$ Multi-Mrkt					0.7049***	0.5688***
					(0.2316)	(0.2038)
NFP $\times$ Multi-Mrkt					-0.1044	-0.0448
					(0.0884)	(0.0701)
Adj. R^2	0.8034	0.7809	0.8135	0.7863	0.8251	0.7967

Bargaining Results

Evaluating the magnitudes

Dependent Var. $= \Delta\Pi_h$	A		C		F	
Market Share	1.2111**	0.8924**	1.2952***	0.9973**	1.4979***	1.1628**
	(0.5286)	(0.4738)	(0.49321)	(0.4677)	(0.5416)	(0.5239)
Market Share Sqrd.	-1.5502***	-1.1920**	-1.5581***	-1.2334**	-1.7387***	-1.4021***
	(0.5092)	(0.4651)	(0.4506)	(0.4460)	(0.4990)	(0.5075)
Mean	0.2012	0.1454	0.2219	0.1687	0.2605	0.1990
2 S.D. Change in Market Share	0.2179	0.1481	0.2580	0.1902	0.3141	0.2308
FP $\times$ System Mrkt. Share			2.3377*	1.8853**	2.6239*	2.1381**
			(1.1870)	(0.8817)	(1.1540)	(0.8713)
Mean			0.0865	0.0698	0.0971	0.0791
2 S.D. change in Sys. Mrkt. Share			0.2759	0.2225	0.3096	0.2522
NFP $\times$ System Mrkt. Share			0.8361**	0.3147	0.2955	0.0093
			(1.3337)	(0.2474)	(1.3468)	(0.2401)
Mean			0.0917	0.0345	0.0324	0.0010
2 S.D. change in Sys. Mrkt. Share			0.3245	0.0898	0.0843	0.0037

Price Markups

Market Vs. Bargaining Power

	Market Power							
	75th percentile		50th Percentile		25th Percentile		Mean	
Model	%	$	%	$	%	$	%	$
A	4.15	127.79	1.93	62.23	0.75	21.48	3.77	86.57
B	4.82	141.14	2.27	68.29	0.94	27.17	4.39	97.29
C	4.87	143.85	2.02	65.52	0.78	22.41	5.17	95.37
D	4.26	130.97	2.13	62.06	0.83	24.89	3.95	89.06
E	5.04	142.69	2.14	66.52	0.77	23.53	5.51	99.00
F	6.14	174.63	2.66	82.02	0.93	30.36	6.46	117.25
G	6.35	188.26	2.65	78.72	0.86	28.64	6.24	118.53
	Bargaining Power							
	75th percentile		50th Percentile		25th Percentile		Mean	
Model	%	$	%	$	%	$	%	$
A	19.62	436.74	12.48	338.27	8.33	248.63	17.33	315.90
B	26.46	618.81	17.80	428.44	10.27	298.44	24.34	428.10
C	24.77	605.46	14.55	378.87	6.26	221.43	20.10	352.41
D	17.46	485.94	9.55	268.51	3.87	87.03	14.59	302.71
E	22.70	559.89	12.23	325.07	2.55	63.70	16.86	335.76
F	34.77	825.93	19.54	508.90	0.13	81.91	24.84	446.19
G	32.13	798.10	14.89	417.03	0.02	12.44	24.50	404.43

Summary of Findings

- Differences in bargaining power account for a majority ($\sim 80\%$) of the price differential between system and non-system hospitals
- Market power generated by concentration in a patient market is important
  - Bargaining power is concave-increasing with own market-share
  - Bargaining power is increasing with system market-share in local market
- Multi-market systems have higher bargaining power
  - For-profit hospitals appear to capitalize on system operating in multiple markets
  - No evidence that hospitals leverage strength (high market share, valuable hosp.) to increase rents in another market
- Demand-side differences to system membership
  - Hospitals belonging to national chains are valued more by enrollees