The Economic Performance of For-Profit and Not-for-Profit Hospitals

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Abstract

Investor-owned hospital systems have grown rapidly in the 1970s and 1980s. Policy-makers are concerned about the changes in the access to and quality of hospital care that may be caused by this development. These concerns are predicated on the belief that for-profit hospitals perform differently than not-for-profit hospitals. This research examines the economic performance of for-profit and not-for-profit hospitals.

Panel data containing 573 observations of not-for-profit and for-profit hospitals in the State of Florida for 1984 through 1987 are used in a random-effects regression model with endogenous for-profit status. The results differ significantly from those of prior studies: When the endogeneity of for-profit status is taken into account, neither for-profit status nor system membership are significantly associated with changes in average expenditure, average revenue, or average net revenue per hospital admission.

I. Introduction

Hospital care in the United States has traditionally been provided by not-for-profit organizations. Hospitals have been owned by charitable organizations or organized locally by physicians and other community leaders to provide services to the community. For-profit exceptions in the early part of this century were generally small independent institutions owned by doctors as an extension of their medical practices and have never accounted for a large percentage of total hospital capacity.

A new type of for-profit hospital organization, the investor-owned hospital chain, has appeared and grown during the last few decades in the United States. The stock of these multi-hospital systems is traded publicly. Because these hospitals are owned by investors who expect a reasonable return on their investment, it is hypothesized that the administrators of for-profit chain hospitals will behave differently than administrators in traditional hospitals. Administrative policy may directly affect patient welfare if resources are allocated differently in for-profit hospitals and if physicians practicing in these hospitals respond to pressure to increase hospital revenues and cut costs. Further, the competitive pressure caused by the presence of for-profit hospitals in an urban market may lead traditional not-for-profit hospitals to alter their behavior and behave in a manner indistinguishable from that of for-profit hospitals.

Policy-makers are concerned about potential changes in the delivery of hospital care caused by the emergence of for-profit hospital systems. If the pressure to generate profits in a competitive environment forces for-profit hospitals to **reduce their expenditures** for the resources used in providing care, it may lead to poorer care and worse health outcomes for hospital patients. The potential for this occurring is exacerbated by the attenuation of local physicians' control in hospital systems in which many decisions are made centrally by system administrators.

Additionally, the pressure to accrue profits may cause for-profit hospitals **to increase revenues** by charging higher prices than not-for-profit hospitals and reducing services to poorer patients who may be unable to pay for hospital care. This possibility has lead to suspicions of for-profit hospitals transferring low-income patients without hospital insurance to nearby not-for-profit hospitals, a practice referred to as

"dumping".

For-profit hospitals can also avoid serving poorer populations by not offering services that are heavily used by indigent patients. Examples often cited are emergency medical services and gynecological services. To avoid having to provide services to nonpaying patients, for-profits hospitals may simply not offer emergency care and/or maternity services. While some revenues are foregone by not providing these services, the resources that might have been used in providing these services can be applied to more profitable services, yielding higher total revenues for the hospitals. Since hospital care is often vital in life-threatening situations, actions by hospitals that may limit the access to hospital care of poorer segments of the population is an earnest concern of federal and state policy-makers.

While policy-makers may have legitimate concerns about changes in the access to and quality of hospital care that may be caused by the growth of for-profit hospital systems, the evidence demonstrating that for-profit hospitals behave differently than traditional not-for-profit hospitals is mixed. Indeed, there is considerable debate in the health policy arena over the implications of for-profit delivery of health care[1]. Clear conclusions are difficult since many comparative studies of for-profit and not-for-profit hospital performance have suffered from poor data and difficulty identifying the effects of investor ownership. This paper reports results from a study of for-profit and not-for-profit hospitals in the State of Florida. Random-effects regressions are performed using a panel of 573 observations of hospitals. Controls are included for several hospital characteristics, including system membership and market competition, to ascertain whether expenditures, revenues, or net revenues vary between for-profit and not-for-profit hospitals.

II. Prior Research

There have been several comparative studies of for-profit and not-for-profit hospitals. Sloan and

[1] See, for example, Coelen (1986), Lewin et al. (1981), and Pattison (1986).

Vraciu (1983) present a summary and discussion of several studies done before 1985. Numerous studies have been published since then. The empirical findings in this literature are mixed. Several studies have found that for-profit hospitals do not operate more efficiently than not-for-profit hospitals. However, some of these studies have also found that for-profit hospitals also earn higher revenue than not-for-profit hospitals, leading to higher net revenue.[2]

It is difficult to compare these studies closely since they vary considerably in the research designs employed and the types of hospitals studied. For example, some of the studies rely on matched samples of for-profit and not-for-profit hospitals. Some research compares not-for-profit hospitals to only investor-owned system hospitals, ignoring independent for-profit hospitals. And only the more recent studies have used regression analysis to control for confounding influences on hospital expenditures and revenues.

III. Description of the Data

This study uses 573 observations of for-profit and not-for-profit hospitals located in Florida. All hospitals in Florida are required to file annual reports with the State of Florida which include detailed information describing financial and economic performance. The figures discussed in this paper are drawn from reports submitted for 1984 through 1987. Florida is a particularly useful area to study because it has large numbers of both for-profit and not-for-profit hospitals: In 1984, 40.8 percent of the 211 acute care hospitals in Florida hospitals were for-profit and 36.5 percent were not-for-profit. The percentage of both types of hospitals increased over the four year period. In 1987, 44.7 percent of the 215 acute care hospitals in Florida were for-profit and 39.1 percent were not-for-profit. While the total number of acute care hospitals grew by only four between 1984 and 1987, the number of for-profit hospitals grew by ten from 86 to 96 and the number of not-for-profit hospitals grew by seven from 77 to 84. The number of public hospitals decreased during this period from 48 to 35. Thus, the growth of for-profit hospitals occurred

[2] See, for example, Coelen (1986), Lewin et al. (1981), Pattison (1986), Pattison and Katz (1983), Sloan and Becker (1985), Watt et al. (1986A, 1986B).

during a period in which the total number of hospitals grew only slightly, but a large shift away from public hospitals occurred. Chart 1 shows the ownership composition of Florida hospitals in 1987.

To facilitate comparison with prior studies on hospital financial performance, hospital revenues and expenditures are examined. The measures of performance considered are average revenue per adjusted admission, average expenditure per adjusted admission, and net revenue (net revenue = revenue - expenditure) per adjusted admission. The denominator of these measures, adjusted admission, is hospital admissions multiplied by the ratio of inpatient plus outpatient revenues to inpatient revenues. Because adjusted admissions will reflect outpatient activity as well as inpatient activity of a hospital, it is more representative of total hospital activity than strictly inpatient admissions.

The use of regression analysis in this research avoids the difficulties found in several prior studies of attempting to match samples of hospitals. Since the sample of hospitals includes significant numbers of system and nonsystem hospitals of all types of ownership the effects of type of ownership and system membership can be accurately assessed. Finally, the use of four years of annual data allows multiple observations of individual hospitals. The random-effects regression model uses the multiple observations of hospitals to control for hospital-specific characteristics that are not captured in the independent variables in the regression. This yields more efficient estimates of the regression coefficients.

IV. Estimating Model

Many other factors in addition to type of ownership and system membership are likely to influence the average expenditures and revenues of hospitals.[3] The demand for hospital services is assumed to be a function of several factors:

(1) Q_d = d(PRICE(HERF), INCOME, AREAPOP, DOCS/POP, GPS/DOCS, MCARE/POP, MCAID/POP).

[3] In this paper, only financial measures associated with a hospital's output is considered. Alternatively, it is theoretically attractive to estimate cost functions in a multiproduct setting. Current research by the author involves estimation of multiproduct cost functions.

PRICE is assumed to be negatively associated with Q_d. HERF is the Herfindahl index of competition in a hospital's area. The index is defined as

$$HERF = SUM(S_i^2), \text{ for all i in the defined area,}$$

where S_i is hospital i's share of total hospital beds in the area ($0<S_i<=100$). The value of HERF must lie between 0 and 10,000. It is assumed that greater competition will have a depressing effect on price.

The effects of INCOME and population (AREAPOP) are predicted to be positive. DOCS/POP is the ratio of physicians to county population. The larger the number of physicians, other thing equal, the larger is the expected utilization of hospital care. The ratio of general practitioners to the total number of physicians in a county is given by GPS/DOCS. This is predicted to be negatively associated with Q_d since specialists are assumed to have higher utilization of hospital services. The larger the number of individuals in the county population for whom the state or federal government is the payor, the larger is expected to be the demand for hospital services. Thus, both MCARE/POP and MCAID/POP are expected to positively influence Q_d. (All variable means, standard deviations, and definitions are given in Table 4.)

The supply of hospital services is similarly assumed to be a function of several supply-side factors:

(2) Q_s = s(PRICE(HERF), FOR-PROFIT, SYSTEM, FP*SYSTEM, HOSPBEDS, CASEMIX, RESIDENT, POP/SQMILE).

PRICE is assumed to be positively related to Q_s. HERF is again assumed to be negatively related to PRICE. The remaining variables are hospital characteristics that may influence the supply of hospital services: FOR-PROFIT has a value of one if a hospital is for-profit and a value of zero if a hospital is not-for-profit. SYSTEM is a dummy variable with a value of one if the hospital belongs to a chain. FP*SYSTEM is an interaction variable between FOR-PROFIT and SYSTEM. HOSPBEDS is the number of beds in a hospital. CASEMIX is a casemix indicator used by the State of Florida to measure the complexity of the casemix handled by a hospital (unlike the Medicare casemix index, all patients are included). RESIDENT is a dummy variable with a value of one if the hospital has a medical residency program. Population density is measured by the population per square mile in the county (POP/SQMI) and

is included since it may proxy for the relative cost of resources used by a hospital.

Solving simultaneously, the equilibrium quantity of hospital services is a function of all of the demand and supply variables listed above. Hospital revenues and expenditures are assumed to be functions of Q_e and therefore have the same right-hand side variables. The price of hospital services is not observed. However, the indirect effect of competition on price is included by including the Herfindahl index among the independent variables. The final reduced-form expressions for the three dependent variables (DEP), average expenditure per admission, average revenue per admission, and net revenue per admission, have the following form:

(3) DEP = f(INCOME, AREAPOP, MD/POP, GPPROP, MCARE/POP, MCAID/POP,
HERF, FOR-PROFIT, SYSTEM, FP*SYSTEM,
HOSPBEDS, CASEMIX, RESIDENT, POP/SQMI).

V. Empirical Results

Type of Ownership and System Membership and Hospital Performance

Missing values for variables used in the regression analysis reduces the number of observations analyzed to 573. In Tables 1 through 3 differences in the economic performance of for-profit and not-for-profit hospitals are examined for these 573 observations. Table 1 reports average expenditure per adjusted admission for both type of ownership and system membership. The means in column 3 reveal that in general for-profit hospitals have significantly greater average expenditures per adjusted admission ($3626) than not-for-profit hospitals ($3344). Among independently-owned hospitals this difference is again observed: For-profit hospitals have higher average expenditures per admission ($3695) than not-for-profit hospitals ($3299). However, the average expenditures of for-profit and not-for-profit system hospitals do not differ significantly. Both have average expenditures per admission of approximately $3600.

In general, system hospitals have significantly higher average expenditures per admission ($3601) than independent hospitals ($3382), but there is a statistically significant difference between system and

independent hospitals only among not-for-profit hospitals. In summary, it appears that although for-profit hospitals generally have higher expenditures than not-for-profit hospitals and system hospitals generally have higher expenditures than independent hospitals, a closer examination reveals that it is not-for-profit independent hospitals that have significantly lower average expenditures than either system not-for-profit hospitals or either type of for-profit hospital. Thus, system membership for not-for-profit hospitals appears to be associated with average expenditures equivalent to the levels observed for for-profit hospitals. Thus, it is essential to consider independently the effects of both ownership and system membership in a multivariate analysis of average expenditures.

In Table 2 the average revenue per adjusted admission is examined for both type of ownership and system membership. For-profit hospitals have significantly higher average revenues per adjusted admission ($5570) than not-for-profit hospitals ($4751). Similarly, both system and independent for-profit hospitals earn greater average revenues per adjusted admission than their not-for-profit counterparts.

System hospitals earn greater average revenues per adjusted admission ($5560) than independent hospitals ($4813). This pattern is observed as well among both for-profit and not-for-profit hospitals. The pattern observed in Table 2 differs from Table 1: For-profit system hospitals have the highest average revenues, followed by not-for-profit system hospitals. The third highest level of average revenues are earned by for-profit independent hospitals and the lowest average revenues are earned by not-for-profit independent hospitals. Again, however, these results establish the importance of carefully considering both hospital ownership and system membership in a multivariate analysis of average revenue.

In Table 3 the net revenue per adjusted admission is examined for both hospital ownership and system membership. Net revenue is the difference between total revenue and total expenditure. Average net revenue per adjusted admission is significantly higher for for-profit hospitals ($1945) than for not-for-profit hospitals ($1407). This occurs despite higher average expenditures per admission reported by for-profit hospitals: For-profit hospitals report average expenditures per admission that are $282 higher than not-for-profit hospitals. However, the average revenue per admission of for-profit hospitals is $819 greater than that

of not-for-profit hospitals, allowing the for-profits to earn an average net revenue per admission that is $538 greater than that of not-for-profit hospitals. For both system and independent hospitals, the average net revenues per admission of for-profit hospitals is similarly greater than that of not-for-profit hospitals.

System hospitals earn higher net revenues per admission ($1959) than independent hospitals ($1431). This occurs despite the higher average expenditures per admission of system hospitals: System members have average expenditures per admission that are $219 higher than independent hospitals. The average revenue per admission of system hospitals, however, is $747 greater than that of independent hospitals, leading to average net revenues per admission for system hospitals that are $528 greater than that of independent hospitals. Similar differences are observed between system and independent hospitals that are for-profit and not-for-profit. As in Table 2, for-profit system hospitals have the highest average net revenues, followed by for-profit independent hospitals and not-for-profit system hospitals. The lowest average net revenues are earned by not-for-profit independent hospitals.

Tables 1 through 3 indicate that both the type of hospital ownership and system membership are associated with differences in the economic performance of hospitals: For-profit hospitals have significantly greater average expenditures, revenues, and net revenues than not-for-profit hospitals and system hospitals have significantly greater average expenditures, revenues, and net revenues than independent hospitals.

Regression Analysis

Regression coefficient estimates are reported in Tables 5 and 6 for the log of average expenditure, average revenue, and average net revenue. The dependent variables are averaged per adjusted hospital admission. Tests of the normality of the regression residuals indicated that the residuals are normal using the untransformed dependent variables for the revenue and net revenue regressions and using the log of the dependent variable for the expenditure regressions.

Because this study uses a panel of hospitals, it is possible to use panel data regression techniques. The regression coefficients in Table 5 are from random-effects regression models. Statistics from the LaGrange multiplier tests and the Hausman-Wu specification tests indicate that the random-effects model is

appropriate for all three regressions. All of the variables on the right-hand side of the equation are assumed to be exogenous. These regressions are similar to those found in prior studies.[4]

The results reported in Table 5 indicate that neither FOR-PROFIT, nor SYSTEM, nor FP*SYSTEM are statistically significant in the regression of the log of average expenditures per admission. This finding stands in contrast to the significant differences found between for-profit and not-for-profit hospitals and between system and independent hospitals in Table 1. Thus, when other factors are held constant, it appears that hospital expenditures do not vary by type of ownership or system membership.

However, for-profit ownership of hospitals is associated with higher average revenues and higher average net revenues per admission than not-for-profit hospitals. Similarly, system hospitals have higher average revenues and average net revenues than independent hospitals. These results are consistent to those reported in Tables 2 and 3.

The interaction term is not significant for any of the measures of financial performance, indicating that, on average, the effect on financial performance of for-profit status is the same regardless of whether a hospital is a member of a system or independent. Alternatively, this indicates that the effect on financial performance of system membership is the same regardless of whether a hospital is for-profit or not-for-profit.

Holding other factors constant, the regression coefficients in Table 5 indicate that for-profit system hospitals have the highest average revenues and average net revenues. Not-for-profit system hospitals have the second highest average revenues, but for-profit independent hospitals have the second highest average net revenues. This reverses the ordering found in Tables 2 and 3. Not-for-profit independent hospitals have the lowest average revenues and average net revenues per admission.

Differences in the rankings between Table 5 and Tables 2 and 3 point to the significance of several of the other independent variables in the regression. **Income** and **area population** have significant positive

[4] Prior studies used only cross-sectional data and ordinary least squares regression. (See Becker and Sloan ( ) and Watt et al. (1986). Ordinary least squares regression results for the data used in this study were similar to the random-effects results except that for-profit ownership and system status were also found to be significantly associated with greater average expenditures per admission.

coefficients in the log of average expenditure, average revenue, and average net revenue regressions. The **ratio of the Medicare population to the general population** (MCARE/POP) has a significant negative association with both average hospital expenditure per admission and average revenue, and no significant association with average net revenue. It may be that hospitals in southern Florida servicing large Medicare populations specialize and provide services heavily used by the elderly at lower cost than other hospitals. The revenues collected for these services, however, were also restricted during this period under Medicare's Prospective Payment System during this period.

Hospital size, measure by the number of licensed beds, is positively associated with average revenue and average net revenue per admission. Hospitals that have a **residency program** have higher average expenditure and lower average net revenue per admission than other hospitals.[5] The **population per square mile** is positively associated with average expenditures and negatively associated with both average revenues and average net revenues.

The results in Table 5 can be compared with those of prior studies. The results describing the effect of for-profit status on economic performance mirrors findings in prior research: For example, Watt et al. (1986), using ordinary least squares regression analysis of a 1980 cross-sectional sample of hospitals, found that for-profit hospitals are not more efficient than other hospitals, but earn greater average revenues such that average net revenues per admission are significantly greater than those of other hospitals.

In Table 6, the model is altered by treating for-profit status endogenously. For-profit ownership is treated endogenously because type of ownership may be a predictor of economic performance and economic performance may be a predictor of for-profit ownership. A first-stage probit regression is used to predict for-profit status and the probability of being for-profit is used as an instrument in the second-stage random-effects regression. The probit equation used to predict for-profit status is found in the appendix (Table A-

[5] The two hospitals in the State that are directly connected to medical schools are excluded from the data set.

1).[6]

The pattern of statistical significance and signs of the significant coefficients in Table 6 is almost identical to that of Table 5 except for the FOR-PROFIT and SYSTEM coefficient estimates. The coefficients of the FOR-PROFIT and SYSTEM variables as well as the interaction variable are now insignificant for all three measures of financial performance. Treating for-profit status endogenously eliminates the effects of for-profit ownership and system membership.

The only other notable change is that a greater **population per square mile** is now associated with lower average expenditures.

IV. Discussion

The research reported in this paper examines 573 observations of for-profit and not-for-profit hospitals in the State of Florida from 1984 through 1987. Random-effects regressions treating for-profit status endogenously are used to investigate the effects of for-profit ownership and system membership on hospital expenditures and revenues.

Random-effects regression results confirm findings of prior studies on for-profit status hospital performance: For-profit hospitals have significantly greater average revenues and average net revenues per admission than not-for-profit hospitals. In addition, the results of this study indicate that average revenues and average net revenues per admission are significantly higher for system hospitals than independent hospitals.

When for-profit status is treated endogenously in the random-effects model, neither for-profit status nor system membership are significantly related to economic performance.

[6] The importance of treating for-profit status endogenously was suggested to the author by Mark Pauly.

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Table 1

Average Expenditure per Admission:
Hospital Ownership by System Membership*

	System	Independent	All
For-Profit	3603 (209)	3695 (67)	3626 (276)
Not-for-Profit	3591 (46)	3299 (251)	3344 (297)
All	3601 (255)	3382 (311)	3480 (573)

* Calculated for 573 observations of short-stay hospitals in Florida, 1984-1987. The number of observations is in parentheses. Differences between average expenditure for most categories of ownership and system status are significant with at least a 93% confidence level. The difference between FP system and independent hospitals and the difference between FP and NFP system are not significant with an 80% confidence level.

Table 2

Average Revenue per Admission:
Hospital Ownership by System Membership*

	System	Independent	All
For-Profit	5649 (209)	5323 (67)	5570 (276)
Not-for-Profit	5515 (46)	4677 (251)	4751 (297)
All	5560 (255)	4813 (311)	5146 (573)

* Calculated for 573 observations of short-stay hospitals in Florida, 1984-1987. The number of observations is in parentheses. Differences between average revenue for all categories of ownership and system status are significant with at least an 89% confidence level.

Table 3

Average Net Revenue per Admission:
Hospital Ownership by System Membership*

	System	Independent	All
For-Profit	2046	1628	1945
	(209)	(67)	(276)
Not-for-Profit	1565	1379	1407
	(46)	(251)	(297)
All	1959	1431	1666
	(255)	(311)	(573)

* Calculated for 573 observations of short-stay hospitals in Florida, 1984-1987. Differences between average net revenue for all categories of ownership and system status are significant with at least an 84.6% confidence level.

Table 4

Means, Standard Deviations, and Definitions of Regression Variables*

Dependent Variables	Mean	Standard Deviation	Definition
Average Expenditure per Adjusted Admission	$3480	$1006	Annual total hospital expenditure divided by adjusted hospital admissions. (573 observations)
Average Revenue per Adjusted Admission	$5146	$1561	Annual total hospital revenue divided by adjusted hospital admissions. (573 observations)
Average Net Revenue per Adjusted Admission	$1666	$ 956	The difference between annual total hospital revenue and annual total hospital expenditure divided by adjusted admissions. (573 observations)
Average Inpatient Expenditure per Admission	$1903	$ 488	Annual total hospital expenditure divided by actual hospital admissions. (573 observations)
Average Inpatient Revenue per Admission	$5954	$1685	Annual total hospital revenue divided by actual hospital admissions. (573 observations)
Average Inpatient Net Revenue per Admission	$4051	$1349	The difference between annual total hospital revenue and annual total hospital expenditure divide

* Calculated for 573 observations of short-stay hospitals in Florida, 1984-1987. All monetary variables have been converted to constant dollars.

Table 4 (continued)

Means, Standard Deviations, and Definitions of Regression Variables[#]

Independent Variables	Mean	Standard Deviation	Definition
FOR-PROFIT	.48	.50	Dummy variable with value of one if hospital is for-profit (otherwise 0).
SYSTEM	.45	.50	Dummy variable with value of one if hospital is member of a system (otherwise 0).
FP*SYSTEM	.36	.48	Interaction between for-profit status and membership in a system.
INCOME	$14.0	$ 2.9	Per capital income (thousands of
AREAPOP	0.90	.72	For hospitals in Metropolitan
POP/SQMI	.001	.001	County population per square mile of county (millions)
DOCS/POP	.002	.001	Medical doctors per capita in
GPS/DOCS	.16	.11	General practitioners per MD population in county.
MCARE/POP	.17	.07	Medicare enrolless per county
MCAID/POP	.07	.05	Medicaid eligibles per county
HERF	6024	6444	Herfindahl index of competition
HOSPBEDS	.27	.20	Number of licensed beds per
CASEMIX	1.07	.66	Hospital case mix index: Larger values indicate more complex casemix.
RESIDENT	.13	.34	Dichotomous variable with value of one if hospital has MD residency program (otherwise 0)
ACQUIRED	.04	.20	Dummy variable with a value of one in the year that an acquired hospital was acquired.
Y85	.25	.43	Dummy variable with a value of one if year = 1985
Y86	.26	.44	Dummy variable with a value of one if year = 1986
Y87	.26	.44	Dummy variable with a value of one if year = 1986

[*] Calculated for 573 observations of short-stay hospitals in Florida, 1984-1987. All monetary variables have been converted to constant dollars.

Table 5

Ordinary Least Squares Regression Coefficients:
Average Expenditure, Average Revenue, and Average Net Revenue[#]

Dependent Variables:	Log of Average Net Expenditure		Average Revenue		Average Revenue	
FOR-PROFIT	.10[*]	(3.41)	663.58[*]	(4.72)	367.74[*]	(3.41)
SYSTEM	.11[*]	(3.42)	763.69[*]	(4.88)	337.85[*]	(2.81)
FP*SYSTEM	- .08[+]	(1.88)	- 209.78	(1.00)	98.29	(.61)
INCOME	.03[*]	(7.70)	118.06[*]	(5.74)	4.08	(.26)
AREAPOP	.07[*]	(3.35)	476.06[*]	(4.95)	229.50[*]	(3.11)
POP/SQMI	- 20.64	(1.22)	-78326.00	(.98)	- 13351.00	(.22)
DOCS/POP	59.05[*]	(3.60)	398483.00[*]	(5.16)	188765.00[*]	(3.19)
GPS/DOCS	- .16	(1.62)	- 754.33	(1.57)	731.36[*]	(1.99)
MCARE/POP	- .19	(1.16)	857.34	(1.11)	1798.43[*]	(3.04)
MCAID/POP	- .04	(.23)	2115.85[*]	(2.35)	1569.26[*]	(2.27)
HERF/1000	- .01[*]	(3.40)	- 25.44[*]	(3.27)	- 6.44	(1.08)
HOSPBEDS	.19[*]	(3.51)	1973.74[*]	(7.85)	1497.68[*]	(7.77)
CASEMIX	- .01	(1.08)	- 7.54	(.12)	-47.28	(1.01)
RESIDENT	.12[*]	(4.40)	173.42	(1.31)	- 320.36[*]	(3.16)
ACQUIRED	.07[+]	(1.65)	- 82.73	(.39)	- 418.69[*]	(2.60)
Y85	.04[+]	(1.64)	219.55[+]	(1.83)	100.62	(1.09)
Y86	.09[*]	(3.46)	651.40[*]	(5.42)	366.98[*]	(3.98)
Y87	.15[*]	(5.53)	1140.45[*]	(9.10)	626.43[*]	(6.52
INTERCEPT	7.36[*]	(109.1)	765.20[*]	(2.41)	- 109.44	(.45)
N	573		573		573	
R^2	.53		.64		.44	

[#] Absolute values of t-statistics are in parentheses.
[*] Significant with at least a 95% confidence level.
[+] Significant with a 90 to 94.9% confidence level.

Table 6

Fixed Effects Regression Coefficients:
Average Expenditure, Average Revenue, and Average Net Revenue[#]

Dependent Variables:	Log of Average Net Expenditure		Average Revenue		Average Revenue	
FOR-PROFIT	- .05	(1.55)	- 178.30	(1.22)	101.78	(.77)
SYSTEM	- .01	(.67)	135.43[+]	(1.66)	193.15[*]	(2.61)
FP*SYSTEM	.06[+]	(1.95)	5.84	(.05)	- 306.66[*]	(2.70)
INCOME	- .01	(1.22)	4.29	(.11)	2.65	(.08)
AREAPOP	.12	(.52)	- 345.59	(.34)	- 74.50	(.08)
POP/SQMI	-198.09	(.61)	-2992052.0[*]	(2.15)	972028.00	(.77)
DOCS/POP	-295.31[*]	(3.86)	474432.00	(1.45)	769780.00[*]	(2.61)
GPS/DOCS	- .10	(.53)	- 242.78	(.31)	- 633.49	(.88)
MCARE/POP	.20	(.17)	5278.08	(1.02)	4374.66	(.93)
MCAID/POP	.03	(.43)	279.22	(.82)	293.65	(.95)
HERF/1000	.99	(.00)	28.90	(.00)	116.26	(.00)
HOSPBEDS	- .24	(.75)	2318.35[+]	(1.69)	3839.43[*]	(3.09)
CASEMIX	- .01	(1.06)	- 11.95	(.57)	6.14	(.32)
RESIDENT	.01	(.45)	- 332.43[*]	(2.39)	- 588.42[*]	(4.67)
ACQUIRED	.01	(.35)	- 30.70	(.39)	- 104.48	(1.45)
Y85	.10	(7.32)	367.63[*]	(6.06)	124.33[*]	(2.26)
Y86	.22	(10.33)	879.78[*]	(9.87)	340.00[*]	(4.21)
Y87	.33	(10.50)	1511.95[*]	(11.22)	661.53[*]	(5.42)
N	573		573		573	
R^2	.67		.83		.59	

[#] Absolute values of t-statistics are in parentheses.
[*] Significant with at least a 95% confidence level.
[+] Significant with a 90 to 94.9% confidence level.

Table 7

Fixed Effects Regression Coefficients for Inpatient Care
(Average Expenditure, Average Revenue, and Average Net Revenue[#]

Dependent Variables:	Log of Average Expenditure	Average Revenue	Average Net Revenue
FOR-PROFIT	- 283.63[*] (4.23)	- 60.14 (.37)	223.49 (1.63)
SYSTEM	- 30.27 (.67)	193.13[*] (2.13)	223.40[*] (2.94)
FP*SYSTEM	235.00[*] (4.10)	- 49.23 (.35)	- 284.23[*] (2.43)
N	573	573	573
R^2	.56	.83	.80

[#] Absolute values of t-statistics are in parentheses.
[*] Significant with at least a 95% confidence level.
[+] Significant with a 90 to 94.9% confidence level.