Institutional Pressures to Provide Social Benefits and the Earnings Management Behavior of Nonprofits: Evidence from the U.S. Hospital Industry*

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ABSTRACT

This study examines the relationship between institutional pressures to provide social benefits and the discretionary accrual behavior of nonprofit firms. I examine this issue within the context of U.S. nonprofit hospitals, an economically significant and politically rich setting where firms face considerable institutional pressure to provide an important social benefit: charity care. I argue that institutional pressures on nonprofits to provide higher levels of social benefits imply that lower profits should be reported. I develop theory and provide evidence which suggests that, due to competing private incentives to report higher profits, nonprofit managers strategically use discretionary accruals to increase accounting earnings when the social benefits their firms have provided in the current period exceed external stakeholders' normative expectations. The findings from this study inform the ongoing political debate regarding the appropriateness of tax exemptions for U.S. nonprofit hospitals and should therefore be of interest to both regulators and policymakers. In addition, this study provides timely insights for researchers regarding how institutional pressures can affect managers' reporting behaviors in other settings where similar competing reporting incentives exist between managers' private benefits and stakeholder expectations related to social benefits.

Pressions institutionnelles exercées sur l'offre de prestations sociales et comportement de gestion du résultat dans les OSBL : le cas du secteur hospitalier aux États-Unis

RÉSUMÉ

L'auteur étudie la relation entre les pressions institutionnelles exercées sur l'offre de prestations sociales et le comportement des organismes sans but lucratif (OSBL) en matière d'ajustements discrétionnaires. Il s'intéresse plus particulièrement au cas des hôpitaux sans but lucratif aux États-Unis, un contexte important sur le plan économique et riche sur le plan politique dans lequel les organismes sont soumis à des pressions institutionnelles considérables quant à l'offre de prestations sociales importantes : celles des soins de santé humanitaires. Selon l'auteur, les pressions institutionnelles exercées sur les OSBL afin qu'ils offrent des niveaux supérieurs de prestations sociales laissent supposer que ces derniers devraient faire état de profits moins élevés. L'auteur élabore à cet égard une théorie étayée par

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des faits selon laquelle les gestionnaires d'OSBL, soumis à des incitatifs privés contradictoires qui les poussent à faire état de profits plus élevés, font une utilisation stratégique des ajustements discrétionnaires en vue d'augmenter les résultats comptables lorsque les prestations sociales que leurs organismes ont livrées au cours de l'exercice excèdent les attentes normatives des parties prenantes externes. Les constatations découlant de cette étude éclairent le débat politique permanent relatif à la légitimité des exonérations fiscales dont bénéficient les hôpitaux sans but lucratif aux États-Unis et présentent donc nécessairement un intérêt tant pour les autorités de réglementation que pour les décideurs. De plus, l'étude fournit des renseignements très utiles aux chercheurs en ce qui a trait à la façon dont les pressions institutionnelles peuvent influer sur le comportement des gestionnaires en matière de communication d'information dans d'autres contextes où existent des incitatifs contradictoires similaires entre les avantages personnels des gestionnaires et les attentes des parties prenantes quant aux prestations sociales.

1. Introduction

This study examines the relationship between institutional pressures to provide social benefits and the discretionary accrual behavior of nonprofit firms. Studying the reporting behaviors of nonprofit firms is important given the growing prevalence and economic significance of this type of organizational form in many Western countries. Nonprofits have been scrutinized in recent years for not providing ample social benefits to justify the tax exemptions and subsidies they enjoy (Carson 2002; Hines, Horwitz, and Nichols 2010). Many policymakers and members of the public hold the view that nonprofits are too focused on maximizing their surpluses,[1] and therefore straying from their charitable missions to provide social benefits (*Nonprofit Quarterly* 2014; *The Fiscal Times* 2011).[2] Nonprofit managers, meanwhile, argue that their firms need operating surpluses to provide social benefits in the future (Carson 2002).

These diverging views and expectations suggest that nonprofit managers have reason to be concerned about the signal their reported profits sends to external stakeholders.[3] I study whether these concerns affect earnings management behavior within the context of the U.S. hospital industry, an economically significant and politically rich setting that is under considerable institutional pressure to provide an important social benefit: charity care.

Charity care is the provision of free or low-cost medical care to individuals who cannot afford to pay for these services, and is fundamental to the mission of a nonprofit hospital. The economic value of these services to society is significant (Eldenburg, Gaertner, and Goodman 2015). In recent years, nonprofit hospitals in the United States have come under social and political pressure amid external stakeholders' claims that many of them do not provide enough charity care to justify their tax-exempt status (Appleby 2004; Burns 2004; *Wall Street Journal* 2008). Nonprofit hospitals may therefore refrain from reporting high levels of profits, since higher profits could suggest to stakeholders that they could have provided more charity care.

Consistent with this view, prior research finds that nonprofit hospitals manage earnings to report slightly positive (i.e., "modest") earnings (Eldenburg, Gunny, Hee, and Soderstrom

1. I use the terms surplus, profit, and earnings interchangeably throughout this paper as all of these terms are commonly used to describe the extent revenues exceed expenses in the current period.
2. However, similar public and political pressures have recently been exerted on nonprofits in other Western countries. For example, the United Kingdom has made major reforms to its charity laws which now place more stringent requirements on the charitable activities of nonprofits (Hines et al. 2010).
3. The term "external stakeholders" in this paper describes those stakeholders of nonprofits who are not part of hospital management; they include donors, patients, community members, political leaders, regulators, board members (to some extent), and the public at large.

2011; Leone and Van Horn 2005). However, nonprofit hospital managers also have compensation and reputational incentives that agency theory predicts would lead them to report higher earnings. Therefore, managers are faced with competing objectives between satisfying the expectations of external stakeholders and maximizing their personal utility in the short run. I argue that, due to these competing objectives, nonprofit managers anticipate potential earnings-related scrutiny and use discretionary accruals to report higher (lower) earnings when charity care is higher (lower) than external stakeholders' expectations. Using a sample of California nonprofit hospitals reporting to a state regulatory body during years 2003–2008, I provide empirical evidence consistent with this argument.

I develop a model of normative expectations of a hospital's reported charity care. I then model how a manager's discretionary accrual behavior depends upon deviations of charity care from these normative expectations. I find that, when premanaged earnings are relatively high, discretionary accruals are higher (lower) depending on the extent charity care exceeds (falls short of) normative expectations. I also find that firms with favorable charity care performance use discretionary accruals to manage their earnings from relatively modest to relatively high levels. Overall, these results are consistent with the notion that managers believe stakeholders will be less critical of high earnings when their reported charity care meets or exceeds normative expectations.

This study makes the following contributions to academic research and public policy. First, it illustrates how the interplay between institutional pressures and manager private incentives can influence the reporting behaviors of nonprofit hospitals. Prior research suggests that nonprofit hospitals use discretionary accruals to manage their earnings downward due to institutional pressures to report relatively modest profits (Eldenburg et al. 2011; Leone and Van Horn 2005). I build upon this literature by providing theory and evidence suggesting that the pressure to manage earnings toward a modest level depends on whether social benefits exceed or fall short of normative expectations.

My study also informs public policy and reconciles conflicting findings between two related prior studies, Wilkicki (2001) and Barniv, Danvers, and Healy-Burress (2005). These studies investigate the joint effects of nonprofit hospital earnings and charity care on regulators' tax-exemption decisions. Wilkicki provides experimental evidence suggesting that regulators consider a hospital's charity care in relation to accounting earnings when deciding whether it deserves continued tax-exempt status. However, Barniv et al., in an archival study of U.S. data, find that revocations of tax-exempt status are associated with lower levels of charity care, but *not* with reported earnings levels.

My results suggest that managers of nonprofit hospitals strategically manage earnings to avoid being scrutinized, and potentially having their tax exemptions revoked, for higher earnings. A possible explanation for Barniv et al. finding no evidence of an association between tax-exemption revocation and earnings is that Barniv et al. analyze earnings after discretionary accruals. Therefore, my results suggest that regulators' evaluations of a nonprofit hospital's continued tax-exempt status could be misinformed.

Finally, the findings from this study can also inform and motivate the accounting literature that investigates how social and political pressures influence decisions by firms to manipulate externally reported accounting measures (e.g., Patten and Trompeter 2003; Key 1997; Mensah, Considine, and Oakes 1994; Cahan 1992; Jones 1991). A consistent finding within this literature is that firms manage earnings downward to avoid political costs. My study informs this literature by suggesting that firms subject to social and political scrutiny manage their earnings downward less aggressively (and potentially manage their earnings upward) when they believe that they have met or exceeded external stakeholders' expectations on social benefits. Interest from external stakeholders in the corporate social responsibility (CSR) activities of highly profitable, publicly traded firms is an example.

The remainder of this paper is organized as follows: Section 2 discusses relevant institutional features of the U.S. nonprofit hospital setting, develops my theory, and states testable hypotheses. Section 3 describes the regulatory and reporting environment in California, my sample selection methodology, and reports descriptive data for the sample. Section 4 describes the research design, specifies the empirical models, and reports results. Section 5 summarizes my findings and discusses the implications of this study for academic research and public policy.

2. Background and theory

Institutional pressures on nonprofits to provide social benefits

Nonprofit firms are under institutional pressure to use excess revenues to provide benefits to society that otherwise may not be provided by investor-owned firms in a free market economy. In the case of nonprofit hospitals, the normative expectation is that excess funds from donations and profitable medical activities are used to subsidize the provision of unprofitable medical services that benefit the health of their communities (Hoerger 1991; Pauly 1987; Newhouse 1970), a major portion of which is the provision of charity care. In return for these charitable activities, nonprofit hospitals are granted federal tax-exempt status under section 501(c)(3) of the Internal Revenue Code, which in most cases also results in exemption from state and local income and property taxes.

Until 2010 the Internal Revenue Service (IRS) was not particularly aggressive in its scrutiny of nonprofit hospital tax exemptions. Therefore, states introduced their own reporting requirements and laws to challenge nonprofit hospitals' tax exemptions (Wood 2001).[4] Accordingly, political scrutiny, and any resulting litigation challenging hospital tax exemptions, usually originates at the state level (Leone and Van Horn 2005; Burns 2004).[5] Consistent with state regulatory pressures, Barniv et al. (2005) find a negative relation between the level of charity care reported by nonprofit hospitals and the likelihood of revocation of state and local tax exemption.

Institutional pressures to manage earnings downward to report modest profits

While there is no direct evidence that regulators will revoke a hospital's tax-exempt status explicitly over excessive profits, anecdotal evidence from the popular press suggests the public considers earnings levels reported by many nonprofit hospitals to be inconsistent with a charitable mission (e.g., *Wall Street Journal* 2008). Further, consistent with normative pressures to report lower, more modest earnings, prior accounting research provides evidence that nonprofit hospitals manage positive earnings downward to a small positive range by means of discretionary accruals (Leone and Van Horn 2005) and real activities (Eldenburg et al. 2011). Therefore, I predict that when premanaged earnings are above that of a modest profit, managers of nonprofit hospitals use discretionary accruals to decrease earnings. This leads to my first hypothesis (stated in the alternative form):

HYPOTHESIS 1. *Ceteris paribus, in nonprofit hospital firm-years where earnings are positive, discretionary accruals are more income-decreasing when premanaged earnings are above a modest level* (*i.e., relatively higher*).

4. As of 2008, ten states, including California, had laws requiring hospitals to annually quantify and report charity care, along with other basic financial accounting information.

5. In 1996 for example, a case filed in the State of Pennsylvania by state regulators (Hospital Utilization Project versus Commonwealth) resulted in state and local municipalities challenging the tax-exempt status of over 79 percent of nonprofit hospitals operating in the state. A similar case filed in 2004 by the Illinois Department of Revenue ultimately led to the revocation of the tax-exempt status of Provena Covenant Medical Center, based on claims made by tax authorities that the hospital was not operating like a charitable institution.

Competing private incentives of nonprofit managers

Evidence suggests nonprofit hospital managers have incentives to use discretionary accruals to maximize their personal utility consistent with that characterized by Healy (1985), where managers use discretionary accruals to increase their firms' current period earnings when doing so can either push earnings into or further within a range of earnings that results in incrementally greater private benefits.[6] As a result of a growing emphasis on operational efficiency, nonprofit managers have been increasingly compensated based on accounting-based measures of profitability in recent years (Brickley and Van Horn 2002; Eldenburg and Krishnan 2008).[7,8] Anecdotal evidence suggests that hospital executives now consider their managerial skills interchangeable between hospitals of both nonprofit and for-profit organizational forms, suggesting that reputational concerns related to financial performance are important to them (Beckers Hospital Review 2012).

Charity care and strategic earnings management

The preceding discussion suggests that, on the one hand, institutional pressures constrain managers to report lower, modest earnings. However, on the other hand, managers have private incentives to report higher earnings. While prior studies (Eldenburg et al. 2011; Leone and Van Horn 2005) find that, on average, hospitals report modest earnings, these same studies also document that many nonprofit hospitals report higher earnings (i.e., earnings for which their analyses indicate would be above the upper bound of institutionally acceptable earnings). This suggests there are cases where managers feel safe to report higher earnings.

Consistent with this line of reasoning, Wilkicki (2001) documents that when charity care is lower than expectations, higher earnings lead experimental subjects (i.e., practicing tax accountants and tax attorneys) to judge that a nonprofit hospital is more likely to lose its tax-exempt status. Therefore higher levels of charity care may relax institutional pressures to report modest profits and provide an opportunity for managers to report higher earnings. Likewise, lower levels of charity care could add to institutional pressures to report modest profits.

Figure 1 provides a graphical summary of the competing effects of institutional pressures to provide normative levels of charity care and nonprofit managers' private incentives on discretionary accrual (*DA*) decisions when premanaged earnings are positive.

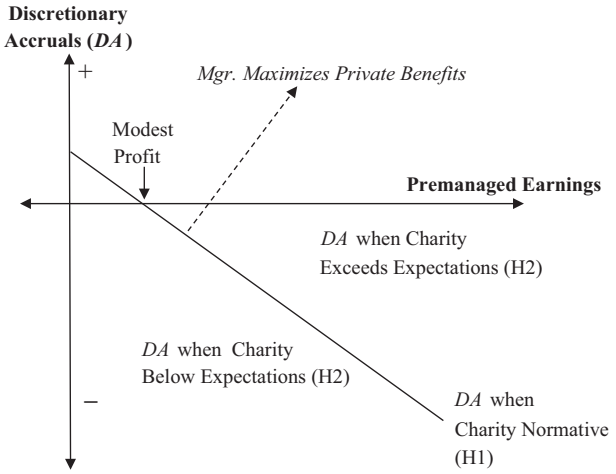
As shown in Figure 1, the predicted relationship between earnings before accruals and discretionary accruals in Hypothesis 1 (i.e., a negative association when premanaged earn-

6. Healy (1985) identifies three possible cases of premanaged earnings and the manager's discretionary accrual behavior in response to these cases. In the first case, premanaged earnings are below the minimum bonus threshold. The manager in this case will likely "take a bath" and choose income-decreasing discretionary accruals if earnings cannot be managed above the threshold or will select income-increasing accruals if earnings can be managed above the threshold. In the second case, premanaged earnings are above the minimum bonus threshold. In this case the manager will select income-increasing accruals; however, the manager will limit positive accruals to the extent that doing so pushes earnings up against a binding upper bound. In the third case, premanaged, earnings are already above an upper bound and, therefore, the manager chooses income-decreasing accruals. In the current study—where the focus is on instances when earnings are above a modestly positive range—I assume that managers in my sample, on average, are presented with the conditions described in the second case.

7. Federal tax regulations (Internal Revenue Code 4958) prohibit the payment of excessive compensation to executives; however, nonprofits are allowed to compensate managers based on measures of profit (see Internal Revenue Service 1984 memorandum GC 38283). The IRS ruled in 1994 that compensation of nonprofit managers would not be considered "excessive" as long as the total compensation of an individual was within a range of pay for similar services by comparable organizations.

8. This trend is widely considered to have its roots in 1983, when Medicare changed its hospital reimbursement model from a cost-plus model to a fee-for-service model which resulted in a heightened need for nonprofit hospitals to focus on operational efficiency (Eldenburg et al. 2015).

Figure 1 Institutional pressures, charity care, and strategic discretionary accrual behavior



ings are relatively higher) is expected to depend upon the extent to which charity care deviates from normative expectations. This leads to the following hypothesis (stated in the alternative):

HYPOTHESIS 2. *The relationship between relatively high premanaged earnings and discretionary accruals is moderated by reported charity care such that discretionary accruals are higher* (*lower*) *when charity care exceeds* (*falls short of*) *normative expectations.*

A related question is whether nonprofit hospitals manage their earnings upward—from being in conformance with a low-profit constraint (i.e., reporting modest earnings) to being above a low-profit constraint (i.e., reporting higher earnings). Discretionary accruals in these cases are likely to depend on reported levels of charity care given that managers are choosing to increase earnings into a range more likely to be subject to scrutiny. I state this prediction in the following hypothesis (stated in the alternative):

HYPOTHESIS 3. *When reported charity care exceeds normative expectations, nonprofit hospital managers are more likely to use discretionary accruals to manage earnings from a relatively modest level to a relatively higher level.*

3. Data and descriptive statistics

Data

California reporting and political environment

I use hospital sample data reported to the Office of Statewide Planning and Development (OSHPD) in the Department of Public Health. Several prior accounting studies use the OSHPD data (e.g., Krishnan and Yetman 2011; Eldenburg et al. 2011, 2012; Eldenburg and Krishnan 2003, 2008; Krishnan 2005). I chose the OSHPD data for my study because the policymakers in California appear to consider reported levels of charity care important.

In 1993, a bill was proposed in the California Legislature to tax nonprofit hospitals based on profits earned in excess of reported charity care (Burda 1994). While this mea-

sure ultimately failed, a statute was enacted (effective 1997) that requires all hospitals to draft a "community benefits plan," which includes the provision of charity care.[9] Since 1997, charity care has remained at the forefront of the California social and political debate, as evidenced by the subsequent passing of a bill (AB 503) in 2014 by the State Legislature that tightens charity care reporting requirements.

Sample selection

The sample data include general, acute-care nonprofit hospital firm-years during 2003–2008. Consistent with prior studies (e.g., Eldenburg et al. 2011; Krishnan and Yetman 2011), I define a nonprofit hospital as a hospital that is a registered nonprofit entity under IRS 501(c)(3), operated by a private nonprofit corporation or church, and not considered by the OSHPD as a "non-private" (i.e., a community-, district-, state-, or federally-run facility). Non-private hospitals are excluded because some of their funding comes from local, state, and/or federal municipalities. Therefore, their managers likely have different objective functions regarding profitability from that of managers of nonprofit hospitals funded predominately through patient revenue, church funding, and/or private donations (Eldenburg and Krishnan 2003).

I also exclude hospitals that are part of the Kaiser Foundation or registered as Shriner hospitals because the OSHPD database does not list them as comparable to other nonprofits, given their unique funding mechanisms and service missions. The remaining sample includes 192 nonprofit hospitals reporting a total of 1,063 firm-years.

Descriptive statistics

Table 1, panel A provides descriptive statistics for the sample of nonprofit hospitals. Mean (median) total assets for the sample are $230 million ($124 million). The mean (median) gross revenue for the sample is $701 million ($529 million), and the mean (median) net revenue for the sample is $195 million ($137 million). In the hospital industry, the large difference between gross and net revenue is primarily the result of contra-revenue amounts for gross charges not collected, due to charity care that is provided and adjustments to revenue based on the difference between gross charges and contractually agreed-upon rates with third-party payers.

The mean (median) charity care for the sample is $10.2 million ($4.6 million), and the mean (median) charity care as a percent of total assets is 6.80 percent (3.85 percent). Mean (median) third-party adjustments are $546 million ($396 million), and mean (median) third-party adjustments as a percent of total assets are 314.77 percent (289.14 percent). The mean (median) net income divided by total assets (*ROA*) is 4.36 percent (4.67 percent).

Table 1, panel B reports descriptive statistics for a subset of the sample which includes only firm-years when return on assets (*ROA*) is positive. *ROA* is positive in 780 of the total 1,063 firm-years and is represented by 167 of the 192 hospitals in the sample. I report descriptive statistics for this subset given that Hypotheses 1 and 2 specifically pertain to the earnings management behavior of nonprofit hospitals when *ROA* is positive. The mean (median) total assets for this subset of firm-years are $255 million ($147 million) and the mean (median) net revenue is $219 million ($167 million). These amounts are greater than that reported for the larger sample in Table 1, panel A with respect to total assets and net revenues, indicating that larger hospitals with more patient volume are generally more profitable.

9. See California Health & Safety Code §§ 127340–127365.

TABLE 1
Descriptive statistics

Panel A: Descriptive statistics for 1,063 hospital years (2003–2008) with available data

Variable (000s, except percents)	Mean	SD	1st quartile	Median	3rd quartile	Minimum	Maximum
Gross Revenue	701,358	698,011	215,512	529,394	936,937	5,743	4,042,090
Net Revenue	195,402	204,956	63,628	137,359	249,724	3,948	1,220,990
Charity Care	10,201	16,038	1,317	4,553	11,329	0	99,031
Third-Party Adj.	545,708	563,503	151,326	395,548	733,294	1,367	3,161,497
Net Income	11,731	25,115	310	4,310	15,352	−33,671	123,442
Total Assets	229,609	300,117	48,214	123,645	283,882	2,397	1,691,399
Net Income/Total Assets (*ROA*)	4.36%	11.94%	−0.50%	4.67%	10.30%	−37.70%	35.88%
Gross Revenue/Total Assets	458.02%	236.77%	277.03%	423.11%	604.77%	42.30%	1189.59%
Charity Care/Total Assets	6.80%	9.05%	1.39%	3.85%	8.46%	0.00%	53.25%
Third-party Adj./Total Assets	314.77%	179.13%	176.19%	289.14%	423.37%	13.56%	874.99%
Δ Third-party Adj./Total Assets	38.33%	43.59%	14.29%	31.01%	55.38%	93.71%	226.69%

Panel B: Descriptive statistics for 780 hospital years (2003–2008) with positive return on assets (*ROA*)

Variable (000s, except percents)	Mean	SD	1st quartile	Median	3rd quartile	Minimum	Maximum
Gross Revenue	781,962	738,033	238,774	633,146	1,040,331	5,743	4,042,090
Net Revenue	218,966	216,133	71,789	166,667	279,680	3,948	1,220,990
Charity Care	11,164	17,186	1,578	5,046	12,392	0	99,031
Third-party Adj.	618,090	600,568	170,247	471,800	818,011	1,367	3,161,497
Net Income	18,806	25,332	3,028	8,723	21,972	0	123,442
Total Assets	254,884	313,503	55,607	146,926	321,399	2,397	1,691,399
Net Income/Total Assets (*ROA*)	9.46%	7.81%	3.71%	7.43%	13.24%	0.00%	35.88%
Gross Revenue/Total Assets	455.63%	231.36%	277.04%	415.04%	591.51%	42.30%	1189.59%
Charity Care/Total Assets	6.41%	8.78%	1.53%	3.62%	7.88%	0.00%	53.25%
Third-party Adj./Total Assets	313.22%	175.28%	176.45%	282.74%	418.11%	13.56%	874.99%
Δ Third-party Adj./Total Assets	39.87%	41.09%	16.10%	31.78%	54.04%	−93.71%	226.69%

4. Empirical analysis

Measurement and estimation of key test variables

Normative expectations of charity care

Charity care is often the most economically significant and easily quantifiable social benefit provided by a hospital (see OSHPD 1998 Report to the Legislature). While the actual costs incurred to provide charity care are part of total expenses reported, these costs are not separately categorized and are therefore unavailable for observation by external stakeholders. However, the OSHPD requires hospitals to report charity care as a deduction from revenue, valued at the hospital's usual and customary gross billing rates. Since the OSHPD also requires that all patient services provided be initially recorded at gross charges, the effect on *net* revenue for charity care is zero.

The OSHPD requires hospitals to identify patients as recipients of charity care at the time of admission, based on the hospital's assessment of their ability to pay the portion of the potential gross bill not covered by third-party payers. However, it is possible that hospitals would change their parameters for determining charity care cases during a reporting period in order to increase reported charity care (which would result in an offsetting decrease in potential bad debt expense).[10] Therefore, the amounts of reported charity care that exceed expectations could be the result of either a hospital's real and honest effort toward providing more charity care or its manager's manipulation of how it determines and measures charity care, or a combination of both. Nevertheless, unless account manipulation is suspected, external stakeholders would expect a hospital's reported charity care to be a function of community demand and management's strategic operational decisions.

I develop a model that considers these factors in order to estimate the extent to which a nonprofit hospital's reported charity care exceeds or falls short of normative expectations. Specifically, the model relates a hospital's current-year charity care to variables that proxy for a hospital's: (i) *Exempted Tax Base Size*; (ii) *Community and Market Characteristics* that influence its exogenous demand for charity care; and (iii) *Firm-Level Characteristics* that constrain its short-run production function.

The model (hereafter referred to as the CCE model) regresses a hospital's current-year charity care scaled by prior-year total assets ($Charity_{it}$) on proxies for each of the three types of factors I identify above. I interpret the residuals (ε_{it}, referred to hereafter as $CCDev_{it}$) from this model as the extent to which reported charity care deviates from normative expectations, where a positive (negative) residual represents the extent charity care exceeds (falls short of) normative expectations. I specify the CCE model below, followed by a description of each independent variable organized by the three factors I identify above:

$$\begin{aligned} Charity_{it} = {} & \beta_0 + \beta_1 TGR_{it} + \beta_2 Bed_{it} + \beta_3 UP_i + \beta_4 \%GRMED_{it} + \beta_5 Trauma_{it} \\ & + \beta_6 Teach_{it} + \beta_7 Small_{it} + \beta_8 ALOS_{it} + Year\ Indicators + \varepsilon_{it}. \end{aligned} \quad (1)$$

Exempted tax base size. TGR_{it} is total gross patient revenue reported by hospital i in year t scaled by total assets in year $t - 1$. I include this variable, given that nonprofit hospitals are typically exempted from paying state revenue taxes (Barniv et al. 2005). Therefore, gross revenues are likely an important consideration by external stakeholders when evaluating the sufficiency of charity care relative to the value of the lost tax revenues.

Bed_{it} is a proxy for a hospital's facility size and is equal to the total number of licensed and available beds for hospital i in year t. Hospitals with larger facilities and

10. The net result to reported earnings in such cases would be zero.

capacity available for providing inpatient medical services are able to provide a greater amount of charity care (Morrisey, Wedig, and Hassan 1996). And, since hospitals with a greater number of beds would generally have more physical assets and likely encompass a larger area of real estate property, this variable serves as a proxy for the underlying tax base for state and local property taxes.

Community and market characteristics. UP_i is a proxy for a hospital's geographical market demand for charity care and equal to the percent of the population that was uninsured in the Health Service Area[11] (HSA) where hospital i is located. Given that charity care represents gross charges less any amounts recoverable from third-party payers, stakeholders are likely to expect greater levels of charity care by hospitals in areas with higher levels of uninsured patients.

$\%GRMED_{it}$ is a proxy for payer mix and equal to the reported amount of total Medicare and Medi-Cal[12] revenue by hospital i in year t divided by TGR in year t. The profitability of patients with government payers such as Medicare and Medi-Cal is likely lower because they pay at lower rates than other third-party payers (Eldenburg and Krishnan 2003). Therefore, the portion of the total charges a patient is responsible for is likely to be greater for Medicare and Medi-Cal patients. Hospitals with greater amounts of revenue associated with government payers should therefore have higher average per-patient charges that are unrecoverable, which could lead to higher numbers of charity cases.

Firm-level characteristics. The firm-level characteristics that I include are individual hospital characteristics that are expected to remain relatively fixed from year to year, and therefore are considered exogenous to a hospital's short-run operational decisions regarding the amount of charity care to provide.

$Trauma_{it}$ is a proxy for case severity and is equal to 1 if the OSHPD considers hospital i in year t to be a hospital with the capability to provide care for emergency trauma-related injuries. Hospital charges for trauma-related injuries are disproportionally expensive, and prior research finds a positive association between charity care levels and whether a hospital provides trauma care (Norton and Staiger 1994).

$Teach_{it}$ is a proxy for case severity and equal to 1 if hospital i in year t is labeled as a teaching hospital in the OSHPD database. Prior research finds that teaching hospitals provide greater amounts of charity care than nonteaching hospitals (Thorpe and Phelps 1991).

$Small_{it}$ is equal to 1 if hospital i in year t is labeled as a small or rural hospital in the OSHPD database. Hospitals small in size and in rural areas often treat disproportionately large shares of uninsured patients (Eldenburg et al. 2015).

$ALOS_{it}$ is equal to the average number of days that patients receiving inpatient care occupied a bed in hospital i in year t. $ALOS$ can influence hospital performance in a number of ways (Lynk 1995). I include $ALOS$ in the model to control for relatively fixed differences among hospitals that are, as with the other institutional characteristics previously

11. A Health Service Area (HSA) is defined by the National Center for Health Statistics, part of the Centers for Disease Control and Prevention, as a single county or cluster of contiguous counties that are relatively self-contained with respect to hospital care. The resident population of a particular HSA where a specific hospital is located approximates a hospital's "patient market." Population data regarding the percentage of residents uninsured and percentage of residents below poverty is not compiled by HSA every calendar year. I use data compiled in 2006, as this is a year included in my sample period.

12. Medi-Cal refers to revenue and expenses for patients covered by a State of California funding administration, similar to that of the federal Medicare administration, which supplements private insurance for low-income individuals.

TABLE 2
Results for equation (1), "charity care expectations model"

Dep. variable = *Charity*

Variable	Expected sign	Coeff.	SE	*t*-stat
Intercept		−0.081	0.02	−5.01***
TGR	+	0.014	0.00	17.81***
Bed	+	0.000	0.00	−0.11
UP	+	0.140	0.06	2.54**
%GRMED	+	0.147	0.02	9.70***
Trauma	+	0.031	0.01	6.34***
Teach	+	0.024	0.01	3.59***
Small	?	−0.003	0.01	−0.57
ALOS	?	−0.008	0.00	−3.22***
Year Indicators		Yes		
No. of observations (firm-years)		1,063		
R^2		37.7%		

Notes:

*, **, *** represent statistical significance at the 10 percent, 5 percent, and 1 percents levels, respectively, two-tailed. All continuous variables are winsorized at 1 percent and 99 percent.

Variable definitions: $Charity_t$ = charity care for hospital i in year t scaled by total assets in year $t-1$; TGR_t = total gross revenue for hospital i in period t scaled by total assets in period $t-1$; Bed_t = the total number of licensed and available beds for hospital i in year t; UP = percent of the population that was uninsured during 2006 in the Health Service Area (HSA) where hospital i is located; $\%GRMED_t$ = Medicare and Medi-Cal gross revenue for hospital i in year t divided by TGR for hospital i in year t; $Trauma$ = 1 if hospital i in year t is classified by OSHPD as having the ability to treat trauma related injuries, 0 otherwise; $Teach_t$ = 1 if hospital i in year t is classified as a teaching hospital in the OSHPD database, 0 otherwise; $Small_t$ = 1 if hospital i in year t is classified as a small or rural hospital in the OSHPD database, 0 otherwise; $Charity_{t-1}$ = reported charity care expense by hospital i in year $t-1$ scaled by total assets in year $t-2$; $ALOS_t$ = average number of days for which patients receiving inpatient care occupied a bed in hospital i in year t.

noted, likely to be considered more or less exogenous (by external stakeholders) to managerial decisions to provide more or less charity care in the current year.

I report the OLS regression results for (1) in Table 2.[13] The R^2 for this model is 37.7 percent. As expected, the coefficient for *TGR* is positive and significant (p-value < 0.01), consistent with higher-volume hospitals with larger state revenue tax bases providing more charity care. However, the independent variable used to proxy for the size of state and local property tax base, *Bed*, is not significant. This is likely because the dependent variable, *Charity*, is scaled by total assets. Since total assets and hospital beds are highly correlated, the incremental predictive value of *Bed* is minimal. The coefficients for both of the proxies for community demand for charity care, *UP* and *%GRMED*, are positive and significant (p-values < 0.05), as expected. Regarding the variables included in the model to

13. I also estimate alternative models, which include additional and/or alternative control variables that could possibly be argued as exogenous to managerial short-run choices to provide more or less charity care. Using these alternative models, I find qualitatively similar results in terms of the properties of the resulting *CCDev* variable. Subsequent hypothesis tests using these alternative measures also result in qualitatively the same conclusions.

proxy for fixed institutional characteristics, the coefficients for *Trauma* and *Teach* were both positive and significant (p-values < 0.01), as expected; however, the coefficient for *Small* was not significant. The coefficient for *ALOS* is negative and significant (p-value < 0.01).

Proxy for "Higher" earnings

While external stakeholders may not expect nonprofit hospital earnings to be exactly zero, I argue that managers are under normative pressure to refrain from reporting earnings that could be considered excessive. Consistent with prior research (e.g., Eldenburg et al. 2011; Leone and Van Horn 2005), I find a discontinuity in the earnings distribution within my sample around a zero profit. Using a methodology first developed by Degeorge, Patel, and Zeckhauser (1999) and subsequently used in the Eldenburg et al. (2011) and Leone and Van Horn (2005) studies, I observe an abnormal amount of hospitals reporting *ROA* between 0 percent and 4 percent.[14] This is the same range in which Eldenburg et al. find an abnormally high amount of firms reporting *ROA* in their sample of California nonprofit hospitals during a sample period (1998–2003) immediately preceding the sample period (2003–2008) used in this study.

I interpret this as evidence that nonprofit hospital managers consider themselves safe from scrutiny if they report earnings within this range, and subject to scrutiny if they report earnings above this range. I create an indicator variable, *HighEarn*, which is equal to 1 if a hospital's current-year *ROA* before discretionary accruals (i.e., earnings before *DA* or "EBDA") is above 4 percent.[15]

Discretionary accruals

A considerable stream of accounting research finds evidence that discretionary accruals are used to manage reported accounting earnings in order to "window-dress" financial statements made publicly available to stakeholders.[16] Many researchers estimate *total* discretionary accruals using models that include aggregated measures of assets and liabilities, such as the Jones (1991) model. Other researchers identify specific financial statement accounts that require considerable managerial judgment and are suspected to be used to manage earnings in a particular setting or industry. I adopt both approaches in the current study to provide a more powerful and robust test of my predictions. I use the Jones model[17] to estimate *total* discretionary accruals, and I estimate a *specific* discretionary

14. Consistent with these studies, I assign the *ROA* (i.e., net income divided by prior-year total assets) for each firm-year in my sample to bins. Bin widths are calculated as follows: $2(\text{IQR})n^{-1/3}$ where IQR is the interquartile range for *ROA* and n is the total number of observations. I then calculate a z-score on the difference between the actual and expected number of observations in each bin. A significant z-score indicates a discontinuity in the actual distribution.

15. Note that my theory and hypotheses only require that I identify firms that are *more likely* to be scrutinized for their reported earnings. Therefore, identification of firms with higher earnings relative to other firms is the essential qualitative factor necessary. While I focus here on describing and defining *HighEarn* based on the cutoff point identified using the Degeorge et al. (1999) methodology, I also define *HighEarn* using two alternative cutoff points, the sample median (4.4 percent) and the sample third quartile (10.3 percent). As I discuss in a later section, my results are robust to these alternative specifications of *HighEarn*.

16. See Healy and Wahlen (1999) for a review of this literature.

17. In the current study, and consistent with prior studies, discretionary accruals based on the Jones (1991) model are equal to the residual for hospital i in year t, from an OLS regression of the following equation for each year during the sample: $ACC_{it} = \beta_0 + \beta_1 \Delta TGR_{it} + \beta_2 \Delta PPE_{it} + \varepsilon_{it}$.

accrual common to the hospital industry: the third-party contractual adjustments account (TPA).[18] While the Jones model is relatively well known and accepted among accounting and finance researchers, an account-specific discretionary accrual model using TPA in the hospital industry is likely not as familiar. Therefore, I briefly discuss the nature of the TPA account and formally present the model I use to estimate discretionary accruals based on changes in TPA below.

Third-party contractual adjustments represent the expected difference between gross billed claims (both paid and unpaid) sent to third-party payers and management estimates of expected contractual adjustments to the claims made by the third-party payers.[19] Prior accounting research finds evidence that nonprofit hospitals manipulate their estimates of contractual adjustments to increase revenues in response to regulatory pressures (Eldenburg and Soderstrom 1996). The *TPA* liability can be substantial in relation to a hospital's total liabilities, and is considered by independent auditors as the account in the hospital industry most susceptible to earnings management (Leone and Van Horn 2005).

Following Leone and Van Horn (2005), I estimate discretionary accruals (*DA*) by modeling the change in a hospital's *TPA* account, where DA_{it} is equal to the residual (ε_{it}) for hospital i in year t multiplied by -1 to allow for interpretation of a positive value being evidence of an earnings-increasing accrual. The model to estimate *DA* is as follows:[20]

$$\Delta TPA_{it} = \beta_0 + \beta_1 \Delta TGR_{it} + \beta_2 \Delta GRMED_{it} + \varepsilon_{it}, \quad (2)$$

where all variables are scaled by total assets in year $t - 1$; ΔTPA_{it} is the change in *TPA* for hospital i in year t; ΔTGR_{it} is the change in total gross billed revenue from the prior year; $\Delta GRMED_{it}$ is the change in gross billed Medicare and Medi-Cal revenue, and is included as a control because the likelihood of payment and contractual adjustments from government payers is often different from that of insurance companies and other third-party payers (Eldenburg et al. 2011).

Correlation analysis of key variables

Table 3 reports Pearson correlations for key variables. The first row in Table 3 reports correlations using all 1,063 nonprofit hospital years in my sample (i.e., the "full" sample). The second row reports correlations for the subset of the sample which includes only firm-years (780) where reported *ROA* is positive (*ROA*-positive).

The correlation between *Charity* and *ROA* is positive and significant (0.119, p-value < 0.01) in the subset sample that includes only positive *ROA* firm-years. This suggests firms are more likely to report higher earnings when greater amounts of charity care are reported. The correlations between *Charity* and *CCDev* are positive and significant in

18. Alternatively, another "account-specific model" could use adjustments made by hospitals to their "Provision for Bad Debt" accounts to estimate discretionary accruals. However, Provisions for Bad Debt and Charity Care are likely highly correlated for reasons unrelated to my hypotheses, given that both bad debt and charity care arise out of instances where revenue charged is not collected. As an example of this issue, prior research (e.g., Eldenburg and Vines 2004) finds evidence that nonprofit hospitals reclassify amounts between bad debt expense and charity care.
19. Third-party payers include insurance companies, government payers, and/or other non-patient payers.
20. Consistent with prior research (Leone and Van Horn 2005), I estimate this model separately for each year during the sample period. The R^2 for these models ranges between 0.926 and 0.993. I note that that the average R^2 is 0.18 for discretionary accruals estimated in this study using the Jones model, much lower than the model using the *TPA* account. This is consistent with the results of Leone and Van Horn, who also report the account-specific model yielding higher R^2.

TABLE 3
Correlation matrix

	N	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) *CCDev*								
(2) *Charity*	1,063	0.665**						
	780	0.637**						
(3) *DA (Jones)*	1,063	−0.056	−0.028					
	780	−0.052	−0.044					
(4) *DA (TPA)*	1,063	0.150**	0.214**	0.064*				
	780	0.170**	0.226**	0.048				
(5) *EBDA*	1,063	0.007	0.009	−0.722**	0.098**			
	780	0.079*	0.105**	−0.838**	0.101**			
(6) *EBTACC*	1,063	0.015	0.004	−0.728**	0.068*	0.984**		
	780	0.098**	0.106**	−0.833**	0.066	0.977**		
(7) *ROA*	1,063	−0.059	-0.022	0.221*	0.218**	0.514**	0.484**	
	780	0.057	0.119**	0.130**	0.263**	0.432**	0.397**	
(8) *A TPA*	1,063	−0.113**	0.113*	−0.052	−0.226**	0.088**	0.055	0.059
	780	−0.148**	0.136**	−0.007	−0.186**	0.033	−0.004	0.049

Notes:

This table reports Pearson correlations. The correlations in the first row for each variable are from a sample of all hospital years used to estimate *CCDev*. The correlations in the second row for each variable are from a subset of the sample in the first row and include only hospital years when *ROA* is positive. The correlations in the third row are from a subset of the second row and include only hospital years when *ROA* is above 4 percent.

* and ** represent statistical significance at the 5 percent and 1 percent levels, respectively, two-tailed. See Appendix for variable definitions.

the full and *ROA*-positive samples (0.664 and 0.637, respectively, *p*-values < 0.01).[21] Table 3 reports negative and significant correlations between *DA (Jones)* and *EBDA* (−0.722 and −0.838 for full and *ROA*-positive samples, respectively, *p*-values < 0.01). Further, there is also a negative and significant correlation between *DA (Jones)* and an alternative measure of premanaged earnings that does not use *DA* in its measurement, *EBTACC*. These correlations are consistent with nonprofit hospitals using total discretionary accruals to manage earnings toward zero as documented in the prior literature (Leone and Van Horn 2005) and serve as initial evidence consistent with Hypothesis 1 in the current study.

The correlation between *CCDev* and *DA (Jones)* is not statistically significant in the full sample or the subset sample; in contrast the correlation of *CCDev* with *DA (TPA)* is positive and significant across both samples (*p*-values < 0.01). Therefore, the correlations are only consistent with upward earnings management when charity care exceeds expectations for discretionary accruals estimated on the specific *TPA* account. However, it is important to remember that my theory predicts this behavior depending on whether premanaged earnings are above a modest level. And, therefore, conclusions regarding any

21. My purpose in estimating *CCDev* is to isolate the portion of reported charity care that exceeds normative expectations formed in comparison to other similarly situated hospitals. Accordingly, my model includes other observable factors to estimate the amount reported that is favorable (unfavorable) to normative expectations. Nevertheless, *CCDev* and *Charity* will be correlated, as I expect, because firms that report higher amounts relative to other firms from year to year will be more likely to have a favorable value estimated from my model described in (1).

results for the relationship between discretionary accruals and the extent that charity care exceeds normative expectations are only meaningful in an analysis that compares discretionary accruals between earnings levels more likely to be scrutinized to those earnings levels less likely to be scrutinized.

Test of Hypotheses 1 and 2

Model specification

Hypothesis 1 predicts a negative association between total discretionary accruals and instances where premanaged earnings are relatively high (i.e., above a modest level). Hypothesis 2 predicts that the relationship between relatively high premanaged earnings and discretionary accruals is moderated to the extent that charity care deviates from normative expectations. I adapt the following model from Leone and Van Horn (2005) and estimate it in a pooled OLS regression using the subset from the sample which includes all firm-years where *ROA* is positive:

$$DA_{it} = \beta_0 + \beta_1 HighEarn_{it} + \beta_2 CCDev_{it} + \beta_3 CCDev_{it} \times HighEarn_{it} + \beta_4 Small_{it} + \beta_5 TGR_{it} + \beta_6 ROA_{it-1} + \beta_7 DA_{it-1} + \varepsilon_{it}, \quad (3)$$

where DA_{it} is discretionary accruals estimated either using the Jones (1991) model or the alternative model I estimate in (2) based on the TPA account. These variables are hereafter referred to as *DA (Jones)* and *DA (TPA)*, respectively for hospital i in year t scaled by total assets in year $t - 1$. $HighEarn_{it}$ is an indicator variable equal to 1 if total premanaged earnings (i.e., *ROA* before Jones model *DA*) for hospital i in year t are above the modest earnings range of 0 percent to 4 percent *ROA*[22] ; $CCDev_{it}$ is the proxy for the extent current year charity care reported by hospital i in year t deviates from normative expectations and is equal to the residual from (1) for hospital i in year t; $Small_{it}$ is an indicator variable equal to 1 if hospital i in year t is classified by the OSHPD as a small or rural hospital, and is included to control for the possibility that the discretionary accruals behavior of small and rural hospitals differ from the rest of the sample, given that small or rural hospitals may have different production functions and different contractual relationships with third-party payers than larger metropolitan hospitals; TGR_{it} is total gross revenue for hospital i in year t scaled by total assets in year $t - 1$ and is included to control for hospital bargaining power. To the extent that hospitals have greater bargaining power, the difference between the reimbursement rate and gross revenue charged should be less. This in turn could be associated with income-decreasing discretionary adjustments being less likely; ROA_{it-1} is net income for hospital i in period $t - 1$ scaled by total assets at the end of year $t - 2$ and is included based on prior research that shows past earnings performance to be correlated with discretionary accruals (Kothari, Leone, and Wasley 2005); and DA_{it-1} is discretionary accruals for hospital i in year $t - 1$ and is included to control for the possibility of first-order autocorrelation in discretionary accruals (Leone and Van Horn 2005).

Results for Hypotheses 1

Panel A of Table 4 reports results for (3) using *DA (Jones)* as the dependent variable. The main results are reported in the column labeled model 1. The coefficient for *HighEarn* in this model is negative and significant (−0.1175, p-value < 0.01), providing evidence that total discretionary accruals are, on average, negative in my sample when premanaged

22. Leone and Van Horn (2005) use a continuous measure of earnings before discretionary accruals in their model. In contrast my model dichotomizes positive-only earnings depending on whether the continuous measure is above a modest level benchmark. I obtain similar results (not tabulated) when I replace the dichotomous measure with the continuous.

TABLE 4
OLS regressions of discretionary accruals on constraints and incentives to manage earnings

Panel A: Dep. variable = *DA* (estimated using Jones (1991) model)

	Model 1		Model 2		Model 3		Model 4	
Variable	Coeff.	*t*-stat	Coeff.	*t*-stat	Coeff.	*t*-stat	Coeff.	*t*-stat
Intercept	0.0621	5.94***	0.0588	5.80***	0.0186	1.83*	0.0534	5.13***
HighEarn (Degeorge)	−0.1175	−13.2***						
CCDev × HighEarn (Degeorge)	0.3826	2.20**						
HighEarn (Median)			−0.1201	−13.52***				
CCDev × HighEarn (Median)			0.3527	2.06**				
HighEarn (3rdQuartile)					−0.1186	−12.04***		
CCDev × HighEarn (3rdQuartile)					0.2211	1.37		
HighEarn (EBTACC)							−0.1094	−11.67****
CCDev × HighEarn (EBTACC)							0.2989	1.82*
CCDev	−0.3492	−2.30**	−0.3156	−2.16**	−0.1778	−1.50*	−0.2465	−1.77*
TGR	0.0024	1.21	0.0025	1.27	0.0039	1.84*	0.0014	0.69
Small	0.0026	0.26	0.0048	0.52	0.0062	0.59	0.0037	0.38
Lagged ROA	0.2507	4.38***	0.2600	4.53***	0.2857	4.45***	0.2615	4.28***
Lagged DA	0.0102	0.20	0.0127	0.25	0.0187	0.36	−0.0014	−0.03
No. of observations (firm years)	780		780		780		780	
No. of clusters (hospitals)	167		167		167		167	
R^2	27.8%		29.6%		26.1%		25.1%	

(The table is continued on the next page.)

TABLE 4 (continued)

Panel B: Dep. variable = *DA* (estimated using Third-party account)

Variable	Model 1		Model 2		Model 3		Model 4	
	Coeff.	*t*-stat	Coeff.	*t*-stat	Coeff.	*t*-stat	Coeff.	*t*-stat
Intercept	−0.0339	−2.42**	−0.0331	−2.39 **	−0.0282	−2.18**	−0.0277	−2.17**
HighEarn (Degeorge)	0.0178	2.34**						
CCDev × HighEarn (Degeorge)	0.6377	2.31**						
HighEarn (Median)			0.0184	2.43**				
CCDev × HighEarn (Median)			0.6512	2.40**				
HighEarn (3rdQuartile)					0.0336	4.07***		
CCDev × HighEarn (3rdQuartile)					0.6607	2.40**		
HighEarn (TACC)							0.0068	0.82
CCDev × HighEarn (EBTACC)							0.7716	3.03***
CCDev	0.0264	0.14	0.0404	0.22	0.1826	1.17	0.0171	0.09
TGR	0.0071	2.23**	0.0070	2.21**	0.0064	1.97*	0.0076	2.24**
Small	0.0517	3.98***	0.0515	3.95***	0.0531	4.08***	0.0525	3.99***
Lagged ROA	−0.1348	−1.74*	−0.1377	−1.77*	−0.1766	−2.26**	−0.1238	−1.55
Lagged DA	0.0213	0.28	0.0227	0.30	0.0219	0.29	0.0266	0.35
No. of observations (firm years)	780		780		780		780	
No. of clusters (hospitals)	167		167		167		167	
R^2	10.9%		11.1%		12.3%		11.5%	

Notes:

*, **, and *** represent statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively, one-tailed for all variables with a directional prediction, two-tailed otherwise. *T*-statistics are calculated using Rogers' robust standard errors clustered at the hospital level. All continuous variables are winsorized at 1 percent and 99 percent. See Appendix for variable definitions.

earnings are above 4 percent ROA. This result supports Hypothesis 1 and is consistent with the idea that, ceteris paribus, managers use total discretionary accruals to manage earnings downward in order to conform to institutional pressures to report a modest profit.

Panel B of Table 4 reports results for (3) where the dependent variable is alternatively measured using the account-specific model (i.e., *DA (TPA)* estimated in (2)).[23] The coefficient for *HighEarn* in this model is positive and significant (0.0178, p-value < 0.05). This result is not consistent with the predicted negative coefficient suggested by Hypothesis 1 and the support found for Hypothesis 1 documented above using *DA (Jones)*. In fact, this result suggests that discretionary adjustments to the third-party account are on average positive when earnings are higher. However, this result is not necessarily contrary to Hypothesis 1, given that discretionary accruals in the present case are from a specific account as opposed to a measure (like that estimated by a Jones-type model) that proxies for *total* discretionary accruals.

Main results for Hypothesis 2

In support of Hypothesis 2, the coefficient on the interaction term when the dependent variable is *DA (Jones)* (model 1 in panel A of Table 4) is positive and significant (0.3826, p-value < 0.05).[24] Further, the results from the model using *DA (TPA)* as the dependent variable (model 1 in panel B of Table 4) show a positive and significant coefficient for the interaction term (0.6377, p-value < 0.05).[25] These results provide evidence consistent with nonprofit managers strategically using discretionary accruals to appear more (less) profitable when current period charity care is higher (lower) than normative expectations.

Additional analysis and robustness checks for Hypothesis 2

I perform several additional analyses to demonstrate that it is unlikely that the main results from (3), model 1 are not (i) artificially sensitive to the cutoff I use to dichotomize *HighEarn*, or (ii) mechanically driven by the fact that the underlying continuous measure (*EBDA*)—from which *HighEarn* is determined—is a function of the dependent variable in (3).

First, I estimate (3) where the independent variable *HighEarn* is alternatively defined using alternative cutoff points to proxy for higher premanaged earnings. These results are tabulated under models 2 and 3 of Table 4. *HighEarn* is defined based on a cutoff at the sample median of 4.4 percent in model 2 and a cutoff at the sample third quartile of 10.3 percent in model 3. The results for both of these models are robust to the results I discuss above for model 1 with the exception of the interaction term, $CCDev \times HighEarn$, not being statistically significant in model 3 when the dependent variable is *DA (Jones)*. A possible reason for this result is that earnings above the third quartile are, on average,

23. Note, however, that I define *HighEarn* based off of Jones model accruals when I estimate (3) using Third-party Adjustments because Third-party Adjustments, while substantial, likely do not proxy for the total amount of discretionary accruals. Since the Jones model is an aggregate-level estimation of total accruals, I consider earnings before Jones model accruals the more appropriate estimation of earnings before all discretionary accruals.

24. I also estimate (3) (not tabulated) by replacing *CCDev* with actual charity care (i.e., *Charity*). The results using *Charity* are statistically and qualitatively similar to that of the models that use *CCDev*. While such a model does not capture the essence of above/below normative levels, it nonetheless is consistent with my hypothesis and helps support my claim that I reconcile the results of Wilkicki (2001) and Barniv et al. (2005) given that these two studies do not contemplate such a measure as *CCDev*.

25. I perform a sensitivity analysis (not tabulated) by estimating (3), model 1 without each of the control variables, and without any of the control variables. Results are generally robust to these alternative models and result in the same statistical conclusions when I use discretionary accruals estimated via third-party adjustments as my dependent variable.

above the upper bound of earnings used to calculate managers' bonus compensations within the sample (Healy 1985). Therefore, managers in these cases may not have incentives to manage earnings upward even though their above-normative charity care may permit them to do so.

Second, I address the possibility that a mechanical relationship exists between *DA* and *HighEarn*. If *DA* is measured with error, *EBDA* will, by construction, be measured with the same error.[26] Therefore, to the extent that measurement error in *DA* results in instances where some firm-years of *EBDA* are systematically misclassified as being *HighEarn*, there could be a mechanical relation between the dependent variable, *DA*, and the independent variable, *HighEarn*. To address this issue, I alternatively determine *HighEarn* using earnings before *total* accruals (*EBTACC*). I calculate *EBTACC* by adding back to earnings (*ROA*) the change in noncash current assets from the previous year minus the change in current liabilities from the previous year less depreciation expense. The results for (3) using this alternative measure of *HighEarn* (tabulated under model 4 in panels A and B of Table 4) are, overall, statistically consistent with model 1 and result in the same conclusions regarding Hypotheses 1 and 2.

To provide further confidence that my results are not driven by a mechanical relationship—in particular the significant interaction that I observe between *HighEarn* and *CCDev* in support of Hypothesis 2—I perform additional analysis that does not include any measures of premanaged earnings. I compare average discretionary accruals when reported charity care exceeds normative expectations (i.e., *CCDev* is greater than zero, or positive) to the average discretionary accruals when charity care falls short of normative expectations (i.e., *CCDev* is equal to or less than zero).

In the 513 firm-years of the sample where reported *ROA* is greater than 4 percent, average discretionary accruals are 0.0204 and 0.0292 when *CCDev* is positive compared to 0.0053 and −0.0024 when *CCDev* is negative, for *DA (Jones)* and *DA (TPA)*, respectively. This results in positive differences (0.0151 and 0.0323) that are statistically significant (two-tailed *p*-values of 0.10 and 0.01 for *DA (Jones)* and *DA (TPA)*, respectively).

Multivariate results (not tabulated) from an OLS regression of *DA* on a dummy variable equal to one when *CCDev* is positive (*CCDevPositive*), along with the same control variables as in (3), are consistent with the univariate results. The coefficient on *CCDevPositive* in the multivariate regression is positive and significant (0.0190, p-value < 0.05 and 0.0339, p-value < 0.01, for models where the dependent variable is *DA (Jones)* and *DA (TPA)*, respectively). The results for *CCDevPositive* are also positive and significant (0.0339, p-value < 0.01) in the regression using *DA (TPA)* as the dependent variable in model 4 as well.

Test of Hypothesis 3

Model specification

Hypothesis 3 predicts that above-normative levels of charity care are associated with nonprofit hospitals managing earnings upward from a relatively modest level of earnings into a higher, more likely to be scrutinized, level. To test this prediction, I estimate the following logistic regression:

$$MoveUp_{it} = \beta_0 + \beta_1 CCDev_{it} + \beta_2 LogAssets_{it} + \beta_3 ROA_{it-1} + \beta_4 TGR_{it} + YearIndicators + \varepsilon_{it,} \quad (4)$$

where $MoveUp_{it}$ is an indicator variable equal to 1 if premanaged earnings for hospital i in year t are negative or modest (i.e., at or below 4 percent *ROA*) and total discretionary

26. See Leone and Van Horn (2005, 830), footnote 23, for a nice elaboration and illustration regarding this issue.

accruals result in the hospital reporting earnings that exceed a modest profit (i.e., *ROA* above 4 percent); $HighEarn_{it}$ is an indicator variable equal to 1 if earnings for hospital i in year t are above the modest level of 4 percent *ROA* as described previously; $CCDev_{it}$ is an estimation of the extent current-year charity care reported by hospital i in year t exceeds (or falls short of) normative expectations, and is equal to the residual from (1) for hospital i in year t; $LogAssets_{it}$ is the natural log of total assets for hospital i in year t and is included to control for size; ROA_{it-1} is net income for hospital i in period $t-1$ scaled by total assets at the end of year $t-2$; and TGR_{it} is total gross revenue for hospital i in year t scaled by total assets in year $t-1$.

Results

Table 5 reports logistic regression results for (4) using the full sample of 1,063 firm-years. The first two columns in Table 5 report results where the dependent variable *MoveUp* is determined based on earnings before discretionary accruals estimated using the Jones model (*DA (Jones)*). The Wald χ^2 statistic of 14.05 for this model is not significant at the 0.10 level, and the coefficient on *CCDev*, while directionally positive, is not significant. Therefore, the results using the Jones model accruals do not support Hypothesis 3.

However, the results, as reported in the second two columns of Table 5, for (4) using the account specific model to estimate discretionary accruals (*DA (TPA)*) and determine *MoveUp* do support Hypothesis 3. The Wald χ^2 statistic of 18.54 for this model is significant at the 0.05 level. The results show that of the 1,063 firm-years, third-party discretionary accruals were used to manage earnings from a negative or moderately positive profit to a relatively high profit 109 times. Further, results for the independent variable *CCDev* support Hypothesis 3. As predicted, the coefficient for *CCDev* is positive and significant (3.6256, p-value < 0.05), consistent with nonprofit hospitals being more likely to make positive discretionary accruals that move earnings from being in conformance with

TABLE 5
Logistic regressions of incentives to make earnings management decisions that result in moving earnings from moderate to high

	Dep. variable:		Dep. variable:	
	MoveUp (Jones model)		*MoveUp (TPA)*	
Variable	Coeff.	χ	Coeff.	χ
Intercept	−2.7912	2.81*	−0.1811	0.01
CCDev	1.3315	0.49	3.6256	4.00**
LogAssets	0.0522	0.39	−0.1546	3.08*
LaggedROA	1.8100	3.78*	0.5465	0.39
TGR	−0.0076	0.03	0.0858	3.78*
Year Indicators	Yes		Yes	
No. moved up	129		109	
No. did not move up	934		954	
Model Wald χ^2	14.05		18.54**	
% concordant pairs	59.9		62.0	

Notes:

*, **, and *** represent statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively, one-tailed for all variables with a directional prediction, two-tailed otherwise. All continuous variables are winsorized at 1 percent and 99 percent. See Appendix for variable definitions.

a low-profit constraint (within a modest range) to reporting higher earnings that are more likely to be above (and therefore out of conformance with) what external stakeholders would consider a low-profit constraint when reported charity care exceeds normative expectations.

5. Conclusion

This study provides theory and evidence regarding the effects of competing reporting objectives on nonprofit managers' discretionary accrual choices. I empirically investigate this issue within the setting of the U.S. hospital industry and find that, when charity care is favorable to the normative expectations of external stakeholders, nonprofit managers (i) make earnings-increasing discretionary accrual decisions, and (ii) are more likely to use discretionary accruals to move earnings from relatively modest levels to relatively higher levels. My findings contribute to the research literature by suggesting that, ceteris paribus, nonprofit hospital managers prefer reporting higher earnings (consistent with agency theory); however, they are attentive to institutional pressures that constrain them from reporting what could be construed by stakeholders as "excessive" earnings.

This study has important implications to public policy regarding the U.S. nonprofit hospital industry and informs research and policy in other settings where institutional pressures to provide social benefits compete with manager private incentives. I harmonize the findings of two prior studies which investigate the joint influence of earnings and charity care on regulatory tax-exemption decisions. Wilkicki's (2001) experimental results suggest nonprofit hospitals are under greater pressure to report modest profits when charity care is below expectations. My results are consistent with Wilkicki in that I show that nonprofit managers make reporting decisions consistent with a belief that regulators will consider earnings levels relative to reported charity care levels. In particular, the resulting earnings management decisions appear to be made so as to avoid regulatory scrutiny of accounting earnings when charity care falls short of normative expectations. Thus, my results offer a possible explanation for why Barniv et al. (2005) do not find archival evidence of an association between tax-exemption revocations and reported accounting earnings, which are ex post any earnings management activities.[27] My results suggest the intertemporal evaluations by policymakers and regulators of nonprofit hospitals' reported earnings in relation to charity care provided could be misguided.

Furthermore, this study has implications relevant to health-care industry settings in other countries where tax exemptions or subsidies are provided to private, nonprofit hospitals. For example, in the United Kingdom, there has been a shift toward decentralized (and often privately run), nonprofit hospital trusts and "social enterprises," neither of which statutorily can have equity shareholders (Ballantine, Forker, and Greewood 2007; NHS Alliance 2008). The institutional pressures for these organizations are similar to those faced by U.S. nonprofit hospitals in that economic benefits in the form of subsidies are provided to these entities with the expectation that firm surpluses are used to benefit society in the form of health care.[28]

27. An additional reason why Barniv et al. (2005) may not find that tax-exemption revocations are related to earnings could be due to the fact that they use a continuous measure of earnings. My results suggest that Barniv et al. might have found a stronger correlation between earnings and revocation decisions had they measured earnings in such a way as to capture instances where earnings exceed an institutional constraint similar to the methodology I use, which partitions earnings by higher earnings versus modest earnings.

28. Australia, Belgium, Canada, Germany, and the Netherlands are among other countries which also have some form of government-subsidized or tax-exempt, privately run hospital participation as part of their national health-care models. While charity care may not be a significant part of their mission because universal health insurance is provided in many of these countries, other forms of social benefits (such as relatively unprofitable medical and social services) are expected of these firms in return for their nonprofit status.

A limitation of this study, however, is that I examine nonprofit reporting behavior within a specific industry.[29] Nevertheless, the basic premise of this study is that the operating environment of a typical private, nonprofit entity is such that the firm has been given economic benefits at a cost to other constituents in society, for which in return the entity is expected to provide benefits to society which decrease its net surplus. I conjecture that nonprofits receiving tax exemptions or subsidies in other industries, such as private higher education and nursing home care, exhibit similar earnings management behavior.[30] An important and fruitful avenue for future research would be to empirically test whether my findings generalize to other nonprofit settings.

Finally, my study contributes to the accounting literature that investigates how social and political pressures influence firm decisions to manipulate externally reported accounting measures (e.g., Patten and Trompeter 2003; Key 1997; Mensah et al. 1994; Cahan 1992; Jones 1991). In particular, my study informs the emerging research that investigates the relationship between firms' CSR activities and earnings management (e.g., Chih, Shen, and Kang 2008; Hong and Anderson 2011; Kim, Park, and Wier 2012). Anecdotal evidence suggests there is a growing need for investor-owned firms to consider the implications of their financial reporting choices in relation to reported CSR performance (*Time* magazine 2012). In essence, therefore, high profile, investor-owned firms must now attend to multiple (and competing) objectives in ways quite similar to that of U.S. nonprofit hospitals—where profits are evaluated by external stakeholders in light of the benefits the firm provides to society. Thus my results are likely indicative of a more general pattern, where the appearance of good news in the various areas of CSR ameliorates the political costs associated with excess earnings (Watts and Zimmerman 1978). In this regard my study suggests that, as CSR reporting becomes more standardized and attended to by stakeholders, investor-owned firms may make earnings management decisions depending on whether their reported CSR activities meet normative benchmarks. Future research directly exploring this possibility is warranted and would be interesting.

29. On the other hand, a strength of this research design choice is that it maximizes explanatory power and controls for industry effects.

30. Large, private, nonprofit universities, for example, have come under scrutiny in recent years similar to that of nonprofit hospitals (*Nonprofit Quarterly* 2014; *The Fiscal Times* 2011). Critics of these institutions claim that their annual surpluses (when endowment earnings are included) and compensation packages for top administrators are excessive relative to the expenditures made toward the provision of educational opportunities at a cost to students that would not be generally available from taxpaying, investor-owned institutions.

Appendix

Variable definitions

CCDev	Extent current-year charity care reported by hospital *i* in year *t* exceeds (or falls short of) normative expectations and is equal to the residual from (1) for hospital *i* in year *t*
CCDevPositive	1 if *CCDev* for hospital *i* in year *t* is positive, zero otherwise
Charity	Charity care expense for hospital *i* in year *t* scaled by total assets in year $t - 1$
DA (Jones)	Discretionary accruals for hospital *i* in year *t* scaled by total assets in year $t - 1$ as estimated by the Jones (1991) model
DA (TPA)	Discretionary accruals for hospital *i* in year *t* scaled by total assets in year $t - 1$ as estimated by the equation specified in (2) that models changes in the Third-party-adjustments account (*TPA*)
HighEarn (Degeorge)	1 if total premanaged earnings (i.e., *ROA* before Jones model *DA*) for hospital *i* in year *t* are above the modest earnings range. Where the upper cutoff for modest earnings is 4 percent, based on the Degeorge et al. (1999) methodology
HighEarn (Median)	1 if total premanaged earnings (i.e., *ROA* before Jones model *DA*) for hospital *i* in year *t* are above the modest earnings range. Where the upper cutoff for modest earnings is 4.4 percent, based on the sample median
HighEarn (3rdQuartile)	1 if total premanaged earnings (i.e., *ROA* before Jones model *DA*) for hospital *i* in year *t* are above the modest earnings range. Where the upper cutoff for modest earnings is 10.3 percent, based on the sample third quartile
HighEarn (EBTACC)	1 if earnings before total accruals (i.e., *ROA* after adding back the change in noncash current assets from the previous year minus the change in current liabilities from the previous year less depreciation expense) for hospital *i* in year *t* are above the modest earnings range. Where the cutoff for modest earnings is 4 percent
LaggedDA	Discretionary accruals for hospital *i* in year $t - 1$ scaled by total assets in year $t - 2$
LaggedROA	Net income for hospital *i* in period $t - 1$ scaled by total assets at the end of year $t - 2$
$MoveUp_{it}$	1 if premanaged earnings (*HighEarn*) for hospital *i* in year *t* are negative or modest (i.e., at or below 4 percent *ROA* before discretionary accruals) and total discretionary accruals result in the hospital reporting earnings that exceed a modest profit (i.e., *ROA* above 4 percent)
Small	1 if hospital *i* in year *t* is classified by the OSHPD as a small or rural hospital
TGR	total gross revenue for hospital *i* in year *t* scaled by total assets in year $t - 1$
TPA	Third-party adjustments in year *t* scaled by total assets in year $t - 1$
ΔTPA	Third-party adjustments in year *t* scaled by total assets in year $t - 1$ less Third-party adjustments in year $t-1$ scaled by total assets in year $t - 2$

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