



EFFECTS OF BOARD COMPOSITION ON PRICING OF  
CHARITY CARE AMONG NONPROFIT HOSPITALS

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## ABSTRACT

In recent years, nonprofit hospitals have been steadily raising listed prices for patient care, primarily due to competitive pressures from for-profit hospitals, increasing costs, and regulatory pressures. Prior literature shows that one reason for this trend has been to increase reported charity care to meet state regulatory reporting requirements for the measure. This study hypothesizes that the composition of the board of directors in nonprofit hospitals significantly influences the discretionary accounting choices that lead to increased reported charity care. Additional literature and anecdotal evidence suggest that CFOs will exert considerable influence over the trend in increased pricing among smaller hospitals. Lastly, regulation on charity care disclosure is expected to inhibit the increasing trend in gross charges due to greater transparency of charity care policies. The findings in this study support the board composition and disclosure assertions, while mixed evidence is found for CFOs. This study adds to the literature by analyzing board influence on the rising price of patient care in nonprofit hospitals and by examining whether regulation has a significant impact on the relative price of patient care over time.

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## 1. Introduction

This research study examines the manner in which charity care is priced among nonprofit hospitals. Charity care is defined as care provided to patients who are unable to pay the requisite funds for hospital charges. These charges may be entirely waived or reduced based on level of income, but all reductions in charges for these patients are reported as charity care. GAAP (Generally Accepted Accounting Principles) mandates charity care be disclosed in the footnotes to the financial statements for nonprofit hospitals rather than being classified as a bad debt expense. Under current regulation, bad debts, courtesy discounts to affiliates, and contractual adjustments cannot be included as charity care. Some states, including California and, more recently, Texas, allow community benefits to be added to their charity care funds for tax exemption purposes<sup>1</sup>.

Beginning in fiscal year 2011, GAAP required that charity care be reported at cost (FASB 2010). Prior to 2011, hospitals were allowed by GAAP to report charity care at established price. For the past several decades, states have allowed the reporting of charity care at price. Nonprofit hospitals are required by law to provide a given level of charity care in many states in order to comply with state guidelines and maintain tax exempt status. Federal tax exemption is determined by the Internal Revenue Service (IRS), which may have different requirements for the charity care measure. State tax exemption is determined by the individual states' laws regarding charity care reporting. For example, Texas requires that 5% of net revenue must be provided in charity care and

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<sup>1</sup> According to Texas legislature, "community benefits" means the unreimbursed cost to a hospital of providing charity care, government-sponsored indigent health care, donations, education, government-sponsored program services, research, and subsidized health services. Community benefits does not include the cost to the hospital of paying any taxes or other governmental assessments (Texas Health and Safety Code, 1993).

community benefits to maintain tax exemption status for nonprofit hospitals. Of this 5%, at least 4% must be in the form of charity care and 1% in community benefits. In order to meet this threshold, a hospital can raise the price of all care provided in order to increase the level of reported charity care. Nonprofit hospitals which fail to meet the regulatory threshold are required to provide an additional amount of charity care in the following year to cover the shortfall from the previous year.

Nonprofit hospitals have elected to report charity care at listed price, rather than cost, in order to meet state requirements for the measure (Zeidan 2012). Listed price is the price at which non-charity hospital services are typically charged, which may be significantly different from the actual cost of the charity care, or the payment rate by the government or private payers. In this paradigm, hospitals are substituting real care with overstated care valued at listed price. The reporting of charity care at listed price rather than cost could result in fewer indigent patients being provided care<sup>2</sup>. This raises a dispute on whether or not those in need of charity care will be able to receive aid or nonprofit hospitals will deny more patients fee reductions as the price of charity care rises.

In their 2000 paper addressing the changing hospital industry, Cutler and Horowitz note that “Both of our case study institutions had boards of directors consisting primarily of businesspeople, many of whom believed they were ill-trained to run a major hospital. Businesspeople may also be more tolerant of the for-profit ownership form than people with a more religious or not-for-profit orientation”. Based on their research, it can

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<sup>2</sup> Financially indigent patients are those without insurance, typically defined by states as being below the Federal Poverty Level (FPL). Patients are often provided charity care based on their income distance from the FPL, and these coverage amounts differ by hospital.

be inferred that those with a business background may lack the requisite experience to participate in decision-making on a board of directors for nonprofit hospitals. Prior literature finds that background characteristics and professional experience are significant determinants of organizational strategic outcomes (Canella and Holcomb 2005, Carpenter et al. 2004, Hambrick and Mason 1984, Knight et al. 1999, Westphal and Fredrickson 2001). Therefore, these business-oriented board members are more likely to hold cognitive biases towards profit minded decisions than board members whose professional history lies within non-profit or religious organizations. Kennedy et al. (2010) suggest that administrators and physicians within the hospital will be inclined toward altruistic motives and may maintain a level of care they deem reasonable with what their community needs as long as tax benefits remain secure.

This study analyzes board composition in nonprofit hospitals and examines whether certain compositions set higher pricing to maximize the value of reported charity care. Prior literature shows that boards of directors have considerable influence over pricing decisions (Hambrick and Mason 1984, Hermalin and Weisbach 2001). For this purpose, board composition refers to the professional and personal histories of those serving on the board of directors. In particular, these members are categorized as having a business or non-profit/religious background. In doing so, this provides a basis for classification for business or profit-oriented members that is used to further categorize boards based on their individual composition. CFOs of nonprofit hospitals are known to be the most influential in the choice of accounting decisions regarding the reported value of charity care (Patterson 2013, Zeidan 2014). Extant literature also suggests that CFOs exert considerable influence on financial statements and are the primary source of

discretionary accounting choices (Chustz and Larson 2006, Roomkin and Weisbrod 1999). Occasionally, CFOs act under strict supervision of CEO directives. CEO directives tend to hold more weight when the CEO is also chairman of the board; that is, when the CEO's influence over the board of directors is greater. Therefore, this study will examine the professional history of CFOs, the board of directors, and CEO chairmen separately to determine if they are the primary source of pricing strategies to raise reported charity care.

Prior literature employs the ratio of total non-charity charges to total non-charity costs (RCC) as a proxy for the "ideal" charges for charity care (Zeidan 2012), and comparative ratios of hospital charges for cost estimation have also been employed (Ashby 1993, Schwartz et al. 1995, Thorpe et al. 2000). Costs reflect economic determinants of prices, and RCC ratios reflect pricing strategies of nonprofit hospitals. The ratio of total non-charity charges at full price to total non-charity costs (RCC) should be equal to the ratio of price of charity care to cost of charity care, assuming a uniform margin on hospital services. The value of charity care reported will be higher if hospitals report at listed price rather than actual cost of the care. However, the board of directors hold significant influence on the pricing decision of charity care (listed v. actual). This study analyzes how board composition influences this pricing decision by regressing RCC on hospital-specific board composition measures.

Texas hospitals will be used as the primary sample due to their stringent requirement on the level of charity care to maintain tax exemption status- 4% of net patient revenue. The Texas sample supports the expectation that boards of directors will have incentives to maximize the value of charity care up to this threshold. The first

hypothesis will test this theory in regard to board composition and raising listed prices to increase reported charity care levels.

Another implication of this study is that regulation involving charity care disclosures may impede directors' ability to raise listed prices in order to meet state requirements on charity care levels. In 2006, California passed a bill which mandated hospitals to provide more informative statements regarding which patients are eligible to receive charity care and what income levels would provide certain degrees of financial assistance.<sup>3</sup> Greater transparency regarding charity care practices and availability may lead more indigents to seek out discounted care that they were unaware of beforehand. If this occurs, charity care will increase relative to total care, and changing listed prices will have a lesser effect on the RCC. A sample of hospitals based in California is employed to test this assertion on regulation and charity care disclosures. This study finds support for the conjecture that board composition significantly impacts pricing which leads to increases in reported charity care. There is also support for the assertion that regulation on charity care disclosure reduces the boards' incentives to increase pricing for charity care reporting purposes.

The remainder of this paper is organized as follows: Section 2 provides the background and reviews the extant literature, Section 3 develops the hypotheses, Section 4 explains the sample selection, and Section 5 summarizes the results.

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<sup>3</sup> Depending on the type of charity care regulation, directors may actually feel more pressure to raise listed prices to meet required levels of charity care (Kennedy et al. 2010). However, the California regulation is a unique setting in which more required disclosure of charity care practices may inhibit directors' ability to do so.

## **2. Background and extant literature**

### *2.1. Charity Care: Background*

Nonprofit hospitals have been the primary source of healthcare since the beginning of the United States. Over the past 40 years, there has been an increasing trend of nonprofit hospitals converting to the for-profit form of ownership (Cutler and Horowitz 2000, Thorpe et al. 2000). For-profit hospitals have recently burgeoned and many nonprofits are converting primarily because of the financial instability arising from lack of full governmental coverage on uncompensated care. Governmental payments are low relative to the actual cost of care, which leaves many nonprofits hospitals seeking additional capital. Additionally, managers seeking to obtain profit sharing may have incentives to convert nonprofit hospitals to the for-profit form of ownership.

One reason for-profit hospitals have not completely taken over the hospital industry is that nonprofit hospitals are provided some protection through legislation. Under the Emergency Medical Treatment and Active Labor Act (EMTALA) passed in 1986, hospitals are required to provide emergency healthcare to anyone in need regardless of race, citizenship, legal status, handicap, or ability to pay (MFH 2005). This act applied to both nonprofit hospitals and for-profit hospitals so that both types would have to provide a form of uncompensated care. However, emergency medical care mandated by the EMTALA is not the only form of charity care available. Charity care provided by nonprofit hospitals may include any situation in which a patient requires care and is unable to pay. The EMTALA drastically increased the amount of charity care reported over the past two decades for both nonprofit and for-profit hospitals by requiring for-profit hospitals to also provide emergency charity care. Some for-profit hospitals have

since eclipsed charity care numbers when compared to local nonprofits, likely due to size and accessibility. Because for-profit hospitals can no longer “dump” patients in need of emergency care into the hands of nonprofit hospitals, the burden of uncompensated care is no longer borne solely by nonprofits.

Prior to 1991, hospitals were able to classify charity care as a bad debt expense under captions such as “uncompensated services” (Garner and Grossman 1992).<sup>4</sup> In 1990, the American Institute of Certified Public Accountants (AICPA) issued a new audit and accounting guide that established specific guidelines on how hospitals should report charity care on their financial statements. Beginning in July of 1991, all hospitals’ financial statements had to separate their bad debt expenses from reported charity care, could not report gross patient revenues in their income statement, could not misrepresent charity services as generating revenue or a receivable, had to disclose the level of charity care that had been provided with explanation in the footnotes, and to report their bad debts (separate from charity care) as an expense rather than a revenue (AICPA 1989/1990).

In 1993, Texas enacted a law that imposed a minimum level of charity care required for hospitals wishing to maintain their state tax-exempt status. This law has since been adopted in similar forms throughout the United States<sup>5</sup>. Additionally, Texas hospitals cannot include bad debts in the reported value of charity care. The legislation also required that nonprofit hospitals spend at least 4% of net patient revenue on charity

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<sup>4</sup> The original contention for reporting charity care as an expense stems from the argument that the cost of services that result in bad debts already is reported as salaries, supplies, etc. The HFMA Principles and Practices Board concluded that the extension of credit was a practice separate from the provision of service and that bad debts are a cost resulting from extending the credit, not a duplication of the service cost (Kovener 1990).

<sup>5</sup> By 2007, 34 states had instituted similar charity care policies (MFH 2005, Zeidan 2012).

care, and that the hospital must report this level of charity care to their community. Kennedy et al. (2010) advocated that Texas was one of the more stringent states in enforcing its charity care restrictions. In 2005, the IRS required reporting of charity care on Form 990 (IRS, 2005). Pressures on the level of reported care have been slowly accumulating over the past two decades, and both for-profit and nonprofit hospitals have responded through pricing changes to impact reported charity care.

As evidenced by the Texas law, nonprofit hospitals have incentives to maximize the reported value of charity care. The primary incentives are to meet requirements for charity care set by state governments and for beneficial tax treatment. Fama and Jensen (1983a) state that tax concessions are of significant importance to some nonprofits, particularly those in which private donations are not a substantial portion of funds. Some examples listed by Fama and Jensen include hospitals, nursing facilities, and communities for the elderly. Unlike for-profit organizations, nonprofits are not expected to have similar goals regarding profit maximization and maximization of shareholder wealth. Nonprofits typically seek to maximize their budget for future expenditures, so some goals, such as cost reduction and efficiency, are quite similar among both types of organizations.

California hospitals are affected by regulation governing the disclosure of charity care policies to uninsured and indigent patients. Regulation AB 774 was signed by Governor Arnold Schwarzenegger on September 29, 2006. The regulation mandated clear and accessible disclosure of charity care policies to patients. Beginning January 1, 2007, each hospital was required to maintain understandable written policies for charity care and discount payments (partial charity care), clearly state eligibility criteria and

procedures for those policies, a description of the review process, and written policies for debt collection practices and procedures (OSHPD 2006). This disclosure required hospitals to state eligibility criteria based on income and limit expected payment for services (including partial payment) to what the hospital would have received under its government funded program. A key component of this legislation is that if there is no insurance coverage or inadequate coverage available and the patient meets the income requirements for charity care, the patient's bill must include a notice alerting them that they may qualify for discounted coverage or charity care.

## *2.2. Literature Review: Charity Care*

This study draws upon several studies among nonprofit hospitals, namely those focused on charity care (Kennedy et al. 2010, Lewin and Lewin 1987, Thorpe and Phelps 1991, Zeidan 2012), those comparing nonprofit and for-profit hospitals (Cutler and Horowitz, 2000, Horowitz 2003), and those exploring governance measures in nonprofits (Brown 2005, Eldenburg et al. 2004). Zeidan sets the framework for the initial assumption of this study by showing that nonprofit hospitals set higher prices in order to substitute real care with price-valued charity care. The RCC reflects a divergence of prices from costs, and Zeidan's research shows an association between charity care spending and the price increases apparent in the RCC (Figure 1). Zeidan's study demonstrates the incentives of the hospital to report charity care spending at listed price through the Principal-Agency theory (Jensen and Meckling 1976).

The Principal-Agency theory can be used to describe the relationship between the nonprofit hospital management's economic incentives and forces driving these incentives: constraints imposed by donors, creditors, and regulators, and the resulting

accounting choices made by hospital management. Profit sharing incentives for managers which exist under the for-profit form of ownership control are not permitted by the IRS for nonprofit organizations (US IRC Sec. 501(c)3). However, productivity based bonuses may serve as a substitute for these incentives in the nonprofit arena. Managers must be reasonably compensated, and productivity based bonuses are in place to provide incentives for exceptional performance. Donor-held seats on boards of directors, SEC sanctions related to public bond disclosures, public scrutiny, and other forms of monitoring exist that provide nonprofit managers with incentives for behavior that is consistent with serving the objectives of equity donors (Forgione 1999).

Forgione (1987) adapts Jensen and Meckling's (1976) theory in the arena of healthcare accounting. Among nonprofit hospitals, managers may act as agents for donors, creditors, and regulators (Conrad 1984, Forgione 1987, Foster 1987). If managers are influenced by donors, creditors, and regulators, then the selection of accounting methods that affect reported charity care amounts will be heavily influenced by the demands of the same three parties (e.g., goodwill generating activities, bond covenant constraints, and political costs, respectively). Nonprofit donors typically give "restricted" funds to the hospital which may only be employed for a certain purpose; for example, a building devoted to cancer research or a bridge leading to the hospital. The donor receives the present value of any tax effect plus valued goodwill, which may result in enhanced public image or additional business opportunities. Manager's performance (i.e., production of goodwill) is monitored through the reporting of each specific fund. Creditors primarily monitor managers through bond covenants, frequently employing measures such as the debt-service coverage ratio, which is the ratio of cash flow available

for debt service to total debt service requirements. For nonprofit hospitals, a debt-service coverage ratio of 1.0 to 1.5 is considered to be the standard. Regulators monitor managerial actions through regulatory financial reports and audits. The AICPA Audit Guide and Principals & Practices Board (P&PB) Statement 15 state that managers have great flexibility in exercising accounting and real-valued choices. These statements also can allow regulators to aggressively pursue their own agendas through high profile cases.

Prior accounting literature regarding charity care includes decision making to manage disclosures by nonprofit hospitals and the use of charity care spending to meet mandated levels deemed by the state (Eldenburger et al. 2011, Kennedy et al. 2010, Leone and Van Horn 2005, Zeidan 2012). Eldenburger et al. (2011) research nonprofit hospital managers' tendency to smooth earnings through raising and lowering spending on non-operating and non-revenue-generating activities. Providing evidence about charity care management has been difficult due to the lack of information for pricing and internal decision making. They also conclude that hospitals under greater regulatory pressure by the state government tend to sell fewer capital assets than those hospitals with less regulatory pressure. In a similar vein, Leone and Van Horn (2005) find that nonprofit hospitals have incentives to manage earnings to the range just around zero. The nonprofit hospitals utilize discretionary spending, primarily through charity care expenditures, and inherent flexibility in accounting accruals to achieve their earnings target of zero. They find that charity care is frequently adjusted based on available profits, which suggests that hospitals will adjust the pricing of listed care in order to meet state-required levels for charity care. These types of particular earnings management by hospital managers are quite common; in the future, management of charity care expenditures will become more

prevalent if hospitals continue to face the upward trend of mounting governmental demands.

Kennedy et al. (2010) examine states imposing charity care requirements on their nonprofit hospitals. The fundamental hypothesis of the Kennedy paper is that hospitals in Texas increased their provided level of charity care in response to the 1993 law to meet state requirements in order to preserve their tax status. Kennedy et al. found that those hospitals spending above the 4% threshold of net patient revenue on charity care would decrease their spending down to approximately 4% -- those hospitals below the threshold would raise their charity care spending up to 4% to meet the state requirements. Akin to many other organizations, hospitals will adjust spending in order to receive tax benefits, which provides insights on pricing incentives of charity care.

Cutler and Horowitz (2000) provide a basis for reasons hospitals may desire for-profit status as opposed to nonprofit status. Several explanations are given for conversions and for-profit establishment: financial status, increased efficiency, defensive strategies, self-interest, and board culture and perceived mission of the organization. Cutler and Horowitz's explanations for conversions confirms their prior inference that there are businesspeople on the boards of nonprofit hospitals that are much more comfortable with the for-profit form of the organization. Several of the arguments for recent hospital conversions support hospitals' decision to attract business professionals as board members due to the need for financial expertise. However, do business-oriented members on nonprofit hospital boards behave as though there is a perceived for-profit mission for the organization? Would this perceived mission then affect the pricing of the hospital's charity care? This study hypothesizes that business-oriented members on the

board will adhere to their prior for-profit management experience and raise listed prices to increase reported charity care while serving fewer indigent patients.

### *2.3. Literature Review: Board of Directors and Governance*

The board of directors serves as an important part of the governance structure of any organization (Baysinger and Hoskisson 1990, Fama and Jensen 1983b, Williamson 1983). Their primary purpose lies in the appointment and compensation of senior management; in addition, they resolve conflicts of interest between decision makers and residual risk bearers (Baysinger and Butler 1985). Traditionally, the board of directors sets the organizational strategy. For nonprofit hospitals, organizational strategy can range from providing as much public benefit as possible through care to indigents or their community, reaching a goal of approximately zero economic profits, a cost-minimizing oriented goal, ensuring compliance with laws and regulations, and facilitating capital financing (Baysinger and Hoskisson 1990). In essence, every decision that the board of directors faces has a residual impact on the entire organization. Pricing decisions for nonprofit hospitals are complex and include factors such as insurance, multiple payer policies, local competition, cost of supplies, cost of labor, and demand for services, but the core of pricing strategies can be derived from decisions made by those on the board of directors.

Few studies have linked the board of directors to pricing decisions by a nonprofit entity. The primary breadth of previous study on charity care is centered on the notion of why there is an incentive to raise the price of such care and whether hospitals actually do so (Lewin and Lewin 1987, Thorpe and Phelps 1991, Zeidan 2012). This study adds to the extant literature by analyzing an alternative determinant (i.e., board member and CFO

background) for the rising price of care in nonprofit hospitals and by examining whether regulation has a significant impact on the relative price of care over time. It also contributes to the governance literature through studying an indirect form of control; that is, how managers are influenced by the decisions of the board.

Brower and Shrader (2000) have produced a significant study on moral reasoning and ethical climate among nonprofit and for-profit boards of directors. Ethical climate can be generally defined as the characteristics of an organization which affect all strategic decision making; this is also referred to as “organizational culture”. Brower and Shrader (2000) find that the organizational culture of the board of directors for nonprofit firms is significantly different from that of for-profit firms. They find that for-profit boards have climates higher in egoism, personal morality, company rules and procedure, and laws and professional codes while nonprofit boards have climates higher in benevolence, friendship, team interest, and social responsibility. Brower and Shrader’s study is consistent with the idea that boards of directors whose members are principally from for-profit companies will generally embody profit-seeking characteristics. Kennedy et al. (2010) suggests that administrators and physicians within the hospital will be inclined toward altruistic motives and may maintain a level of care they deem reasonable with what their community needs as long as their tax benefits remain secure.

Zahra and Pearce (1989) study the association between for-profit board of directors and organizational performance. They posit that board attributes such as composition, characteristics, structure, and process determine how the board fulfills its two functions: service and control. The service role includes activities that enhance community welfare, provide counsel to the top management team, and support

organizational public image. The control role involves evaluating managerial and organizational performance. Zahra and Pearce (1989) suggest that the performance of the two roles depends on two factors: ownership concentration and size of the organization. If ownership concentration is dense (i.e., the primary bulk of shares are held by only a few owners on the board), the board is much more likely to be active in its service and control roles due to these individuals having a vested interest in the organization. For nonprofits, this can also apply to any individual on the board who has a significant capital interest in the organization, such as a large, restricted donation for the use of funds, or to a major creditor. The second factor, organizational size, is a major determinant in the role of the board. As organizations increase in size, boards have an increasingly vital function in their control role due to complex operations, number of employees, and scope of the organization. As organizations decrease in size, boards tend to be underutilized in their control role and more power is placed within the top management team (Castaldi and Wortman, 1984). Boards of smaller organizations are traditionally more focused on the service role, working to enhance the organization's public relationships and production of community welfare (Zahra and Pearce 1989).

Eldenburg et al. (2004) find that forms of ownership control place different weights on levels of charity care and administrative expenses.<sup>6</sup> For example, for-profit hospitals will likely aim for a different level of charity care than church-owned hospitals who strive to serve indigents as part of their mission. Nonprofit hospitals are found to place more weight on charity care than their for-profit counterparts; therefore, this study will exclusively focus on the nonprofit form of ownership control.

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<sup>6</sup> The classifications of ownership control include: Religious, Nonprofit, Government, District, and For-Profit Hospitals.

Nonprofit board compositions are typically quite rigid; that is, nonprofit hospitals traditionally have a standard for what types of professionals are on the board. For example, a hospital with two financial professionals, two medical professionals, one religious leader and one community influential is structured in such a way so that different viewpoints are discussed when making decisions. When such a hospital replaces a board member, they typically replace the member within the same functional group (e.g., a banker is replaced by an accountant or investor, a community influential is replaced by an elected government official, etc.). However, this has been shown to not always be the case, as hospitals will respond to significant changes in their external environment by altering the composition of the board (Hillman, Cannella, and Paetzold 2000).

### 3. Hypothesis Development

#### 3.1. Theory

Industry background, personal belief system, and board experience direct an individual's decision making on a board of directors (Hambrick and Mason 1984). Therefore, members' professional history should have some association with the decision making behavior of the board. Additionally, nonprofit hospitals which appoint these board members must have some sort of objective function which is supported by the appointed individuals.

So what do nonprofit hospitals maximize, or what is their objective function? One key assumption in the literature is that nonprofit hospitals do not typically maximize profits alone (Lynk 1995). The literature is uncertain on what underlying parameters predict nonprofit hospital board behavior, but it is clear on the fact that profit maximization is not the only goal (Deneffe and Masson 2002). In most cases, nonprofit organizations are maximizing a mix of profits, social welfare, and implementing a cost-minimization strategy (Deneffe and Masson 2002). Nonprofit objective functions are an endogenous choice not clearly specified by economic theory; therefore, the board of directors must choose the objective function and decide how best to maximize it (Hermalin and Weisbach 2001)<sup>7</sup>.

Although a nonprofit hospital's objective function is not easily identified, one can reasonably predict how a hospital *should* act under different general forms of an objective function- profit maximization, cost minimization, social welfare, or budget maximization.

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<sup>7</sup> The ambiguous nature of the nonprofit objective function further supports the idea that objective function is largely dependent on the beliefs of those in charge. That is, there is much more room for molding the objective function to one's will than in the for-profit style of ownership, where the objective function is typically more clearly defined.

Typically, nonprofit hospitals operate at the point where total costs equal total revenues, whereas for-profits operate where marginal costs equal marginal revenues. Therefore, nonprofits will have a higher volume relative to for-profits, and for-profits will have a lower marginal cost of service. For example, as the number of Medicare patients increases, a social welfare maximizing hospital should raise its price if reimbursement from the governmental programs exceeds marginal costs. Similarly, as the demand for charity care increases, it must raise prices in order to break even on revenue. Raising listed prices does not materially affect demand because insurance companies and governmental reimbursement programs contract with hospitals to pay a predetermined price. This is known as the prospective payment system (PPS); prices are fixed and contracted upon at the beginning of each year prior to providing the service and regardless of actual costs. Due to these specified payments, listed prices are less important to insurance companies and third-party payers who, because of contractual adjustments, are price-insensitive (Zeidan 2012).

Deneffe and Mason (2002) find that hospitals follow an objective function that places positive utility weight upon both social welfare and profits. If hospitals do not maximize profits alone, but instead maximize some combination of social welfare and profits as suggested in the extant literature, it is likely that board members differ on the levels of social welfare and profits to maximize. What brings about this difference? This study posits that, differences in professional history, board experience, and nonprofit experience all contribute to the objective function of the individuals on the board of directors, and the corresponding nonprofit hospital in turn.

### 3.2. *Strategic Decision Making*

Extant literature on strategic decision making suggests that strategic choices are influenced primarily by personal background and prior experience of managers and directors (Canella and Holcomb 2005, Carpenter et al. 2004, Hambrick and Mason 1984, Knight et al. 1999, Westphal and Fredrickson 2001). Hambrick and Mason's (1984) seminal study focuses on the organization as a reflection of its top managers. They postulate that organizational outcomes are reflections of the values and cognitive bases of the top managers and board of directors- also known as the "upper echelons theory". This theory proposes that executives handle the complexities of the strategic decision making process by referencing their prior beliefs about strategic behavior, and these beliefs are shaped by their experience in similar roles. Decision-making uncertainty is more difficult to approach for outside directors rather than those who have worked in the same type of organization because outside directors tend to have less firm-specific knowledge and more cognitive biases towards prior roles (Lorsch and MacIver, 1989, Westphal and Fredrickson 2001). Therefore, outside directors seem especially likely to rely on their prior experiences and technical knowledge to guide them through the strategic decision-making process.

Hambrick and Mason's (1984) model for strategic choice begins with a situation- an event that introduces strategic choice- that is filtered by an individual's cognitive bases and values. The situation itself then passes through the board member's limited field of vision, selective perception, and interpretation to arrive at the strategic choice. A key component in Hambrick and Mason's (1984) model which extends to the present study is that a decision maker's *values* may trump all intermediary stages in forming

strategic choice; that is, the decision which passes through the cognitive base, field of vision, selective perception, and interpretation may be simply overridden due to an individual's core values. The authors posit that the decision maker's functional track, other career experiences, formal education, socioeconomic background, and board of directors' heterogeneity all play a central role in the individual's values and cognitive bases. This study implements all five dimensions of the decision maker's cognitive bases in modeling the board of directors' and CFO's process for strategic decision making regarding discretionary accounting decisions which may influence reported charity care.

If strategic choices are comprised of a large ethical component (in this case, the ability to serve more indigents with charity care), then to some extent they reflect the idiosyncrasies of decision makers (March and Simon 1958). Individuals appear to be governed more by issues of emotion, fairness, and norm adherence than is consistent with standard economic models (Hermalin and Weisbach 2001). Therefore, those on the board are expected to bestow their idiosyncrasies on strategic decision making such as values, belief system, and personal experience.

Employing demographic and background characteristics has found favor in many facets of prior research (Hambrick and Mason 1984, Hornik and Schlinger 1981, Ritchie and Beardsley 1978, Schram and Dunsing 1981). In other disciplines, demographics and background of individuals have been used to predict consumer behavior in marketing (Hornik and Schlinger 1981), job preferences in management (Ritchie and Beardsley 1978), and non-profit participation (Schram and Dunsing 1981). The general consensus among management researchers is that demographics and background are valid predictors of managerial strategic decision making, but they are not the strongest predictors. Ideally,

researchers would prefer to use the particular psychological traits of managers which are shown most likely to affect strategic decision making. However, when operating in an absence of psychological information, demographics and background are used as proxies for the ideal.

Board members are often chosen to fill certain agendas already laid out by the incumbent board of directors. Members may be chosen because they have a matching background or temperament to carry out the will of the current board. An important implication of this type of selection process is that the occurrence of a particular set of executive backgrounds on a board is not a random process (Hambrick and Mason 1984). Boards traditionally choose new members to fill in a certain demographic or functional expertise area that is needed on the board for a predefined set of diversity (Eldenburg et al. 2004). Therefore, it is expected that board composition of nonprofit hospitals will be relatively rigid over time.

### *3.3. Charity Care and Board Composition*

Charity care among nonprofit hospitals is maximized up to a certain threshold for many states in order to preserve tax exempt status. Hospitals have had more incentives to raise the price of charity care over the past two decades under agency theory, due to political costs from regulation and increased oversight of the hospital industry. A higher reported charity care figure can result in strengthened financial status, greater investor or benefactor confidence, and the aforementioned tax-exempt status. Hospitals can raise the price charged for all care and it will seem as if even more charity care is being provided; in reality, hospitals may be serving the same number of patients (or even fewer). It should be noted that higher prices will only raise the reported figure of charity care and not

*actual* charity care spending. This measure can be adjusted through listed pricing -- the CFO or board of directors can increase listed prices in order to meet or even beat the tax-exempt threshold set by the state government, assuming that the state does not require disclosure of cost. The final decision for the pricing of charity care is overseen by the governing body of the hospital- the board of directors.

The board of directors plays an integral role in shaping the final price of charity care set by the CFO or financial manager. These executives will answer directly to the board and have their prices of care approved, either directly or tacitly, by those on the board. The purpose in looking at the history of those on the board of directors is to determine which boards are more likely to have profit-maximizing motives. This is done by utilizing a continuous variable, *BC* or board composition ( $0 \leq BC \leq 1$ ). Each member of the board is coded on a binary scale from 0 to 1 based on their primary professional history (0 for nonprofit/religious, 1 for business)<sup>8</sup>, and *BC* is the mean of these values. *BC* values closer to zero are characterized by boards with a primary history involving not-for-profit or religious affiliation and *BC* values closer to one are characterized by boards with a primary history in for-profit businesses. Boards with a majority of businesspeople, that is, boards where the average *BC* is greater than .5, are expected to have higher frequencies of profit-maximizing mission oriented motives and boards where the average *BC* is less than .5 are expected to have higher frequencies of non-profit mission oriented motives.

As mentioned previously, this study employs the nonprofit/religious and business

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<sup>8</sup> Primary professional history is typically coded as the profession in which the most years of a director's working life are spent, with only a few certain exceptions where most recent professional experience is used due to even division of years. For example, a director with 6 years experience in banking and a more recent 6 years of experience in charity work would be classified as a nonprofit/religious director.

paradigms to target the professionals identified in Cutler and Horowitz's (2000) research where the researchers found that boards of directors who felt that they were ill-suited to run a major hospital, possibly due to their experience for the for-profit form of ownership rather than those with a more religious or non-profit orientation. Previous studies find that managers follow belief structures according to their primary work and personal history (Chattopadhyay et al. 1999, Markoczy 1997, Starbuck and Milliken, 1988, Walsh 1988). In particular, organizational and extracurricular membership were found to closely correlate to individual beliefs (Markoczy 1997, Waller et al. 1995). To another end, prior literature on board composition has exclusively examined the proportion of board members who come from business or related backgrounds relative to the remainder of the board, as they are theorized to provide a high level of financial and business expertise (Mizruchi and Stearns 1988, Zald 1967). In accordance with the preceding literature, this study proposes to use a board composition centered around the cognition of community/global maximization of welfare (non-profit/religious methodology) and profit maximization (business professional methodology).

Geletkanycz and Black (2001) examine the impacts of director experience on commitment to the organization's strategic *status quo*.<sup>9</sup> They find that the "business" classification employed in the *BC* measure (career tracks including finance, marketing, law, and general business management) is positively related to commitment to the *status quo* of an entity. Across the past 20 years, the status quo of many nonprofit hospitals has been to steadily increase listed prices to raise reported charity care in response to increasing regulatory requirements. Due to this long-standing strategy, it is expected that

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<sup>9</sup> That is, the organization's commitment to the current strategic state of affairs.

those board members with a business background will adhere to price increases.

Many prior studies focus on the agency method of classifying directors; for example, directors are classified as insiders and outsiders or as insiders, independent outsiders, and dependent outsiders (Lee et al. 1992, Rosenstein and Wyatt 1997, Weisbach 1988). Hillman, Cannella, and Paetzold (2000) break this paradigm by reclassifying directors based on their resource dependence roles as either insiders, business experts, support specialists, or community influentials. The variable of interest in this study, *BC*, is a simplified version of this set of four classifications designed to particularly target the “values” and “cognitive bases” as in Hambrick and Mason (1984). As mentioned in section II, Hambrick and Mason’s “values” are determined by the director’s functional track, socioeconomic background, and other career experiences, among other characteristics. This study posits that the *BC* measure will be an important determinant of what compose a director’s “values” and thus play a pivotal role in board decision making. Hambrick and Mason (1984) state that board of directors’ heterogeneity is a significant determinant of what factors shape these “values” and “cognitive bases”; *BC* is designed to target a particular facet of board heterogeneity- professional history- that may have significant influence on decision making.

Political costs for nonprofit hospitals will increase as the amount of charity care provided decreases, and vice versa. Therefore, nonprofit hospitals will have an incentive to use prices as a way to legally increase reported charity care while maintaining or decreasing actual care provided. Nonprofit hospitals have incentives to increase the amount of reported charity care if they are under the threshold for tax exemption or decrease the amount of reported charity care if they are already providing enough care, in

order to reduce costs and improve their financial position. This increase in prices will increase the reported amount of charity care rather than the actual level of charity care provided.

The theory above on reported charity care and the upper echelons theory leads to the following hypothesis:

H<sub>1</sub>: Among nonprofit hospitals, boards of directors with larger proportions of business affiliated members will exhibit a greater positive correlation with increased prices and reported charity care, relative to boards of directors with larger proportions of nonprofit/religious affiliated members.

CFOs are known to have considerable influence in pricing decisions for nonprofit hospitals, as documented in prior literature (Chustz and Larson 2006, Roomkin and Weisbrod 1999) and in anecdotal evidence (Patterson 2013, Zeidan 2014)<sup>10</sup>. Nonprofit hospitals with less diligent boards of directors may exhibit little to no correlation with increased prices and charity care spending due to CFO control over discretionary accounting decisions. As in Zahra and Pearce (1989), one might expect this to be the case for smaller, rural nonprofit hospitals. Yet, size is likely not to be the only factor in CFO or board financial control. Discretionary accounting decisions by the CFO, however, are likely to be associated with his or her decision-making and values system as in Hambrick and Mason (1984). This leads to the following hypothesis:

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<sup>10</sup> While prior literature and anecdotal evidence support CFO influence on discretionary accounting decisions for nonprofit hospitals, CFO board presence among both the Texas and California samples was very low; 8 out of 800 hospital years included a board where a CFO was present. Therefore, there is no need for an interaction term between CFO history and the Board Composition.

H<sub>2</sub>: Among nonprofit hospitals, CFOs with a predominantly business-type professional background will exhibit a greater positive correlation with increased prices and reported charity care, relative to CFOs with a predominantly nonprofit/religious-type professional background.

Prior literature documents the substantial effect of regulation regarding charity care policies (Kennedy et al. 2010, Kovener 1990, Zeidan 2012). The next hypotheses explore the impact of disclosure legislation on the pricing of charity care in California, a state which has comparable charity care legislation to the Texas state government<sup>11</sup>. Patients with limited or no insurance coverage must be alerted to their rights and potential benefits under California legislation AB 774, as mentioned in section II (OSHPD 2006). This is primarily achieved through pamphlets and disclosures on bills sent to the patient. Because hospitals must disclose their fair pricing charity care policies directly to the patient, the legal liability and litigation risk with respect to providing charity care is likely to increase. Most importantly, boards of directors may feel more constrained in taking measures to raise the prices of care to influence charity care levels due to these inherent risks. This leads to the following hypotheses regarding regulation on charity care disclosure:

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<sup>11</sup> In 1994, the governor of California approved Senate Bill 697 which required non-profit hospitals to revise their missions and adopt policies reflecting their commitment to the public. Non-profit hospitals in California now must prepare needs assessments in collaboration with community stakeholders every three years. Moreover, SB 697 provided a broad but detailed definition of community and community benefits. As a result, this state fits in the comprehensive charity care legislation category, perhaps indicating a developmental spectrum for states' investment in charity care (MFH 2005). In 1993, the state of Texas passed a law that required non-profit hospitals to revise their mission, and specifically outline benefits provided to the community, emphasizing charity care. Specific requirements were established on charity care as a percentage of net patient revenues, placing Texas in the comprehensive charity care legislation category as well (MFH 2005). In both states, community benefits are clearly defined, charity care is defined, legislation exists for charity care and community benefits requirements, and legislation exists for reporting requirements.

H<sub>3</sub>: Among nonprofit hospitals, regulation for disclosure policies on charity care will weaken the correlation between background composition of the board of directors and increased prices and reported charity care.

H<sub>4</sub>: Among nonprofit hospitals, regulation for disclosure policies on charity care will weaken the correlation between CFO professional history and increased prices and reported charity care.

#### 4. Sample Selection

This study uses data from the Texas Department of Health (TDH) annual surveys from the four years prior to GAAP regulation on charity care reporting (2007-2010) to test hypotheses 1 and 2. This data is utilized to identify the changes in levels of charity care reported for the period and for all control variables. Eldenburg et al. (2004) find that hospitals with different organizational types are rooted in different objective functions. For example, a teaching hospital is typically committed to providing more community service and thus higher levels of charity care while a hospital organized by a physician's group may be more committed to profitability and efficiency. I exclude psychiatric, rehabilitation, teaching, long-term, and specialty hospitals due to differing missions, charity care requirements, and operational structure. Therefore, the data is limited to short-term acute care hospitals (as opposed to psychiatric or long-term care hospitals) in Texas for operational reasons and comparability. Acute care hospitals are hospitals in which patients are treated for short-term or emergency conditions. As an additional constraint, the sample is restricted to hospitals with at least \$5 million in total assets to reduce potential confounding factors such as heavy CFO influence over discretionary accounting decisions and comparability among nonprofit hospitals. The sample is intended to include a mix of rural and urban hospitals, so as not to isolate the effect of CFO influence due to board size. Additional selection criteria include nonprofit hospitals with at least four board members, an employed CFO (as opposed to a management company), and no change in ownership throughout the duration of the sample period<sup>12</sup>.

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<sup>12</sup> Hospitals under a management chain did not need to be excluded from the sample or controlled for due to organic exclusion from other criteria. That is, after applying all sample restrictions, it was rare for multiple hospitals to be present within the same chain.

These restrictions and sample selection procedures are outlined in table 1.

The board of directors' individual history is gathered from the IRS form 1023 of the corresponding hospital, which is available at-request from the IRS ([irs.gov](http://irs.gov)) or the individual hospitals. If the data could not be directly gathered from the financial reports or there is an insufficient description of each board member within the reports, the application for state licensure by the hospital is examined from the Texas Secretary of State's website ([www.sos.state.tx.us](http://www.sos.state.tx.us)). In the case that both of these methods failed, the information on the board member's history is hand collected<sup>13</sup>.

For hypotheses 3 and 4, data is acquired from California's Office of Statewide Health Planning and Development (OSHPD) for the four year period after regulation AB 774, 2007-2010, to ensure congruity with the Texas sample. This sample period was also chosen because it is the period of time between the advent of the regulation and GAAP requirements on charity care being reported at cost. The OSHPD database includes the board of directors' individual history and all control variables, so IRS form 1023 is required.

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<sup>13</sup> In the absence of substantive data from IRS form 1023 and the hospital's application for state licensure, additional sources for board history include: Equilar Atlas, LinkedIn, Viadeo, and XING. These are chiefly professional networking services with included resumes or bios for each board member. Forbes and Businessweek also provide additional professional history information for many board members.

## 5. Research Methodology and Results

### 5.1. Research Methodology

Prior research involving nonprofit hospitals estimated costs through the use of financial ratios (Thorpe et al., 2000). This study will utilize the measure from Zeidans' 2012 paper on opportunistic pricing in hospitals- the ratio of total non-charity charges at full price to total non-charity costs, or the *RCC* ratio. The board's composition will be employed as a proxy for perceived mission of the organization and the *RCC* ratio will be used as a proxy for prices. This ratio is utilized because all charity costs are not separately available on financial statements. These non-separable charity costs are found by multiplying total costs by the ratio of charity charges to non-charity charges. Model (1) below tests hypotheses 1 and 2:

$$(1) \quad RCC_t = \alpha + \beta_1(BC_t) + \beta_2(CFO_t) + \beta_3(CHARITY_{t-1}) + \beta_4(PMIX_t) + \\ \beta_5(ALLOW_t) + \beta_6(SIZE_t) + \beta_7(LEV_t) + \beta_8(PROFIT_t) + \beta_9(CEO_t) + \beta_{10}(INFL_t) \\ + \beta_{11}(HHI_t) + \beta_{12}(GEO_t) + \varepsilon$$

*BC* is the mean of categorized professional histories of individual board members, where professional history is a binary variable coded "0" for nonprofit/religious and "1" for business-type histories. As discussed in the previous section, this study posits that the *BC* measure will be an important determinant of what compose a director's values and cognitive bases, and thus *BC* will play a vital role in board decision making. Board heterogeneity is a significant component of what shape these values and cognitive bases; *BC* targets a primary component of board heterogeneity-professional history- that may have significant influence on the decision to increase prices to affect reported charity

care. *CHARITY* is measured as the lagged charity charges for each nonprofit hospital as a percentage of net revenue. *CHARITY* is measured as a lagged variable to remove any mechanical relationship between itself and the *RCC*, as both measures include charity charges. The need to increase listed prices is partially borne from state and federal requirements on the charity care threshold. Nonprofit hospitals have used price as an indirect way to increase reported charity care while serving fewer indigent patients relative to their insured patient cost. *CFO* is also a binary variable with the same codification system as *BC* for the chief financial officers of each nonprofit hospital. As previously stated, CFOs exert considerable influence on financial statements and are the primary source of discretionary accounting choices (Chustz and Larson 2006, Roomkin and Weisbrod 1999). If the CFO exhibits significant influence on the nonprofit hospital pricing structure, then his/her professional history will have a stronger association with *RCC* than with *BC*.

*PMIX* is the payer mix of the hospital, calculated as Medicare reimbursement plus Medicaid reimbursement divided by total revenue for the period. Medicare patients are typically those over 65 years of age or are younger with qualifying disabilities or have End Stage Renal Disease (ESRD). This type of care is reimbursed at rates by the US government higher than Medicaid. Medicaid patients are typically those who qualify in a low income bracket. Medicaid services are reimbursed to the participating hospital at much lower rates by the government. Payer mix determines what type of patients the hospital is serving and how reimbursement is structured relative to private payers and self-pay systems. Nonprofit hospitals which rely more on governmental reimbursements relative to other sources of patient income are more likely to have the financial need for

price structuring which maximizes reported charity care. The remaining types of payers not included in *PMIX* are those patients with the means and resources to pay for service out-of-pocket. Among the three, hospitals typically seek financing from self-pay patients over Medicare patients, and Medicare patients over Medicaid patients, chiefly due to the rates at which the care is reimbursed. However, many self-pay patients end up being classified as bad debts by the hospital, due to low collection rates. While hospitals do seek financing from these patients, it is only from those with the means and willingness to pay.

*ALLOW* is a control variable used in the model to account for systematic price increases. *ALLOW* is measured as total contractual allowances scaled by total revenue, and these allowances are discounts given on listed price to insured patients. Increased pricing which results in higher *RCC* creates higher contractual allowances as the gap between listed price and contracted price grows larger. A hospital's propensity to manage reported charity care will increase with its contractual allowances, most likely due to income-decreasing nature of allowances causing the need for funding from other sources (i.e., cost-shift to other payers). *SIZE* is a common proxy used in prior literature (Dranove 2000, Eldenburg and Krishnan, 2003) and is measured as total patient discharges per annum. As *SIZE* increases, nonprofit hospitals are expected to have more complex pricing structures and less latitude in pricing decisions, due to the scale of impact a change in prices can have on hospital financials. Measures of budget size and/or revenue are considered to be problematic in nonprofit organizations as they may lead to misleading conclusions regarding the size of the organization (Brown 2005). Hospital size is more accurately captured by the capacity at which it can turnover patients because

monetary measures such as total assets may vary greatly due to the varying costs of specialty equipment.

*LEV* is the nonprofit's leverage, which is commonly measured as total liabilities divided by total assets. Highly leveraged hospitals experience higher demand on cash flows to make payments to creditors. Under this demand, the hospital will have incentives to minimize actual charity care and maximize reported charity care up to the required threshold. The need for external financing is expected to be directly correlated with the ratio of costs to charges. *PROFIT* is the hospital's profitability, which is the return on assets (ROA) for the hospital, which is measured as Net Income (or a bottom-line equivalent for nonprofit hospitals) divided by Total Assets. Profitability is included to control for its potential effect on the *RCC*-- as profitability increases, the need to manage prices decreases, and thus the need to manage reported charity care.

CEO professional history (*CEO*) is included to control for potential CEO influence on discretionary pricing practices. This is due to potential collaboration among top management, particularly with the CFO. *CEO* is measured as binary variable with the same codification system as *BC* (0 for business history, 1 for nonprofit/religious history). CEO Influence (*INFL*) is used as a control variable for decision making power on the board of directors. A CEO who is present on the board is coded as a "1" and a CEO who is absent from the board is coded as a "0". This serves as a proxy for executive influence; that is, the level of control that is weighted in the boards' decision making. *INFL* is included because of influence over independent directors, community influentials, and those who do not have experience in the nonprofit hospital setting. The more centralized the notion of board control is on a single individual (which in turn assumes lack of

control for the average board individual), the more likely a decision to raise listed prices to increase reported charity care is to take effect. As in *BC*, a CEO's core values are expected to be shaped by their primary professional history, and these values will be present in strategic decision making, particularly pricing decisions which affect reported charity care.

*HHI* is the Herfindahl-Hirschman Index, which is measured as the sum of squared ratios of hospital discharges to total country discharges (Martin 1993). *HHI* is included to measure market monopoly-- with a lower *HHI*, there will be less potential for monopoly in the market, more sharing of charity care burden among hospitals, and the need to raise prices to cover the fall in actual charity care provided. In prior literature, price competition among hospitals has been found to reduce provided charity care (Thorpe et al., 2000) and lower hospital costs (Melnick and Zwanziger, 1995). Duggan (2002) shows that nonprofits tend to mimic for-profit behavior when competing in the same market.

*GEO* is an indicator variable included to control for a nonprofit hospital's geographical area (1 for urban, 0 for rural). The classification is taken directly from OSHPD and TDH survey data, where hospitals are designated as urban and rural based on their surrounding populace. Hospitals which are urban are more likely to have boards that consist of more diverse histories, have more members, and are generally less susceptible to CFO control over financial decisions (Zahra and Pearce 1989). Urban hospitals tend to experience more price competition due to less monopolistic opportunities and more sharing of charity care burden relative to hospitals in rural areas. Joynt et al. (2012) find that urban hospitals tend to have higher *RCC* ratios relative to rural hospitals, most likely due to the need for additional capital and price competition in

the local market<sup>14</sup>. All variables are listed and explained in table 2.

Hypotheses 3 and 4 will employ Model (2):

$$(2) \quad RCC_t = \alpha + \beta_1(BC_t) + \beta_2(CFO_t) + \beta_3(CHARITY_{t-1}) + \beta_4(PMIX_t) + \\ \beta_5(ALLOW_t) + \beta_6(SIZE_t) + \beta_7(LEV_t) + \beta_8(PROFIT_t) + \beta_9(CEO_t) + \beta_{10}(INFL_t) \\ + \beta_{11}(HHI_t) + \beta_{12}(GEO_t) + \beta_{13}(STATE_t) + \beta_{14}(BC*STATE_t) + \\ \beta_{15}(CFO*STATE_t) + \varepsilon$$

All control variables ( $\beta_3$  through  $\beta_{12}$ ) will be interacted with the *STATE* variable. *STATE* is a binary variable designating the state in which the nonprofit hospital is located, coded “0” for Texas and “1” for California. The purpose of the *STATE* variable is to capture which hospitals are affected by the disclosure regulation on charity care, California legislation AB 774. *BC\*STATE* is an interaction term designed to measure the effect of the California legislation on the relationship between board composition and hospital pricing. Similarly, *CFO\*STATE* measures the effect of the California legislation on the relationship between CFO history and hospital pricing.

## 5.2. Results

Table 3 depicts the descriptive statistics for the primary sample, Texas, for 98 hospitals over the four year period of the sample, 2007-2010 ( $n=392$  hospital years). As expected from trends noted in prior literature, the mean on nonprofit hospital ratios of

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<sup>14</sup> Figure 2 depicts RCC ratios for urban vs. rural hospitals across the United States. Additional data on the RCC are also available for ownership type, hospital size, and geographical region. Large and proprietary hospitals tend to have higher RCCs while small and voluntary/governmental ownership types tend to have lower RCCs.

charge to cost has risen to 2.87<sup>15</sup>. Board Composition (*BC*) is fairly uniform throughout the sample, with the average board consisting of approximately half business professionals and half nonprofit/religious affiliated members (*BC* mean of .52 and a median of .54). CFOs, on average, hold business backgrounds whereas nonprofit hospital CEOs come from nonprofit/religious backgrounds (*CFO* count 263/392, *CEO* count 91/392) Prior year *CHARITY*, represented as a percentage of net revenue, is reported just above 4% at the 25<sup>th</sup> percentile. Therefore, nonprofit hospitals exhibit behavior consistent with maximizing charity care up to the state-required threshold of 4% of net revenue across the sample period. A mean *PMIX* of .55 indicates that the nonprofit hospitals in the sample rely on a majority of their revenue from the Medicare and Medicaid governmental reimbursement programs. This is supported by the fact that the nonprofit hospitals throughout the sample have low profitability measures (mean *PROFIT* .06, negative 25<sup>th</sup> percentile) and high leverage (mean *LEV* .53, 75<sup>th</sup> percentile .61). These measures suggest nonprofit hospitals are facing a level of financial pressure that will make it difficult for them to meet charity requirements from the state governments. The Herfindahl-Hirschman Index (*HHI*) and geographical area (*GEO*), designed to measure market concentration and population density, show that the average nonprofit hospital was in a highly concentrated market (*HHI* >.25) and in an urban area (*GEO* count 260/392). Table 4 indicates that measures of nonprofit hospital size and location (*SIZE*, *HHI*, and *GEO*) are highly correlated with hospital-specific financial variables, implying significant operational differences between large or small, rural or urban, and

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<sup>15</sup>Hospitals have been found to steadily increase prices relative to their costs for the purposes of managing charity care reporting, amongst other controlled factors. In Texas, ratios of charge to cost were found to be approximately 1.77 in 1997 and 2.37 in 2004 (Zeidan 2012). This trend, as shown in Figure 1, has continued throughout the years of this study.

monopolistic or competitive hospitals<sup>16</sup>.

Overall, there is a positive correlation between board composition and the price of charity care where the board has a majority of members with a business background and a less positive correlation where the board of directors has a majority of members with a not-for-profit/religious background, as evidenced by the coefficient on  $\beta_1$  in Table 5 (1.1345,  $p < .0001$ ). Thus, the *RCC* ratio increases as the primary variable of interest *BC* rises and vice versa as *BC* decreases, which supports the corresponding assertion in H<sub>1</sub>. Prior year *CHARITY* decreases as the *RCC* rises (-2.3923,  $p .0001$ ), in congruence with prior literature. Zeidan (2012) states that, “As managers make trade-offs between net revenues and uncompensated care, decreases in the ratio of charity to net revenue triggers the need to increase reported charity care by increasing prices which lead to higher *RCC*”.

For hypothesis 2, CFOs with a business-type background are expected to exhibit a positive correlation with *RCC*, and nonprofit/religious-type background CFOs are expected to exhibit a less positive correlation with *RCC*. However, as Table 5 shows, CFO professional history (*CFO*) has no significant relationship with the *RCC*. This is likely due to CFO history playing a minor role in discretionary accounting decisions within the nonprofit hospital, or that CFOs themselves do not determine the final price of care, delegating this role to the board of directors. Anecdotal evidence supports that the board of directors plays a role in determining hospital pricing (Patterson 2013), although there is no evidence that the board engages in this act alone, suggesting that other

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<sup>16</sup> Collinearity tests were run for the variance inflation factors for all variables. In untabulated results, the variance inflation factors for *SIZE*, *HHI*, and *GEO* were 2.14, 3.35, and 3.70, respectively. Because these variance inflation factors are less than 10, they are considered relatively weak predictors of the other independent variables, as noted in prior literature (Menard 1995).

demographics may be stronger contributing factors for CFO discretionary accounting choices. Additionally, CFOs without significant professional experience or tenure within the nonprofit hospital may delegate decision making on prices to the board in order to establish rapport and trust among the organization's leaders. This result further reinforces the finding in H<sub>1</sub>, that boards' professional history impacts pricing which leads to increases in reported charity care, due to CFO history exhibiting a lack of significance with the pricing mechanism. As expected, *GEO* is shown to be increasing in *RCC* (3143,  $p < .0255$ ), as nonprofit hospitals engage in more market-sharing than rural hospitals. Table 6 reports evidence consistent with both H<sub>1</sub> and H<sub>2</sub> amongst the California sample hospitals, with significant and positive coefficients on both *BC* and *CFO* (.4082,  $p < .0629$ , and  $< .2421$ ,  $p < .0001$ , respectively).

Hypotheses 3 and 4 posit that all independent variables will exhibit similar relationships with *RCC* as described above, with the exception that *BC\*STATE* and *CFO\*STATE* will have a negative correlation with *RCC* due to increased California disclosures regarding charity care policies. Table 7 depicts the results from a regression of *RCC* on *BC*, *CFO*, and *STATE* interacted with all control variables and the two variables of interest, *BC* and *CFO*, for a combined Texas/California sample of 800 nonprofit hospital years. *BC\*STATE* exhibits a negative correlation with *RCC* (-.5644,  $p < .1$ ), representing that *BC* has a weaker correlation with *RCC* when the value of *STATE* is 1 (California). This provides evidence supporting H<sub>3</sub> that California regulation AB 774 inhibits board members' incentives to manage pricing which leads to increases in reported charity care. The coefficient on *CFO\*STATE* is not significantly correlated with the *RCC*, indicating that the California regulation does not have a significant impact on

CFO history with regards to hospital pricing to influence reported charity care, akin to the findings in Model (1) for the Texas group. Therefore, there is no evidence supporting the assertion in H<sub>4</sub>.

## 6. Conclusion

Increasing regulations on charity care over the past two decades have driven not-for-profit hospitals to find ways to cover their expenses while still meeting charity care requirements. This has been shown in prior literature (Zeidan 2012) to manifest itself in the form of raising the charges associated with charity care, while providing the same level of care or even less. The results in this study suggest that board composition plays a significant role in the pricing of charity care. When a board of directors is more heavily comprised of those individuals from a business background, the relative price of charity to non-charity care increases for nonprofit hospitals. Evidence is mixed over whether CFO's background is associated with discretionary accounting choices involving pricing changes within nonprofit hospitals. Finally, increased governmental regulation regarding disclosure of charity care reduces board incentives to inflate listed prices due to increased transparency of charity care policies. In future research, utilization of specific history of those on the board (e.g., law, retail, real estate, etc.) can provide further insight into the board of directors' decision making.

The Patient Protection and Affordable Care Act (ACA), whose provisions are enacted into law as of this study (primary provisions began in 2014), may prove to be a significant influence on whether hospitals choose to raise listed prices of their charity care, and by how much the prices are raised or adjusted to meet state requirements. If the ACA is successful with its mission, more patients on average will be insured, leading to more hospital collections from insurance companies (i.e., signups through healthcare.gov) *ceteris paribus*, versus indirect reimbursements for uncompensated care. This implication may lead to less abuse of pricing schemes to raise proportional levels of

charity care due to lower financial pressure on nonprofit hospitals coupled with increased sources of revenue through more insurance coverage. However, there are many provisions of the ACA which may affect nonprofit hospital operations in other ways, and the coming years will prove to be a defining time as regulation continues to shape the industry and healthcare research.

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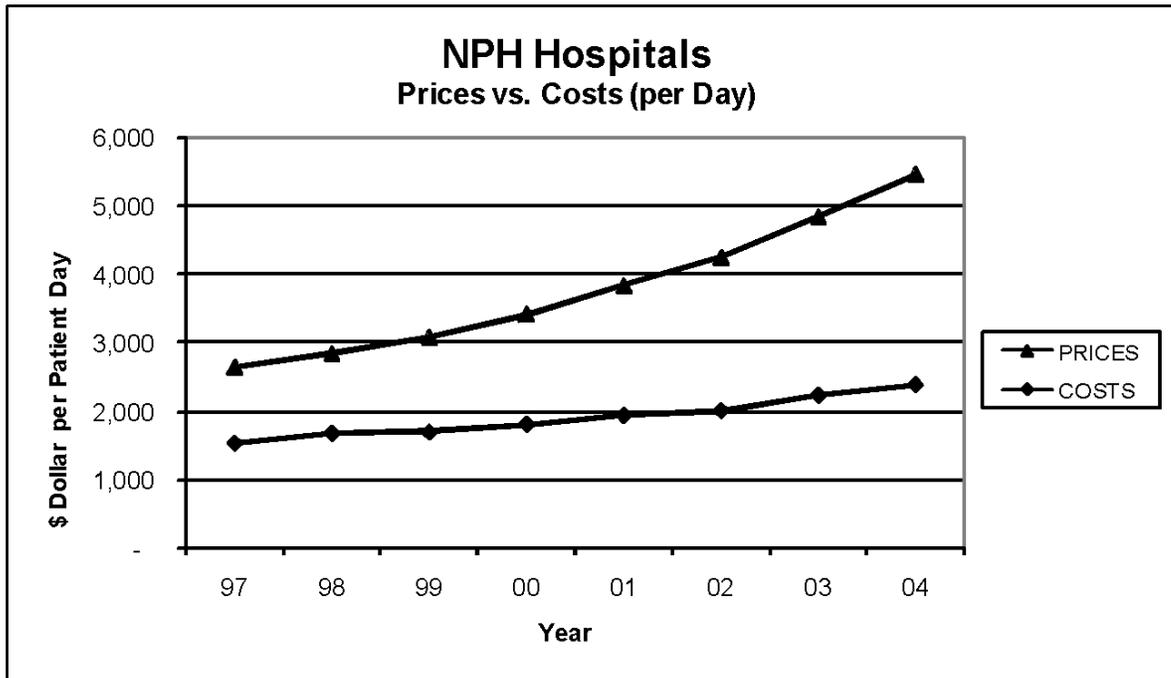
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**Figure 1**

Prices Charged per Patient Day vs. Costs per Patient Day – Nonprofit Hospitals



Data from American Hospital Association

Source: Zeidan (2012)

**Figure 2****Markups Of Hospital Charges And Amounts Actually Paid, By Hospital Characteristics, 2004**

<b>Characteristic</b>	<b>Total charges/total costs</b>	<b>Gross/net revenue</b>
Overall		
National	3.07	2.57
Urban status		
Rural	2.42	2.03
Small urban	3.25	2.75
Large urban	3.01	2.48
Ownership		
Voluntary	2.99	2.50
Proprietary	4.10	3.26
Government	2.49	2.27
Teaching status		
Nonteaching	3.05	2.54
Other teaching (>0-<0.25 residents per bed)	3.23	2.68
Major teaching (≥0.25 residents per bed)	2.91	2.50
Census region		
Northeast	3.18	2.73
Midwest	2.82	2.33
South	3.05	2.52
West	3.41	2.89
Bed size		
0-99	2.37	2.01
100-199	3.09	2.62
200-299	3.25	2.69
300-499	3.20	2.70
500+	3.14	2.63

Source: Anderson (2007)

**Table 1**

## Sample Selection

	Texas	California	Total
Number of nonprofit hospitals	263	177	440
Hospitals with <5M total assets	(71)	(32)	(103)
Psychiatric, rehabilitation, teaching, long-term, and specialty hospitals	(42)	(17)	(59)
Boards of directors with less than 4 members	(3)	(0)	(3)
Hospitals with no CFO	(2)	(1)	(3)
Hospitals which changed ownership during sample period	(1)	(4)	(5)
Remaining hospitals with missing data	(46)	(21)	(67)
Sample hospitals	98	102	200

**Table 2**

## Variables for RCC Model

<b>Variable</b>	<b>Definition</b>	<b>Measurement</b>	<b>Expected Sign</b>	<b>Usage</b>
<b>RCC</b>	Ratio of Price to Cost	Total Non-charity charges divided by total Non-charity costs		Reflects Pricing Strategy of Hospital
<b>BC</b>	Board Composition	Sum of individual board member histories (0/1) divided by total board members	+	Assesses whether the Board of Directors' composition significantly influences the pricing strategy of the hospital
<b>CFO</b>	CFO professional history	Indicator variable- Business history (1) or Nonprofit/religious history (0)	+	Controls for CFO influence on pricing strategy
<b>CHARITY</b>	Charity Care	Prior year's charity care figure from footnotes scaled by net revenue	-	Assesses whether hospitals act on incentives to increase prices to raise reported charity care amounts
<b>PMIX</b>	Payer Mix	Medicare reimbursement plus Medicaid reimbursement divided by total revenue	+	Determines what type of patients the hospital is serving and how reimbursement is structured relative to private payers and self-pay systems
<b>ALLOW</b>	Contractual Allowances	Contractual allowances divided by total revenue	+	Discounts and allowances rendered to patients; increases as gap between listed price and contracted price grows stronger

Table 2 (Cont.)

<b>Variable</b>	<b>Definition</b>	<b>Measurement</b>	<b>Expected Sign</b>	<b>Usage</b>
<b>SIZE</b>	Patient Discharges	Total patient discharges per annum	-	Controls for pricing structures and latitude in pricing decisions
<b>LEV</b>	Leverage	Total liabilities divided by total assets	+	Controls for the need for external financing and price management incentives
<b>PROFIT</b>	Profitability	Net income divided by total assets	-	Controls for the need to manage reported charity care due to hospital financial position
<b>CEO</b>	CEO professional history	Indicator variable- Business history (1) or Nonprofit/religious history (0)	+	Controls for CEO influence on pricing strategy
<b>INFL</b>	CEO board presence	Indicator for CEO board presence (1) or absence (0)	+	Controls for individual board influence
<b>HHI</b>	Herfindahl-Hirschman Index	Sum of squared ratios of hospital discharges to total county discharges	-	Controls for market monopoly and competitive pressures among local hospitals
<b>GEO</b>	Geographical Area	Indicator for urban (1) or rural (0)	+	Controls for sharing of charity care burden among geographic areas and board diligence
<b>STATE</b>	State	Indicator for Texas (0) or California(1)	?	Separates disclosure regulation present in California during sample time period

**Table 3**Descriptive Statistics- Texas ( $n=392$ )

<b>Variable</b>	<b>Mean</b>	<b>Std Dev</b>	<b>25<sup>th</sup> Pctl</b>	<b>Median</b>	<b>75<sup>th</sup> Pctl</b>
<i>RCC</i>	2.8651	0.8331	2.3617	2.7701	3.3963
<i>BC</i>	0.5232	0.1680	0.4167	0.5359	0.6176
<i>CFO</i>	0.6709	0.4705	0.0000	1.0000	1.0000
<i>CHARITY</i>	0.0800	0.0638	0.0432	0.0676	0.0959
<i>PMIX</i>	0.5523	0.1156	0.4994	0.5599	0.6249
<i>ALLOW</i>	0.3231	0.1286	0.2359	0.3076	0.3908
<i>SIZE</i>	8.5967	1.2736	7.6555	8.9364	9.6470
<i>LEV</i>	0.5334	0.5792	0.1767	0.4438	0.6091
<i>PROFIT</i>	0.0580	0.2035	-0.0009	0.0588	0.1291
<i>CEO</i>	0.2321	0.4227	0.0000	0.0000	0.0000
<i>INFL</i>	0.1352	0.3424	0.0000	0.0000	0.0000
<i>HHI</i>	0.4351	0.3586	0.0871	0.3492	0.6564
<i>GEO</i>	0.6633	0.4732	0.0000	1.0000	1.0000

Counts for indicator variables: CFO 263/392, CEO 91/392, INFL 53/392, GEO 260/392

Variable definitions: *RCC*= Total Non-charity charges divided by total Non-charity costs; *BC*= Sum of individual board member histories (0/1) divided by total board members; *CFO*= Indicator for business history (1) or nonprofit/religious history (0); *CHARITY*<sub>*t*-1</sub>= Prior year's charity care figure from footnotes scaled by net revenue; *PMIX*= Medicare reimbursement plus Medicaid reimbursement divided by total revenue; *ALLOW*= Contractual allowances divided by total revenue; *SIZE*= Total patient discharges per annum; *LEV*= Total liabilities divided by total assets; *PROFIT*= Net income divided by total assets; *CEO*= Indicator for business history (1) or nonprofit/religious history (0); *INFL*= Indicator for CEO board presence (1) or non-participation (0); *HHI*= Sum of squared ratios of hospital discharges to total county discharges; *GEO*= Indicator for urban hospital (1) or rural hospital (0).

**Table 4**  
Pearson/Spearman Correlation for Variables- Texas ( $n=392$ )

Variables	<i>RCC</i>	<i>BC</i>	<i>CFO</i>	<i>CHARITY</i>	<i>PMIX</i>	<i>ALLOW</i>	<i>SIZE</i>	<i>LEV</i>	<i>PROFIT</i>	<i>CEO</i>	<i>INFL</i>	<i>HHI</i>	<i>GEO</i>
<i>RCC</i>	1.00	0.20 (0.00)	-0.09 (0.06)	-0.01 (0.91)	0.02 (0.75)	0.01 (0.90)	0.33 (0.00)	-0.05 (0.35)	0.33 (0.00)	0.24 (0.00)	0.17 (0.00)	-0.22 (0.00)	0.27 (0.00)
<i>BC</i>	0.19 (0.00)	1.00	0.04 (0.50)	-0.25 (0.00)	-0.08 (0.13)	0.14 (0.01)	-0.06 (0.26)	-0.08 (0.11)	0.10 (0.05)	0.04 (0.39)	0.07 (0.14)	-0.22 (0.00)	-0.04 (0.39)
<i>CFO</i>	0.07 (0.16)	0.02 (0.68)	1.00	-0.19 (0.00)	0.13 (0.01)	-0.16 (0.00)	-0.17 (0.00)	-0.06 (0.20)	0.03 (0.50)	0.00 (0.99)	0.13 (0.01)	0.34 (0.00)	-0.21 (0.00)
<i>CHARITY</i>	0.07 (0.19)	0.29 (0.00)	-0.14 (0.01)	1.00	0.07 (0.16)	-0.15 (0.00)	0.22 (0.00)	0.13 (0.01)	0.03 (0.58)	-0.08 (0.14)	-0.11 (0.04)	-0.03 (0.62)	0.10 (0.05)
<i>PMIX</i>	0.05 (0.34)	0.14 (0.01)	0.08 (0.10)	0.08 (0.14)	1.00	-0.86 (0.00)	-0.36 (0.00)	0.12 (0.02)	-0.20 (0.00)	0.05 (0.30)	0.06 (0.21)	0.46 (0.00)	-0.46 (0.00)
<i>ALLOW</i>	0.06 (0.26)	0.17 (0.00)	0.10 (0.05)	0.20 (0.00)	0.89 (0.00)	1.00	0.39 (0.00)	-0.18 (0.00)	0.18 (0.00)	0.04 (0.41)	-0.01 (0.77)	-0.57 (0.00)	0.45 (0.00)
<i>SIZE</i>	0.35 (0.00)	0.07 (0.20)	0.17 (0.00)	0.22 (0.00)	0.30 (0.00)	0.31 (0.00)	1.00	-0.06 (0.25)	0.13 (0.01)	0.04 (0.46)	0.02 (0.68)	-0.59 (0.00)	0.69 (0.00)
<i>LEV</i>	0.12 (0.01)	0.02 (0.74)	-0.02 (0.63)	0.05 (0.30)	0.17 (0.00)	-0.19 (0.00)	0.22 (0.00)	1.00	-0.31 (0.00)	-0.27 (0.00)	-0.10 (0.04)	0.11 (0.04)	-0.16 (0.00)
<i>PROFIT</i>	0.28 (0.00)	0.01 (0.78)	0.01 (0.83)	0.09 (0.09)	0.06 (0.21)	0.01 (0.86)	0.10 (0.06)	0.26 (0.00)	1.00	0.14 (0.01)	0.04 (0.41)	-0.11 (0.03)	0.17 (0.00)
<i>CEO</i>	0.23 (0.00)	0.06 (0.24)	0.00 (0.99)	-0.04 (0.40)	0.04 (0.38)	0.01 (0.90)	0.04 (0.39)	0.18 (0.00)	0.11 (0.03)	1.00	0.72 (0.00)	0.00 (0.99)	0.00 (0.93)
<i>INFL</i>	0.13 (0.01)	0.13 (0.01)	0.13 (0.01)	0.04 (0.44)	0.04 (0.43)	0.03 (0.57)	0.01 (0.81)	0.06 (0.21)	0.03 (0.56)	0.72 (0.00)	1.00	0.05 (0.37)	-0.03 (0.50)
<i>HHI</i>	-0.22 (0.00)	-0.07 (0.16)	0.32 (0.00)	0.00 (0.99)	0.40 (0.00)	0.50 (0.00)	0.59 (0.00)	0.16 (0.00)	0.04 (0.47)	0.04 (0.44)	0.02 (0.66)	1.00	-0.74 (0.00)
<i>GEO</i>	0.27 (0.00)	0.08 (0.10)	0.21 (0.00)	0.09 (0.06)	0.37 (0.00)	0.40 (0.00)	0.70 (0.00)	0.27 (0.00)	0.07 (0.17)	0.00 (0.93)	0.03 (0.50)	0.78 (0.00)	1.00

Spearman correlations are represented in the upper right half of the table, with Pearson correlations on the bottom left half of the table. Variable definitions: *RCC*= Total Non-charity charges divided by total Non-charity costs; *BC*= Sum of individual board member histories (0/1) divided by total board members; *CFO*= Indicator for business history (1) or nonprofit/religious history (0); *CHARITY<sub>t-1</sub>*= Prior year's charity care figure from footnotes scaled by net revenue; *PMIX*= Medicare reimbursement plus Medicaid reimbursement divided by total revenue; *ALLOW*= Contractual allowances divided by total revenue; *SIZE*= Total patient discharges per annum; *LEV*= Total liabilities divided by total assets; *PROFIT*= Net income divided by total assets; *CEO*= Indicator for business history (1) or nonprofit/religious history (0); *INFL*= Indicator for CEO board presence (1) or non-participation (0); *HHI*= Sum of squared ratios of hospital discharges to total county discharges; *GEO*= Indicator for urban hospital (1) or rural hospital (0).

**Table 5**Impact of Board Composition on RCC- Texas ( $n=392$ )

Variable	Expected Sign	Parameter Estimate	Standard Error	t Value	Pr >  t
Intercept		1.0498	0.7193	1.46	0.1453
<i>BC</i>	+	<b>1.1345***</b>	0.2232	5.08	<b>&lt;.0001</b>
<i>CFO</i>	+	-0.0449	0.0802	-0.56	0.5757
<i>CHARITY</i>	-	<b>-2.3923***</b>	0.6215	-3.85	<b>0.0001</b>
<i>ALLOW</i>	+	-0.3592	0.6860	-0.52	0.6009
<i>PMIX</i>	+	-2.2892***	0.6651	-3.44	0.0006
<i>SIZE</i>	-	0.2314***	0.0396	5.84	<.0001
<i>LEV</i>	+	0.0736	0.0663	1.11	0.2673
<i>PROFIT</i>	-	0.9744***	0.1785	5.46	<.0001
<i>CEO</i>	+	0.4742***	0.1227	3.86	0.0001
<i>INFL</i>	+	-0.2192	0.1504	-1.46	0.1456
<i>HHI</i>	-	0.0167	0.1760	0.09	0.9247
<i>GEO</i>	+	0.3143**	0.1402	2.24	0.0255
Adjusted R <sup>2</sup>	63.1%				

\*\*\*, \*\*, and \* indicate significance at the .01, .05, and .10 levels, respectively.

Variable definitions: *RCC*= Total Non-charity charges divided by total Non-charity costs; *BC*= Sum of individual board member histories (0/1) divided by total board members; *CFO*= Indicator for business history (1) or nonprofit/religious history (0); *CHARITY<sub>t-1</sub>*= Prior year's charity care figure from footnotes scaled by net revenue; *PMIX*= Medicare reimbursement plus Medicaid reimbursement divided by total revenue; *ALLOW*= Contractual allowances divided by total revenue; *SIZE*= Total patient discharges per annum; *LEV*= Total liabilities divided by total assets; *PROFIT*= Net income divided by total assets; *CEO*= Indicator for business history (1) or nonprofit/religious history (0); *INFL*= Indicator for CEO board presence (1) or non-participation (0); *HHI*= Sum of squared ratios of hospital discharges to total county discharges; *GEO*= Indicator for urban hospital (1) or rural hospital (0).

**Table 6**Impact of Board Composition on RCC- California ( $n=408$ )

Variable	Expected Sign	Parameter Estimate	Standard Error	t Value	Pr >  t
Intercept		-2.8951	0.4895	-5.92	<.0001
<i>BC</i>	+	<b>0.4082*</b>	0.2189	1.87	<b>0.0629</b>
<i>CFO</i>	+	<b>0.2421***</b>	0.0582	4.16	<b>&lt;.0001</b>
<i>CHARITY</i>	-	1.0430***	0.3490	2.99	0.003
<i>ALLOW</i>	+	10.1598***	0.4410	23.04	<.0001
<i>PMIX</i>	+	8.2080***	0.4905	16.73	<.0001
<i>SIZE</i>	-	-0.0386	0.0460	-0.84	0.4016
<i>LEV</i>	+	0.2159*	0.1113	1.94	0.0532
<i>PROFIT</i>	-	1.5481***	0.3310	4.68	<.0001
<i>CEO</i>	+	-0.4666	0.2878	-1.62	0.1058
<i>INFL</i>	+	0.4030	0.3239	1.24	0.2141
<i>HHI</i>	-	0.1635	0.1642	1.00	0.3202
<i>GEO</i>	+	0.1355	0.1024	1.32	0.1867
Adjusted R <sup>2</sup>	65.6%				

\*\*\*, \*\*, and \* indicate significance at the .01, .05, and .10 levels, respectively.

Variable definitions: *RCC*= Total Non-charity charges divided by total Non-charity costs; *BC*= Sum of individual board member histories (0/1) divided by total board members; *CFO*= Indicator for business history (1) or nonprofit/religious history (0); *CHARITY<sub>t-1</sub>*= Prior year's charity care figure from footnotes scaled by net revenue; *PMIX*= Medicare reimbursement plus Medicaid reimbursement divided by total revenue; *ALLOW*= Contractual allowances divided by total revenue; *SIZE*= Total patient discharges per annum; *LEV*= Total liabilities divided by total assets; *PROFIT*= Net income divided by total assets; *CEO*= Indicator for business history (1) or nonprofit/religious history (0); *INFL*= Indicator for CEO board presence (1) or non-participation (0); *HHI*= Sum of squared ratios of hospital discharges to total county discharges; *GEO*= Indicator for urban hospital (1) or rural hospital (0).

**Table 7**

Impact of Disclosure Regulation on Board Composition, CFO History, and Hospital Pricing-

Texas & California ( $n=800$ )

Variable	Expected Sign	Parameter Estimate	Standard Error	t Value	Pr >  t
Intercept		2.4448	0.1260	19.4	<.0001
<i>BC</i>	+	0.9726***	0.2118	4.59	<.0001
<i>CFO</i>	+	-0.1321*	0.0756	-1.75	0.0813
<i>CHARITY*STATE</i>	-	1.0423**	0.4305	2.42	0.0156
<i>ALLOW*STATE</i>	+	10.1598***	0.5440	18.68	<.0001
<i>PMIX*STATE</i>	+	8.2080***	0.6051	13.56	<.0001
<i>SIZE*STATE</i>	-	-0.0386	0.0567	-0.68	0.4963
<i>LEV*STATE</i>	+	0.2159	0.1373	1.57	0.1163
<i>PROFIT*STATE</i>	-	1.5481***	0.4083	3.79	0.0002
<i>CEO*STATE</i>	+	-0.4666	0.3550	-1.31	0.1891
<i>INFL*STATE</i>	+	0.4030	0.3995	1.01	0.3134
<i>HHI*STATE</i>	-	0.1635	0.2026	0.81	0.4200
<i>GEO*STATE</i>	+	0.1355	0.1263	1.07	0.2839
<i>BC*STATE</i>	-	<b>-0.5644*</b>	0.3432	-1.64	<b>0.1000</b>
<i>CFO*STATE</i>	-	0.3741***	0.1043	3.59	0.0004
<i>STATE</i>	?	-5.3399***	0.6168	-8.66	<.0001
Adjusted R <sup>2</sup>	54.7%				

\*\*\*, \*\*, and \* indicate significance at the .01, .05, and .10 levels, respectively.

Variable definitions: *RCC*= Total Non-charity charges divided by total Non-charity costs; *BC*= Sum of individual board member histories (0/1) divided by total board members; *CFO*= Indicator for business history (1) or nonprofit/religious history (0); *CHARITY<sub>t-1</sub>*= Prior year's charity care figure from footnotes scaled by net revenue; *PMIX*= Medicare reimbursement plus Medicaid reimbursement divided by total revenue; *ALLOW*= Contractual allowances divided by total revenue; *SIZE*= Total patient discharges per annum; *LEV*= Total liabilities divided by total assets; *PROFIT*= Net income divided by total assets; *CEO*= Indicator for business history (1) or nonprofit/religious history (0); *INFL*= Indicator for CEO board presence (1) or non-participation (0); *HHI*= Sum of squared ratios of hospital discharges to total county discharges; *GEO*= Indicator for urban hospital (1) or rural hospital (0); *STATE*= Indicator for sample state, Texas (0) or California (1).