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Financial Reporting Manipulation And The Role Of Religious Ownership: Evidence From Nonprofit Hospitals

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FINANCIAL REPORTING MANIPULATION AND THE ROLE OF RELIGIOUS OWNERSHIP: EVIDENCE FROM NONPROFIT HOSPITALS

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ABSTRACT

Empirical evidence (e.g. Eldenburg and Vines 2004; Leone and Van Horn 2005; Ballantine et al. 2007; Eldenburg et al. 2011) demonstrates that nonprofit hospital managers respond to competing institutional and regulatory pressures by engaging in various forms of financial reporting manipulation. While some recent research in accounting (e.g. Dyreng et al. 2012; McGuire et al. 2012) shows that religious social norms can deter this undesirable behavior, these studies focus on the private, for-profit sector and use a location-based measure of religiosity. This study extends this line of research by using a more direct measure of religious social norms, the ownership affiliation of a hospital, in a nonprofit setting. Using quarterly and annual data for all nonprofit hospitals in the state of California, this study empirically examines the relationship between the nature of hospital ownership (i.e. secular vs. religious) and two types of financial reporting manipulation: earnings management and classification management. Consistent with social norm theory, findings indicate that religious hospitals manage earnings to a lesser extent than secular hospitals. However, religious and secular hospitals do not appear to differ with respect to strategic charity care classification. Supplemental tests indicate that the earnings management result is driven by fourth-quarter differences and that the effect is especially pronounced for the Medicaid payor. Additional analyses also consider a potential shock to managerial incentives as a result of recent healthcare regulatory changes. Although overall earnings management appears to be greater after the passage of the Patient Protection and Affordable Care Act in 2010, there is no evidence to suggest that the effect of hospital ownership on financial reporting changed as a result of the legislation. This study contributes to the

growing literature on the influence of religious affiliation on corporate behavior, as well as the nature, timing, and extent of financial reporting decisions of nonprofit hospitals. Furthermore, it has important implications for audit firms, creditors, potential donors, accounting researchers, and other hospital stakeholders. Finally, results from this research should generalize to other large industries within the nonprofit sector (e.g. higher education).

DEDICATION

To my wife, Susan, for always believing in me and allowing me to pursue this dream. Words cannot express how much I appreciate your patience, support, and understanding.

To my sons, Cooper and Crawford, for being the bright spots at the end of each day and helping me keep everything in perspective.

To my dad, Rob, for inspiring me to pursue a doctoral degree and responding to countless questions.

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To my sister Emily, for following in the family's footsteps and being my biggest fan.

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LIST OF ABBREVIATIONS

ACA	Patient Protection and Affordable Care Act
AHA	American Hospital Association
AICPA	American Institute of Certified Public Accountants
ARDA	Association of Religious Data Archives
BCBS	Blue Cross Blue Shield
CBO	Congressional Budget Office
CDPH	California Department of Public Health
DCA	Discretionary contractual allowances
FASB	Financial Accounting Standards Board
HFMA	Healthcare Financial Management Association
LV	Leone and Van Horn (2005) model of estimating DCA
MLV	Modified Leone and Van Horn (2005) model of estimating DCA
OSHPD	Office of Statewide Health Planning & Development – State of California
PSR	Program service ratio

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I. INTRODUCTION

Overview

Financial reporting manipulation is a significant concern for information users and has been a focus of academic research for many years. Recent research in accounting (e.g. Dyreng et al. 2012; McGuire et al. 2012) has shown that religious social norms can potentially deter financial reporting misconduct and act as an effective governance mechanism. However, this line of research almost exclusively focuses on the private, for-profit sector. Furthermore, these studies use an indirect measure of religiosity based on the population's religious affiliation within a particular geographic location. The primary purpose of this paper is to extend this literature by using a more direct measure of religiosity, the ownership affiliation of a hospital, in a nonprofit setting. Specifically, this research empirically examines the relationship between the nature of hospital ownership (i.e. secular vs. religious) and two types of financial reporting manipulation: earnings management and classification management. In this study, earnings management refers to a strategic attempt by managers to increase or decrease reported income via accounting manipulation, not through the use of real activities (e.g. discretionary expenditures)[1]. Classification management refers to a strategic classification of costs, such that financial results are improved on one or more dimensions of performance (e.g. charity care) without changing the amount of reported income.

Nonprofit hospital managers face various competing institutional and regulatory pressures that provide ample incentives to manipulate reported financial performance. Despite

[1] See Eldenburg et al. (2011) for evidence of real earnings management in nonprofit hospitals.

lacking a profit-maximizing objective, nonprofit hospitals have incentives that stem from the debt and executive labor markets to increase reported profits, especially when faced with a potential net loss. Simultaneously, they also have reasons to moderate the level of earnings, primarily to avoid external scrutiny from taxing authorities, healthcare regulators, prospective donors, insurance companies, and other third parties.

Prior research

As discussed above, nonprofit hospital managers have opposing incentives to manipulate upward or downward the amount of profit they report. Consistent with these competing motives, research has shown that nonprofit hospitals may strategically manage earnings to a target just above zero (e.g. Leone and Van Horn 2005; Ballantine et al. 2007). This kink in the earnings distribution suggests that nonprofit hospitals behave much like for-profit firms in that they prefer to avoid reporting a loss, even though they do not have a true profit motive (e.g. Hayn 1995; Burgstahler and Dichev 1997; Degeorge et al. 1999). Recent accounting research finds that earnings management activities in nonprofit hospitals are especially prevalent when reported levels of charity care exceed external expectations (Vansant 2013).

Additionally, managers in nonprofit hospitals also have intrinsic and economic incentives to report favorable performance on key metrics. Research in accounting has documented that nonprofit hospitals engage in certain types of classification management to improve external perceptions of performance on specific measures. For example, Krishnan and Yetman (2011) find evidence that managers shift costs to improve their program service ratio ("PSR"), an important efficiency measure in the nonprofit sector.[2] As a nonprofit hospital, providing charity care to the community is an integral part of its mission and an important determinant for renewal

[2] The PSR is calculated by dividing program service expenses by total expenses. A higher ratio is desired because it implies that administrative and other non-core activities are a small portion of total expenses.

of tax exemptions at the federal, state, and local levels.[3] Consequently, managers have a motive and opportunity to strategically shift costs from bad debt to charity care to appear more charitable without artificially inflating or deflating the level of reported income. This incentive is particularly salient following Illinois' revocation of a large nonprofit hospital's tax-exempt status for providing inadequate levels of charity care. Further, an article in the *New York Times* and a joint study by *The Charlotte Observer* and *The News & Observer* have publicly questioned tax breaks for nonprofit hospitals that generate high profits, yet provide minimal amounts of free care to the poor (Alexander et al. 2012; Rosenthal 2013). In response to these external pressures to show favorable levels of charity care, Eldenburg and Vines (2004) show that hospitals do strategically shift bad debt costs to charity care, particularly those with high levels of available cash.

Several studies have shown that religion can play an important role in shaping various types of corporate behavior, including the types of financial reporting manipulation documented above. For example, the nature and extent of religiosity has been shown to be a major factor in decisions regarding investment (Hilary and Hui 2009; Shu et al. 2012), going concern reporting (Omer et al. 2013), tax avoidance (Dyreng et al. 2012; Boone et al. 2013), and financial reporting (Dyreng et al. 2012; McGuire et al. 2012; Swenson 2012). However, research has largely ignored the extent to which religion plays a role in the financial reporting process of nonprofit healthcare organizations. This oversight is especially problematic because religion plays a major role in the operating and financial decisions of a large number of nonprofit organizations, especially hospitals.

[3] As defined in Appendix 1, charity care is the difference between gross patient revenue (based on full established charges) for services rendered to patients who are unable to pay for all or part of the services provided, and the amount paid by or on behalf of the patient. See Appendix 1 for definitions of other key healthcare terms as they pertain to this study.

Hypotheses

To address this gap in the literature, this study empirically examines the effect of religious ownership on financial reporting manipulation by formally testing two hypotheses. The first hypothesis addresses earnings management, typically considered to be the most egregious form of financial reporting manipulation. Social norm theory and the results of recent accounting studies (e.g. Dyreng et al. 2012; McGuire et al. 2012) predict that religious hospitals manage earnings less than secular hospitals. H1 is formally stated below:

> **H1**: Managers in religious hospitals engage in less earnings management than those in secular hospitals.

The second hypothesis addresses managerial incentives to reclassify bad debt costs as charity care (i.e. classification management). While all nonprofit hospitals, both secular and religious, are motivated to show favorable charity care amounts to maintain tax-exempt status and avoid regulatory scrutiny, religious hospitals may feel more pressure to do so because of their spiritual missions. Religious hospitals may strategically manage performance through this classification behavior, especially if other avenues of manipulation (e.g. earnings management) are constrained by religious norms as hypothesized in H1 above. As H2 indicates below, the expectation is that there are higher levels of classification management in religious hospitals than in secular hospitals.

> **H2**: Managers in religious hospitals engage in more classification management than those in secular hospitals.

Importance

Understanding the financial reporting behavior of secular and religious nonprofit hospitals is important because of their widespread impact on the U.S. economy. Specific to the role of religion in reporting behavior, focusing on the healthcare industry is appropriate because

of the industry's size and ownership variability within the nonprofit sector (i.e. secular-owned vs. religious-owned). Additionally, religion has a considerable amount of influence in many nonprofit hospitals. According to the American Hospital Association ("AHA"), there are approximately 2,900 nonprofit (i.e. tax-exempt under section 501(c)(3) of the Internal Revenue Code) hospitals in the United States, which represent 57.9% of all acute care general hospitals, with the remainder comprised of for-profit (21.4%) and governmental (20.7%) facilities.[4] Of this nonprofit total, a significant portion (roughly 16.0%) are owned and operated by a religious organization (AHA 2014). Because of their nonprofit status, these hospitals receive federal, state, and local tax exemptions that total over $12 billion annually (Rosenthal 2013).

The Congressional Budget Office ("CBO") estimates that U.S. healthcare spending as a percent of gross domestic product has steadily risen from 9.5% in 1985 to 16.4% in 2011. Under current law, this percentage is projected to rise to approximately 22.0% of GDP by 2038 (CBO 2013). While these figures include all healthcare companies, hospitals make up a substantial portion of the industry. Despite this significance, there has been relatively limited research on the financial reporting behavior of nonprofit hospitals. Furthermore, to the knowledge of the author, this is one of the first studies to investigate the effect of religious affiliation on multiple types of financial reporting manipulation in a nonprofit healthcare setting.[5]

Methodology

Industry-specific proxies for earnings management and classification management are calculated and used in numerous regression models. First, a contractual allowance-based

[4] As defined in Appendix 1, an acute care general hospital is a licensed hospital having a duly constituted governing body with overall administrative and professional responsibility and an organized medical staff which provides 24-hour inpatient care, including the following basic services: medical, nursing, surgical, anesthesia, laboratory, radiology, pharmacy, and dietary services.

[5] The only known similar study is Tan (2011), which uses Taiwan nonprofit hospital data to investigate the role of religion on one type of financial reporting manipulation: accruals-based earnings management.

measure of earnings management is estimated by replicating and extending the work of Leone and Van Horn (2005). Contractual allowances are estimates of the difference between gross billings (at undiscounted rates) and amounts received or receivable from third-party payors with formal contract agreements. Although this account is based on anticipated reimbursement as calculated under formal contracts, determining an accurate estimate is difficult due to the inherent complexity of the agreements, timing of payments, volume of transactions, and variability among payors. This provides hospital managers with a considerable amount of discretion over reported contractual allowances. As a result, this account is generally viewed to be the most significant risk area for audit firms.[6] With respect to classification management, charity care as a percentage of uncompensated care is used to test the second hypothesis.[7]

This research uses publicly available data for nonprofit hospitals from fiscal years 2002 through 2012 collected by the Office of Statewide Health Planning & Development ("OSHPD") of the state of California. The primary analyses use quarterly data because they allow for a more powerful measure of management's intent to mislead stakeholders and provide insight into the timing of potential manipulation. The decision to use quarterly data is also motivated by research that documents the prevalence of fourth-quarter manipulation (e.g. Jeter and Shivakumar 1999; Dhaliwal et al. 2004; Das et al. 2009; Fan et al. 2010). Given that this study focuses on differential financial reporting behavior of secular and religious hospitals, the fourth quarter provides a powerful additional setting for data analysis.

Findings

Using multiple empirical proxies for financial reporting manipulation, results from this research suggest that religious hospitals manage earnings less than secular hospitals. This

[6] The author's previous audit experience and conversations with a Big 4 partner confirm that audit firms spend a significant amount of resources to gain assurance regarding a hospital's estimate of contractual allowances.
[7] As defined in Appendix 1, uncompensated care represents the sum of a hospital's charity care and bad debt.

finding can be attributed to the governance role that religious social norms play in deterring certain types of unethical reporting behavior. Although univariate evidence implies that religious hospitals may artificially increase their charity to uncompensated care ratio more frequently than secular hospitals, regression results are inconsistent with the second hypothesis.

Supplemental tests indicate that the earnings management result is being driven by differences in the fourth quarter, the period in which manipulation is most likely to occur. Subsequent tests also reveal that the biggest difference between secular and religious hospitals with respect to earnings management occurs for the Medicaid payor. However, there is also limited evidence that religious hospitals strategically manage contractual allowances for Medicare and Third Party payors to a lesser extent than secular hospitals during the fourth quarter.

During the sample period, new healthcare legislation provided a shock to managers' financial reporting incentives, primarily due to increased reporting requirements for maintaining tax-exempt status. Although overall earnings management appears to be greater after the passage of the Patient Protection and Affordable Care Act ("ACA") in 2010, there is no evidence to suggest that the effect of hospital ownership on financial reporting changed as a result of the legislation.

Contributions

This study provides important evidence regarding the influence of religion on financial reporting behavior. First, it complements a recent stream of accounting research that focuses on the religious characteristics of the location in which a company operates as a proxy for religiosity by using a more direct measure, a hospital's ownership type. This is important because the nonprofit sector, and in particular the healthcare industry, is comprised of numerous

organizations that have a strong religious affiliation that transcends the spiritual beliefs of individuals in the surrounding geographic area. Additionally, this research comprehensively examines two types of financial reporting manipulation, earnings management and classification management, while much of the existing literature examines only one type. Given that nonprofit organizations technically do not have a profit motive, it is important to look at other means of manipulation beyond those that affect reported earnings (e.g. charity care manipulation).

In addition to providing evidence on the influence of religion on two types of financial reporting manipulation, another important contribution of this study is that it provides a better specified model of earnings management that can be used in future healthcare accounting research. Furthermore, the use of quarterly (unaudited) data allows for a cleaner measure of management's reporting intentions than currently found in the literature because they are less subject to auditor adjustment. In summary, this study provides a more complete picture of the role of religious affiliation with respect to the nature, timing, and extent of financial reporting decisions made by a relatively under-researched portion of the economy.

Results from this dissertation have significant implications for a variety of hospital stakeholders. For example, findings from the earnings management analysis provide users (e.g. audit firms, tax authorities, various regulatory agencies, potential donors, debt holders, and other hospital stakeholders) an important social factor to consider when evaluating the reliability of hospital financial statements. Similarly, findings from the classification management analysis inform taxing authorities and other regulators of how the nature of hospital ownership potentially influences the timing and extent of unethical reporting activities related to charity care. Given the significant focus on charity care in the nonprofit healthcare sector, these results are of particular interest. As mentioned above, this study also has implications for accounting

researchers by providing an improved hospital-specific model of earnings management, as well as additional evidence in support of using quarterly data in studies of financial reporting manipulation. Finally, results from this research may generalize to other large industries within the nonprofit sector (e.g. higher education).

Organization

The remainder of the dissertation is organized as follows. Chapter 2 provides a brief discussion of hospital accounting and reporting, as well as a review of the literature related to financial reporting manipulation in nonprofit hospitals and the influence of religion on various types of corporate behavior. Chapters 3 and 4 present the methodology used and results of all statistical tests. The dissertation concludes with a discussion in Chapter 5.

II. HYPOTHESES DEVELOPMENT

Introduction

While there is a significant line of for-profit research on financial reporting manipulation, relatively little has been explored in the nonprofit healthcare sector, despite the fact that nonprofit hospitals also have incentives to manipulate financial performance.[8] This section provides a brief overview of accounting and reporting in the healthcare industry, describes the incentives for nonprofit hospitals to mislead stakeholders and documented evidence of such activities, and discusses the influence of religious social norms on various aspects of corporate behavior. More importantly, it develops expectations regarding the influence of religious hospital ownership on two types of financial reporting manipulation: earnings management and classification management.

Hospital background

Background of hospital accounting and reporting

Unlike most industries, the development of accounting practice in hospitals has been largely shaped by the industry itself, rather than accounting standard setters.[9] The AHA, an organization to which nearly every U.S. hospital belongs, was instrumental in the evolution of accounting thought, particularly following the 1933 report of the Advisory Committee on Accounting. Later, as more individuals became covered under private and governmental insurance plans, third-party payors such as Blue Cross Blue Shield ("BCBS") and Medicare

[8] For example, see Healy and Wahlen (1999) and Xu et al. (2007) for a review of the accruals-based earnings management and real earnings management literature, respectively.
[9] See Flesher and Pridgen (2014) for a more complete discussion of the development of hospital accounting.

became increasingly relevant in the development of hospital accounting, especially in the area of cost reimbursement (Flesher and Pridgen 2014). Currently, the AHA and the Healthcare Financial Management Association ("HFMA") provide assistance on technical accounting issues in conjunction with the industry's two primary standard setters: the American Institute of Certified Public Accountants ("AICPA") and the Financial Accounting Standards Board ("FASB").

With respect to statutory reporting, individual states have the authority to require the nature, timing, and extent of any additional hospital reports. As a result, there is considerable variation in reporting requirements among states. Specific to the state of California, OSHPD requires all hospitals (i.e. for-profit, nonprofit, and governmental) to submit detailed quarterly and annual reports that conform to the Accounting & Reporting Manual for California Hospitals. An excerpt from the current reporting manual is below:

> The accounting principles and concepts incorporated in this manual are based on the Proposed Audit and Accounting Guide "Audits of Providers of Health Care Services", March 15, 1988, prepared by the Health Care Committee and the Health Care Audit Guide Task Force for the American Institute of Certified Public Accountants and it should be referenced for guidance on principles and concepts not covered in this manual. Although they are not included in this Manual, the accounting principles and concepts recommended in the Opinions of the Accounting Principles Board of the American Institute of Certified Public Accountants should serve as reference sources for specific questions on accounting policies and concepts. Furthermore, pronouncements by the Financial Accounting Standards Board should also be reflected in the hospital's accounting policies and concepts, as appropriate. This Manual published by the Office shall be the official and binding interpretation of accounting and reporting treatment within the hospital accounting and reporting system and shall take precedence over the AICPA Hospital Audit and Accounting Guide.[10]

These reports, first required for the 1976/1977 state fiscal year, contain detailed utilization and financial data for individual hospitals and are published on the OSHPD website following a brief desk audit.

[10] The manual can be found at the OSHPD website (http://www.oshpd.ca.gov).

Provision of charity care

In 1946, Congress passed the Hospital Survey and Construction Act (commonly known as the Hill-Burton Act) in an effort to expand access to healthcare, particularly in the rural South. In exchange for federal grants, hospitals were required to provide a "reasonable volume" of free care to the poor (i.e. charity care). As of December 19, 2013, a total of 161 facilities in the U.S. were still required to comply with the Hill-Burton provisions. Of this total, 15 are located in California, but only two are general acute care hospitals (www.hrsa.gov). Although the Hill-Burton provisions have expired for many hospitals, charity care remains a key focus for nonprofit hospitals and regulators. Certain individual states also have laws that dictate required levels of charity care. For example, since 1993 Texas has required nonprofit hospitals to spend at least 4% of net patient revenue on free or discounted care (Kennedy et al. 2010). While California currently has no such requirement, the provision of charity care is a highly scrutinized element of performance, especially for renewals of tax-exempt status.

Recent changes to nonprofit hospital regulatory environment

As discussed in more detail below, nonprofit hospitals have faced increasing scrutiny regarding their tax-exempt status in recent years. As a result, regulatory reporting requirements have changed in an effort to improve transparency, particularly with respect to the level of charitable activities. The single biggest change in recent years was the passage of the ACA in 2010. For the purposes of this study, the ACA is significant because it increases the visibility of hospital performance and the requirements for hospitals to maintain tax-exempt status (U.S. Congress 2010)[11]. The most noteworthy element with respect to financial reporting is the

[11] See Smith and Noe (2012) for a summary of the new reporting requirements for nonprofit hospitals to maintain tax-exempt status.

requirement to submit audited financial statements with Form 990 for tax years beginning after March 23, 2010[12].

Earnings management in nonprofit hospitals

Due to the unique nature of the healthcare industry, hospital managers are faced with competing institutional and regulatory pressures that drive desired reported performance in opposite directions. Even though nonprofit organizations lack a true profit motive, hospitals do have incentives to increase reported profits, especially to avoid a loss. Brickley and Van Horn (2002) show that both CEO turnover and compensation in hospitals are highly correlated with financial performance. Specifically, CEO turnover is higher when performance is poor. Eldenburg et al. (2004) find a similar relationship between CEO turnover and financial performance using a sample of California hospitals. Results from these two studies lend support for the argument that the hospital CEO labor market provides a strong incentive for managers to avoid reporting losses (Leone and Van Horn 2005). Hospitals also face an incentive to show stable, positive income to reduce the cost of debt (Trueman and Titman 1988; Leone and Van Horn 2005).

For nonprofit hospitals, however, showing large amounts of positive income is not always in their best interests. Reporting high earnings may invite third party payors such as governmental programs (i.e. Medicare and Medicaid) and private insurance companies (e.g. Blue Cross Blue Shield) to negotiate lower contracted rates (Leone and Van Horn 2005). Given that the vast majority of a hospital's financial success is tied to these payors, even a small reduction in the contracted rate of one or more services could have significant financial consequences.[13]

[12] If the hospital is part of a multi-facility system, only the financial statements for the consolidated entity must be attached.

[13] Holding volume constant, lower contract rates result in higher contractual allowances and lower reimbursement for hospitals.

To a lesser extent, nonprofit hospitals also face a constraint on the amount of reported profit because of potential donors' perceptions of hospital need. Donors may feel less compelled to contribute to a hospital that is generating a substantial amount of profit than one that is constantly struggling to break even.

Perhaps the biggest reason why nonprofit hospitals often want to limit reported income is that disclosing excess profitability may result in additional regulatory scrutiny that could jeopardize the tax-exempt status of the hospital (Leone and Van Horn 2005). This concern is especially timely given the current climate of the healthcare industry. Several nonprofit hospitals have come under fire in the popular press for their outstanding financial performance, lofty executive pay, and minimal amounts of charity care being provided to the poor. Many question whether the substantial federal, state, and local income, property, and sales tax breaks these hospitals are receiving are justifiable in terms of community benefit. For example, a recent article in the *New York Times* citing Young et al. (2013) documents this concern over favorable tax treatment for highly profitable nonprofits (Rosenthal 2013). Similarly, a comprehensive joint study by *The Charlotte Observer* and *The News & Observer* found that many nonprofit hospitals in the Charlotte, North Carolina, area generate huge profits and provide little charity care to the community, bringing into question the value of tax exemptions (Alexander et al. 2012).

Similar to the earnings distribution documented in the for-profit sector (e.g. Hayn 1995; Burgstahler and Dichev 1997; Degeorge et al. 1999), Leone and Van Horn (2005) find that U.S. nonprofit hospitals use discretionary contractual allowances ("DCA") to manipulate profits toward zero and to avoid a loss.[14] Ballantine et al. (2007) replicate these findings using a

[14] Other research in the healthcare sector (e.g. Hoerger 1991; Leone and Van Horn 2005; Eldenburg et al. 2011) has shown that nonprofit hospitals also manage earnings through real activities. For example, Eldenburg et al. (2011) find that hospitals with strong pay-for-performance incentives manage expenditures in non-operating and non-

sample of hospitals in the United Kingdom. Further, Vansant (2013) shows that the level of DCA in a hospital is a function of the level of charity care, a primary driver of tax-exempt status. That is, hospitals with favorable levels of charity care are less likely to artificially decrease reported income through contractual allowances to avoid potential scrutiny from taxing authorities or other third parties. Similarly, these high-charity hospitals are more likely to use contractual allowances to increase reported income above a small profit benchmark. However, these results are based on the assumption that charity care is not being manipulated. This study examines this critical assumption of Vansant (2013) by showing to what extent secular and religious hospitals manipulate performance through both earnings manipulation and charity care classification.

This research focuses on differences between secular and religious hospitals using all quarters and when manipulation is most likely to occur, the fourth quarter. Some studies in accounting have shown that quarterly data can provide interesting evidence regarding the extent and timing of reporting manipulation. For example, Jeter and Shivakumar (1999, 318) find that "managers exhibit the greatest evidence of earnings management in the last quarter of a fiscal year." Similarly, Dhaliwal et al. (2004) show that firms manage tax expense in the fourth quarter to beat earnings forecasts. However, as Das et al. (2009) illustrate, earnings management activities are not always biased upward in the fourth quarter. In fact, many firms reduce income in the last quarter to be able to report smooth earnings. Together, these findings provide researchers with a motivation to use quarterly reports, especially fourth-quarter data, when comparing manipulation activities between groups.

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revenue-generating activities to show a small profit. They also find that hospitals strategically dispose of assets to avoid showing excess profits.

As discussed previously, nonprofit hospitals face a wide variety of pressures that provide a motive for unethical financial reporting behavior. While external stakeholders (e.g. auditors, regulators, etc.) constrain such behavior to a degree, religious norms may provide an intrinsic mechanism through which manipulation is deterred. However, defining these norms is difficult and subject to substantial measurement error. In this study, religious norms are measured according to hospital ownership type (i.e. secular vs. religious) rather than the hospital's geographic location. This study contends that religious ownership is a more direct measure of religiosity than previously used in the literature because of the strong social ties associated with working for a religious organization. As discussed previously, many nonprofit hospitals have a strong religious affiliation that has widespread effects above and beyond the religiosity of individuals within a given geographic area.

Research in the accounting and finance disciplines has explored the influence of religion on various aspects of corporate behavior. For example, Hilary and Hui (2009) find that firms located in highly religious counties appear to be more conservative with investment decisions and exhibit less growth due to risk aversion. A related study shows that the nature of local religious beliefs (i.e. Catholic vs. Protestant) influences the investment behavior of mutual fund managers (Shu et al. 2012). Specifically, they find that mutual funds headquartered in predominantly Catholic regions exhibit greater volatility than those in mainly Protestant regions. The relationship between religion and risk avoidance is also documented by Omer et al. (2013), who find that non-Big 4 audit firms in more religious areas issue more going concern audit opinions. The authors attribute this finding to auditors in religious locations being more averse to litigation risk.

The accounting literature shows that religious norms also have an effect on corporate tax behavior and equity valuation. For example, Dyreng et al. (2012) and Boone et al. (2013) find that firms located in highly religious areas tend to exhibit lower incidences of tax avoidance. Further, El Ghoul et al. (2012) show that firms located in highly religious counties benefit from a lower cost of equity capital. Their results are strongest for firms with low external monitoring, suggesting that religion has a governance function as discussed below.

Most relevant to this study, a related stream of literature has focused on the impact of religion on financial reporting decisions. While Callen et al. (2011) find no relationship between religiosity and earnings management in a cross-country setting, two recent studies show that the nature and extent of religious affiliation within a firm's geographic region can serve as an alternate corporate governance mechanism. Consistent with social norm theory, which suggests that individuals modify their behavior to conform with what they perceive others deem as acceptable behavior (Kohlberg 1984), Dyreng et al. (2012) and McGuire et al. (2012) find that firms in highly religious areas have less accruals-based financial reporting irregularities. Interestingly, these firms are also more likely to voluntarily disclose bad news (Dyreng et al. 2012), yet exhibit higher levels of real earnings management (McGuire et al. 2012). The finding is likely driven by the perception that managing income through real activities is acceptable since it is within the constraints of generally accepted accounting principles (Graham et al. 2005). Swenson (2012) also documents the importance of religion in a financial reporting context, finding that firms headquartered in areas of Western religion dominance (e.g. Christianity, Islam, and Judaism) are more conservative than those in areas of primarily Eastern religions (e.g. Buddhism and Hinduism).

While religious norms in an individual's environment may influence the way a person behaves, the extent to which religiosity may affect financial reporting decisions depends on a variety of factors. Given that earnings management is generally viewed as the most unethical and risky form of financial reporting manipulation (Graham et al. 2005), religious norms are expected to be particularly effective in deterring earnings management activities. Consistent with social norm theory and the results of Dyreng et al. (2012) and McGuire et al. (2012), this study predicts that religious hospitals exhibit lower incidences of earnings management than secular hospitals. This prediction is formally stated below:

> **H1**: Managers in religious hospitals engage in less earnings management than those in secular hospitals.

Classification management in nonprofit hospitals

Without a true profit motive, hospital managers also have incentives to manipulate financial performance without changing reported income by shifting certain costs to improve key metrics. As Krishnan and Yetman (2011) show, one specific way that a nonprofit organization can mislead stakeholders without directly manipulating income is by shifting costs to improve their PSR. The PSR is an important measure of a nonprofit's efficiency and is highly scrutinized by potential donors, regulators, and other stakeholders. In the case of a hospital, this involves reclassifying costs to patient care from non-patient care to appear more efficient. Interestingly, they show that religious hospitals engage in more cost shifting behavior because they face greater normative pressures to show efficiency than secular hospitals. For example, religious hospitals often face constraints (e.g. not being able to provide a controversial, yet profitable service such as abortions) that secular hospitals do not. At the same time, religious hospitals are held to the same performance standards as secular nonprofit and for-profit hospitals, thereby

providing a motive to manipulate results. It is unclear, however, whether their results will hold using other measures of classification management.

In addition to the PSR, hospitals may shift other expenses to make key financial ratios appear more favorable. Given the focus on uncompensated care in the healthcare industry, bad debt expense and charity care expense are two common candidates for reclassification. Bad debt and charity care expense are separately disclosed in the financial statements and represent amounts for which the hospital does not expect to receive cash. While bad debt relates to patients that are unwilling to pay, charity care relates to patients that are unable to pay. A distinction between the two must be made at the time of service (i.e. not during the collection process) using the hospital's formal charity guidelines, which are designed to assess a patient's ability to pay. Generally, this determination is final unless it was erroneous. While hospitals actively pursue collection of amounts classified as bad debt, they are prohibited from pursuing collection of amounts classified as charity care. Thus, there is a potentially substantial cost to reclassifying bad debt expense as charity care since any future collection is foregone.[15]

In addition to reported income, nonprofit hospitals also face a considerable amount of scrutiny regarding their level of charity care since it is a key driver of tax exempt status.[16] Wilkicki (2001) provides experimental evidence that both factors, the levels of profitability and charity care, contribute to perceptions of tax-exempt status. With respect to the latter, the Illinois Supreme Court recently upheld the 2004 revocation of tax-exempt status of Catholic-owned Provena Covenant Medical Center for providing insufficient care to indigent patients.

[15] See Eldenburg and Vines (2004) for further discussion of the difference between bad debt and charity care expense.

[16] Barniv et al. (2005) find that only three nonprofit hospitals in California pay any state or local taxes. Consequently, the vast majority have strong incentives to show high levels of charitable activities to maintain tax-exempt status.

Furthermore, the state of Illinois has challenged the property tax exemptions of three additional hospitals for failing to provide adequate charity care (Japsen 2011).

As a result of this increased scrutiny, hospitals have a strong incentive to shift costs from bad debt expense to charity care expense. This incentive is particularly strong when a hospital's current cash levels are high because they are in a better financial position to forgo collectability of revenue classified as charity care. Using a proprietary database of Florida hospitals, Eldenburg and Vines (2004) find evidence that hospitals with large amounts of available cash, especially those that are performing poorly, tend to reclassify costs from bad debt to charity care more often than those with little cash. This result is not surprising since high cash hospitals are in a better position to give up potential collectability in exchange for better charity care ratios. Because of the difficulty in estimating bad debt and charity care and the fact that the hospital's income is unchanged, hospital managers may see this type of manipulation as less egregious than earnings management.

If shifting costs from bad debt to charity care is viewed to be more acceptable by hospital managers, then religious norms may not be effective at deterring classification management. Further, as a result of their spiritual missions, religious hospitals may feel more pressure to show high levels of charity care to appeal to their religious stakeholders. Classification management behavior may be especially prevalent in religious hospitals if earnings management activities are constrained by religious norms as hypothesized in H1 above. Therefore, higher levels of classification management are expected in religious hospitals than in secular hospitals. The second hypothesis is formally stated below:

> **H2**: Managers in religious hospitals engage in more classification management than those in secular hospitals.

Summary of relevant literature

In summary, the CEO labor market and the cost of debt motivate nonprofit hospital managers to artificially increase the amount of reported profit. However, increased scrutiny from taxing authorities, potential donors, and other third party payors necessitate the moderation of reported income (Trueman and Titman 1988; Leone and Van Horn 2005). Recent evidence demonstrates that managers do manipulate earnings to a small profit benchmark (Leone and Van Horn 2005; Ballantine et al. 2007), as well as engage in various types of classification shifting activities in response to these incentives. For example, Krishnan and Yetman (2011) find evidence that managers shift costs to improve their PSR. Similarly, Eldenburg and Vines (2004) show that nonprofit managers also engage in classification shifting to appear more charitable, particularly when cash levels are high.

Additionally, research has shown that religion can influence various corporate behaviors, including the types of financial reporting manipulation documented above. For example, the nature and extent of religiosity has been shown to be a major factor in decisions regarding investment (Hilary and Hui 2009; Shu et al. 2012), going concern reporting (Omer et al. 2013), and tax avoidance (Dyreng et al. 2012; Boone et al. 2013). Most relevant to this study is that religion has also been linked to financial reporting decisions (Dyreng et al. 2012; McGuire et al. 2012; Swenson 2012). However, this line of research has not yet considered the influence of religion on financial reporting in the nonprofit healthcare sector, a substantial portion of the U.S. economy.

III. RESEARCH METHOD

Sample

This study uses publicly available data collected by OSHPD of the state of California. California provides a fairly representative sample of the U.S. hospital population because of its large size, ownership variation, and socio-economic diversity. All hospitals in the state are required to submit standard reports containing detailed utilization and financial information to OSHPD after each quarter and fiscal year end. In addition to any scrutiny from external auditors, these reports are also subject to a desk audit by OSHPD staff before they are published on the OSHPD website.

Unlike most research in the nonprofit sector, the primary analyses in this study focus on quarterly rather than annual data. Since quarterly data is reported on the OSHPD website on a calendar year basis, data is converted to fiscal quarters such that the fourth quarter corresponds to the last quarter in the hospital's fiscal year. A significant problem with using annual data to detect financial reporting manipulation is that it results in a joint test of management's reporting behavior and the auditor's response. One of the biggest advantages of using quarterly data is that, because these reports are not audited, they provide a purer measure of management's reporting intent.[17] Additionally, quarterly data provide important insight into the timing of

[17] Although quarterly reports are not audited by the external auditor, they are subject to a cursory review by OSHPD prior to being released on their website. While this review process could potentially deter some financial reporting manipulation, it is the same for all hospitals and, therefore, not expected to differentially affect secular and religious hospitals.

manipulation. The time period for this study encompasses quarterly and annual reports from fiscal years ending June 30, 2002 through June 29, 2012.[18]

Table 1 provides detail of the H1 and H2 regression samples. For meaningful statistical analyses, only comparable hospitals as defined by OSHPD are included. Specifically, the H1 sample excludes for-profit (6,393) and government (4,745) hospitals, all Kaiser Permanente (1,571) and Shriners (109) hospitals because OSHPD grants those facilities reduced reporting requirements, and certain hospitals with a specialty focus such as psychiatric (968) and long-term care (165). As discussed later, to ensure a clean sample with proper classification of ownership type, 1,097 observations (secular: 881 and religious: 216) pertaining to hospitals with an ownership change during the sample period are eliminated. Finally, a total of 2,810 observations (secular: 2,308 and religious: 502) are removed due to missing data required for regression analysis. These eliminations procedures result in a final sample (H1) of 5,529 observations, of which 4,942 (89.4%) and 587 (10.6%) correspond to secular and religious hospitals, respectively. A list of the hospitals included in the H1 regression sample is presented in Appendix 2.

In tests of H2, hospitals for which total uncompensated care is comprised entirely of bad debt (secular: 526 and religious: 5) or charity care (secular: 119 and religious: 0) are eliminated from the sample. These observations are removed because their charity care ratio is unrealistic and never varies (i.e. ratio is always 0% or 100%). Data requirements for H2 result in a loss of 219 additional observations (all secular), leaving a total of 4,660 hospital-quarters (secular: 4,078 and religious: 582) for regression analyses.

[18] Quarterly data is reported on the OSHPD website by calendar year, while annual data is reported by state fiscal year (June 30 year end). Annual data begins with the 2002/2003 fiscal year because it is the first year OSHPD began publishing data files in Microsoft Excel format.

TABLE 1 – SAMPLE COMPOSITION

	Secular		Religious		Total
	N	% of Total	N	% of Total	N
Initial sample	22,082	94.4%	1,305	5.6%	23,387
Less:					
For-profit	(6,393)	100.0%	–	–	(6,393)
Government	(4,745)	100.0%	–	–	(4,745)
Kaiser	(1,571)	100.0%	–	–	(1,571)
Psychiatric	(968)	100.0%	–	–	(968)
Long-term care	(165)	100.0%	–	–	(165)
Shriners	(109)	100.0%	–	–	(109)
Ownership change	(881)	80.3%	(216)	19.7%	(1,097)
Missing data	(2,308)	82.1%	(502)	17.9%	(2,810)
Final sample (H1)	4,942	89.4%	587	10.6%	5,529
Less:					
No charity care	(526)	99.1%	(5)	0.9%	(531)
No bad debt	(119)	100.0%	–	–	(119)
Missing data	(219)	100.0%	–	–	(219)
Final sample (H2)	4,078	87.5%	582	12.5%	4,660

Notes: The initial sample shown above contains quarterly data from 2000 to 2013 for all open hospitals in the state of California as reported to the Office of Statewide Health Planning & Development (OSHPD).

Regression models

As discussed previously, this research tests two hypotheses that address different types of financial reporting manipulation: earnings management and classification management. The following sections describe the data analysis procedures and dependent variables used to formally test H1 and H2.

Test of earnings management (H1)

H1 hypothesizes that religious hospital managers engage in less earnings management than secular hospital managers because of strong religious social norms. To test this hypothesis, the following regression model is estimated using all fiscal quarters, as well as separately for the

fourth quarter (hospital and quarter subscripts excluded). All continuous variables are winsorized at the 1st and 99th percentiles and standard errors are clustered by hospital. See Appendix 3 for a definition of all variables.

$$EM = \beta_0 + \beta_1 REL\_OWN + \beta_2 FQ4 + \beta_3 REL\_CTY + \beta_4 RURAL + \beta_5 OP\_INC + \beta_6 CHAR\_GR + \beta_7 GOV\_REV + \beta_8 BOD\_SIZE + \beta_9 GR\_REV + \beta_{10} BEDS + \beta_{11} EM_{t-1} + YEAR + \varepsilon$$

where:

EM = empirical proxy for earnings management, measured as either *DCA_LV* or *DCA_MLV*, as discussed in detail in the following section;

REL_OWN = coded 1 if hospital is church owned, 0 otherwise, as discussed in detail below;

FQ4 = coded 1 if fiscal quarter equals 4, 0 otherwise;

REL_CTY = county-level measure of religious adherence, as collected in 2010 by the Association of Religion Data Archives ("ARDA");

RURAL = coded 1 if hospital is located in a rural area as defined by OSHPD, 0 otherwise;

OP_INC = operating income for the first three fiscal quarters, scaled by total assets from previous year;

CHAR_GR = charity care as a percentage of total gross revenue;

GOV_REV = sum of Medicare and Medicaid gross revenue as a percentage of total gross revenue;

BOD_SIZE = number of hospital board members (in hundreds);

GR_REV = total gross patient revenue, scaled by total assets from previous year;

BEDS = number of staffed beds (in hundreds); and

YEAR = year dummy variables.

Since the first hypothesis examines differences in earnings management between secular and religious hospitals, the variable of interest is *REL_OWN*. Given that social norm theory predicts religious hospitals manage earnings to a lesser extent than secular hospitals, a negative

coefficient for β_1 would provide support for H1. *FQ4* is included to better understand the timing of when earnings management is taking place and because prior research (e.g. Jeter and Shivakumar 1999; Dhaliwal et al. 2004; Das et al. 2009) shows that earnings management occurs more in the fourth fiscal quarter. If so, then β_2 will be positive.

Since prior research (e.g. Dyreng et al. 2012; McGuire et al. 2012) has shown that the extent of religiosity within a particular geographic location may deter financial reporting manipulation, the model includes *REL_CTY* as a control, with β_3 expected to be negative. The model also includes *RURAL* to control for the fact that rural hospitals may be more conservative with financial reporting decisions (McGuire et al. 2012). If this is the case, β_4 will be negative.

To control for various financial pressures to manipulate earnings, *OP_INC*, *CHAR_GR*, and *GOV_REV* are also included. As defined above, *OP_INC* captures operating income for the previous three fiscal quarters and prior research has shown that past performance is associated with current accruals (Kothari et al. 2005). In the nonprofit healthcare sector, if earnings are low during this time period, managers may have an incentive to decrease contractual allowances to increase reported income. Conversely, if earnings are high, managers may increase contractual allowances to reduce income and avoid additional scrutiny. Since *DCA_LV* and *DCA_MLV* are both unsigned as discussed later, β_5 is expected to be positive.

The results of Vansant (2013) advocate the inclusion of *CHAR_GR*. Specifically, he finds that hospitals are more aggressive with earnings management techniques when reported charity care levels exceed expectations. Thus, the coefficient on *CHAR_GR* (β_6) should be positive. The nature and extent of revenue concentration may also be an important factor in potential manipulation. Since reimbursement is typically lower for Medicare and Medicaid patients, hospitals with high levels of *GOV_REV* may face greater pressure to manage earnings

to appear competitive. On the other hand, this variable may also be viewed as a measure of regulatory scrutiny, which may deter financial reporting manipulation. For example, Krishnan and Yetman (2011) find that hospitals with a high Medicare to total gross revenue ratio shift costs less than those with a low ratio. Consequently, no directional prediction is made for β_7.

Corporate governance is another factor that may affect a hospital's ability to manipulate performance. Therefore, a variable that captures the number of board members, *BOD_SIZE*, is used as a control. Prior research (e.g. Jensen 1993; Yermack 1996; Cheng et al. 2008; Krishnan and Yetman 2011) suggests that excessively large boards, common in the nonprofit sector, may actually weaken the monitoring function. Therefore, a positive sign is hypothesized for β_8.

The regression model also includes two measures of size, *GR_REV* and *BEDS*. Consistent with Krishnan and Yetman (2011), no formal prediction is made regarding the direction of either β_9 or β_{10}. Finally, either DCA_LV_{t-1} or DCA_MLV_{t-1} is included to control for potential autocorrelation in the level of DCA following Leone and Van Horn (2005) and Vansant (2013). Therefore, β_{11} should be positive.

Test of classification management (H2)

H2 posits that religious hospitals engage in more classification management than secular hospitals because of various institutional and social constraints juxtaposed with substantial normative pressures to show high levels of charity care. The same model used in H1 is used as an initial test of H2 with the following exceptions: the dependent variable is a proxy for classification management and the addition of a variable for cash availability. Excluding *REL_CTY*, all other directional predictions for control variables are the same as previously discussed. For H2, *REL_CTY* is expected to have a positive coefficient. This modified model, which is estimated for all quarters and separately for the fourth quarter, is below (hospital and

quarter subscripts excluded). As an additional approach to analyzing H2, a similar logistic regression model is also estimated in which the dependent variable equals either *CHAR_UP* or *CHAR_UP3Q*. All variables are defined in Appendix 3.

$$CM = \beta_0 + \beta_1 REL\_OWN + \beta_2 FQ4 + \beta_3 REL\_CTY + \beta_4 RURAL + \beta_5 OP\_INC + \beta_6 CHAR\_GR + \beta_7 GOV\_REV + \beta_8 BOD\_SIZE + \beta_9 GR\_REV + \beta_{10} BEDS + \beta_{11} CASH + \beta_{12} CM_{t-1} + YEAR + \varepsilon$$

where:

CM = empirical proxy for classification management, measured as either *CHAR_UN* or *CHAR_UN3Q*, as discussed in detail in the following section;

CASH = days cash on hand, measured following Eldenburg and Vines (2004) as: (cash + marketable securities + unrestricted investments)/[(total expense – depreciation)/365].

Similar to the test of H1, *REL_OWN* is the variable of interest in the classification management models above. Therefore, H2 is supported if β_1 is positive. A positive coefficient for *FQ4* (β_2) would support the assertion that classification management occurs more in the fourth quarter (Fan et al. 2010). *CASH* is added to the classification management model because Eldenburg and Vines (2004) have shown that cash levels affect the decision to reclassify bad debt costs as charity care. Specifically, high cash hospitals reclassify more than low cash hospitals. Consequently, β_{11} is hypothesized to be positive. Finally, consistent with Leone and Van Horn (2005) and Vansant (2013), CM_{t-1} is included as a control for autocorrelation with β_{12} expected to be positive.

Independent variable

As discussed above, the variable of interest in this study is whether the nonprofit hospital is owned by a secular or religious entity (secular: *REL_OWN* = 0, religious: *REL_OWN* = 1). This information is self-reported by hospitals on a quarterly and annual basis, along with other descriptive, financial, and utilization data. To classify hospital ownership as secular or religious,

this study relies on the quarterly OSHPD reports since the main analyses use quarterly data. While the annual reports disclose nonprofit secular/religious ownership on an annual basis, the quarterly reports did not make this distinction until 2013. To address this issue, the ownership type listed during 2013 (or the last year the facility was open) is used as the secular/religious classification (*REL_OWN*) of all prior quarters. This approach implicitly makes two assumptions: 1) the classification during 2013 is correct, and 2) ownership type for a given hospital is constant throughout the sample period. While there is no reason to believe that reported 2013 data would be inaccurate, this assumption is tested by comparing quarterly to annual data as discussed later in robustness tests.

With respect to the second assumption, a review of annual reports reveals that hospital ownership type occasionally changes, but that the changes are not always accurately reflected in the data. To ensure the most accurate classification of *REL_OWN*, all observations related to hospitals with a change in ownership type during the sample period, as determined using the annual reports, are removed from the analysis. This process eliminates 1,097 observations and results in a smaller, but cleaner sample that consists entirely of facilities with the same ownership type throughout the sample period.

Dependent variables

This section discusses the dependent variables used in tests of earnings management (H1) and classification management (H2).

Earnings management (H1)

Two empirical proxies for earnings management are estimated to test H1 following the methodology used by Leone and Van Horn (2005). Their model is industry specific in that it focuses on a hospital's estimate of contractual allowances, which is one of the greatest areas for

potential manipulation due to the size, nature, and complexity of the account. McNichols (2000) champions the use of industry-specific accruals in detecting earnings management, stating that "the specific accruals approach may be profitably applied to study other industries for which discretion is likely to be concentrated in a single or small number of accruals." Historically, the bulk of earnings management research using specific accruals has focused on either the banking (e.g. Beaver et al. 1989; Collins et al. 1995; Beaver and Engel 1996) or insurance (e.g. Petroni 1992; Beaver and McNichols 1998; Beaver et al. 2003) industries.

Shown below, the Leone and Van Horn (2005) approach models the change in total contractual allowances as a function of the changes in total gross revenue, Medicare gross revenue, and Medicaid gross revenue. As discussed previously, contractual allowances are estimates of the difference between gross billings (at undiscounted rates) and amounts received or receivable from third-party payors with formal contract agreements. Since contractual allowances are deductions to arrive at net patient revenue presented on the income statement, the model may be viewed as a healthcare-specific modification of the discretionary revenue model presented by Stubben (2010).[19] He shows that discretionary revenue models are more accurate in detecting earnings management than a variety of traditional accruals models. The Leone and Van Horn ("LV") model is estimated by year to allow for structural changes to contracted reimbursement rates over the sample period (hospital and quarter subscripts excluded). The residual from this model serves as the first dependent variable (*DCA_LV*) in tests of H1.

$$\Delta CA = \beta_0 + \beta_1 \Delta GR\_TOTAL + \beta_2 \Delta GR\_MCARE + \beta_3 \Delta GR\_MCAID + \varepsilon$$

where:

ΔCA = change in total contractual allowances, scaled by total assets from previous year;

[19] See Appendix 4 for John Muir Medical Center's quarterly report for the period ending December 31, 2012.

ΔGR_TOTAL = change in total gross revenue, scaled by total assets from previous year;

ΔGR_MCARE = change in Medicare gross revenue, scaled by total assets from previous year; and

ΔGR_MCAID = change in Medicaid gross revenue, scaled by total assets from previous year.

A potential issue with the Leone and Van Horn (2005) model is that it does not separately control for changes in gross revenue other than Medicare and Medicaid. As shown in Table 2, revenue related to other third party payors comprises 35.8% (49.7%) of the total gross (net) patient revenue. On average, additional payors combined only represent 5.7% of a hospital's gross revenue. To reduce the potential for misspecification of DCA, the change in Third Party gross revenue (*GR_THIRD*) is added to the Leone and Van Horn (2005) model. This specification is referred to as the Modified Leone and Van Horn ("MLV") model. The MLV model uses 94.3% of the total gross revenue in estimating DCA. Similar to above, the residual from this model serves as the second dependent variable (*DCA_MLV*) in tests of H1.

In both models above, the residual is used as the proxy for earnings management. These residuals represent the portion of the quarterly change in contractual allowances that is not explained by changes in gross revenue within each major payor category (i.e. the discretionary change in contractual allowances). Since the primary focus of this research is on the differential behavior of secular and religious hospitals and not the direction of reporting manipulation, the absolute values of the residuals are used. This allows for the magnitude of all earnings management behavior to be captured.

Classification management (H2)

Based on the work of Eldenburg and Vines (2004), a total of four proxies for classification management are used to test H2. The first dependent measure (*CHAR_UN*) is the

quarterly change in charity care as a percentage of total uncompensated care, measured as the current quarter minus the previous quarter. Alternatively, the change is also calculated as the current quarter minus the average of the previous three quarters (*CHAR_UN3Q*). This alternative version is especially useful when the sample is restricted to the fourth quarter. Dichotomous versions of these two continuous variables are also used in logistic regressions. Specifically, *CHAR_UP* is coded 1 if *CHAR_UN* is greater than 0 and coded 0 otherwise. The same coding scheme is used for *CHAR_UP3Q* (i.e. *CHAR_UP3Q* = 1 if *CHAR_UN3Q* is greater than 0).

TABLE 2 – REVENUE BY MAJOR PAYOR CATEGORY

	Gross Revenue		Deductions			Net Revenue		
Payor Type	**Mean ($)**	**% of Gross (Total)**	**Mean ($)**	**% of Deduct. (Total)**	**% of Gross (Payor)**	**Mean ($)**	**% of Net (Total)**	**% of Gross (Payor)**
Medicare	71,636,625	38.9%	56,495,208	42.0%	78.9%	15,141,418	30.5%	21.1%
Medicaid	36,113,979	19.6%	28,304,935	21.0%	78.4%	7,809,045	15.7%	21.6%
Third Party	65,992,485	35.8%	41,270,273	30.7%	62.5%	24,722,212	49.7%	37.5%
County Indigent	2,629,179	1.4%	2,184,443	1.6%	83.1%	444,736	0.9%	16.9%
Other Indigent	1,935,190	1.1%	1,755,893	1.3%	90.7%	179,297	0.4%	9.3%
Other Payors	5,884,591	3.2%	4,461,541	3.3%	75.8%	1,423,050	2.9%	24.2%
Total	184,192,049	100.0%	134,472,293	100.0%	73.0%	49,719,758	100.0%	27.0%

Notes: This table presents hospital mean amounts (n = 5,529) of gross revenue, deductions from gross revenue, and net revenue by major payor category.

IV. RESULTS

This section provides descriptive data for the sample, as well as univariate and multiple regression results from hypotheses testing. Furthermore, it includes results from supplemental tests to provide additional information regarding the relationship between the nature of hospital ownership and financial reporting manipulation. Finally, numerous robustness checks are conducted to ensure the validity of inferences.

Descriptive and univariate results

Panel A of Table 3 provides key descriptive statistics for the entire sample. The mean (median) value of *DCA_LV* and *DCA_MLV* is 0.026 (0.015) and 0.025 (0.015), respectively. Both *CHAR_UN* (0.011) and *CHAR_UN3Q* (0.016) have a mean greater than zero and *CHAR_UP* and *CHAR_UP3Q* have median values of one, suggesting that hospitals increase their charity to uncompensated care ratio more often than they decrease it. With respect to control variables, hospitals in the sample have the following mean values: *REL_CTY* (438.071), *RURAL* (0.145), *OP_INC* (0.018), *CHAR_GR* (0.014), *GOV_REV* (0.553), *BOD_SIZE* (0.157), *GR_REV* (1.119), *BEDS* (1.891), and *CASH* (48.297). Differences in all variables across hospital ownership type (i.e. secular vs. religious) are discussed below.

With respect to H1, a comparison of means in Panel B indicates that secular hospitals exhibit statistically higher levels of *DCA_LV* (secular: 0.026 vs. religious: 0.020, $p < .01$) and *DCA_MLV* (secular: 0.026 vs. religious: 0.021, $p < .01$) than religious hospitals, regardless of the fiscal quarter. Similar results are found if the sample is restricted to the fourth quarter (secular: 0.029 vs. religious: 0.020, $p < .01$), providing preliminary support for H1. Contrary to

expectations, there does not appear to be a significant difference, overall or in the fourth quarter, between secular and religious hospitals for either of the continuous measures of classification management (*CHAR_UN* and *CHAR_UN3Q*). However, both *CHAR_UP* (secular: 0.543 vs. religious: 0.623, $p < .10$) and *CHAR_UP3Q* (secular: 0.578 vs. religious: 0.658, $p < .10$) are higher in the fourth quarter for religious hospitals as predicted by H2.

In comparison to secular hospitals, religious facilities are more likely to be located in less religious (secular: 440.982 vs. religious: 413.563, $p < .01$), rural geographic areas (secular: 0.131 vs. religious: 0.264, $p < .01$). Furthermore, religious hospitals have higher levels of operating income (secular: 0.016 vs. religious: 0.036, $p < .01$), more charity as a percentage of gross revenue (secular: 0.013 vs. religious: 0.015, $p < .01$), greater concentrations of governmental revenue (secular: 0.547 vs. religious: 0.602, $p < .01$), and cash availability (secular: 46.519 vs. religious: 60.758, $p < .01$). They are also larger in terms of board size (secular: 0.156 vs. religious: 0.164, $p < .01$) and the number of staffed beds (secular: 1.848 vs. religious: 2.250, $p < .01$). However, secular and religious hospitals do not differ statistically in terms of total gross revenue. Similar relationships are found when the sample is restricted to differences in the fourth quarter.

Panel C provides information regarding differences in both dichotomous variables used in H2. As documented above, secular and religious hospitals do not differ with respect to the frequency of *CHAR_UP* or *CHAR_UP3Q* when the sample includes all quarters. However, for *CHAR_UP*, 62.3% of religious hospitals report a fourth-quarter increase in the ratio of charity care to uncompensated care, compared to only 54.3% of secular hospitals. This difference is significant at the .10 level (Pearson $\chi^2 = 3.371$). Furthermore, when *CHAR_UP3Q* is used, the discrepancy increases to 65.8% (religious) vs. 57.8% (secular) and is also significant at the .10

level (Pearson χ^2 = 3.313). Collectively, the results in Panels B and C provide limited univariate evidence that religious hospitals may artificially inflate their fourth-quarter charity ratio to a greater extent than secular hospitals.

TABLE 3 – DESCRIPTIVE STATISTICS AND UNIVARIATE RESULTS

PANEL A: DESCRIPTIVE STATISTICS

Variable	N	Mean	SD	Min	Q1	Q2	Q3	Max
DCA_LV	5,529	0.026	0.033	0.000	0.006	0.015	0.031	0.184
DCA_MLV	5,529	0.025	0.032	0.000	0.006	0.015	0.031	0.179
CHAR_UN	4,660	0.011	0.230	-0.793	-0.085	0.002	0.097	0.866
CHAR_UN3Q	4,653	0.016	0.212	-0.753	-0.075	0.003	0.090	0.828
CHAR_UP	4,660	0.517	0.500	0.000	0.000	1.000	1.000	1.000
CHAR_UP3Q	4,653	0.513	0.500	0.000	0.000	1.000	1.000	1.000
REL_CTY	5,529	438.071	85.388	208.389	370.730	441.069	531.039	554.279
RURAL	5,529	0.145	0.352	0.000	0.000	0.000	0.000	1.000
OP_INC	5,529	0.018	0.131	-0.708	-0.016	0.022	0.069	0.681
CHAR_GR	5,529	0.014	0.016	0.000	0.002	0.009	0.019	0.092
GOV_REV	5,529	0.553	0.183	0.000	0.497	0.593	0.658	0.944
BOD_SIZE	5,529	0.157	0.057	0.010	0.120	0.150	0.190	0.300
GR_REV	5,529	1.119	0.667	0.140	0.652	1.004	1.455	5.431
BEDS	5,529	1.891	1.451	0.120	0.700	1.550	2.720	6.530
CASH	4,660	48.297	70.600	0.000	3.128	20.410	62.542	406.723

PANEL B: SECULAR VS. RELIGIOUS COMPARISON OF MEANS

	FQ = ALL			FQ = 4		
Variable	**Secular**	**Religious**	**Diff.**	**Secular**	**Religious**	**Diff.**
DCA_LV	0.026	0.020	0.006 ***	0.029	0.020	0.009 ***
DCA_MLV	0.026	0.021	0.005 ***	0.029	0.020	0.009 ***
CHAR_UN	0.010	0.015	-0.005	0.045	0.050	-0.005
CHAR_UN3Q	0.015	0.018	-0.003	0.059	0.058	0.001
CHAR_UP	0.514	0.534	-0.020	0.543	0.623	-0.080 *
CHAR_UP3Q	0.510	0.534	-0.024	0.578	0.658	-0.080 *
REL_CTY	440.982	413.563	27.419 ***	440.695	414.007	26.688 **
RURAL	0.131	0.264	-0.133 ***	0.131	0.260	-0.129 ***
OP_INC	0.016	0.036	-0.020 ***	0.015	0.037	-0.022 ***
CHAR_GR	0.013	0.015	-0.002 ***	0.016	0.018	-0.002 *
GOV_REV	0.547	0.602	-0.055 ***	0.546	0.604	-0.058 ***
BOD_SIZE	0.156	0.164	-0.008 ***	0.156	0.164	-0.008 **
GR_REV	1.123	1.085	0.038	1.130	1.114	0.016
BEDS	1.848	2.250	-0.403 ***	1.841	2.252	-0.411 ***
CASH	46.519	60.758	-14.239 ***	46.557	60.829	-14.272 **

(continued on next page)

TABLE 3 - CONTINUED

PANEL C: FREQUENCIES (*CHAR_UP*/*CHAR_UP3Q*)

		FQ = ALL			FQ = 4	
CHAR_UP	**Secular**	**Religious**	**Total**	**Secular**	**Religious**	**Total**
= 0	1,982	271	2,253	468	55	523
	(48.6)	(46.6)	(48.3)	(45.7)	(37.7)	(44.7)
= 1	2,096	311	2,407	555	91	646
	(51.4)	(53.4)	(51.7)	(54.3)	(62.3)	(55.3)
Total	4,078	582	4,660	1,023	146	1,169
Pearson χ^2 =	0.848			3.371*		

		FQ = ALL			FQ = 4	
CHAR_UP3Q	**Secular**	**Religious**	**Total**	**Secular**	**Religious**	**Total**
= 0	1,993	271	2,264	431	50	481
	(49.0)	(46.6)	(48.7)	(42.2)	(34.2)	(41.2)
= 1	2,078	311	2,389	591	96	687
	(51.0)	(53.4)	(51.3)	(57.8)	(65.8)	(58.8)
Total	4,071	582	4,653	1,022	146	1,168
Pearson χ^2 =	1.167			3.313*		

Notes: Panel A provides descriptive data for all variables. Panel B presents results of t-tests (unequal variance assumed) between secular and religious hospitals for all variables. Panel C lists frequencies of *CHAR_UP* and *CHAR_UP3Q* and tests for differences between secular and religious hospitals. Percentages are listed in parentheses below the frequencies. See Appendix 3 for variable definitions. All continuous variables are winsorized at the 1st and 99th percentiles. ***, **, and * indicate statistical significance at 1%, 5%, and 10%, respectively (two-tailed tests except for χ^2).

Table 4 lists Pearson (below diagonal) and Spearman (above diagonal) correlation coefficients for all variables. Correlations that are significant at the .10, .05, and .01 levels are displayed in italics, boldface, and boldface/italics, respectively. As hypothesized, the Pearson correlations between *REL_OWN* and both proxies of earnings management are negative and significant at the .01 level (*DCA_LV*: -.057, *DCA_MLV*: -.052). The equivalent Spearman correlations are also negative and significant (*DCA_LV*: -.046, *DCA_MLV*: -.033). These findings provide univariate evidence in support of H1.

With respect to classification management, the Pearson correlations between *REL_OWN* and both continuous measures are positive, but not statistically significant (*CHAR_UN*: .012 ,

CHAR_UN3Q: .014). However, correlations between *REL_OWN* and the two dichotomous measures of classification management are both positive and significant at the .01 level (*CHAR_UP*: .052, *CHAR_UP3Q*: .054). The corresponding Spearman correlations are similar to those above.

As shown in Table 4, *DCA_LV* and *DCA_MLV* are also negatively correlated (Pearson) with *OP_INC* (-.029 and -.024), *BOD_SIZE* (-.079 and -.081), *BEDS* (-.128 and -.128), and *CASH* (-.138 and -.136). On the other hand, they are both positively correlated with *FQ4* (.053 and .057), *RURAL* (.047 and .055), *CHAR_GR* (.076 and .084), *GOV_REV* (.044 and .054), and *GR_REV* (.367 and .364).

Regression results

Results from the DCA estimation procedures are shown in Table 5. The purpose of these models is to develop two proxies for earnings management based on DCA. Specifically, the LV model regresses the change in total contractual allowances (*CA*) on the changes in total gross revenue (*GR_TOTAL*), Medicare gross revenue (*GR_MCARE*), and Medicaid gross revenue (*GR_MCAID*). The MLV model adds the change in Third Party gross revenue (*GR_THIRD*) as an additional explanatory variable. The models are estimated by year to allow for structural changes to contracted reimbursement rates over time. The absolute values of the residuals from the DCA models serve as the dependent variables in tests of H1 below.

TABLE 4 – CORRELATION COEFFICIENTS

	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	*DCA_LV*		***.937***	**-.035**	*-.020*	***-.043***	**-.028**	***-.046***	**.033**	*-.025*	***.067***	.018	.004	***.086***	***-.108***	***.377***	***-.159***	***-.168***
2	*DCA_MLV*	***.980***		***-.040***	*-.024*	***-.045***	*-.023*	**-.033**	**.036**	**-.035**	***.078***	*.023*	.017	***.089***	***-.100***	***.369***	***-.159***	***-.169***
3	*CHAR_UN*	-.021	-.021		***.732***	***.863***	***.599***	.013	***.063***	-.017	.002	.010	***.180***	-.009	.009	-.005	.001	.001
4	*CHAR_UN3Q*	*-.023*	*-.023*	***.783***		***.598***	***.863***	.019	***.106***	-.016	.003	.014	***.243***	-.014	.010	.018	.014	.008
5	*CHAR_UP*	***-.054***	***-.054***	***.621***	***.488***		***.622***	***.052***	***.040***	*-.022*	-.018	***.043***	***.281***	***.047***	.022	-.004	**.035**	.011
6	*CHAR_UP3Q*	***-.046***	***-.044***	***.497***	***.620***	***.622***		***.054***	***.080***	-.021	-.018	***.043***	***.346***	***.040***	.022	.020	***.051***	.022
7	*REL_OWN*	***-.057***	***-.052***	.012	.014	***.052***	***.054***		-.001	***-.087***	***.111***	***.075***	***.070***	***.056***	***.048***	-.014	***.119***	***.112***
8	*FQ4*	***.053***	***.057***	***.083***	***.113***	***.040***	***.080***	-.001		-.001	.000	.003	***.070***	.001	.000	.011	-.003	.002
9	*REL_CTY*	.021	.016	-.011	-.007	-.019	*-.023*	***-.090***	-.002		***-.161***	***-.196***	*-.018*	***.149***	*-.019*	.020	***.136***	**.034**
10	*RURAL*	***.047***	***.055***	.005	-.001	-.018	-.018	***.111***	.000	***-.258***		***-.068***	-.008	***.135***	***-.247***	***-.105***	***-.462***	***.115***
11	*OP_INC*	**-.029**	*-.024*	.001	-.001	***.043***	***.037***	***.038***	-.001	***-.101***	***-.087***		***.109***	***-.225***	.005	***.107***	***.084***	-.019
12	*CHAR_GR*	***.076***	***.084***	***.176***	***.218***	***.213***	***.273***	*.024*	***.082***	***.047***	*-.027*	***.039***		***.110***	***.052***	**.036**	***.112***	-.015
13	*GOV_REV*	***.044***	***.054***	-.008	.003	***.049***	***.048***	***.064***	.001	***.137***	***.130***	***-.091***	***.052***		-.015	***.176***	**.032**	.015
14	*BOD_SIZE*	***-.079***	***-.081***	-.001	.001	.020	.017	***.036***	.000	***.001***	***-.231***	-.005	-.008	*.023*		-.011	***.196***	***.053***
15	*GR_REV*	***.367***	***.364***	-.008	.007	**-.029**	-.013	**-.028**	.009	***.075***	***-.102***	*.026*	***.039***	***.206***	.002		.010	***-.336***
16	*BEDS*	***-.128***	***-.128***	-.004	.008	.012	**.033**	***.075***	-.002	***.132***	***-.381***	***.095***	***.092***	***.089***	***.212***	***-.063***		***.106***
17	*CASH*	***-.138***	***-.136***	-.005	-.003	-.012	-.010	***.051***	.002	***.049***	***.042***	***-.047***	**-.029**	-.005	***.086***	***-.337***	.015	

Notes: Pearson (Spearman) coefficients are below (above) the diagonal. Coefficients in italics, boldface, and boldface/italics are significant at the .10, .05, and .01 levels, respectively. See Appendix 3 for variable definitions. All continuous variables are winsorized at the 1st and 99th percentiles.

TABLE 5 – ESTIMATION OF DISCRETIONARY CONTRACTUAL ALLOWANCES

PANEL A: LEONE & VAN HORN (2005) MODEL

	DV = Δ*CA* Unstandardized Coefficient Estimates by Year										
Variable	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Δ*GR_TOTAL*	***0.614***	***0.708***	***0.660***	***0.722***	***0.634***	***0.616***	***0.571***	***0.651***	***0.735***	***0.501***	***0.181***
Δ*GR_MCARE*	**0.215**	0.067	***0.238***	***0.201***	***0.359***	***0.269***	***0.306***	***0.207***	0.063	***0.689***	***0.753***
Δ*GR_MCAID*	*0.244*	***0.318***	***0.278***	0.031	***0.372***	***0.281***	***0.422***	***0.271***	***0.325***	***0.491***	***1.045***
CONSTANT	0.000	-0.001	-0.003	**-0.004**	*-0.004*	-0.000	*-0.003*	-0.001	***-0.014***	0.004	**-0.006**
Observations	162	660	652	629	611	613	611	613	601	583	451
Adjusted R^2	.688	.718	.733	.731	.716	.745	.812	.725	.487	.583	.520

PANEL B: MODIFIED LEONE & VAN HORN (2005) MODEL

	DV = Δ*CA* Unstandardized Coefficient Estimates by Year										
Variable	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Δ*GR_TOTAL*	***0.430***	***0.267***	***0.655***	***0.678***	***0.537***	***0.292***	***0.376***	***0.215***	***0.405***	***0.405***	0.164
Δ*GR_MCARE*	**0.402**	***0.503***	***0.242***	***0.243***	***0.455***	***0.585***	***0.498***	***0.663***	***0.375***	***0.776***	***0.773***
Δ*GR_MCAID*	**0.407**	***0.826***	***0.283***	0.074	***0.447***	***0.583***	***0.586***	***0.619***	***0.661***	***0.565***	***1.058***
Δ*GR_THIRD*	0.205	***0.543***	0.008	0.057	0.134	***0.441***	***0.293***	***0.620***	***0.443***	0.162	0.030
CONSTANT	0.000	-0.001	-0.003	*-0.004*	*-0.004*	-0.000	*-0.003*	-0.000	***-0.013***	0.004	**-0.006**
Observations	162	660	652	629	611	613	611	613	601	583	451
Adjusted R^2	.689	.736	.732	.731	.716	.763	.817	.767	.497	.584	.519

Notes: See Appendix 3 for variable definitions. All variables are winsorized at the 1st and 99th percentiles. Coefficients in italics, boldface, and boldface/italics are significant at the .10, .05, and .01 levels, respectively. The absolute values of the residuals from these regressions are used as the dependent variable in tests of H1 presented in Table 6.

Panel A presents the results of the LV annual regressions for 2002 through 2012. This model yields a mean adjusted R-squared value of .678, with values ranging from .487 (2010) to .812 (2008).[20] These values are interpreted as the non-discretionary component of contractual allowances, leaving 32.2%, on average, as the discretionary portion (i.e. earnings management). In 8 out of 11 years, all three predictor variables are at least marginally significant, which suggests that the change in a hospital's contractual allowances can be explained in part by changes in total gross revenue, Medicare revenue, and Medicaid revenue.

Panel B presents the results of the MLV model, which has a mean adjusted R-squared value of .686. In all but two years, *GR_TOTAL*, *GR_MCARE*, and *GR_MCAID* are all significant at the .01 level. As shown, the adjusted R-squared values are higher and the coefficient on *GR_THIRD* is statistically significant ($p < .01$) in roughly half of the yearly regressions. This suggests that the change in third party gross revenue explains an incremental portion of the variation in contractual allowance changes.

Table 6 presents the results of H1, which predicts that religious social norms influence religious hospital managers to engage in less earnings management than secular hospitals. To test H1, the coefficient on *REL_OWN* is examined, with β_1 expected to be negative. Overall, the full (i.e. all quarters) LV model explains 29.0% of the variation in *DCA_LV*, while the adjusted R-squared for the fourth-quarter model is 24.5%. In line with the prediction of H1, the coefficient on *REL_OWN* is negative and significant (-0.003, $p < .05$). As expected, *FQ4* is positive (0.003, $p < .01$), providing additional support for separately analyzing the fourth quarter. As shown in the second model, when the sample is restricted to the fourth quarter, the coefficient on *REL_OWN* is larger (-0.008) and more significant ($p < .01$) than when the sample includes all

[20] The mean adjusted R-squared of .678 reported in this paper is considerably larger than the .590 reported in the Leone and Van Horn (2005) study.

quarters. Accordingly, it seems that religious hospitals manage earnings to a lesser extent than secular hospitals. This result is especially strong during the fourth quarter, the period in which earnings management typically occurs.

With respect to control variables, *OP_INC* (-0.014, $p < .01$), *GOV_REV* (-0.011, $p < .05$), *BOD_SIZE* (-0.020, $p < .10$), and *BEDS* (-0.001, $p < .01$) are all negative and at least marginally significant in the full LV model. Therefore, it appears that earnings management is lower for hospitals with higher levels of operating income, greater concentrations of government revenue, larger boards, and more staffed beds. On the other hand, *RURAL* (0.003, $p < .10$), *GR_REV* (0.013, $p < .01$) and DCA_LV_{t-1} (0.349, $p < .01$) are all significant and positive, which suggests that earnings management is higher for hospitals in rural areas and those with large amounts of gross revenue. The positive sign of β_{11} indicates that earnings management is serially correlated as hypothesized. These relationships are similar in the fourth quarter model for *OP_INC* (-0.033, $p < .01$), *BOD_SIZE* (-0.041, $p < .05$), *GR_REV* (0.013, $p < .01$), and DCA_LV_{t-1} (0.328, $p < .01$). Interestingly, *REL_CTY* and *CHAR_GR* are not significant in any of the models presented in Table 6.

Results from the full and fourth-quarter MLV models are also presented in Table 6. As described in the previous section, the only difference between the LV and MLV specifications is how the dependent variables are derived. Results from these two models are similar to those discussed above in terms of explanatory power, coefficient estimates, and statistical significance. Specifically, the relationship between *REL_OWN* and *DCA_MLV* is negative in the full (-0.003, $p < .10$) and fourth-quarter models (-0.008, $p < .01$). Combined, these results provide strong evidence in support of H1. Supplemental analyses in the following section investigate whether

these results are the same for each major payor type (i.e. Medicare, Medicaid, and Third Party), confined to the fourth quarter, or affected by recent healthcare legislation.

Tests of H2 are presented in Table 7. Panel A provides results of the linear regression models, while Panel B shows logistic regression results. Recall that the second hypothesis posits that religious hospitals engage in more classification management than secular hospitals. To test H2, the coefficient on *REL_OWN* is examined, with β_1 expected to be positive. As shown in Panel A, the full (fourth-quarter) classification management models explain 20.6% (16.8%) and 6.1% (11.8%) of the variation in *CHAR_UN* and *CHAR_UN3Q*, respectively. Contrary to expectations, *REL_OWN* is not statistically significant in any of the four linear models.

TABLE 6 – TESTS OF EARNINGS MANAGEMENT

		DV = *DCA_LV*				DV = *DCA_MLV*			
Variable	**Pred.**	**ALL**		**FQ4**		**ALL**		**FQ4**	
REL_OWN	–	-0.003		-0.008		-0.003		-0.008	
		(-2.093)	**	(-2.846)	***	(-1.931)	*	(-2.961)	***
FQ4	+	0.003		–		0.004		–	
		(3.303)	***	–		(3.789)	***	–	
REL_CTY	–	0.000		-0.000		0.000		-0.000	
		(0.313)		(-0.500)		(0.339)		(-0.337)	
RURAL	–	0.003		0.004		0.004		0.004	
		(1.822)	*	(1.353)		(1.977)	**	(1.248)	
OP_INC	+	-0.014		-0.033		-0.011		-0.027	
		(-3.749)	***	(-2.847)	***	(-2.919)	***	(-2.351)	**
CHAR_GR	+	0.065		0.072		0.075		0.088	
		(1.422)		(1.167)		(1.643)		(1.380)	
GOV_REV	+/–	-0.011		0.001		-0.009		0.001	
		(-2.059)	**	(0.171)		(-1.811)	*	(0.218)	
BOD_SIZE	+	-0.020		-0.041		-0.021		-0.042	
		(-1.719)	*	(-2.127)	**	(-1.890)	*	(-2.243)	**
GR_REV	+/–	0.013		0.013		0.013		0.013	
		(11.194)	***	(7.256)	***	(12.027)	***	(7.099)	***
BEDS	+/–	-0.001		0.000		-0.001		-0.000	
		(-3.034)	***	(0.040)		(-3.114)	***	(-0.093)	
EM_{t-1}	+	0.349		0.328		0.350		0.342	
		(15.144)	***	(6.362)	***	(16.949)	***	(7.436)	***
CONSTANT	+/–	0.018		0.016		0.018		0.015	
		(4.105)	***	(1.940)	*	(4.203)	***	(1.805)	*
YEAR		Included		Included		Included		Included	
Observations		5,529		1,380		5,529		1,380	
Adjusted R^2		.290		.245		.287		.239	

Notes: This table presents the results of four linear regressions in which the dependent variable is either *DCA_LV* or *DCA_MLV*. The first two models use DCA estimated using the standard Leone and Van Horn (2005) model (*DCA_LV*), while the latter two use DCA estimated using the Modified Leone and Van Horn (2005) model (*DCA_MLV*). The estimation of both dependent variables is presented in Table 5. See Appendix 3 for variable definitions. All continuous variables are winsorized at the 1st and 99th percentiles. T-stats are in parentheses below coefficient (unstandardized) estimates and are based on standard errors clustered by hospital. ***, **, and * indicate statistical significance at 1%, 5%, and 10%, respectively (two-tailed tests). Results are similar using the following alternate specifications: 1) Vansant (2013) DCA model, 2) inpatient/outpatient variations of LV and MLV models, 3) pooled cross-sectional variations of LV and MLV models, 4) continuous variables scaled by number of beds, 5) Huber-White robust standard errors, and 6) winsorizing at the 5th and 95th percentiles.

Consistent with Fan et al. (2010) and the results of H1 above, it appears that nonprofit hospitals strategically manage the classification of charity care more in the fourth quarter than in interim quarters (*CHAR_UN*: 0.040, $p < .01$ and *CHAR_UN3Q*: 0.049, $p < .01$). Regardless of the fiscal quarter, classification management is also higher for hospitals with large amounts of reported charity care as a percentage of total gross revenue (*CHAR_UN*: 2.790, $p < .01$ and *CHAR_UN3Q*: 2.843, $p < .01$). Even stronger results are found during the fourth quarter (*CHAR_UN*: 4.708, $p < .01$ and *CHAR_UN3Q*: 4.699, $p < .01$). Conversely, fourth-quarter classification management is lower for hospitals with large amounts of total gross revenue. The coefficient on *GR_REV* is negative and significant when either *CHAR_UN* (-0.041, $p < .01$) or *CHAR_UN3Q* (-0.034, $p < .05$) is used as the proxy for classification management.

Panel B presents logistic regression results in which the dependent variable is either *CHAR_UP* or *CHAR_UP3Q*. Recall that *CHAR_UP* (*CHAR_UP3Q*) is coded 1 if *CHAR_UN* (*CHAR_UN3Q*) is greater than 0. Similar to the results in Panel A, *FQ4* is positive and significant at the .01 level for both dependent variables (*CHAR_UP*: 0.191, $p < .05$ and *CHAR_UP3Q*: 0.328, $p < .01$). Furthermore, the same relationships between *CHAR_GR* and both dichotomous dependent variables are found in Panel B. In all four models, β_6 is positive and highly significant ($p < .01$). A similar fourth-quarter relationship is also seen for *GR_REV* (-0.353, $p < .01$), but only when *CHAR_UP* is used.

In the full *CHAR_UP* model, *REL_OWN* is positive (0.133) but not statistically different than zero. However, it is positive and marginally significant when the sample is restricted to the fourth quarter (0.341, $p < .10$). When *CHAR_UP3Q* is used, the coefficient on *REL_OWN* is positive but not significant for either model. In summary, the evidence in Table 7 does not provide evidence in support of H2.

TABLE 7 – TESTS OF CLASSIFICATION MANAGEMENT

PANEL A: LINEAR REGRESSIONS

		DV = *CHAR_UN*				**DV = *CHAR_UN3Q***			
Variable	**Pred.**	**ALL**		**FQ4**		**ALL**		**FQ4**	
REL_OWN	+	0.010		0.002		0.008		-0.001	
		(0.994)		(0.092)		(0.768)		(-0.039)	
FQ4	+	0.040		–		0.049		–	
		(3.837)	***	–		(4.536)	***	–	
REL_CTY	+	-0.000		-0.000		-0.000		-0.000	
		(-1.880)	*	(-1.306)		(-1.499)		(-1.502)	
RURAL	–	-0.010		-0.028		-0.012		-0.027	
		(-1.201)		(-0.792)		(-1.291)		(-0.901)	
OP_INC	+	-0.042		0.082		-0.058		0.065	
		(-1.099)		(1.030)		(-1.359)		(0.844)	
CHAR_GR	+	2.790		4.708		2.843		4.699	
		(5.934)	***	(7.725)	***	(5.632)	***	(7.769)	***
GOV_REV	+/–	-0.032		0.068		-0.051		0.057	
		(-0.639)		(0.830)		(-0.856)		(0.681)	
BOD_SIZE	+	0.029		-0.058		0.005		-0.034	
		(0.466)		(-0.366)		(0.074)		(-0.220)	
GR_REV	+/–	-0.008		-0.041		-0.001		-0.034	
		(-1.316)		(-3.045)	***	(-0.156)		(-2.422)	**
BEDS	+/–	-0.005		-0.006		-0.003		-0.005	
		(-2.149)	**	(-1.007)		(-1.202)		(-0.709)	
CASH	+	-0.000		-0.000		0.000		0.000	
		(-0.003)		(-0.074)		(0.640)		(0.248)	
$CHAR\_UN_{t-1}$	+	-0.421		-0.318		0.061		0.094	
		(-22.440)	***	(-4.690)	***	(3.600)	***	(1.825)	*
CONSTANT	+/–	0.017		0.021		0.011		0.060	
		(0.444)		(0.322)		(0.254)		(0.933)	
YEAR		Included		Included		Included		Included	
Observations		4,660		1,169		4,653		1,168	
Adjusted R^2		.206		.168		.061		.118	

(continued on next page)

TABLE 7 - CONTINUED

PANEL B: LOGISTIC REGRESSIONS

		DV = *CHAR_UP*				DV = *CHAR_UP3Q*			
Variable	**Pred.**	**ALL**		**FQ4**		**ALL**		**FQ4**	
REL_OWN	+	0.133		0.341		0.102		0.329	
		(1.129)		(1.658)	*	(1.102)		(1.593)	
FQ4	+	0.191		–		0.328		–	
		(2.231)	**	–		(3.961)	***	–	
REL_CTY	+	-0.000		-0.001		-0.001		-0.001	
		(-0.999)		(-1.145)		(-1.626)		(-1.175)	
RURAL	–	-0.115		-0.014		-0.041		-0.034	
		(-0.972)		(-0.061)		(-0.419)		(-0.144)	
OP_INC	+	0.042		0.967		-0.214		1.007	
		(0.132)		(1.716)	*	(-0.598)		(1.623)	
CHAR_GR	+	20.661		30.870		28.423		38.504	
		(6.008)	***	(6.685)	***	(5.742)	***	(6.228)	***
GOV_REV	+/–	-0.160		0.224		-0.373		-0.096	
		(-0.403)		(0.415)		(-0.756)		(-0.146)	
BOD_SIZE	+	0.790		-0.571		0.444		-0.894	
		(1.154)		(-0.394)		(0.532)		(-0.684)	
GR_REV	+/–	-0.089		-0.353		-0.002		-0.215	
		(-1.360)		(-2.625)	***	(-0.027)		(-1.555)	
BEDS	+/–	-0.045		-0.008		0.000		-0.011	
		(-1.574)		(-0.145)		(0.001)		(-0.169)	
CASH	+	0.000		0.000		0.001		0.001	
		(0.419)		(0.129)		(0.905)		(0.385)	
$CHAR\_UP_{t-1}$	+	-1.206		-1.098		0.131		0.172	
		(-19.663)	***	(-7.730)	***	(2.240)	**	(1.453)	
CONSTANT	+/–	0.437		0.673		-0.223		0.093	
		(1.380)		(1.128)		(-0.582)		(0.151)	
YEAR		Included		Included		Included		Included	
Observations		4,660		1,169		4,653		1,168	
Pseudo R^2		.076		.107		.037		.077	

Notes: This table presents the results of several linear (Panel A) and logistic (Panel B) regressions in which either *CHAR_UN/CHAR_UN3Q* or *CHAR_UP/CHAR_UP3Q* is used the dependent variable, respectively. See Appendix 3 for variable definitions. All continuous variables are winsorized at the 1st and 99th percentiles. T-stats are in parentheses below coefficient (unstandardized) estimates and are based on standard errors clustered by hospital. ***, **, and * indicate statistical significance at 1%, 5%, and 10%, respectively (two-tailed tests). Results are similar using the following alternate specifications: 1) DV = change in charity care as a percentage of total gross revenue, 2) Huber-White robust standard errors, and 3) winsorizing at the 5th and 95th percentiles.

Supplemental analyses

To extend the primary analyses above, several supplemental tests are conducted and discussed in detail below. These tests investigate whether the earnings management results documented above are similar for all payors, confined to the fourth quarter, or influenced by recent healthcare legislation that had the potential to change managerial incentives to manipulate financial performance.

Payor-specific

First, H1 is separately tested by major payor type (i.e. Medicare, Medicaid, and Third Party) to identify for which payor(s), if any, secular and religious hospitals differentially manage contractual allowances. They may engage in differential earnings management behavior because the revenue from these payors represents services provided to patients of different demographic backgrounds. While Medicare insures elderly patients, Medicaid is only available to low-income individuals. On the other hand, Third Party revenue corresponds to patients with private insurance policies, with plans available to individuals regardless of age or income level. To run the analyses, DCA is estimated by regressing the change in contractual allowances on the change in total gross revenue for each payor type. Similar to above, the absolute values of the residuals from the annual DCA regressions are used as the dependent variables in supplemental tests of H1. Results from the payor-specific analyses are presented in Table 8.

As shown in Panel A, which uses observations from all quarters, the coefficient on *REL_OWN* is negative (-0.002) and marginally significant for Medicaid ($p < .10$) but not for Medicare or Third Party. Therefore, when considering all fiscal quarters, there does not appear to be a meaningful difference in the extent to which secular and religious hospitals manage contractual allowances for those two payors. However, when the sample is restricted to the

fourth quarter, Panel B shows that *REL_OWN* is at least marginally significant for all three payor types. Specifically, the coefficient is negative and marginally significant for Medicare and Third Party (-0.002, $p < .10$). Interestingly, the most significant difference in the fourth quarter pertains to Medicaid (-0.005, $p < .05$). Based on the results in Table 8, it appears that religious hospitals are much less likely than secular hospitals to manage Medicaid contractual allowances, especially during the fourth quarter. This finding is especially interesting given that the Medicaid program was designed to aid low-income individuals, a demographic that receives a considerable amount of focus from religiously affiliated hospitals. There is some limited evidence to suggest that religious hospitals may also manage fourth-quarter Medicare and Third Party contractual allowances to a lesser extent than secular hospitals.

Quarter-specific

Second, to further investigate the timing of potential financial reporting manipulation, all earnings management and classification management models are estimated separately by quarter. For brevity, only results from the earnings management analysis using *DCA_MLV* as the dependent variable are presented in Table 9. Results are similar if *DCA_LV* is used as the dependent variable in tests of earnings management. With respect to the classification management analyses, the coefficient on *REL_OWN* is not significant in any interim quarter using a linear or logistic regression model.

Table 9 documents that the earnings management difference between secular and religious hospitals appears to be limited to the fourth quarter. For all interim fiscal quarters, the coefficient on *REL_OWN* is not statistically different from zero. However, as documented in the previous section, the coefficient is negative (-0.008) and significant at the .01 level when the

sample is restricted to the fourth quarter. This finding is significant given that prior research has documented that manipulation is most likely to occur in the fourth quarter.

TABLE 8 – EARNINGS MANAGEMENT ANALYSIS BY PAYOR TYPE

PANEL A: FQ = ALL

		PAYOR TYPE					
Variable	**Pred.**	**MCARE**		**MCAID**		**THIRD**	
REL_OWN	–	-0.001		-0.002		0.000	
		(-1.154)		(-1.862)	*	(0.293)	
FQ4	+	0.000		0.002		0.001	
		(0.273)		(1.935)	*	(1.215)	
REL_CTY	–	0.000		0.000		0.000	
		(1.562)		(2.043)	**	(0.679)	
RURAL	–	0.003		0.003		0.001	
		(2.213)	**	(2.240)	**	(0.757)	
OP_INC	+	0.001		-0.006		0.002	
		(0.296)		(-1.939)	*	(0.598)	
CHAR_GR	+	-0.011		0.054		-0.000	
		(-0.689)		(1.840)	*	(-0.011)	
GOV_REV	+/–	0.008		0.010		-0.011	
		(3.931)	***	(4.617)	***	(-3.160)	***
BOD_SIZE	+	-0.004		-0.027		-0.005	
		(-0.635)		(-2.660)	***	(-0.736)	
GR_REV	+/–	0.006		0.006		0.010	
		(9.761)	***	(5.752)	***	(11.969)	***
BEDS	+/–	-0.001		-0.000		-0.001	
		(-5.350)	***	(-1.163)		(-3.653)	***
EM_{t-1}	+	0.381		0.430		0.355	
		(14.775)	***	(18.187)	***	(13.489)	***
CONSTANT	+/–	0.003		-0.004		0.014	
		(1.211)		(-1.252)		(3.991)	***
YEAR		Included		Included		Included	
Observations		5,529		5,529		5,529	
Adjusted R^2		.320		.337		.323	

(continued on next page)

TABLE 8 – CONTINUED

PANEL B: FQ = 4

		PAYOR TYPE					
Variable	**Pred.**	**MCARE**		**MCAID**		**THIRD**	
REL_OWN	–	-0.002		-0.005		-0.002	
		(-1.760)	*	(-2.525)	**	(-1.880)	*
REL_CTY	–	0.000		0.000		0.000	
		(2.118)	**	(1.015)		(0.286)	
RURAL	–	0.004		0.005		0.002	
		(1.744)	*	(1.750)	*	(1.203)	
OP_INC	+	-0.003		-0.015		-0.002	
		(-0.698)		(-2.410)	**	(-0.345)	
CHAR_GR	+	-0.003		0.080		0.008	
		(-0.109)		(1.525)		(0.207)	
GOV_REV	+/–	0.009		0.017		-0.011	
		(3.045)	***	(4.569)	***	(-2.821)	***
BOD_SIZE	+	0.003		-0.053		0.001	
		(0.322)		(-3.084)	***	(0.045)	
GR_REV	+/–	0.007		0.007		0.010	
		(6.385)	***	(5.313)	***	(5.949)	***
BEDS	+/–	-0.001		0.000		-0.000	
		(-2.763)	***	(0.624)		(-0.904)	
EM_{t-1}	+	0.357		0.363		0.399	
		(7.486)	***	(6.381)	***	(10.188)	***
CONSTANT	+/–	-0.011		0.001		0.004	
		(-3.010)	***	(0.262)		(0.761)	
YEAR		Included		Included		Included	
Observations		1,380		1,380		1,380	
Adjusted R^2		.330		.280		.345	

Notes: This table presents supplemental earnings management analyses by payor type (MCARE = Medicare, MCAID = Medicaid, and THIRD = Third Party). Panel A presents regression results using all fiscal quarters, while Panel B shows results when the sample is restricted to the fourth quarter. The DV for each model is a payor-specific variation of DCA as discussed in section III. For example, the DV in the first model is the absolute value of the residuals from yearly regressions in which the change in Medicare contractual allowances is regressed on the change in Medicare gross revenue. See Appendix 3 for variable definitions. All continuous variables are winsorized at the 1st and 99th percentiles. T-stats are in parentheses below coefficient (unstandardized) estimates and are based on standard errors clustered by hospital. ***, **, and * indicate statistical significance at 1%, 5%, and 10%, respectively (two-tailed tests).

TABLE 9 – EARNINGS MANAGEMENT ANALYSIS BY QUARTER

		DV = *DCA_MLV*							
Variable	**Pred.**	**FQ = 1**		**FQ = 2**		**FQ = 3**		**FQ = 4**	
REL_OWN	–	-0.002		-0.001		0.000		-0.008	
		(-0.739)		(-0.185)		(0.088)		(-2.961)	***
REL_CTY	–	0.000		0.000		-0.000		-0.000	
		(0.400)		(1.485)		(-0.987)		(-0.337)	
RURAL	–	-0.002		0.010		0.001		0.004	
		(-1.010)		(3.340)	***	(0.253)		(1.248)	
OP_INC	+	-0.001		-0.010		-0.007		-0.027	
		(-0.079)		(-1.309)		(-1.210)		(-2.351)	**
CHAR_GR	+	0.111		0.098		0.009		0.088	
		(1.254)		(1.279)		(0.173)		(1.380)	
GOV_REV	+/–	-0.017		-0.014		-0.009		0.001	
		(-1.733)	*	(-2.091)	**	(-1.205)		(0.218)	
BOD_SIZE	+	-0.013		-0.008		-0.022		-0.042	
		(-0.591)		(-0.521)		(-1.885)	*	(-2.243)	**
GR_REV	+/–	0.014		0.014		0.009		0.013	
		(5.461)	***	(5.741)	***	(5.815)	***	(7.099)	***
BEDS	+/–	-0.001		-0.002		-0.001		-0.000	
		(-1.275)		(-3.660)	***	(-2.867)	***	(-0.093)	
EM_{t-1}	+	0.394		0.204		0.508		0.342	
		(9.544)	***	(4.761)	***	(8.760)	***	(7.436)	***
CONSTANT	+/–	0.026		0.006		0.022		0.015	
		(3.205)	***	(1.028)		(4.107)	***	(1.805)	*
YEAR		Included		Included		Included		Included	
Observations		1,383		1,382		1,384		1,380	
Adjusted R^2		.360		.245		.390		.239	

Notes: This table presents supplemental earnings management analyses by individual quarter. See Appendix 3 for variable definitions. All continuous variables are winsorized at the 1st and 99th percentiles. T-stats are in parentheses below coefficient (unstandardized) estimates and are based on standard errors clustered by hospital. ***, **, and * indicate statistical significance at 1%, 5%, and 10%, respectively (two-tailed tests).

Patient Protection and Affordable Care Act (ACA)

As a final supplemental test, this study considers the potential impact of the ACA on hospital incentives to manage earnings. As a result of the legislation, nonprofit hospitals are now subject to additional reporting requirements regarding their financial performance (e.g. reported income). For the purposes of this study, the ACA is significant because it increases the visibility

of hospital performance and the requirements for hospitals to maintain tax-exempt status (U.S. Congress 2010). Perhaps the most noteworthy element of the legislation is the requirement to submit audited financial statements with Form 990 for tax years beginning after March 23, 2010. Given the heightened visibility of performance following this regulatory change, it is possible that managers may feel more pressure to artificially inflate or deflate financial results. However, the increased reporting requirements may deter financial reporting manipulation through increased transparency. Consequently, this research does not make a directional prediction regarding the effect of the ACA on earnings management.

To test the effect of this regulation, two additional variables are added to the earnings management models. The first variable, *ACA*, is an indicator variable coded 1 if the observation is in the post-ACA period (i.e. after the first quarter of 2010) and 0 otherwise. The second variable, *ACA_REL*, represents the interaction between *ACA* and *REL_OWN* and is included to determine whether the legislation has differentially affected secular and religious hospitals. Given that the focus of this study is on differences in financial reporting behavior based on ownership type (i.e. secular vs. religious), *ACA_REL* is the primary variable of interest in the ACA models presented in Table 10. Two models are estimated for each proxy of earnings management, *DCA_LV* and *DCA_MLV*, resulting in a total of four regressions. In all models, observations from all fiscal quarters are included. The first and third models in Table 10 use observations from all years, while the second and fourth models only use observations from 2008 to 2012. The reason for this limited sample is to investigate the impact of the ACA policy using data immediately before and after the effective date in 2010.

As shown in Table 10, the coefficient on *REL_OWN* remains statistically significant in all four models after the inclusion of *ACA* and *ACA_REL*. Specifically, the coefficient is negative

and significant at the .05 level when observations from all years are used, regardless of whether *DCA_LV* (-0.003) or *DCA_MLV* (-0.002) is used as the dependent variable. Religious ownership also appears to have a significant effect when the sample is restricted to 2008 through 2012. Specifically, *REL_OWN* is negative and at least marginally significant if *DCA_LV* (-0.004, $p < .01$) or *DCA_MLV* is used (-0.003, $p < .10$).

Table 10 also shows that the coefficient on *ACA* is positive and significant at the .01 level in all models, suggesting that earnings management has increased significantly following the ACA legislation. This finding is interesting because it documents an undesirable consequence from the increase in reporting requirements mandated by the ACA. However, the interaction term (*ACA_REL*) is not significant in any of the four models. Consequently, it does not appear that the passage of the ACA has differentially affected the earnings management behavior of secular and religious hospitals.

Robustness checks

To ensure that results are not the artifact of a particular model specification, numerous robustness checks are conducted (results not tabulated). The first set of robustness tests relate to the variable of interest, *REL_OWN*. As discussed above, the hospital's ownership type is determined using the 2013 quarterly OSHPD reports. To evaluate the accuracy of these data, the ownership type as reported on the 2013 quarterly reports is compared to the ownership type indicated on the annual reports. Differences are found in 28 of the 171 hospitals in the H1 sample (16.4%), which corresponds to a total of 779 observations (14.1%). These differences are reconciled via hand-collection of individual hospital quarterly and annual reports and hospital websites.

TABLE 10 – AFFORDABLE CARE ACT ANALYSIS

		DV = *DCA_LV*				DV = *DCA_MLV*			
Variable	**Pred.**	**ALL YR**		**08-12**		**ALL YR**		**08-12**	
REL_OWN	–	-0.003		-0.004		-0.002		-0.003	
		(-2.403)	**	(-2.655)	***	(-2.083)	**	(-1.881)	*
ACA	+/–	0.007		0.008		0.007		0.008	
		(3.007)	***	(3.150)	***	(2.950)	***	(3.161)	***
ACA_REL	+/–	0.000		0.000		-0.001		-0.001	
		(0.062)		(0.144)		(-0.208)		(-0.432)	
FQ4	+	0.003		0.001		0.004		0.001	
		(3.062)	***	(0.382)		(3.558)	***	(0.656)	
REL_CTY	–	0.000		0.000		0.000		0.000	
		(0.317)		(0.565)		(0.346)		(0.440)	
RURAL	–	0.003		0.006		0.004		0.006	
		(1.825)	*	(2.137)	**	(1.980)	**	(2.152)	**
OP_INC	+	-0.014		-0.024		-0.011		-0.016	
		(-3.722)	***	(-3.225)	***	(-2.901)	***	(-2.459)	**
CHAR_GR	+	0.063		0.038		0.074		0.053	
		(1.390)		(0.716)		(1.614)		(1.033)	
GOV_REV	+/–	-0.011		-0.000		-0.009		0.001	
		(-2.054)	**	(-0.087)		(-1.803)	*	(0.285)	
BOD_SIZE	+	-0.020		-0.025		-0.021		-0.027	
		(-1.720)	*	(-2.369)	**	(-1.895)	*	(-2.582)	**
GR_REV	+/–	0.013		0.011		0.013		0.010	
		(11.205)	***	(7.195)	***	(12.037)	***	(7.296)	***
BEDS	+/–	-0.001		-0.001		-0.001		-0.001	
		(-3.022)	***	(-1.354)		(-3.102)	***	(-1.652)	
EM_{t-1}	+	0.348		0.365		0.349		0.361	
		(15.096)	***	(10.019)	***	(16.869)	***	(11.618)	***
CONSTANT	+/–	0.018		0.003		0.018		0.003	
		(4.092)	***	(0.546)		(4.182)	***	(0.593)	
YEAR		Included		Included		Included		Included	
Observations		5,529		2,253		5,529		2,253	
Adjusted R^2		.291		.301		.288		.288	

Notes: This table presents results from supplemental earnings management analyses regarding the Affordable Care Act legislation. In all models, observations from all quarters are included. The first and third models (ALL YEAR) include observations from all years, while the second and fourth models (08-12) include only observations from 2008 through 2012. See Appendix 3 for variable definitions. All continuous variables are winsorized at the 1st and 99th percentiles. T-stats are in parentheses below coefficient (unstandardized) estimates and are based on standard errors clustered by hospital. ***, **, and * indicate statistical significance at 1%, 5%, and 10%, respectively (two-tailed tests).

An investigation of these differences reveals that for five hospitals, the quarterly reports correctly list the facilities as religious hospitals, while the annual reports incorrectly indicate they are secular. Since the quarterly classification is accurate, no correction is made for these 180 observations. However, a comparison of quarterly and annual data reveals that 16 religious hospitals are incorrectly coded as secular. Therefore, the secular/religious classification of these 476 observations is corrected and all models are re-estimated. Finally, a total of 123 observations are removed from the analyses because they correspond to seven different for-profit hospitals. When these adjustments are made, results are slightly stronger than those previously reported.

Several robustness checks related to the choice of proxies for earnings management and classification management are also performed. For all alternate specifications listed below, results are the same as previously reported. First, the Vansant (2013) approach, which models contractual allowances as a function of the changes in total gross revenue and total governmental payor revenue (i.e. Medicare and Medicaid), is used to estimate DCA. The first hypothesis is then tested using the absolute values of the residuals from the Vansant (2013) annual regressions to examine the sensitivity of reported results to an additional specification. Second, because the nature of services provided (e.g. inpatient vs. outpatient) potentially affects reimbursement from payors (and the estimation of contractual allowances), the LV and MLV models are modified by separating each payor component of gross revenue into its inpatient and outpatient portions. Third, the LV and MLV models are estimated in a pooled cross-sectional regression rather than by year as an alternate means of calculating the proxies for earnings management. Fourth, to reduce the number of observations lost when scaling by total assets, the number of staffed beds is used in the estimation of DCA. Fifth, in tests of classification management, the change in

charity care as a percentage of total gross revenue is employed as an alternate dependent variable.

Finally, two additional general robustness checks are performed for the earnings management and classification management analyses. The first test removes hospital clustering of standard errors, while the second sets extreme continuous variables at the 5^{th} and 95^{th} percentiles. Regardless of the choice of standard error correction or method of winsorization, all conclusions remain similar to those previously reported.

Summary of results

Using multiple empirical proxies for financial reporting manipulation, results from this research suggest that religious hospitals manage earnings less than secular hospitals. Although univariate evidence implies that religious hospitals may artificially increase their charity care ratio more frequently than secular hospitals, regression results are not conclusive. Supplemental tests indicate that the earnings management result is being driven by differences in the fourth quarter, the period in which manipulation is most likely to occur. Subsequent tests also reveal that the biggest difference between secular and religious hospitals with respect to earnings management occurs for the Medicaid payor. However, there is limited evidence that religious hospitals strategically manage contractual allowances for Medicare and Third Party payors to a lesser extent than secular hospitals during the fourth quarter.

During the sample period, financial reporting incentives experienced a potential shock as a result of new healthcare legislation, primarily due to increase reporting requirements to maintain tax-exempt status. Additional analyses document that although earnings management is higher in quarters following the passage of the ACA, the effect on financial reporting is not significantly different for secular and religious hospitals.

V. CONCLUSION

As discussed above, this research provides important evidence of the role of a critical, but often overlooked social factor, religious ownership, in shaping financial reporting behavior. This section provides a summary of the dissertation, including the motivation for examining religion, research methodology used, results of empirical tests, research contributions, and implications for hospital stakeholders. Furthermore, it provides a discussion of limitations, as well as areas for future research.

Summary

Investors, creditors, auditors, standard setters, regulators and other stakeholders have been concerned with financial reporting manipulation for many years. Consequently, researchers in the accounting and finance disciplines have spent a considerable amount of effort trying to understand and explain why reporting irregularities occur and how they can be prevented. One recent stream of research in accounting (e.g. Dyreng et al. 2012; McGuire et al. 2012) has shown that religious social norms can serve a governance role and potentially deter certain types of unethical financial reporting behavior. However, this line of research is small and almost exclusively focuses on the reporting decisions of large, publicly traded entities. Furthermore, these studies use an indirect, location-based measure of religiosity that is a function of the surrounding population's level of religious affiliation. In the nonprofit sector, organizations have the potential to be affected by religion in ways other than simply dispersion of religious beliefs within a given geographic area.

This paper extends the literature by using a more direct measure of religiosity, the ownership affiliation of a hospital, in a nonprofit setting. Specifically, this research investigates the role of hospital ownership (i.e. secular vs. religious) in financial reporting using multiple variations of two general types of potential manipulation: earnings management and classification management. Given that nonprofit organizations technically do not have a profit motive, it is important to look at other means of manipulation beyond those that affect reported earnings. Furthermore, this study examines the timing and source of manipulation, as well as the effect on managerial incentives of recent healthcare legislation. Results from this research enhance our understanding of the importance of religion in a corporate context and have implications for a variety of hospital stakeholders, including audit firms, tax authorities, various regulatory agencies, potential donors, and debt holders.

As previously discussed, nonprofit hospital managers have opposing incentives to artificially inflate or deflate the amount of earnings they report in a given period. While the markets for debt financing and executive labor create an upward pressure on income, especially when facing a potential net loss, increased scrutiny from taxing authorities, potential donors, and other third parties in the presence of high profits can drive desired income downward (Trueman and Titman 1988; Leone and Van Horn 2005). Consistent with these arguments, the historical distribution of earnings suggests that nonprofit hospitals may strategically manage financial results to a target income just above zero (e.g. Leone and Van Horn 2005; Ballantine et al. 2007). This finding suggests that nonprofit hospitals behave much like for-profit firms in that they prefer to avoid reporting a loss, even though they do not have a true profit motive (e.g. Hayn 1995; Burgstahler and Dichev 1997; Degeorge et al. 1999). Other recent research finds that

earnings management activities in nonprofit hospitals are especially prevalent when charity care levels are higher than expectations (Vansant 2013).

In addition to manipulating reporting income, research in accounting has also shown that nonprofit hospitals engage in various types of classification management to report favorable performance on key metrics. For example, Krishnan and Yetman (2011) find evidence that managers shift costs to improve their efficiency ratios. Given that providing charity care to the community is an integral part of a hospital's mission and an important determinant for renewal of tax exemptions, managers have strong incentives to strategically shift costs from bad debt to charity care. These motives are particularly salient following the recent outcry in the popular press (e.g. *New York Times*, *The Charlotte Observer*, and *The News & Observer*) against hospitals that provide inadequate levels of charity care. As a result, hospitals that manage charity care classification appear more favorable on one critical dimension of performance while the level of reported income remains constant. In response to these incentives, Eldenburg and Vines (2004) show that certain hospitals, specifically those with large amounts of cash, strategically shift bad debt costs to charity care.

Recently, accounting and finance researchers have begun investigating the influence of religion on various aspects of corporate behavior. For example, Hilary and Hui (2009) document more conservative investment decisions and lower growth in companies located in highly religious geographic areas. They attribute their finding to greater risk aversion in companies in more religious areas. Similarly, Shu et al. (2012) show that the type of religion (i.e. Catholic vs. Protestant) is also important with regard to investment by mutual fund managers. They find that mutual funds located in largely Catholic areas experience more volatile returns than their Protestant counterparts, due in part to differences in risk preferences. Religion also appears to

have a significant impact on corporate tax decisions and valuation. Specifically, Dyreng et al. (2012) and Boone et al. (2013) find lower rates of tax avoidance for firms in religious areas. Interestingly, choosing to locate a business in an area with strong religious norms may result in a lower cost of equity capital (El Ghoul et al. 2012).

Other research has shown that religion also has a profound impact on reporting decisions of corporations and audit firms. For example, Omer et al. (2013) find that auditors, particularly non-Big 4 firms, that are located in highly religious areas tend to issue more going concern opinions due to risk aversion. With respect to corporate financial reporting, Dyreng et al. (2012) and McGuire et al. (2012) both show that accruals-based earnings management is lower for companies in more religious areas. They attribute this finding to religious social norms influencing reporting behavior to conform to what others deem as acceptable (Kohlberg 1984). In a related study, Swenson (2012) concludes that the type of religion also plays an important role in financial reporting behavior. Specifically, she shows that firms are more conservative in areas of Western religion dominance (e.g. Christianity, Islam, and Judaism) compared to those in areas of Eastern religion dominance (e.g. Buddhism and Hinduism). Together, these studies provide evidence that religion appears to be an important factor in many corporate decisions.

Although religion plays a major role in the nonprofit sector, especially in the healthcare industry, research has largely ignored the extent to which nonprofit financial reporting is affected by religious social norms. To address this issue, this study investigates the effect of religious ownership on two types of financial reporting manipulation: earnings management and classification management. The first hypothesis tests for differences across hospital ownership type in earnings management behavior. Specifically, social norm theory and the results of recent

accounting studies (e.g. Dyreng et al. 2012; McGuire et al. 2012) predict that religious hospitals manage earnings less than secular hospitals.

The second hypothesis addresses differences in classification management activities. In this study, classification management is defined by changes in charity care ratios. Even though all nonprofit hospitals have an incentive to show high levels of charity care, religious hospitals may feel more pressure to do so because of their spiritual missions. Religious hospitals may use this type of financial reporting manipulation through classification, particularly if religious social norms are constraining other methods of manipulation such as earnings management. Accordingly, this study expects that religious hospitals will exhibit higher levels of classification management than secular hospitals.

In order to test these two hypotheses, multiple proxies for earnings management and classification management are calculated. Following prior research (e.g. Eldenburg and Vines 2004; Leone and Van Horn 2005), these proxies are healthcare specific. With respect to the first hypothesis, a measure of earnings management based on contractual allowances is estimated using two variations of the model presented by Leone and Van Horn (2005). Because of the complexity, timing of payments, volume of transactions, and variability inherent in payor contracts, developing an accurate estimate is difficult, leaving hospital managers with a considerable amount of discretion over reported contractual allowances. With respect to the second hypothesis, changes in charity care as a percentage of uncompensated care is used as the proxy for classification management. Numerous regressions are estimated to test for differences between secular and religious hospitals for each measure of earnings management and classification management.

The sample in this study uses publicly available data for all California nonprofit hospitals from fiscal years 2002 through 2012 collected by the OSHPD. Only comparable facilities as defined by OSHPD are included in the analyses. A total of 5,529 and 4,942 observations are used in tests of earnings management and classification management, respectively. Because they provide a purer measure of management's reporting intent and provide insight into the timing of potential manipulation, quarterly data is used in all analyses. Prior research (e.g. Jeter and Shivakumar 1999; Dhaliwal et al. 2004; Das et al. 2009; Fan et al. 2010) also motivates the use of quarterly data, as well as separate analyses of fourth-quarter differences in all dependent measures.

As hypothesized, results from this research suggest that religiosity plays a governance role in deterring earnings management activities. Specifically, this study finds that religious hospitals manage earnings significantly less than secular hospitals, likely due to the impact of strong religious social norms. However, contrary to expectations, secular and religious hospitals do not appear to differ with respect to strategic charity care classification behavior. One potential reason for this lack of difference may be that all nonprofit hospitals, regardless of ownership type, place a heavy emphasis on reporting favorable charity care amounts to avoid regulatory scrutiny.

Supplemental tests indicate that the relationship between religious ownership and earnings management discussed above is confined to the fourth quarter, the period in which financial reporting manipulation is most likely to occur. Furthermore, additional tests reveal that the constraining effect of religiosity on earnings management is strongest for the Medicaid payor. That is, religious hospitals artificially manage Medicaid contractual allowances to a lesser extent than secular hospitals, and this difference is greater for Medicaid than for other

major payor types (i.e. Medicare and Third Party). Since the Medicaid program is designed to assist low-income individuals, an important demographic for most religious organizations, this result could be due to religious hospitals being even less willing to artificially manipulate revenue from this particular payor. In addition to Medicaid, however, there is also limited evidence that religious hospitals strategically manage fourth-quarter contractual allowances for Medicare and Third Party payors to a lesser extent than secular hospitals.

Subsequent tests also investigate a potential change to managerial incentives following the passage of new healthcare legislation (i.e. the ACA). In addition to watershed changes to insurance coverage for millions of Americans, the ACA increased reporting requirements for all nonprofit hospitals. As expected, earnings management appears to be greater after the passage of the ACA in 2010. However, there is no evidence to suggest that the financial reporting effect of the ACA is different for secular and religious hospitals.

Understanding the financial reporting behavior of secular and religious nonprofit hospitals, and in particular the role of religion, is important because of their widespread impact on the U.S. economy. The AHA estimates that there are approximately 2,900 nonprofit hospitals in the United States, of which roughly 16.0% are owned and operated by a religious organization (AHA 2014). According to the CBO, U.S. healthcare spending as a percent of gross domestic product has been steadily rising in the past 30 years. Current projections indicate that this percentage is expected to top 22.0% by 2038 (CBO 2013). Despite this significance, there has been relatively limited research on the financial reporting behavior of nonprofit hospitals.

This study is important because it provides empirical evidence of the role that religion plays in the financial reporting process. First, it complements a recent stream of for-profit accounting research that focuses on the religious characteristics of the location in which a

company operates. Specifically, this research extends the literature and improves our understanding of religion's role in corporate behavior by using a more direct measure of religiosity, a hospital's ownership type. Evaluating the influence of hospital ownership is important because religious affiliations are pervasive in the nonprofit sector, including the healthcare industry.

Another important contribution of this study is that it provides a more comprehensive model of earnings management to be used in future healthcare accounting research. Furthermore, the use of quarterly data allows for a purer measure of management's reporting intentions than currently found in the literature. In summary, this study provides a more complete picture of the role of religious affiliation with respect to the nature, timing, and extent of financial reporting decisions of nonprofit hospitals.

Results from this dissertation have important implications for a variety of hospital stakeholders. The earnings management analysis provides users (e.g. audit firms, tax authorities, various regulatory agencies, potential donors, debt holders, and other hospital stakeholders) an important, easily identifiable social factor to consider when evaluating the reliability of hospital financial statements. As documented above, knowing a hospital's ownership affiliation (e.g. secular vs. religious) is especially useful when analyzing fourth-quarter reports. Similarly, the classification management analysis informs tax authorities and other regulators of how the nature of hospital ownership potentially influences the timing and extent of unethical reporting activities related to charity care. Given the significant focus on charity care in the nonprofit healthcare sector, these results are timely and of particular interest to a variety of individuals and organizations. This study also has implications for accounting researchers by providing an improved hospital-specific model of earnings management, as well as additional evidence in

support of using quarterly data in studies of financial reporting manipulation. Finally, results from this research should generalize to other large industries within the nonprofit sector (e.g. higher education).

Limitations

Due to the nature of this study, a number of limitations exist. First, each state in the U.S. has the authority to require statutory reporting requirements for hospitals that operate within the state. As a result, the amount of financial information provided by any given state varies widely, ranging from limited aggregate data (e.g. Mississippi) to extensive individual hospital data (e.g. California). Consistent with recent prior research on nonprofit hospitals (e.g. Eldenburg et al. 2011; Krishnan and Yetman 2011; Vansant 2013), data from only California is used. However, this data is considered to be representative of the U.S. population of hospitals due to California's large size and diversity. While there is no reason to expect that the results found would not hold in other states, it is possible that meaningful differences may exist.

Additionally, all data used in this study is self-reported, including the variable of interest, hospital ownership. In supplemental tests, differences in the quarterly and annual reported values of *REL_OWN* are reconciled and corrected as necessary, with little effect on results. Further, because earnings management and classification management are not observable, various proxies must be developed. If these proxies are measured with error, any conclusions derived may be incorrect. Following prior research (e.g. Leone and Van Horn 2005; Vansant 2013), multiple hospital-specific accounts for the estimation of DCA are used to minimize the potential for measurement error. Furthermore, Eldenburg and Vines (2004) serves as the primary source for tests of classification management. For all models, various specifications are

estimated to test the validity of all inferences. Results from these tests indicate that findings are robust to a battery of alternate design choices and model specifications.

Future research

Understanding the role of religion in shaping financial reporting behavior is important and deserves greater attention from accounting researchers, particularly within the nonprofit sector where religious affiliations are especially common. Future research could address whether the results presented in this study are similar using other measures of financial reporting manipulation. For example, McGuire et al. (2012) show that real earnings management is higher for companies in more religious areas. However, it is unclear whether this is true for hospitals with a religious ownership. While there is no reason to believe that meaningful differences would exist across industries, research could also investigate the financial reporting implications of religious affiliation in higher education and other large nonprofit industries. Finally, future research could further investigate the impact of the ACA, regardless of hospital ownership type.

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LIST OF APPENDICES

APPENDIX 1 – KEY HEALTHCARE DEFINITIONS

Key Healthcare Definitions

Term	Definition
Acute care general hospital	A licensed hospital having a duly constituted governing body with overall administrative and professional responsibility and an organized medical staff which provides 24- hour inpatient care, including the following basic services: medical, nursing, surgical, anesthesia, laboratory, radiology, pharmacy, and dietary services (CDPH).
Bad debt	Services for which hospitals anticipated but did not receive payment (AHA).
Charity care	The difference between gross patient revenue (based on full established charges) for services rendered to patients who are unable to pay for all or part of the services provided, and the amount paid by or on behalf of the patient (OSHPD).
Contractual allowance	The difference between billings at full established rates and amounts received or receivable from third-party payors under formal contract agreements (OSHPD).
Gross inpatient revenue	Total inpatient (i.e. patient is formally admitted) charges at the hospital's full established rates for daily hospital services, inpatient ambulatory services, and inpatient ancillary services before deductions from revenue are applied (OSHPD).
Gross outpatient revenue	Total outpatient (i.e. patient not formally admitted) charges at the hospital's full established rates for outpatient ambulatory and outpatient ancillary services rendered and goods sold (OSHPD).
Long-term care hospital	Long-term care hospitals (LTCHs) furnish extended medical and rehabilitative care to individuals with clinically complex problems, such as multiple acute or chronic conditions, that need hospital-level care for relatively extended periods (AHA).
Payor - Medicaid	A joint federal and state program that helps with medical costs for some people with limited income and resources (www.medicare.gov).
Payor - Medicare	Medicare is the federal health insurance program for people who are 65 or older, certain younger people with disabilities, and people with End-Stage Renal Disease (www.medicare.gov).
Payor - Other Third Parties	Includes all other forms of health coverage such as private insurance providers (e.g. Blue Cross Blue Shield, Aetna, etc.) (OSHPD).
Shriners hospital	A specialty hospital for children with serious injuries, diseases, or birth defects that provides services without regard to a patient's ability to pay. These hospitals are granted reduced reporting requirements by OSHPD.
Staffed beds	The average daily complement of beds (excluding nursery bassinets) that are set-up, staffed, and equipped, and in all respects, ready for use by patients remaining in the hospital overnight (OSHPD).

Term	Definition
Uncompensated care	An overall measure of hospital care provided for which no payment was received from the patient or insurer. It is the sum of a hospital's bad debt and the charity care it provides. Uncompensated care excludes other unfunded costs of care, such as underpayment from Medicaid and Medicare, which is captured in the contractual allowance account for each payor (AHA).

Notes: Visit www.oshpd.ca.gov/HID/Products/Hospitals/AnnFinanData/Manuals/Apndxb.pdf for a more comprehensive list of healthcare definitions.

APPENDIX 2 – LIST OF HOSPITALS

Panel A: List of Hospitals

Facility Name	County	Facility No.
Alta Bates Medical Center	Alameda	106010739
Alta Bates Summit Medical Center	Alameda	106010937
American Recovery Center	Los Angeles	106194010
Arroyo Grande Community Hospital	San Luis Obispo	106400466
Avalon Municipal Hospital & Clinic	Los Angeles	106190045
Bakersfield Memorial Hospital	Kern	106150722
Banner Lassen Medical Center	Lassen	106184008
Barton Memorial Hospital	El Dorado	106090793
Betty Ford Center	Riverside	106330120
Beverly Hospital	Los Angeles	106190081
Biggs Gridley Memorial Hospital	Butte	106040802
California Hospital Medical Center	Los Angeles	106190125
California Pacific Medical Center	San Francisco	106380929
California Specialty Hospital	Solano	106481015
Casa Colina Hospital	Los Angeles	106190137
Children's Hospital - San Diego	San Diego	106370673
Children's Hospital & Research Center at Oakland	Alameda	106010776
Children's Hospital at Mission	Orange	106304113
Children's Hospital Central California	Madera	106204019
Children's Hospital of Los Angeles	Los Angeles	106190170
Children's Hospital of Orange County	Orange	106300032
Chinese Hospital	San Francisco	106382715
Citrus Valley Medical Center	Los Angeles	106190636
City of Hope National Medical Center	Los Angeles	106190176
Colusa Regional Medical Center	Colusa	106060870
Community Hospital of Long Beach	Los Angeles	106190475
Community Hospital of the Monterey Peninsula	Monterey	106270744
Community Memorial Hospital of San Buenaventura	Ventura	106560473
Dameron Hospital Association	San Joaquin	106390846
Daniel Freeman Memorial Hospital	Los Angeles	106190230
Delano Regional Medical Center	Kern	106150706
Dominican Hospital	Santa Cruz	106440755
Donald N. Sharp Memorial Community Hospital	San Diego	106370694
Dos Palos Memorial Hospital	Merced	106240853
Downey Regional Medical Center	Los Angeles	106190243
East Valley Hospital Medical Center	Los Angeles	106190328
Eisenhower Medical Center	Riverside	106331168
El Camino Hospital	Santa Clara	106430763
Enloe Medical Center	Butte	106040962
Fairchild Medical Center	Siskiyou	106474007
Foothill Hospital - Morris L. Johnston Memorial	Los Angeles	106190298
Fremont Medical Center	Sutter	106510882

Facility Name	County	Facility No.
French Hospital Medical Center	San Luis Obispo	106400480
Gateways Hospital & Mental Health Center	Los Angeles	106190317
George L. Mee Memorial Hospital	Monterey	106270777
Glendale Memorial Hospital & Health Center	Los Angeles	106190522
Glenn Medical Center	Glenn	106110889
Goleta Valley Cottage Hospital	Santa Barbara	106420483
Green Hospital of Scripps Clinic	San Diego	106371256
Grossmont Hospital	San Diego	106370714
Hanford Community Medical Center	Kings	106160725
Henry Mayo Newhall Memorial Hospital	Los Angeles	106190949
Huntington Memorial Hospital	Los Angeles	106190400
John Muir Medical Center	Contra Costa	106070988
Kedren Community Mental Health Center	Los Angeles	106190150
Kindred Hospital - Rancho	San Bernardino	106364188
La Palma Intercommunity Hospital	Orange	106301234
Langley Porter Psychiatric Institute	San Francisco	106380868
Lodi Memorial Hospital	San Joaquin	106390923
Loma Linda University Behavioral Medicine Center	San Bernardino	106364014
Loma Linda University Medical Center	San Bernardino	106361246
Long Beach Memorial Medical Center	Los Angeles	106190525
Madera Community Hospital	Madera	106201281
Marin General Hospital	Marin	106211006
Mark Twain St. Joseph's Hospital	Calaveras	106050932
Memorial Hospital Los Banos	Merced	106240924
Memorial Medical Center	Stanislaus	106500939
Mercy General Hospital	Sacramento	106340947
Mercy Healthcare Bakersfield	Kern	106150761
Mercy Hospital - Community Campus	Merced	106240942
Mercy Hospital & Health Services	Merced	106240948
Mercy Hospital of Folsom	Sacramento	106344029
Mercy Hospital of Mt. Shasta	Siskiyou	106470871
Mercy Medical Center Redding	Shasta	106450949
Mercy San Juan Hospital	Sacramento	106340950
Merritt Peralta Chemical Dependency Recovery Hospital	Alameda	106013687
Miller Children's Hospital	Los Angeles	106196168
Mills Peninsula Medical Center	San Mateo	106410852
Mission Community Hospital	Los Angeles	106190524
Motion Picture & Television Fund	Los Angeles	106190552
Mt. Diablo Medical Center	Contra Costa	106071018
Mt. Diablo Medical Pavilion	Contra Costa	106074039
NorthBay Medical Center	Solano	106481357
Northridge Hospital Medical Center	Los Angeles	106190568
Northridge Hospital Medical Center - Sherman Way	Los Angeles	106190810
Novato Community Hospital	Marin	106214034
O'Connor Hospital	Santa Clara	106430837

Facility Name	County	Facility No.
Orange Coast Memorial Medical Center	Orange	106300225
Parkview Community Hospital Medical Center	Riverside	106331293
Pomona Valley Hospital Medical Center	Los Angeles	106190630
Presbyterian Intercommunity Hospital	Los Angeles	106190631
Providence Holy Cross Medical Center	Los Angeles	106190385
Providence Saint Joseph Medical Center	Los Angeles	106190758
Queen of the Valley Hospital	Napa	106281047
Redlands Community Hospital	San Bernardino	106361308
Redwood Memorial Hospital	Humboldt	106121051
Rehabilitation Institute at Santa Barbara	Santa Barbara	106424047
Rideout Memorial Hospital	Yuba	106580996
Robert F. Kennedy Medical Center	Los Angeles	106190366
Saddleback Memorial Medical Center	Orange	106301317
Saint Agnes Medical Center	Fresno	106100899
Saint Francis Memorial Hospital	San Francisco	106380960
San Antonio Community Hospital	San Bernardino	106361318
San Diego Hospice & Palliative Care	San Diego	106374084
San Joaquin Community Hospital	Kern	106150788
Santa Barbara Cottage Hospital	Santa Barbara	106420514
Santa Monica - UCLA Medical Center	Los Angeles	106190687
Santa Rosa Memorial Hospital	Sonoma	106491064
Santa Teresita Hospital	Los Angeles	106190691
Santa Ynez Valley Cottage Hospital	Santa Barbara	106420522
Scripps Health - La Jolla	San Diego	106370771
Scripps Memorial Hospital - Chula Vista	San Diego	106370658
Scripps Memorial Hospital - Encinitas	San Diego	106371394
Scripps Mercy Hospital	San Diego	106370744
Seton Medical Center	San Mateo	106410817
Seton Medical Center - Coastside	San Mateo	106410828
Sharp Cabrillo Hospital	San Diego	106370693
Sharp Chula Vista Medical Center	San Diego	106370875
Sharp Coronado Hospital	San Diego	106370689
Sharp Mary Birch Women's Hospital	San Diego	106370695
Sharp Mesa Vista Hospital	San Diego	106370745
Sharp Vista Pacifica	San Diego	106374049
Sierra Nevada Memorial Hospital	Nevada	106291023
Sonora Community Hospital	Tuolumne	106551034
Sonora Regional Medical Center	Tuolumne	106554011
Southwest Healthcare System	Riverside	106334068
St. Elizabeth Hospital	Tehama	106521041
St. Francis Medical Center	Los Angeles	106190754
St. Helena Hospital	Napa	106281078
St. John's Pleasant Valley Hospital	Ventura	106560508
St. John's Regional Medical Center	Ventura	106560529
St. Joseph Hospital	Orange	106301340

Facility Name	County	Facility No.
St. Joseph Hospital - Eureka	Humboldt	106121080
St. Luke's Hospital	San Francisco	106380964
St. Mary Medical Center	San Bernardino	106361343
St. Mary Medical Center	Los Angeles	106190053
St. Vincent Medical Center	Los Angeles	106190762
Sutter Amador Hospital	Amador	106034002
Sutter Auburn Faith Hospital	Placer	106310791
Sutter Center For Psychiatry	Sacramento	106344017
Sutter Coast Hospital	Del Norte	106084001
Sutter Davis Hospital	Yolo	106574010
Sutter Delta Medical Center	Contra Costa	106070934
Sutter General & Sutter Memorial Hospitals	Sacramento	106341051
Sutter Lakeside Hospital	Lake	106171395
Sutter Maternity & Surgery Center of Santa Cruz	Santa Cruz	106444012
Sutter Medical Center of Santa Rosa	Sonoma	106490919
Sutter Roseville Medical Center	Placer	106311000
Sutter Solano Medical Center	Solano	106481094
Sutter Tracy Community Hospital	San Joaquin	106391056
Tarzana Psychiatric Hospital	Los Angeles	106190782
The Medical Center at UCSF	San Francisco	106381154
Thunder Road Chemical Dependency Recovery Hospital	Alameda	106010782
Tom Redgate Memorial Recovery Center	Los Angeles	106191225
Torrance Memorial Medical Center	Los Angeles	106190422
Tri-City Regional Medical Center	Los Angeles	106190159
UCI Medical Center	Orange	106301279
UCLA Medical Center	Los Angeles	106190796
UCLA Neuropsychiatric Hospital	Los Angeles	106190930
UCSD Medical Center	San Diego	106370782
Ukiah Valley Medical Center	Mendocino	106231396
University Community Medical Center	San Diego	106370787
University of California, Davis Medical Center	Sacramento	106341006
VacaValley Hospital	Solano	106484001
Valley Memorial Hospital	Alameda	106010983
Valleycare Medical Center	Alameda	106014050
Verdugo Hills Hospital	Los Angeles	106190818
Victor Valley Community Hospital	San Bernardino	106361370
Watsonville Community Hospital	Santa Cruz	106444013
White Memorial Medical Center	Los Angeles	106190878
Woodland Memorial Hospital	Yolo	106571086

Panel B: Number of Hospitals by County

County	Secular	Religious	Total
Alameda	7	0	7
Amador	1	0	1
Butte	2	0	2
Calaveras	1	0	1
Colusa	1	0	1
Contra Costa	4	0	4
Del Norte	1	0	1
El Dorado	1	0	1
Fresno	0	1	1
Glenn	1	0	1
Humboldt	1	1	2
Kern	4	0	4
Kings	1	0	1
Lake	1	0	1
Lassen	1	0	1
Los Angeles	39	3	42
Madera	2	0	2
Marin	2	0	2
Mendocino	0	1	1
Merced	4	0	4
Monterey	2	0	2
Napa	1	1	2
Nevada	1	0	1
Orange	6	1	7
Placer	2	0	2
Riverside	4	0	4
Sacramento	4	2	6
San Bernardino	6	1	7
San Diego	17	0	17
San Francisco	6	0	6
San Joaquin	3	0	3
San Luis Obispo	2	0	2
San Mateo	3	0	3
Santa Barbara	4	0	4
Santa Clara	1	1	2
Santa Cruz	3	0	3
Shasta	0	1	1
Siskiyou	2	0	2
Solano	4	0	4
Sonoma	1	1	2
Stanislaus	1	0	1
Sutter	1	0	1

County	Secular	Religious	Total
Tehama	0	1	1
Tuolumne	1	1	2
Ventura	2	1	3
Yolo	2	0	2
Yuba	1	0	1
TOTAL	**154**	**17**	**171**

Notes: Panel A presents a listing of all hospitals included in the earnings management analyses (n = 5,529). Panel B lists the number of secular and religious hospitals by county.

APPENDIX 3 – VARIABLE DEFINITIONS

List of Variable Definitions

Variable	Definition
ACA	Coded 1 if observation is after Q1-2010 (post ACA reporting requirements), 0 otherwise.
ACA_REL	Interaction of *ACA* and *REL_OWN*.
BEDS	Number of staffed beds (in hundreds).
BOD_SIZE	Number of hospital board members (in hundreds).
CA	Change in contractual allowances, scaled by total assets from previous year.
CASH	Days cash on hand, measured following Eldenburg and Vines (2004) as follows: (cash + marketable securities + unrestricted investments)/[(total expense – depreciation)/365].
CHAR_GR	Charity care as a percentage of total gross revenue.
CHAR_UN	Change in charity care as a percentage of uncompensated care, measured as the current quarter minus the previous quarter.
CHAR_UN3Q	Change in charity care as a percentage of uncompensated care, measured as the current quarter minus the average of the previous three quarters.
CHAR_UP	Coded 1 if *CHAR_UN* is greater than 0, 0 otherwise.
CHAR_UP3Q	Coded 1 if *CHAR_UN3Q* is greater than 0, 0 otherwise.
DCA_LV	Empirical proxy for earnings management, measured as the absolute value of the residuals from the Leone & Van Horn (2005) annual DCA regressions ($\Delta CA = \beta_0 + \beta_1 \Delta GR\_TOTAL + \beta_2 \Delta GR\_MCARE + \beta_3 \Delta GR\_MCAID + \varepsilon$) discussed in detail in section III.
DCA_MLV	Empirical proxy for earnings management, measured as the absolute value of the residuals from the Modified Leone & Van Horn (2005) annual DCA regressions ($\Delta CA = \beta_0 + \beta_1 \Delta GR\_TOTAL + \beta_2 \Delta GR\_MCARE + \beta_3 \Delta GR\_MCAID + \beta_4 \Delta GR\_THIRD + \varepsilon$) discussed in detail in section III.
FQ4	Coded 1 if fiscal quarter equals 4, 0 otherwise.
GOV_REV	Sum of Medicare and Medicaid gross revenue as a percentage of total gross revenue.
GR_MCAID	Change in Medicaid gross revenue.
GR_MCARE	Change in Medicare gross revenue.
GR_REV	Total gross patient revenue, scaled by total assets from previous year.
GR_THIRD	Change in Third Party gross revenue.
GR_TOTAL	Change in total gross revenue.
OP_INC	Operating income for the first three fiscal quarters, scaled by total assets from previous year.
REL_CTY	County-level measure of religious adherence, as collected in 2010 by the Association of Religion Data Archives.
REL_OWN	Coded 1 if hospital is church owned, 0 otherwise.
RURAL	Coded 1 if hospital is located in a rural area as defined by OSHPD, 0 otherwise.

Notes: All variables are downloaded from the OSHPD from the state of California.

APPENDIX 4 – QUARTERLY REPORT EXAMPLE

Quarterly Report Example – John Muir Medical Center

Facility: JOHN MUIR MEDICAL CTR-WALNUT CREEK **OSHPD ID:** 106070988
1601 YGNACIO VALLEY ROAD, WALNUT CREEK, CA 94598 **RPE Date:** 12/31/2012

6. Report Prepared By	Gina Holmes
7. Report Preparer's Phone Number	925-941-2146
8. Chief Executive Officer	J. KENDALL ANDERSON
9. Main Hospital Phone	(925)939-3000
10. Disaster Coordinator's Phone	(925)939-3000 EXT 5343
19. Report Period Start Date	2012-10-01
20. Report Period End Date	2012-12-31

Beds (excl. nursery bassinets)	Current Qtr	Last Qtr
25. Licensed Beds (End of report period)	572	572
Licensed Bed Occupancy Rate	41.23	41.58
30. Available Beds (Average for report period)	399	399
Available Bed Occupancy Rate	59.1	59.6
35. Staffed Beds (Average for report period)	236	238
Staffed Bed Occupancy Rate	99.93	99.92

Discharges (excl. nursery discharges)	Current Qtr	Last Qtr
50. Medicare - Traditional	1,663	1,679
55. Medicare - Managed Care	367	377
60. Medi-Cal - Traditional	80	82
65. Medi-Cal - Managed Care	195	201
70. County Indigent Programs - Traditional	25	0
75. County Indigent Programs - Managed Care	0	0
80. Other Third Parties - Traditional	87	81
85. Other Third Parties - Managed Care	1,916	1,880
90. Other Indigent	0	0
95. Other Payers	135	191
100. Total Hospital Discharges (sum of lines 50 thru 95)	4,468	4,491
105. Long-Term Care (LTC) Discharges (optional)	0	0

Patient (Census) Days (excl. nursery days)	Current Qtr	Last Qtr
150. Medicare - Traditional	8,643	8,957
155. Medicare - Managed Care	1,829	2,092
160. Medi-Cal - Traditional	926	757
165. Medi-Cal - Managed Care	878	956
170. County Indigent Programs - Traditional	150	0
175. County Indigent Programs - Managed Care	0	0
180. Other Third Parties - Traditional	378	364
185. Other Third Parties - Managed Care	8,218	7,584
190. Other Indigent	0	0
195. Other Payers	674	1,169
200. Total Patient (Census) Days (sum of lines 150 thru 195)	21,696	21,879
205. Long-Term Care (LTC) Patient Days (optional)	0	0

Average Length of Stay	Current Qtr	Last Qtr
Medicare - Traditional	5.2	5.3
Medicare - Managed Care	5	5.5
Medi-Cal - Traditional	11.6	9.2
Medi-Cal - Managed Care	4.5	4.8
County Indigent Programs - Traditional	6	0
County Indigent Programs - Managed Care	0	0

Other Third Parties - Traditional	4.3	4.5
Other Third Parties - Managed Care	4.3	4
Other Indigent	0	0
Other Payers	5	6.1
Overall Average	$4.90	$4.90
Long-Term Care Average Length of Stay (LOS)	0	0

Outpatient Visits	Current Qtr	Last Qtr
250. Medicare - Traditional	25,379	25,538
255. Medicare - Managed Care	5,543	6,067
260. Medi-Cal - Traditional	949	611
265. Medi-Cal - Managed Care	866	762
270. County Indigent Programs - Traditional	5	1
275. County Indigent Programs - Managed Care	0	0
280. Other Third Parties - Traditional	7,599	7,657
285. Other Third Parties - Managed Care	33,213	32,519
290. Other Indigent	0	0
295. Other Payers	1,001	1,139
300. Total Outpatient Visits (sum of lines 250 thru 295)	74,555	74,294

Gross Inpatient Revenue	Current Qtr	Last Qtr
350. Medicare - Traditional	212,199,017	215,295,861
355. Medicare - Managed Care	46,333,404	49,884,285
360. Medi-Cal - Traditional	21,841,651	18,294,524
365. Medi-Cal - Managed Care	29,473,581	23,217,179
370. County Indigent Programs - Traditional	3,604,003	0
375. County Indigent Programs - Managed Care	0	0
380. Other Third Parties - Traditional	12,151,733	14,476,808
385. Other Third Parties - Managed Care	195,862,467	189,281,861
390. Other Indigent	0	0
395. Other Payers	10,374,652	27,674,480
400. Total Gross Inpatient Revenue (sum of lines 350 thru 395)	531,840,508	538,124,998

Gross Inpatient Revenue Per Day	Current Qtr	Last Qtr
Medicare - Traditional	24,552	24,037
Medicare - Managed Care	25,333	23,845
Medi-Cal - Traditional	23,587	24,167
Medi-Cal - Managed Care	33,569	24,286
County Indigent Programs - Traditional	24,027	0
County Indigent Programs - Managed Care	0	0
Other Third Parties - Traditional	32,147	39,771
Other Third Parties - Managed Care	23,833	24,958
Other Indigent	0	0
Other Payers	15,393	23,674
Overall Average	24,513	24,596

Gross Inpatient Revenue Per Discharge	Current Qtr	Last Qtr
Medicare - Traditional	127,600	128,229
Medicare - Managed Care	126,249	132,319
Medi-Cal - Traditional	273,021	223,104
Medi-Cal - Managed Care	151,147	115,508
County Indigent Programs - Traditional	144,160	0
County Indigent Programs - Managed Care	0	0
Other Third Parties - Traditional	139,675	178,726
Other Third Parties - Managed Care	102,225	100,682
Other Indigent	0	0

Other Payers	76,849	144,893
Overall Average	119,033	119,823

Gross Outpatient Revenue	Current Qtr	Last Qtr
450. Medicare - Traditional	56,166,041	55,283,480
455. Medicare - Managed Care	16,577,572	16,889,219
460. Medi-Cal - Traditional	2,842,864	1,788,099
465. Medi-Cal - Managed Care	4,445,769	4,431,004
470. County Indigent Programs - Traditional	144,616	9,415
475. County Indigent Programs - Managed Care	0	0
480. Other Third Parties - Traditional	6,244,689	5,798,480
485. Other Third Parties - Managed Care	82,593,286	78,633,140
490. Other Indigent	0	0
495. Other Payers	7,114,732	7,663,859
500. Total Gross Outpatient Revenue (sum of lines 450 thru 495)	176,129,569	170,496,696

Gross Outpatient Revenue Per Visit	Current Qtr	Last Qtr
Medicare - Traditional	2,213	2,165
Medicare - Managed Care	2,991	2,784
Medi-Cal - Traditional	2,996	2,927
Medi-Cal - Managed Care	5,134	5,815
County Indigent Programs - Traditional	28,923	9,415
County Indigent Programs - Managed Care	0	0
Other Third Parties - Traditional	822	757
Other Third Parties - Managed Care	2,487	2,418
Other Indigent	0	0
Other Payers	7,108	6,729
Overall Average	2,362	2,295

Deductions from Revenue	Current Qtr	Last Qtr
545. Provision for Bad Debts	3,420,163	15,912,647
550. Medicare - Traditional Contractual Adjustments	229,654,752	234,667,016
555. Medicare - Managed Care Contractual Adjustments	52,152,998	50,854,321
560. Medi-Cal - Traditional Contractual Adjustments	13,623,502	26,387,266
565. Medi-Cal - Managed Care Contractual Adjustments	31,198,117	24,285,781
566. Disproportionate Share Payments for Medi-Cal (SB 855) (credit bal)	0	0
570. County Indigent Programs - Traditional Contractual Adjustments	3,326,842	4,237
575. County Indigent Programs - Managed Care Contractual Adjustments	0	0
580. Other Third Parties - Traditional Contractual Adjustments	11,459,669	13,084,996
585. Other Third Parties - Managed Care Contractual Adjustments	157,277,717	159,657,387
590. Charity - Hill-Burton	0	0
595. Charity - Other	15,622,788	8,298,197
600. Restricted Donations & Subsidies for Indigent Care (credit balance)	0	0
605. Teaching Allowance	0	0
610. Clinical Teaching Support (credit balance)	0	0
615. Other Adjustments and Allowances	4,303,134	6,948,067
620. Total Deductions from Revenue (sum of lines 545 thru 615)	522,039,682	540,099,915

Capitation Premium Revenue	Current Qtr	Last Qtr
650. Medicare - Managed Care	0	0
660. Medi-Cal - Managed Care	0	0
670. County Indigent Programs - Managed Care	0	0
680. Other Third Parties - Managed Care	1,237,388	1,261,303
700. Total Capitation Premium Revenue (sum of lines 650 thru 680)	1,237,388	1,261,303

Net Patient Revenue	Current Qtr	Last Qtr
750. Medicare - Traditional	38,710,306	35,912,325
755. Medicare - Managed Care	10,757,978	15,919,183
760. Medi-Cal - Traditional	11,061,013	-6,304,643
765. Medi-Cal - Managed Care	2,721,233	3,362,402
770. County Indigent Programs - Traditional	421,777	5,178
775. County Indigent Programs - Managed Care	0	0
780. Other Third Parties - Traditional	6,936,753	7,190,292
785. Other Third Parties - Managed Care	122,415,424	109,518,917
790. Other Indigent	0	0
795. Other Payers	-5,856,701	4,179,428
800. Total Net Patient Revenue (sum of 750 thru 795)(400+500-620+700)	187,167,783	169,783,082

Other Revenue and Expenses	Current Qtr	Last Qtr
810. Other Operating Revenue	17,548,317	21,140,287
830. Total Operating Expenses	172,228,214	174,634,856
835. Physician Professional Component (PPC) Expenses (optional)	0	0
840. Nonoperating Revenue Net of Nonoperating Expenses	2,896,823	-472,053

Purchased Inpatient Services (optional)	Current Qtr	Last Qtr
850. Discharges	0	0
855. Patient Days	0	0
860. Expenses	0	0

Purchased Outpatient Services (optional)	Current Qtr	Last Qtr
870. Expenses	0	0

Other Financial Data	Current Qtr	Last Qtr
880. Total Capital Expenditures	981,318	3,899,732
885. Fixed Assets Net of Accumulated Depreciation	627,941,426	635,394,666
900. Disproportionate Share Funds Transferred to Related Entity (optional)	0	0

VITA

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EDUCATION & CERTIFICATION

Murray State University – Murray, KY **2000 – 2005**
Master of Professional Accountancy
Bachelor of Arts in Business – Accounting (summa cum laude)

Certification: Certified Public Accountant – Tennessee #19267 (inactive)

RESEARCH

Interests
Healthcare financial reporting and auditing, auditor regulation and standard setting, audit pricing, executive performance

Dissertation
"Financial Reporting Manipulation and the Role of Religious Ownership: Evidence from Nonprofit Hospitals"
Chair: Dale Flesher
Committee: Tonya Flesher, Rachna Prakash, and John Bentley
Proposal: April 11, 2014

Working Papers
"Audit Fee Sensitivity to Differences in Managerial Operating Ability"*
Coauthor: Mark Wilder, The University of Mississippi

*Previous title: "An Examination of the Relationship between Managerial Ability and Audit Fees"

Works in Process
"Managerial Incentives in a Changing Regulatory Environment: Financial Reporting Implications of the Affordable Care Act"
Status: Data analysis

"Response to New Approaches for Collecting the Use Tax from Consumers"
Coauthors: Beth Howard and Robert Seay, Tennessee Technological University
Status: Preparing for data collection

Presentations

"An Examination of the Relationship between Managerial Ability and Audit Fees"
AAA Audit Midyear Meeting, Research and Education Forum — January 2014
The University of Mississippi Research Workshop — July 2013

"Response to New Approaches for Collecting the Use Tax from Consumers"
AAA Southeast Region Meeting* — April 2014
George Mason University Behavioral Tax Symposium* — June 2013

*Coauthor presentation

"The Role of Managerial Ability in Auditor Changes: Does Efficiency Matter?"
AAA Audit Midyear Meeting, Research and Education Forum — January 2013
The University of Mississippi Research Workshop — June 2012

Discussions

"The Effect of Review Form and Reviewer Preference on Auditor Performance"
AAA Annual Meeting — August 2013

"The Relationship between Segment-Level Manipulations and Audit Fees"
AAA Audit Midyear Meeting — January 2013

TEACHING

Interests

Auditing, Cost/Managerial, Accounting Information Systems, Financial Accounting

Courses Taught

ACCY 309 – Cost Control	*Overall Rating*
Fall 2013 – 3 sections	3.1 / 4.0
Summer 2013 – 1 section	3.6 / 4.0
Spring 2013 – 2 sections	3.2 / 4.0

ACCY 201 – Introduction to Financial Accounting	*Overall Rating*
Fall 2012 – 2 sections	3.0 / 4.0
Spring 2012 – 2 sections	2.9 / 4.0

ACCY 202 – Introduction to Managerial Accounting	*Overall Rating*
Summer 2012 – 1 section	3.8 / 4.0
Fall 2011 – 2 sections	3.4 / 4.0
Summer 2011 – 1 section	3.1 / 4.0

ACCOUNTING & AUDITING EXPERIENCE

Diversified Specialty Institutes, Inc. – Nashville, TN **2008 – 2010**
Senior Accountant
Industry: Healthcare (Renal Clinics)

Ernst & Young, LLP – Nashville, TN **2005 – 2008**
Audit Senior – Assurance and Advisory Business Services
Industry: Healthcare (Hospitals)

HONORS, AWARDS & ASSOCIATIONS

The University of Mississippi

Graduate School Summer Research Assistantship	2014
AAA/Deloitte/J. Michael Cook Doctoral Consortium Fellow	2013
Outstanding Doctoral Student Teaching Award	2012
Outstanding Doctoral Student in Accountancy	2012
Accounting Tutor	2010 – 2011

Murray State University

Outstanding Graduate Student in Accounting	2005
Outstanding Senior in Accounting	2004
Outstanding Junior in Accounting	2003
Outstanding Sophomore in Accounting	2002
President – Beta Alpha Psi	2003 – 2004

Professional Associations

American Accounting Association	2010 – Present
American Institute of Certified Public Accountants	2006 – Present
Tennessee Society of Certified Public Accountants	2007 – 2010

CONFERENCE PARTICIPATION

Mid-South Doctoral Consortium	February 2014
AAA Auditing Section Midyear Meeting*	January 2014
AAA Annual Meeting*	August 2013
AAA/Deloitte/J. Michael Cook Doctoral Consortium	June 2013
AAA Southeast Regional Meeting	April 2013
AAA Auditing Section Midyear Meeting*	January 2013
Mid-South Doctoral Consortium	October 2012
AAA Financial Accounting and Reporting Midyear Meeting	January 2012
AAA Southeast Regional Meeting	April 2011
AAA Auditing Section Midyear Meeting Doctoral Consortium	January 2011
Mid-South Doctoral Consortium	November 2010
Accounting Educators Symposium	October 2010

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BIOGRAPHY

I was born in Nashville, Tennessee, on November 25, 1981, to Robert and Debbie Seay. As a child growing up in western Kentucky, I enjoyed playing various sports and going to the lake during the summer. In 2000, I graduated from Murray High School as class Valedictorian. Immediately thereafter, I attended Murray State University for the opportunity to play baseball at the collegiate level. Although my baseball career was short-lived, I graduated from Murray State in 2005 with a bachelor's and master's degree in accounting.

I began my professional career in the Assurance and Advisory Business Services function at Ernst & Young, LLP in Nashville, where I worked primarily in the healthcare industry. During my tenure with Ernst & Young, I passed the CPA exam and later became certified in Tennessee. Immediately prior to joining the Ph.D. program at The University of Mississippi in 2010, I worked as a senior accountant for a large dialysis company in Nashville.

My wife, Susan, and I have two sons: Cooper Alan and Crawford Patton. My parents currently live in Cookeville, Tennessee, where my father is an accounting professor at Tennessee Technological University after retiring from Murray State. My sister, Emily, is currently in the accounting Ph.D. program at Southern Illinois University. In my spare time, I enjoy spending time at the lake with my family and attending sporting events.