

Not-for-Profit Hospital CEO Performance and Pay: Some Evidence from Connecticut

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Abstract

This paper uses observations from a panel data set of 30 not-for-profit hospitals in Connecticut over the period from 1997 to 2006 to investigate the relationship between CEO performance and pay. Both economic and charity performance measures are specified in the empirical model. The multiple regression results reveal that not-for-profit hospital CEOs, at least in Connecticut, are driven at the margin to increase the occupancy rate of privately-insured patients at the expense of uncompensated care and public-pay patients. This type of behavior on the part of not-for-profit hospital CEOs calls into question the desirability of allowing these hospitals a tax exemption on earned income, property, and purchases.

Introduction

Executive compensation has always captured a considerable amount of attention in the popular press and from the general public. The attention surrounding these compensation issues has been particularly exacerbated this year (2009) as both legislators and the public have seriously questioned the huge bonuses various major corporations paid their chief executive officers (CEOs) while being bailed-out by the federal government. It has always been unclear, however, if these concerns over CEO compensation have been driven by valid interests in economic efficiency, subjective notions of fairness, or a simple collective matter of envy. Regardless of the specific reason, we know that CEOs are paid much more than the typical worker and this gap continues to grow in both absolute and relative terms. Determining what should be done about this lop-sided imbalance continues to pose a daunting problem for society in general and regulators in particular.

Just like CEOs in general, corporate executives in the hospital services industry have not been shielded from societal attention regarding their pay (Martineau, 2007; Waldman, 2008; and Wangness, 2009). At first blush, this attention seems to be misplaced because most hospitals are organized on a not-for-profit basis because of their charitable mission. Not-for-profit hospitals are exempted from paying income, property, and sales taxes with the understanding that this indirect government subsidy is being used to provide community benefits of various kinds such as uncompensated care and community outreach programs. In addition, Hansmann (1996) notes that not-for-profit organizations face a nondistribution constraint because legally they cannot directly distribute any excess earnings to those who make decisions within the organization such as employees, managers, or board members. Thus, not-for-profit status should mean hospital

CEOs are compensated based upon their relative success at fulfilling the charitable mission of their organizations.

In contrast, however, economic theory suggests that a not-for-profit organization may pursue goals that maximize the personal utility of the CEO because, unlike a for-profit organization, no individual or residual claimant holds a financial stake in the company. Therefore no one person or outside institution faces a financial incentive to closely monitor the actions of the CEO. These individual goals of the CEO may conflict with cost minimization or societal goals such as providing sufficient community benefits and take form in discretionary expenditures on the so-called “5Ps” of pay, perquisites, power, patronage, and prestige (Santerre and Neun, 1993). Consequently, the CEO may be more interested in expanding the size of the organization, maximizing revenues to finance discretionary expenditures, or increasing the structural quality of the institution. Pursuing individual goals may be relatively unconstrained because the CEO often plays a pivotal role in the selection of various board members. The implication of this property rights model is that the compensation of hospital CEOs may be unrelated to their on-the-job performance particularly with respect to satisfying the charitable mission of the organization.

Given these two conflicting views regarding the relationship between performance and pay in a not-for-profit hospital setting, this paper empirically examines how various measures of performance affect the compensation of CEOs in 30 Connecticut hospitals. In the empirical analysis, a panel data set of hospital CEOs is used over the period 1997 to 2006. The empirical results suggest that the typical not-for-profit hospital CEO faces an incentive to increase the occupancy rate of privately-insured patients and possesses little incentive to provide additional community benefits at the margin.

The next section of this paper reviews the literature on what is currently known about the determinants of CEO compensation in the hospital services industry. The empirical model, sample, and data are discussed in the third section while the fourth section presents the empirical findings. A summary is offered in the last section.

Previous Studies on Hospital CEO Performance and Pay

Only five studies to date have empirically analyzed the factors influencing hospital CEO pay. Among the first, Pink and Leatt (1991) study the determinants of hospital CEO pay using a cross-section sample of 213 not-for-profit hospitals in Ontario, Canada. Pink and Leatt conclude that not-for-profit hospital management compensation is primarily determined by hospital size and teaching status and reflects only a weak correspondence to hospital financial performance. Employing a cross-section sample of 69 hospitals in Texas and fiscal year 1990 data, Santerre and Thomas (1993) investigate if the fixed and total compensation of for-profit, not-for-profit, and public hospital CEOs differ. After controlling for CEO personal characteristics such as education, experience, and gender, and hospital characteristics including organizational size, teaching status, and chain membership, these authors find that no difference in pay for CEOs working in those three types of hospitals.

Roomkin and Weisbrod (1999), with a cross-section national dataset for 1992, study the influence of ownership form (e.g., for-profit or not-for-profit status) on the level and mixture of compensation for several types of hospital officers. Of interest to this paper, these researchers find that job complexity, but not form of ownership, has a statistically independent impact on the

total compensation of the typical hospital CEO.¹ Employing a sample of 687 hospital-year observations for 1993-95 from 420 different not-for-profit hospitals, Brickley and Van Horn (2002) examine if organizational size, financial performance, and charitable performance are related to changes in the cash compensation of hospital CEOs. They employ a contemporaneous measure of return on assets to measure financial performance and revenues per patient day, nurses on duty per patient, and program service (rather than administrative) expenditures to capture charitable performance. The authors note that the latter three variables are crude proxies for altruism or charity. Brickley and Van Horn find that financial but not charitable performance is statistically related to a greater percentage change in not-for-profit hospital CEO pay.

Finally, Bertrand, Hallock, and Arnould (2005), with a sample of 4,237 hospital-year observations over the period 1992 to 1996, analyze the impact of financial performance and charity and quality performance on the total compensation of not-for-profit hospital CEOs. Return on assets and profit margin (net income/total revenues) are used to capture financial performance whereas, program expense services per patient day, nursing and doctors per patient day, and fraction of Medicaid patients are used as charity and quality performance measures in the empirical test. Some specifications include hospital fixed effects and controls are made for city size, Medicare-adjusted inpatient days, organizational size, and indicator variables for various facilities such as neonatal intensive care units. From the empirical findings, the authors conclude that hospital CEO pay is not tightly tied to economic performance in not-for-profit hospitals although the relationship does strengthen with higher rates of HMO penetration. In

¹ Ballou and Weisbrod (2003) extend the study of Roomkin and Weisbrod (1999) by analyzing the importance placed on different components of total compensation such as salaries and bonuses among different types of not-for-profit hospitals. However, they did not directly examine the impact of financial and charitable performance on hospital CEO pay, which is the topic of this paper.

addition, Bertrand, Hallock, and Arnould find only program service expenditures per patient day have a direct impact on hospital CEO pay when all of the charity/quality performance measures are jointly specified and fixed hospital effects are included in the empirical test.

Three conclusions can be drawn from this literature review. First, the studies by Santerre and Thomas (1993) and Roomkin and Weisbrod (1999) find little difference in the total compensation of nonprofit and for-profit hospital CEOs. If it were not for the fact that both Roomkin and Weisbrod (1999) and Ballou and Weisbrod (2003) find various organizational forms use incentive contracts differently, these two studies taken alone would imply that for-profit and not-for-profit hospital CEOs may be driven by similar objectives, whatever they might be. In any case, we may not want to draw any strong conclusions about causation from these three studies because they are all cross-sectional in nature.

Second, the literature review suggests the relationship between financial performance and the total compensation of not-for-profit hospital CEOs is questionable at best. While Brickley and Van Horn (2002) find that financial performance matters significantly, both Pink and Leatt (1991) and Bertrand, Hallock, and Arnould (2005) do not find a significant relationship. Moreover, the relationship between charitable performance and the compensation of nonprofit hospital CEOs is similarly mixed. The mixed results may reflect the questionable nature of the charity performance indicators used by researchers.

Finally, we can conclude from the literature review that further studies are clearly needed to address the relationship between the effect of financial and charitable performance on not-for-profit hospital CEO pay. Previous studies have been largely cross-sectional in nature or depend on weak proxies for charitable performance. As a result, this study contributes to the empirical literature on not-for-profit hospital CEO pay in three ways. One, it uses a sample of not-for-

profit hospitals from Connecticut over the period from 1997 to 2006. The longer panel adds more dynamics to the analysis than the previous studies and allows us to explore how CEO compensation adjusts to performance differences over time. Two, the actual name of the CEO is known for a subset of the hospital-time observations so we are able to specify fixed CEO effects which controls for a host of unmeasurable personal traits affecting pay such as motivation and leadership skills. Moreover, because this study concentrates on only one state, we are able to hold constant any regulatory differences across states that may have an impact on the relationship between hospital performance and compensation. Three, the data source allows us to measure two indicators of charitable performance: uncompensated care as a percent of operating revenues and percentage of revenues received from Medicare and Medicaid patients. Previous studies were unable to control for the former measure which is often used as a measure of hospital charity or community benefits (e.g., Morrisey et al., 1996 or Nicholson et al., 2000).

Empirical Model, Sample, and Data

Based upon the previous literature, our model of hospital CEO compensation, COMP, adopts the following general functional form:

$$\text{COMP} = C(\text{Organizational Size, Economic Performance, Charitable Performance}). \quad (1)$$

We expect that the board of directors will reward CEOs more handsomely when: (1) they manage larger organizations because of the greater level of responsibility; (2) the hospital performs better economically, and; (3) the hospital more closely fulfills its charitable mission.

Of course, in practice, economic goals and charitable mission are likely to conflict with one another. For example, using more hospital revenues to finance uncompensated care means a lower profit margin and less discretionary funds available for purchasing new therapeutic or

diagnostic equipment, expanding existing services, or introducing new services. The empirical results will reflect how the CEO balances these two conflicting concerns at the margin.

Similar to several of the previous studies, organizational size is measured by the number of staffed beds in the forthcoming empirical analysis. Unlike total revenues or assets, use of staffed beds has the added attraction that it does not involve a dollar amount which may not be comparable, even across areas of a state, because of cost of living differences. In addition, hospitals are often judged in terms of their bed-size capacity by insurers, the public, and policy-makers.

In the empirical analysis, economic performance is captured by both the hospital's operating margin, or net income divided by total operating revenues, and the annual occupancy rate of the hospital. The first economic performance measure requires no justification. With respect to the occupancy rate, producing closer to capacity is necessary to minimize the average costs of delivery medical care because fixed costs make up about 84 percent of a hospital's total operating budget (Roberts et al, 1999). In addition, one empty bed can cost a hospital in excess of \$40,000 per year in maintenance, staffing, and depreciation charges (Cary, 1998).

Charitable performance is measured by two variables: expenditures on uncompensated care as a fraction of operating revenues and share of operating revenues from the Medicare and Medicaid programs. Numerous studies have specified uncompensated care costs as a measure of charity when determining empirically if not-for-profit hospitals pay their way in terms of providing community benefits in excess of the tax subsidy they receive from local, state, and federal governments as mentioned previously. The second measure of charitable giving reflects that the Medicare and Medicaid programs reimburse at rates often below the actual costs of delivering many hospital services. As a result, hospitals implicitly subsidize the costs of

providing services to Medicare and Medicaid patients if they are unable to cost-shift the corresponding losses to private insurers.

For estimation purposes, we assume the following specific form for equation (1):

$$\log COMP_t = \beta_0 + \beta_1 \log (SBEDS)_{t-1} + \beta_2 OPM_{t-1} + \beta_3 OCC_{t-1} + \beta_4 UCC_{t-1} + \beta_5 SGOV_{t-1} \quad (2)$$

with *SBEDS*, *OPM*, *OCC*, *UCC*, and *SGOV* representing the number of staffs beds, operating profit margin, occupancy rate, uncompensated care costs as a fraction of operating revenues, and share of operating revenues from government, respectively. Because total compensation and number of staffed beds are expressed as logarithms, all of the variables in equation (2) are similarly specified in ratio form. Notice that all of the independent variables are lagged one year to reflect that prior year performance likely influences current pay levels.

All of the necessary (unpublished) data to estimate equation (2) were provided by the State Office of Health Care Access for the 30 not-for-profit hospitals in Connecticut from 1997 to 2006.² Data for total compensation were not available for every hospital-year observation, however. Equation (2) was estimated by the ordinary least squares procedure. Both time and hospital fixed effects are specified. Time and CEO fixed effects are included in another specification for a subset of observations for which we could identify the actual name of the CEO at a specific hospital through a Google search or a telephone call to the hospital. The underlying standard errors have been made heteroskedasticity-consistent by applying cross-section weights.

² One hospital, the John Dempsey Center, is a public hospital and part of the University of Connecticut and therefore is not used in the empirical analysis. Another hospital converted to for-profit status in 2002. Observations after that year are not used in the empirical analysis.

Empirical Findings

Table 1 offers some descriptive statistics for the various variables used in the estimation procedure. Notice that hospital CEO compensation averages about \$523,000 but varies widely across Connecticut hospitals and ranges from a low of nearly \$136,000 to a high of slightly over \$2 million. Uncompensated care averages about 6.4 percent of operating revenues. Not-for-profit hospitals in Connecticut appear fairly typical of not-for-profits across the country. For example, the Internal Revenue Service (2009) found for a survey of nearly 500 hospitals across the nation that hospital CEO compensation and uncompensated care expenditures as a percentage of revenues averaged nearly \$500,000 and 7 percent, respectively. Also, the typical not-for-profit in the country averages about 200 beds and the typical hospital possesses an occupancy rate of about 67 percent and relies on government for about 56 percent of its revenues (Santerre and Neun, 2010).

Multiple regression results are shown in Table 2 for two different models. Model 1 allows for time and hospital fixed effects whereas model 2 specifies time and CEO fixed effects. For adequate degrees of freedom, we assume a particular CEO must have been in office for four or more years to be used in the analysis. While the CEO fixed effects help to control for unobservable traits of the CEO such as communication skills, leadership abilities, and motivation, as mentioned previously, both results are very similar. The similarity likely holds because very little CEO turnover has taken place in these Connecticut hospitals over the period observed.

As expected, and consistent with previous studies, both models show that CEO compensation is directly related to larger organizational size. The coefficient estimate on the

logarithm of staffed beds can be interpreted as an elasticity measure. Thus, a 10 percent increase in the number of beds results in almost an eight percent increase in CEO pay, *ceteris paribus*.

The estimated coefficients on the two economic performance measures are positive and statistically significant. Consequently, the empirical results suggest that hospital CEOs are typically rewarded with additional pay when their hospitals improve financially. We can get some idea about the economic magnitude of the two relationships by using the estimated coefficients to calculate an elasticity measure.³ The calculated elasticity suggests that the relationship between operating profit margin and total compensation is quantitatively tiny. According to the elasticity estimate of 0.000304, a doubling of the profit rate only increases the CEOs pay by 0.03 percent, or approximately \$15,000 based on a mean salary of \$523,469, assuming all other factors remain constant. The relationship between the occupancy rate and CEO pay is quantitatively more important, however. Its calculated elasticity implies that CEO pay increases by 8 percent if the occupancy rate rises by an additional 10 percent. The implications of these findings are interesting because together they may suggest that expanding the number of staffed beds and the occupancy of those beds takes precedence over profitability.

Interestingly, the estimated coefficients on the two charity performance indicators are negative and statistically significant. The implication is that hospital CEOs are paid less if they provide more charity care at the margin. Based upon the calculated elasticities, a 10 percent increase in the fraction of revenues devoted to uncompensated care lowers CEO pay by 1.5 percent. The relationship between government revenues and CEO pay is much more elastic with

³ Given the semi-log specification with respect to four of the independent variables, elasticity can be calculated by multiplying β , the estimated coefficient, by X, the mean value of a particular independent variable.

a ten percent increase in the share of revenues from government lowering CEO pay by slightly over 19 percent.

Consequently, if not-for-profit hospital CEOs in Connecticut are motivated by their pay, the results suggest that they face an incentive to increase the hospital's size and occupancy rate by encouraging the admission of more privately-insured patients at the margin. In contrast, providing more uncompensated care and admitting an additional public-pay patient lowers the compensation of hospital CEOs. One would think that behavior of this kind relates to for-profit rather than not-for-profit hospital CEOs but evidently that is not so. Or, it may be the case that the CEO and board of directors feel that the hospital best fulfills its mission by growing and expanding. For example, a brand new hospital wing filled to capacity with privately-insured patients would likely take precedence over a free clinic serving mostly non-paying or public-pay patients.

Before closing, we should mention that sensitivity analysis was conducted to check if outlier values for some of the variables are influencing the regression results, especially because of the relatively small sample sizes. But only the relationship between operating profit margin and CEO pay seems to lack robustness which is not surprising given the tiny economic significance of that relationship as discussed above.

Conclusion

Previous studies on the determinants of hospital CEO pay have been mixed at best. If anything, previous studies have generally agreed that not-for-profit hospital CEOs behave much like their for-profit counterparts are expected to act. This study confirms that general view by showing that not-for-profit hospital CEOs, at least in Connecticut, are motivated by pay incentives to increase

the occupancy of privately-insured patients at the expense of uncompensated care and public-pay patients. In short, the empirical results suggest that economic performance takes precedence over charitable performance at the margin.

This type of behavior on the part of not-for-profit hospital CEOs calls into question the tax exempt nature of their organizations. Not-for-profit hospitals are expected to use the implicit government subsidy from the tax exemption to help finance indigent care and provide other types of community benefits. But according to the findings here, not-for-profit hospital CEOs may face the opposite incentive to cherry-pick additional privately-insured patients and ignore community benefits at the margin. Perhaps, it is time to follow Bloche's (2006) notion and explicitly tie the tax exemption to the amount of charity or community benefits provided by a not-for-profit hospital above and beyond some expected amount.

But, of course, this is the first study to analyze the determinants of not-for-profit CEO compensation in a greater time-series context and with better measures of charitable performance. Our results for not-for-profit CEOs in Connecticut may not hold for hospital CEOs in other areas of the country. In particular, although Connecticut is a fairly compact state and consumer/patients sometimes choose services at hospitals outside their immediate area, the hospitals in our sample were not randomly assigned to their locations. Thus, despite the fixed effects approach, the location of the hospital may bias the results in one way or another. We invite others to pursue this fruitful line of inquiry by using larger data sets and other measures of the potential community benefits offered by not-for-profit hospitals. At the very least, this study offers a useful template for undertaking a more ambitious study.

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Table 1: Descriptive Statistics

Variable	Mean	Standard Deviation	Minimum Value	Maximum Value
Total CEO Compensation	\$523,469	\$318,149	\$135,840	\$2,152,251
Number of Staffed Beds	229	190	40	866
Operating Profit Margin	0.032	5.78	-36.62	15.31
Occupancy Rate	0.729	0.14	0.16	1.02
Uncompensated Care Costs as a fraction of Operating Revenues	0.064	0.03	0.011	0.204
Revenues from Government as a fraction of Operating Revenues	0.562	0.06	0.375	0.721

Table 2: Multiple Regression Results: Dependent Variable is Logarithm of Total Compensation

	Model 1	Model 2
Independent Variable	Estimated Coefficient (absolute value of the t-statistic)	
Constant	9.860* (5.35)	10.434* (7.99)
Logarithm of Number of Staffed Beds	0.770* (2.64)	0.763* (4.91)
Operating Profit Margin	0.009* (2.63)	0.010* (2.38)
Occupancy Rate	0.877* (2.12)	1.337* (5.96)
Uncompensated Care Costs as a fraction of Operating Revenues	-2.049* (2.24)	-2.763* (2.27)
Revenues from Government as a fraction of Operating Revenues	-2.379* (2.45)	-3.469* (4.56)
Time and Hospital Fixed Effects	YES	NO
Time and CEO Fixed Effects	NO	YES
Adjusted R ²	0.885	0.882
Number of Observations	199	163

* denotes statistical significance of 5 percent or better.