AN EXAMINATION OF THE STOCKHOLDER RESPONSE TO CORPORATE RELIGIOSITY AND RELIGIOSITY’S EFFECTS ON OPERATIONAL AND FINANCIAL REPORTING QUALITY

By
Katrina Marie Briscoe

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Approved by
______________________________
Advisor: Dr. Victoria Dickinson

______________________________
Reader: Dr. Mark Wilder

______________________________
Reader: Dr. Rick Elam
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As the heavens are higher than the earth, so are my ways higher than your ways and my thoughts than your thoughts.
Isaiah 55:9
ABSTRACT

Religion has been shown to influence decision makers at both the individual and business level. In this paper, I examine the stockholder response to corporate religiosity and religiosity’s effects on operational and financial reporting quality. Industry adjusted return on assets and industry adjusted accruals are my measures for operational and financial reporting quality, respectively. Using religiosity data from Dyreng, Mayew, and Williams, I evaluate the 1999 and 2006 mean stock returns by degree of religiosity and return on assets and by degree of religiosity and accruals earnings management. I find that stockholders favor the least religious companies with the highest level of operational efficiency and the highest level of accruals earnings management in 1999. My results show that stockholders continue to favor the least religious companies with the highest level of accruals earnings management in 2006 but at a decreasing rate. My results also show that stockholders begin to favor the most religious companies with the highest level of operational efficiency in 2006. In this paper, I also examine corporate religiosity by industry and auditor client base. My results reveal the most and least religious industries and the auditors with the most and least religious client bases. Collectively, my study provides new evidence and continues the discussion of the effects of corporate religiosity in the United States.
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Chapter I: Introduction

Religiosity in business is a hot topic in the United States. Chick-fil-A President, Dan Cathy, spoke out against same-sex marriage in June 2012, which is consistent with Chick-fil-A’s corporate purpose “[t]o glorify God by being a faithful steward of all that is entrusted to us. To have a positive influence on all who come in contact with Chick-fil-A.” The company came under fire by the American Civil Liberties Union, the mayor of Boston, Thomas Menino, and other organizations and individuals in response to its statement supporting Biblical traditional marriage ("Chick-fil-A: Executive Bios," 2013). However the public response was not entirely negative. Mike Huckabee, former governor of Arkansas, initiated a national Chick-fil-A Appreciation Day to show support for the company. People lined up at Chick-fil-A restaurants around the country and utilized social media to voice their approval for Cathy’s Biblical stance on marriage.

Statement of the Problem

As evidenced in the opening Chick-fil-A example, corporate religiosity inspires mixed reactions and beliefs. Chick-fil-A is not the only company to publically take a religious position. Corporate religiosity exists at many companies; Forever 21 prints John 3:16 on the bottom of their shopping bags, Tyson Foods employs chaplains, and Interstate Batteries states its mission is to “glorify God” (Nisen 2013). ServiceMaster, Mary Kay, Curves, and Timberland have also made public religious declarations.
As recently as March 25, 2014, Hobby Lobby testified before the United States Supreme Court to seek exemption from the U.S. Department of Health and Human Services (HHS) mandate of the Affordable Healthcare Act based on its corporate religious principles. The HHS mandate requires businesses, regardless of their religious principles, to provide insurance for the "morning after pill" and "week after pill" or pay heavy fines to the Internal Revenue Service. Hobby Lobby brought suit because it believes that following the HHS mandate will violate its belief that life begins at conception. By speaking up, Hobby Lobby and other companies express their corporate religiosity.

However, some individuals strongly oppose commingling religion with business. Some stockholders believe that businesses should merely provide goods and services in order to make profits and raise share prices. On the other hand, some individuals fully support the incorporation of religion into business. Many of these individuals base their support on the idea that businesses are meant to do more than simply make a profit. In their view, businesses exist to do good, spurred on by religious ideas and standards, as well as make profits.

Faith-based investing is one way religious individuals support corporations that hold high ethical standards. Faith-based funds is a subcategory of socially responsible investment (SRI) funds. Such funds are formed with social, ethical, and environmental standards in mind. Investors who want to earn a return while exercising their religious values through their investments use faith-based funds. Some well-known faith-based mutual funds include Aquinas Value, Aquinas Growth, Timothy Plan Aggressive Growth, and New Covenant Growth (Boasson et al. 2006).
Faith-based mutual funds have the toughest screening standards of all other SRI funds. For example, faith-based funds avoid companies involved with abortions based on the Biblical principle that life begins at conception. As another example, faith-based funds screen out companies dealing with pornography based on the principle that mere thought and sight can cause sexual sin. Some faith-based funds also avoid companies in the tobacco, alcoholic beverage, and gambling industries (Boasson et al. 2006). Boasson et al.’s (2006) study on investment principles and strategies of faith-based funds suggests that even faith-based funds choosing not to invest in more profitable businesses on the basis of ethical and religious reasons can perform at the same standards as non-restricted funds. Investment choices are just one way individuals express differing viewpoints on the acceptability of religion in business. However, it remains unclear whether taking a religious position actually benefits or hurts a company.

**Purpose of the Study**

Controversy regarding businesses’ religious positions incites a need to further examine the intersection of religion and corporate America. In my research, I explore the following questions: Can companies benefit from their religious positions? Do stakeholders take note of a company’s religious position and reward or punish the company accordingly? Does religion even matter in the corporate realm?

First, I model religiosity by industry and examine the most religious and least religious industries. My industry religiosity findings have implications for managers who are seeking employment and for those already employed. My findings also have implications for investors choosing investment vehicles. Real estate, textiles, and
fabricated products appear to be the most religious industries, while the candy/soda, agriculture, and precious metals industries rank as the least religious industries. I also model religiosity by auditor client selection. By examining how religiosity affects auditors’ client selection, I explore which auditors have the most religious and least religious clients, and how accounting manipulation can lead to business and audit failures. Of the auditor client portfolios with more than 100 observations, Arthur Anderson, BDO Seidman, and KPMG rank as the auditors with the most religious clients while PricewaterhouseCoopers, Ernst & Young, and Deloitte & Touche appear to be the auditors with the least religious clients.

The main analyses of this study examine the stockholder response to religiosity’s effects on publically traded companies’ operational and financial reporting quality. Here, operational quality refers to the stewardship of resources, or how companies convert their resources to earnings. Financial reporting quality refers to the representation or truthful reporting of earnings to investors and stakeholders. My main models in this study help explain how stockholders respond to corporate religiosity by reporting two sets of data: the mean stock returns conditional on religiosity and how religiosity affects operational efficiency and accruals-based earnings management.

To perform my tests, I used industry-adjusted return on assets (IAROA) as my measure of operational efficiency and industry-adjusted accruals (IAACC) as my measure of earnings management. The evidence suggests a decreasing stockholder appreciation for the least religious companies across all levels of operational efficiency and an increasing appreciation for religious companies with high operational efficiency.
I also find that stockholders continue to favor the least religious companies with high levels of accruals earnings management but at a decreasing rate.

This study contributes to accounting and religious literature in several ways. First, to demonstrate the importance of religion in the corporate setting, I review prior studies of religion’s effects in the workplace and discuss measures to capture corporate religiosity. Second, I demonstrate how industries differ by religiosity, which is informative for selection of investment vehicles. Third, my results regarding the religiosity of auditor client selection brings awareness to the client and auditor alike that fraud is possible across all religiosity levels. Fourth, this study contributes to the understanding of the stockholder response to corporate religiosity. The study implies that stockholders may be developing a deeper appreciation for religious companies, especially when coupled with a high degree of operational quality. Even though it appears that stockholders still favor the least religious companies with a high level of accruals earnings management, the study implies that stockholders are gravitating away from companies with high levels of accruals earnings management. Last, I control for the effects of recent regulation by studying both pre- and post-Sarbanes Oxley (SOX) time periods. Results suggest that more strenuous accounting legislation has caused an increased stockholder preference toward companies with better operational and financial reporting quality.
Chapter II: Prior Research

Religiosity Theory at the Individual Level

Importance of Religion

Religiosity at the individual level is relevant today as evidenced by rates of church attendance and religious giving. Rates of church membership in the United States have risen over the last three centuries, up from 17 percent during the Revolution to around 60 percent today. Since the late 1930s, weekly church service rates in the U.S. have remained stable, with nearly 40 percent of the population attending. Contrary to popular belief, religion is not merely a haven for the poor and uneducated. Data analyses of cross-sectional surveys show rates of religious activities and beliefs typically do not decline with income and usually increase with education (Iannaccone 1998). In regards to charitable giving, religious individuals appear to be more generous with their money and time than non-religious individuals. In the United States, nearly 50 percent of all charitable giving is considered religious giving. Also, volunteer work by religious individuals is more common than other non-religious volunteer work (Iannaccone 1998).

Many religious individuals claim their religion as the dominant driver for their strong personal morals, along with other factors such as family and the environment they grew up in. However, this is not to say that individuals who are not religious do not have strong personal morals. Dyreng et al.’s (2012) study notes that there is no proof religious individuals are more honest than non-religious individuals (Dyreng et al. 2012). Society
expects certain levels of personal morality to guide individuals’ daily choices and interactions. Dyreng et al.’s (2012) study reveals that religious reminders, such as repeating the Ten Commandments, are enough to make people make more honest decisions. Prior research shows that even self-proclaimed atheists make more honest decisions when recalling the Ten Commandments (Mazar et al. 2008; Dyreng et al. 2012). Thus, moral reminders even affect those who are not religiously affiliated.

**Religious Role Expectations**

As with almost all social, political, and educational organizations, members identify with those around them. The same can be said for religious organizations. Religion connects people with similar beliefs and principles and creates role expectations and self-identities (Zahn 1970; McGuire et al. 2012). Studies show one of the main reasons individuals act according to group expectations and identities is because deviant actions result in cognitive and emotional discomfort (Sunstein 1996; Weaver and Agle 2002; McGuire et al. 2012). Thus, religious individuals are more likely to stay in line with role expectations to experience less discomfort.

**Ethics**

In the continued wake of business and accounting scandals, such as Enron and WorldCom, ethics has become a center of attention. Deteriorating ethical standards damage the accounting profession's reputation and have a high financial cost. It is estimated that Enron and WorldCom cost $40 billion of U.S. gross domestic product in their first year (Graham et al. 2002; Mazar 2008). However, dishonesty and eroding ethics are not limited to the business and accounting fields. They are prevalent in other professions and in individual choices outside of the workplace. For example, the IRS
estimates U.S. taxpayers avoid reporting more than $300 billion annually (Herman 2005; Mazar 2008). An estimated $600 billion is lost annually in the U.S. from employee fraud and theft (Joyner 2002; Mazar 2008). Fraud in the property and casualty insurance industry costs the U.S. $24 billion annually. As seen in these examples, when ethics deteriorate, individuals, companies, and the U.S. government pay the price financially and in regards to reputation.

Religion sets ethical standards, reminds individuals of the importance of ethics, and helps people differentiate between ethical and unethical choices (Weaver and Agle 2002; McGuire et al. 2012). An increasing amount of empirical research on the link between religion and ethics has been published. Research on the link between religion and ethics has been examined in an economics and business context by Meising and Preble (1985), Terpstra et al. (1993), Ibrahim and Angelidis (1993), Smith and Oakley (1996), Guiso et al. (2003), and Angelidis and Ibrahim (2004). It has been examined in a decision-making and managerial attitude context by Kidwell et al. (1987), Agle and van Buren (1999), and Longenecker et al. (2004). Results of religiosity and ethics research in both business and individual contexts suggest more religious individuals tend to make better decisions in tough ethical situations (Brammer et at. 2007). In a Longenecker et al. (2004) survey, participants claiming to be moderately to highly religious were not as accepting of unethical decisions as other survey respondents (Longenecker et al. 2004, McGuire et al. 2012). Thus, from prior research it can be predicted that religiosity decreases the probability of unethical behavior.
Risk Aversion

Prior research shows a positive correlation between religiosity and individual risk aversion (Hilary et al. 2009). For example, one study reveals that risk-averse individuals attend church more often and are less likely to accept riskier payouts than risk-seeking individuals (Osoba 2003; Hilary et al. 2009). A probable reason for the direct relationship between religion and risk aversion involves anxiety over uncertainty. Research suggests risk-averse people seek religion to decrease the amount of anxiety and uncertainty in their lives (Hilary et al. 2009). This theory is important because risk aversion affects both personal decisions outside of work and in the workplace.

Religiosity Theory at the Business Level

Managerial Behavior

Religion is important at the business level starting with its effects on managerial behavior. Managers strive to legally maximize profits, improve employee work-life, show concern for the local community, reduce negative impacts on the environment, and participate in philanthropic activities (Angelidis and Ibrahim 2004). Managers’ work in multiple realms is the cause of the instrumental stakeholder theory, which states that managers attempt to please multiple stakeholders groups. These groups include customers, stockholders, employees, investors, suppliers, and groups in the community. According to this theory, managers can take action in response to each stakeholder group to improve firm performance (Donaldson and Preston 1995; Freeman and Evan 1990; Jones 1995; Pirson and Malhotra 2011; McGuire et al. 2012).
Prior research yields empirical evidence supporting the idea that religion affects managerial behavior. In Ibrahim et al.’s (1991) study of 152 Christian companies, 92 percent engaged in regular on-site religious activities, such as prayer and scripture readings, and almost half encouraged “employee-centered” values. Nearly 75 percent of the surveyed companies emphasized loyalty and fairness to customers and suppliers and committed to active proselytizing like displaying the Ten Commandments, printing Bible verses on company products, and distributing Gospel tracts. Almost all of the companies supported community groups and programs (Angelidis and Ibrahim 2004).

Social Norms and Identity

Psychology theory indicates that social influences strongly affect human behavior (Cialdini and Goldstein 2004; Kennedy and Lawton 1998; Sunstein 1995; McGuire et al. 2012). McGuire et al. (2012) presents research on the social norm theory, which states that individuals act in accordance with their peers’ social and behavioral norms (Kohlberg 1984, McGuire et al. 2012). These social norms are the understood rules, regulations, and values a group holds. Part of socialization occurs when people assemble societal norms, values, and morals in their minds and use them as benchmarks to compare personal behaviors and ideas (Campbell 1964; Henrich et al. 2001; Mazar et al. 2008). If one breaks the societal norms, punishment is assigned from the group determining the norms (Cialdini and Trost 1998; Dyreng et al. 2012).

Kohlberg’s (1971) research reveals the six stages of moral development leading to the social norm theory. His research was gathered by presenting a moral dilemma to different age groups to see the moral reasoning at each stage in life. Children are in stages one and two. In stage one, a child obeys authorities to avoid physical
consequences. The consequences of an action determine whether it is right or wrong. In stage two, a child determines the correct action by doing what satisfies his or her own needs and desires. Young adults are in stages three and four where they are attempting to meet the expectations of family, groups, and country. At stage three, a young adult tries to be a 'good person' by helping others close to him or her. By stage four, the young adult is more concerned about authority and social order. Adults fall in stages five and six concerned with principles bettering society. In stage five, individuals follow the rights agreed upon by society. Finally at stage six, individuals define the correct action as one agreeing with the decision of conscience in line with ethical principles appealing to universality (Kohlberg 1971).

Prior research suggests religion is a primary social mechanism that controls people’s beliefs and actions (Kennedy and Lawton 1998; McGuire 2012). Studies show that the religious social norms of the environment surrounding a firm influence management decisions. Religious social norms also tie to a lower accounting risk measure and likelihood of misreporting (McGuire 2012). Religious social norms can affect the workplace when a manager changes his or her behavior to conform to an area’s religious social norms – known as the casual social norm effect – or if a manager seeks employment in an area where religious social norms align with the manager’s preference, known as selection via preference matching (Dyreng et al. 2012). However, Dyreng et al.’s (2012) research notes the difficulty of differentiating between religious norms and other social norms in the corporate environment.

According to the social proof heuristic, when individuals believe there is strong support for a certain behavior, they are likely to mimic the behavior. Thus, the religious
majority’s norms in the environment surrounding the firm can affect a manager even if
the manager is not religious (Kohlberg 1984; Sunstein 1996; Cialdini and Goldstein
2004; McGuire et al. 2012). Prior research shows that an increase in a geographic area’s
religious social norms increases the likelihood that religious social norms affect managers

Influence by Communities

Communities impact corporations because they provide resources to the
corporations, such as customers, employees, suppliers, and government regulation.
Communities also provide intangible benefits like reputation, culture, and human
resources (Eesley and Lenox 2006; McGuire et al. 2012). As previously mentioned, the
religiosity of local communities can influence managerial decisions, regardless of the
manager’s religiosity. Even if the manager does not associate with a religion, he or she
will likely interact with a higher number of religious individuals if the firm is in a highly
religious area (Dyreng et al. 2012). The likelihood that religion affects corporate
decisions is higher in communities where religion plays an important role (Kennedy and
Lawton 1998; McGuire 2012).

Grullon et al.’s (2010) study suggests that the religious values and beliefs of the
local community affect managers and executives at a firm’s headquarters. Executives,
managers, and even lower-level employees bring these religious values and beliefs into
corporations to shape the corporate culture. Local community religious beliefs convey
pride for ethical behavior and guilt for unethical behavior (Smith 1790; Grullon et al.
2010). The values, religious rules, systems, and teachings serve as a corporate
monitoring system that is part of the decision maker’s ‘incentive structure’ and predicts
the firm’s ethical behavior (Grullon et al. 2010). Thus, religion helps deter firms headquartered in religious counties from inappropriate behavior. Specifically, Grullon et al.’s (2010) study finds that firms headquartered in more religious areas are less likely to receive class action lawsuits, use accruals to manipulate their earnings, and provide egregious compensation packages.

Prior research shows that rural locations tend to be more religious, and firms in these areas usually have higher earnings quality than those in urban areas (Chalfant and Heller 1991; Urcan 2007; McGuire et al. 2012). Hilary et al.’s (2009) research shows that investors react more positively to investing and financing decisions made by firms located in more religious counties. Hilary et al. (2009) also find that firms in more religious counties take less risks, are more profitable, invest less in assets, and have lower levels of expected growth. Dyreng et al.’s study (2012) finds that firms in more religious counties have accruals that more accurately show cash flows, are less likely to use a tax shelter, and report more bad news in press releases, consistent with risk aversion norms and honesty norms (Skinner 1994; Graham et al. 2005; Roychowdhury and Sletten 2009; Dyreng et al. 2012).

**Corporate Social Responsibility**

Law requires companies to implement certain social policies and actions, but companies have discretion regarding their degree of social responsibility because it is beyond the scope of company requirements and responsibilities. McGuire et al.’s study (2012) defines corporate social responsibility (CSR) as “corporate policies that embrace responsibility for the impact of business activities on the environment, consumers, employees, and communities” (Johnson and Greening 1999; McWilliams and Siegel
Thus, CSR betters the community, environment, and society (European Commission 2001; McWilliams and Siegel 2001; Brammer et al. 2007).

Four different parts compose CSR: economic, legal, ethical, and discretionary. The economic dimension involves maximizing profit for shareholders by supplying goods and services to meet the market demand and stimulate the economy. The legal dimension involves the obedience of laws and regulations. The ethical dimension involves acting fairly and equitable, following along with the values and standards of society. Lastly, the discretionary dimension involves participation in voluntary philanthropic activities aimed at improving society (Carrol 1979; Angelidis and Ibrahim 2004). Given the four different dimensions, tradeoffs exist between the firm’s profit and each CSR component (Wang et al. 2008; McGuire 2012).

Firms make their CSR decisions based on shareholder expectations (Sundaram and Inkpen 2004; McGuire 2012). Studies suggest that shareholders have gained more interest in CSR in recent years (Callan and Thomas 2009; Grant Thornton 2011; McKinsey 2009; McGuire et al. 2012). The Social Investment Forum (2007) reports a dramatic increase in invested assets in socially responsible initiatives from 1996 to 2005 – from $639 billion to $2.29 trillion. This increase shows an increased focus and investment in CSR.

One theory states that CSR is not beneficial to a firm because the firm merely spends money without gaining benefits. However, Baron’s (2001) research suggests CSR can improve reputation, increase shareholder happiness, gain new customers, and reduce costs. Firms who demonstrate social responsibility appeal to customers who care about the social issues at hand, leading to increased sales (Lev et al. 2010; Dyreng et al.)
CSR links to a positive impact on profitability and economic performance (Al-Tuwaijri et al. 2004; Orlitzky et al. 2003; McGuire et al. 2012). Research regarding CSR and financial reporting suggests a correlation between higher financial reporting quality and higher levels of CSR (Kim et al. 2012). Firms strategically use CSR to gain investors, create goodwill, and act as a buffer when negative events occur (Mackey et al. 2007; Godfrey et al. 2009; McGuire 2012).

Brammer et al.’s study (2007) makes the argument that more religious individuals are more likely to view corporations as having a broader set of responsibilities. Thus, it is likely that more religious shareholders desire a higher level of CSR. To make this argument, Brammer et al. (2007) draws on three concepts. First, according to Rest’s (1986) framework, there are three stages of ethical decision-making: recognize the issue at hand, make an ethical decision, and intend to act in a certain manner. The religious beliefs of the decision maker can influence each stage (Rest 1986; Brammer et al. 2007). Second, Webley (1997) connects religious values, such as honesty, fairness, and trusteeship, to stakeholders’ views of companies (Brammer et al. 2007). Third, “The Golden Rule” encourages individuals to treat others as they would like to be treated, extend brotherly love, use moral insight, and love as God has loved. This rule is very similar to the definition and purpose of CSR. Thus, when viewing CSR from the standpoint of The Golden Rule, businesses have a responsibility to a wide range of groups in society (Donaldson and Preston 1995; Evan and Freeman 1988; Trevino and Nelson 1995; Brammer et al. 1997).
Earnings Management Theory

Religion and Financial Reporting

Prior research suggests religion influences corporate financial reporting decisions (Dyreng et al. 2010; Grullon et al. 2010; McGuire et al. 2012). Due to the limitations of studying corporate religiosity, which are discussed in Chapter IV, many studies focus on the religiosity of the area where the company is headquartered instead of on the religious affiliation of company employees. Prior corporate religiosity research suggests firms headquartered in areas of high religiosity are more risk averse and less likely to incur financial reporting irregularities (Dyreng et al. 2010; Grullon et al. 2010; McGuire et al. 2012). Companies located in highly religious areas also have less aggressive financial reporting and are less likely to be involved in class action lawsuits. Research shows these companies have fewer restatements, a lower risk of fraud, and a lower rate of tax avoidance (Hilary and Hui 2009; Dyreng et al. 2010, Grullon et al. 2010; McGuire et al. 2012). McGuire’s (2012) study concludes that religious social norms can act as a form of monitoring over corporate financial reporting, especially when the amount of external review and monitoring is low.

Earnings Manipulation

Schilit and Perler's study (2010) reveals corporate earnings manipulation techniques and how financial statement users can detect these gimmicks and frauds in financial reporting. One form of earnings manipulation is recording revenue too soon, such as recording revenue far in excess of work completed on a long-term contract. Examples of these types of long-term contracts include construction projects using the percentage of completion method and lease agreements. This manipulation occurs when
the seller starts to deliver on the contract but management records a greater amount than is appropriate for the work completed at the time of the financial statements. In these situations, large amounts of long-term receivables will be put on the books. Problems occur when companies record revenue too soon. First, by moving future revenue to current periods, the future revenue is no longer available to be recorded in the future. Second, it will be very difficult to achieve comparable revenue growth in future periods (Schilit and Perler 2010).

If there is a large increase in accounts receivable, especially long-term and accrued receivables, financial statement users should note this as a sign of possible earnings manipulation. Other signs of this earnings manipulation include: receivables growing faster than sales, a changing revenue recognition policy that records revenue sooner, and cash flow from operations (CFO) materially lagging behind net income. However, it must not be overlooked that the timing of the revenue recognition is sometimes under discretionary management estimates (Schilit and Perler 2010).

Another form of earnings manipulation is shifting current expenses to a later period. One technique companies use to shift current expenses to later periods is to capitalize a normal operating cost instead of expensing it. For example, some companies will improperly capitalize their marketing costs instead of expensing them for their short-term benefits. Some companies even go as far as creating new and unusual asset accounts in order to capitalize instead of expense. When companies incorrectly capitalize instead of expense, they inflate their net income, as well as their operating cash flow. Investors should note unexpected increases in capital expenditures. They should also
watch for unexpected declines in free cash flow, matched with large increases in cash flow from operations (Schilit and Perler 2010).

Another way companies shift current expenses to a later period is by amortizing and depreciating costs too slowly. They can do this by increasing the useful life of assets beyond their actual useful life. Investors should compare industry averages to make sure that assets are not being depreciated too slowly (Schilit and Perler 2010).

A third form of earnings manipulation involves employing techniques to hide expenses or losses in order to report a higher net income for the period. This occurs when a company fails to record the expense portion of a transaction. For example, if a company orders cell phone batteries and receives an invoice for the order but neglects to record the expense until the next period, the company is manipulating their earnings. This manipulation also occurs when a company fails to accrue an expense when making adjusting entries at the end of the period. For example, if a technology company fails to accrue (or under-accrues) a warranty liability at the end of the period, it could be manipulating earnings. In this case, investors need to watch for stagnant or declining warranty expense accounts while revenue is increasing (Schilit and Perler 2010).

Grullon et al.’s (2010) study examines earnings management and admits there is not always a clear distinction between ‘valid’ and ‘questionable’ earnings management. However, it is clear that the more aggressively a company manages their earnings, the more room there is for a misleading representation to investors of the company’s real economic standing. For example, by manipulating earnings, outcomes of contractual obligations relying on the company’s reported earnings, such as compensation packages and debt financing, could be altered (Grullon et al. 2010).
It is important to recognize the different techniques of earnings manipulation to understand the various ways in which a company can manipulate their financial statements. The discussion of earnings management techniques above is not exhaustive, but merely a glimpse into how corporations can manage their earnings and shape their financial statements to improve reported results. It is likely that many factors influence the decision to manipulate earnings or not, including religion. A discussion of religion's influence follows.

**Religion and Accounting Manipulation**

Earnings management, as discussed above, can be split into two categories: real-activities earnings management and accruals-based earnings management. Real earnings management (e.g., reducing research and development or advertising expenditures) can negatively impact future revenues. By contrast, accruals-based earnings management relies on altering accounting estimates to achieve a desired financial reporting outcome. Prior research suggests real-activities earnings management is viewed by managers as more ethical and as carrying less risk than accruals-based earnings management (Bruns and Merchant 1990; Graham et al. 2005; McGuire et al. 2012). Thus, it is likely that managers in highly religious areas favor real earnings management to accruals-based management. McGuire et al.’s (2012) study shows a negative relationship between abnormal accruals (a measure of accruals-based management) and religiosity.

Dyreng et al.’s (2012) study presents two traits of religious individuals that can curb optimistic accrual choices. The first is honesty. Areas of high religious activity display more reminders of moral and ethical codes of conduct. Examples of these reminders include cross necklaces, ‘Jesus fish,’ and ‘What Would Jesus Do?’ bracelets.
At the individual level, these reminders lessen the likelihood that individuals will dishonestly report performance for personal gain. Thus, individuals are more likely to report actual firm performance. At the business level, this results in smaller deviations from actual accrual levels (Mazar et al. 2008; Dyreng et al. 2012). The second trait is risk aversion. As previously discussed, religious individuals tend to be less risky than non-religious individuals (Miller and Hoffman 1995, Miller 2000; Diaz 2000; Dyreng et al. 2012). As will be discussed, managers at firms in areas of high religiosity are less likely to be sued with class action lawsuits. One of the ways managers can avoid litigation consequences is to be more conservative in their reporting of accruals (Watts 2003; Grullon et al. 2010; McGuire et al. 2012; Dyreng et al. 2012). In conservatively reporting accruals, managers will tend to understate revenues and assets and overstate expenses and liabilities.

Prior research by Dyreng et al. (2012) shows religiosity in the geographic area where a firm is headquartered is linked to accrual choices. Dyreng et al. reveal that companies in areas of greater religious adherence make less optimistic accrual choices. These companies also have a lower risk that their financials are misrepresented with overstated revenues and assets or understated expenses and liabilities. Further findings reveal firms headquartered in a highly religious area have better mappings of accruals into cash flows and report accruals having less deviation from the firms’ expected accrual level (Dyreng et al. 2012).

**Lawsuits**

Federal securities laws are in place to help protect investors from fraud – illegal earnings and accounting manipulations – committed by corporations. When federal
securities laws are violated, federal class action lawsuits are initiated. Research by Pritchard and Ferris (2001) reveals that investors do not acknowledge and react to the final ruling of the federal class action lawsuit in so much as they respond to the revelation of the potential fraud and the actual filing of the lawsuit. Companies are predominately hurt by the hit their reputations take upon the filing of a lawsuit, not the direct financial penalties that result from the case (Karpoff et al. 2005). Even if the corporation is innocent of the charges against them, its reputation will be damaged (Grullon et al. 2010).

Grullon et al. (2010) performed a class action lawsuit study with 55,000 observations over the ten year period from 1996-2006. They used the number of churches in a specified geographic area as their measure of community religiosity. Their results show firms headquartered in highly religious communities have a reduced likelihood of having securities fraud lawsuits filed against them (Grullon et al. 2010). This suggests less earnings manipulation and more honest financial reporting for firms headquartered in religious areas. Thus, the firms in highly religious areas are less likely to have damaged reputations due to the filing of class action lawsuits.
Chapter III: Hypothesis

Prior research reveals that religion is important to many individuals in the United States and drives religious individuals’ personal morals. Religious moral reminders help both religious and non-religious individuals make more honest decisions (Dyreng 2012). Religious organizations help provide these moral reminders to assist individuals in meeting the high standards and role expectations extending from their personal lives to the workplace. The ethical standards set by religious institutions have the ability to influence managers’ decisions at work (Brammer et al. 2007). Judging from prior research, I believe individuals’ religious choices can influence the corporate setting and stockholder decisions.

Prior research supports the idea that religion affects managerial behavior, and the instrumental stakeholder theory states that managers attempt to please multiple stakeholder groups (Angelidis and Ibrahim 2004; McGuire et al. 2012). Thus, it is reasonable to conclude that managers’ religion affects their daily work decisions. Even if a manager is not religious, he or she can be influenced by the religiosity of the community surrounding the company because of the social norm theory and the social proof heuristic discussed in Chapter II (McGuire 2012; Dyreng et al. 2012). The corporate culture is shaped by religious and non-religious beliefs and values brought into the company from the local community (Grullon 2010). Since community religiosity affects managerial decisions, the community religiosity data I use should be appropriate
to evaluate the stockholder response to religiosity and its effects on corporate operational and financial reporting quality.

Religion may also influence managers when making operational decisions. Prior research supports the idea that religious individuals are more likely to view corporations as having a more extensive set of responsibilities and duties than solely making a profit (Brammer et al. 2007). Individuals’ religious beliefs are shown to influence the ethical decision-making process, link religious values to their view of the company, and encourage the “Golden Rule” in the corporate setting (Rest 1986; Webley 1997; Donaldson and Preston 1995; Evan and Freeman 1988; Trevino and Nelson 1995; Brammer et al. 1997). Thus, it seems reasonable to predict that religion can influence managers’ operational decisions.

Based upon prior religiosity research and theory, I hypothesize that religious corporations operate more ethically than non-religious corporations. Specifically, I believe the more religious a corporation is, the better their operational quality is. The responsibility religious managers feel toward all stakeholder groups should motivate them to be better stewards of company resources. Prior research also reveals that religious individuals are more risk averse (Hilary et al. 2009). This research suggests that managers will make less-risky decisions to increase the companies’ return on assets. Applying prior research to the corporate religiosity tests I will perform, I believe stockholders will favor the highly religious and most operationally efficient companies. This appears to be a reasonable hypothesis because the highly religious companies with the most efficient operational quality will produce a better return on assets for the stockholders.
Likewise, religion is predicted to influence managers when making financial reporting decisions. In light of the numerous avenues for earnings manipulation discussed in Chapter II and the management incentives to manipulate accruals as discussed in Chapter IV, it is reasonable to assert that managers are pressured to manage their companies’ earnings. However, prior research shows that companies located in highly religious areas have less aggressive financial reporting, fewer restatements, and a reduced risk of fraud (Hilary and Hui 2009; Dyreng et al. 2010; Grullon et al. 2010; McGuire et al. 2012). They are also less likely to be involved in class action lawsuits, suggesting that religiosity influences financial reporting decisions (Grullon et al. 2010).

Prior research also shows that managers in highly religious areas favor real earnings management to accruals-based management because real earnings management is viewed as more ethical and as carrying less risk than accruals earnings management (Buns and Merchant 1990; Graham et al. 2005; McGuire et al. 2004). Religious moral reminders cause managers to make more honest decisions resulting in smaller deviations from actual accrual levels (Mazar et al. 2008; Dyreng et al. 2012). Due to the risk adverse nature of religious individuals, religious managers often avoid possible litigation consequences by more conservatively reporting accruals (Watts 2003; Grullon et al. 2010; McGuire et al. 2012; Dyreng et al. 2012). Thus, it seems very reasonable to conclude that religion plays a role in managers’ financial reporting decisions.

Based on prior research, the more religious a corporation is, the better their financial reporting quality should be. Due to the honesty and risk aversion traits of religious individuals, it seems reasonable to suggest that religious corporations have a stronger desire to conservatively report their accruals. Thus, I believe religious
companies’ financial reporting more accurately portrays their true financial condition. Consequently, stockholders should favor the highly religious companies with the least amount of accruals earnings management; those managers portray a more honest and accurate financial picture of the underlying financial results for stockholders.

Thus, in my research I expect to see mean stockholder returns favoring the religious companies. I do not necessarily suggest that this is because stockholders favor the actual religious affiliations of company managers, although this could be true to some extent. Rather, based on prior research, it appears as if religious companies operate more ethically and with more risk aversion. Thus, religious companies make better operational and financial reporting decisions and as a result have a better return on their assets and a more accurate reporting of accruals on their financial statements than non-religious companies.
Chapter IV: Methodology

In an attempt to better understand corporate religiosity and examine the stockholders’ response to corporate religiosity and its effects on the operational and financial reporting quality of publically traded companies, I perform statistical analysis to gain a better understanding of the benefits and consequences of corporate religiosity. These tests are intended to answer questions about the profitability of and stakeholders’ perspective towards a company’s degree of religiosity.

Subject Selection and Description

The religiosity data used is that of Dyreng, Mayew, and Williams’s (2012), given with permission from William Mayew. The proxy they used to define religious adherence, and thus used in this study, is “total number of adherents in county j reported by all denominations in year t divided by the total county population as provided by the U.S. Census in year t.” Based on the social norm theory and prior community religiosity research, I believe that the degree of religiosity in the county where a firm is headquartered is a good predictor of the decisions that the firm will make. As previously discussed, the social norm theory suggests that a person will behave in the same manner as others in the group that he or she belongs to.

I wish to extend my greatest gratitude to Dr. Mayew of Duke University for the religiosity data. Without it, none of this would be possible.
In order to get a measure of religious social norms, the Religious Congregations and Membership Study (RCMS) distributed by the American Religion Data Archive (ARDA) from the years 1990 and 2000 is used. This study collected data of church adherents by county from 132 U.S. denominations recorded in the Yearbook of American Churches in 1990 and 149 denominations in 2000. By definition, adherents are “all members, including full members, their children, and the estimated number of other participants who are not considered members; for example, the ‘baptized,’ ‘those not confirmed,’ ‘those not eligible for communion,’ ‘those regularly attending services,’ and the like.” The response rates by the denominations in 1990 and 2000 were only 54 percent and 52 percent, respectively, but they encompassed the larger congregations because 94.3 percent and 89.3 percent, respectively, of the total adherents recorded in the Yearbook of American Churches were reported in this survey.

To test my hypotheses, I used data from 1999 and 2006. These years were chosen in order to have two years with relatively stable and similar economies, one pre-Sarbanes Oxley and one post-Sarbanes Oxley. Using the S&P 500 Index of Historical Prices, the price in 1999 opened with approximately 1,229 and closed with 1,469, while the price in 2006 opened with 1,248 and closed with 1,418. Since the studies Dyreng, Mayew, and Williams used were from 1990 and 2000, they used different methods to obtain religious adherence data for the years between 1990 and 2000 and after 2000. In order for them to assemble religious adherence data for the years between 1990 and 2000, they linearly interpolated using the RCMS religious adherence values from 1990 and 2000. To get the needed data for the years after 2000, they extrapolated using the slope of the line that fit among the data points from 1990 and 2000.
Model Specifications

Using the religiosity scores from the 1999 and 2006 religiosity data received from Dr. Mayew, I ranked the companies based on their scores into three groups: high, medium, and low. These religiosity levels were used in all of the tests I performed that are discussed below.

To examine the effects of religiosity across industry groups based on the Fama-French (1997) 48 industry classifications, I sorted the industries from the most religious industries to the least religious industries. I was able to do this by first computing a category score where the low religious category equals one, the mid religious category equals two, and the high religious category equals three. For each industry, I then computed a composite score by taking the relative proportion in each category and multiplying it by the category score. Using the composite scores, I sorted by industry from the highest to the lowest composite score. The composite scores were akin to a weighted average type measure that allowed me to rank the industries by religiosity.

I also ranked audit firms by religiosity of the firms they audit. This allowed me to determine the relative religiosity of each firm's client portfolio. The process I used to rank the auditors by religiosity of their client bases was very similar to the process I used to rank industries by religiosity. I first computed a category score where the low religious category equals one, the mid religious category equals two, and the high religious category equals three. For each auditor client base, I then computed a composite score by taking the relative proportion in each category and multiplying it by the category score. Using the composite scores, I sorted by auditors from the highest to
the lowest composite score. The composite scores were akin to a weighted average type measure that allowed me to rank the auditor client bases by religiosity.

To examine operational earnings management, I used industry adjusted return on assets (IAROA), specifically Operating Income divided by Total Assets. Operational quality is important because it an indicator of how well a company utilizes their resources. Stockholders are interested in operational quality because they desire to see their investments multiply. ROA is a good measure of operational quality because it shows how much income is generated for each dollar invested in company assets. An increasing ROA is a positive sign to investors that managers are focused on efficiently using company resources.

A study by Selling and Stickney (1989) reveals that operating leverage and product-life-cycle affect ROA. Operating leverage is the process in which a company operates with a high proportion of fixed costs to variable costs. Selling and Stickney's (1989) research shows that companies with higher operating leverages have more variable ROAs than companies with lower operating leverages. This is due in part to the fact that companies with high fixed costs will have substantial increases in their operating income as sales increase. The substantial increase occurs because the fixed costs are distributed among the increased number of units sold, resulting in a decreased cost per unit. As expected, the reverse occurs when a company's sales decrease (Selling and Stickney 1989).

Selling and Stickney's (1989) and Dickinson’s (2011) studies also reveal as products move through four phases - introduction, growth, maturity, and decline - ROA fluctuates. In the introduction and early growth stages, ROAs tend to be negative due to
product marketing and development and low rates of sales. ROA increases in the late growth stage and into maturity. This increase is due to economies of scale and less capital expenditures. In the decline phase, ROA begins to decrease because operating income begins to decrease.

Economic factors constrain industries. However, barriers, defined as an incumbent company's advantages over possible entrants where profits are earned without new entrants entering the market, exist. Competitive advantages, defined as an incumbent company's cost advantages, also exist for firms. Examples of competitive advantages include product differentiation, economics of scale, innovation, and capital requirements (Bain 1956, Stigler 1968, Dickinson and Sommers 2012). Firms in industries with heavy fixed capacity costs and long wait times to add new capacity are faced with a capacity constraint. They must obtain a high profit margin to have a sufficient operating income and to increase their ROA. The high profit margin is usually obtained by economics of scale and entry barriers, such as significant start-up costs, regulation requirements, and risk (Selling and Stickney 1989). Firms selling commodity products are in industries with intense competition and fewer entry barriers. Thus, they are under a competitive constraint. These companies must achieve a high asset turnover to increase their ROA by reducing fixed costs, receiving purchase discounts, and integrating horizontally and vertically to obtain cost savings. Firms not subject to either of these constraints can make moves to increase their asset turnover and profit margin and thus increase their ROA (Selling and Stickney 1989).

Two business operating strategies companies use are product differentiation and cost leadership. The purpose of product differentiation is to differentiate a product so far
as to obtain market power over product margins. It can be done by changing product quality, distribution channel, service technique, etc. The focus is on profit-margin (Selling and Stickney 1989). The purpose of cost leadership is produce at the lowest cost in order to sell the most volume at the lowest prices possible. It can be done by increasing production efficiencies, achieving economics of scale, and outsourcing. Here, the focus is on asset-turnover (Selling and Stickney 1989). Selling and Stickney's (1989) study makes two important conclusions. First, firms with the highest ROA followed either the product differentiation or cost leadership strategy. Second, firms in industries focused on specific customer needs usually followed the product differentiation strategy while firms in industries producing commodity products usually followed the cost-leadership strategy.

As Oster (1990) notes, firms can benefit from their industry peers without much effort. Firms can also earn profit relative to their industry peers. Thus, they are using a talent, resource, or technology that their peers do not have (Dickinson and Sommers). As evidenced by the studies done by Bain (1956), Stigler (1968), Selling and Stickney (1989), and Dickinson and Sommers (2012) examining competitive efforts and ROA, it is necessary to industry adjust my measures. This will allow me to control for industry specific characteristics and view individual industry performance.

To examine financial reporting earnings management, I used industry adjusted accruals (IAACC), computed as Net Income minus Cash Flow from Operations. Financial reporting quality is important because stockholders rely on the accuracy of financial statements to make investment decisions. Market stability relies upon financial reporting quality. Consistent with Generally Accepted Accounting Principles (GAAP),
accrual based accounting is used by U.S. companies. The basis of accrual based accounting is recognizing revenues when they are earned and expenses when they are incurred using the adjusting process. Thus, companies can have accrued expenses and accrued revenues (Wild et al. 2009).

Accrued expenses are costs occurring in a period that are unpaid and unrecorded. GAAP requires them to be recorded in the period in which they occur instead of in the period in which they are paid. Thus, managers make adjusting entries at the end of each period to record accrued expenses by increasing expenses and increasing liabilities. This decreases a company’s earnings and increases their debt. Common accrued expenses are accrued salaries, accrued expenses, accrued interest, accrued rent, and accrued taxes (Wild et al. 2009). With many management compensation packages based on earnings, one can see why managers may attempt to manipulate financial statements by not recording accrued expenses in the period they are incurred but not yet paid. Also, a company's stock price will often fluctuate when earnings are announced, based upon stock analysts' projections. If the company does not meet analysts' expectations, stock prices will fall. Managers often feel pressure to keep the company's stock prices up, which creates incentives to manipulate earnings and the financial statements by failing to accrue expenses.

Accrued revenues are revenues earned in a period that are not yet received or recorded. Again, GAAP requires them to be recorded in the period they are earned rather than in the period payment is received. Similar to accrued expenses, managers make adjusting entries at the end of each period, but with accrued revenues, managers increase assets and increase revenues. Thus, accrued revenues increase earnings for the period.
They commonly occur from products, interest, rent, and services (Wild et al. 2009). It is clear to see why managers may have incentives to accrue more revenues than were actually earned in the period to boost earnings and meet expectations for purposes of compensation packages and stock analysts' predictions.

The main purpose of accruals is to shift the recognition of actual cash flows over a length of time in order for the adjusted numbers, or earnings, to better measure the firms’ performance. Some studies find that the adjusted numbers are better indicator of performance than the underlying cash flows (Dechow 1994; Dechow et al. 1998; Liu et al. 2002; Dechow and Dichev 2002). It is imperative to note that accruals are not an absolute but involve many estimations and assumptions of future cash flows. If the estimates and assumptions prove incorrect, they must be corrected in future accruals and earnings (Dechow and Dichev 2002). Palepu et al. (2000) suggests that these accrual estimation errors reduce accounting quality. Since accruals allow room for estimation and assumptions, there is room for window-dressing and misleading users of the financial statements (Healy and Wahlen 1999; Dechow and Dichev 2002).

Limitations

The legal environment of the United States can make the study of religiosity difficult. Everson vs. Board of Education is a well known court case supporting the separation of church and state. In the opinion of the case, Justice Black stated that the First Amendment, made applicable to the states by the Fourteenth Amendment, requires a state to "make no law respecting an establishment of religion, or prohibiting the free exercise thereof" (Everson 1947). According to Thomas Jefferson, the "Establishment of
Religion” clause found in the First Amendment is intended to "erect a wall of separation between church and state" (Everson 1947). Dyreng, Mayew, and Williams’s study (2012) reveals that corporate religiosity is difficult to measure because information on corporate executives and managers' religious groups is not public data. This is due to Title VII of the 1964 Civil Rights Act prohibiting United States corporations from hiring and firing on the basis of religion.

Iannaccone’s study (1998) reveals some weaknesses of religiosity data. First, the government does little to collect religious data. Second, most religious organizations and bodies keep poor financial records and excessively inclusive membership records in order to have better numbers on paper. And third, it is difficult to observe many aspects of religion because they are inherent in the way people behave. Examples of this include religious motivations and thoughts.

However, Iannaccone's (1998) study notes that despite all the limitations of studying religion, religious data is more abundant than most believe and more extensive than other ‘nonmarket’ organizations, such as local groups, clubs, and recreation activities. To a certain extent, religious data can be collected from individuals, the government, and businesses. From individuals, surveys are a fairly accurate means of information because they are self-reported beliefs and religious activities. Four main survey types used to gather religious data include Gallup surveys (data on denominations, church attendance, and religious beliefs), NORC’s General Social Surveys (religiosity data), national surveys (data on attendance and preferences), and surveys completed by churches, agencies, philanthropic organizations, and other groups (highly detailed but less representative data). Much of the time, self-reported surveys are accompanied by
institutional records. These records contain data recorded by denominations, including membership lists, financial giving, expenses, number of churches and officials, attendance, and baptisms and conversations, among other things (Iannaccone 1998). The government has religious data about clergy employment, church construction, and religious giving filed as itemized deductions on IRS tax returns. Religious data can also be collected through more abstract ways. Examples of this include the sale of religious books and music, clerical salary information, seminary enrollment numbers, and religious broadcasting information (Iannaccone 1998).

The religiosity data I am using for my tests has a few weaknesses that Dyreng, Mayew, and Williams note. First, due to different interpretations of the definition of ‘adherent,’ noise is added to the religious adherence measure. Second, there is a degree of bias in the measure since non-respondent characteristics are not provided, but due to the large amount of coverage, the bias is minimized. Third, there is a weakness in regard to sampling bias. Some counties are not well represented because they are mostly African-American, and many African-American denominations were not included in the survey. This sampling bias was reduced in 2000 because Dyreng, Mayew, and Williams’s used the estimated adherents adjustment included in the 2000 RCMS county data in their definition of religious adherence.

One limitation when using accruals as a measure is that accruals that have been manipulated by management to make the financial statements appear better than they actually are do not appear any different than accruals that are simply the result of errors in estimation. For example, recording a fake receivable and never collecting it looks similar to recording a regular receivable and never collecting it (Dechow and Dichev
2002). However, by using an approach with the notion of estimation errors including both unintentional and intentional errors, Dechow and Dichev (2002) find that large accruals signal low quality of earnings and less persistent earnings.
Chapter V: Results

Item Analysis

Table 1 introduces the reader to my religiosity data. It is a simple table with combined data from my sample years - 1999 and 2006. Specifically, Table 1 shows the number of observations and mean values of return on assets (ROA), industry adjusted return on assets (IAROA), accruals (ACC), and industry adjusted accruals (IAACC) for each religiosity level: low, medium, and high. This data will be examined in more detail in Tables 4, 5, 6, 7, 8, 9, 10, and 11 and Figures 1, 2, 3, 4, 5, and 6.

Table 1: Religiosity Descriptive Statistics for 1999 and 2006 Combined

<table>
<thead>
<tr>
<th>Religiosity Level</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of Observations</td>
<td>Mean</td>
<td>Number of Observations</td>
</tr>
<tr>
<td>ROA</td>
<td>1,666</td>
<td>-0.0183168</td>
<td>1,580</td>
</tr>
<tr>
<td>IAROA</td>
<td>1,666</td>
<td>-0.0203241</td>
<td>1,580</td>
</tr>
<tr>
<td>ACC</td>
<td>1,666</td>
<td>-0.0670163</td>
<td>1,580</td>
</tr>
<tr>
<td>IAACC</td>
<td>1,666</td>
<td>-0.0016470</td>
<td>1,580</td>
</tr>
</tbody>
</table>

Notes:
The table presents mean values of ROA, IAROA, ACC, and IAACC for 4,887 firm observations for the combined years 1999 and 2006 by religiosity level – low, medium, and high. ROA is operating income divided by total assets. IAROA is industry adjusted ROA. ACC is net income minus cash flows from operations. IAACC is industry adjusted ACC.
Table 2 shows religiosity by industry from the combined sample years - 1999 and 2006. For each religiosity level - low, medium, and high - the table shows the number of observations in each industry and the percentage of the industry that falls in each category. Using the composite school described in the model specifications section, I ranked the industries from the most religious to the least religious.

Of a total of 4,887 observations from the years 1999 and 2006 in Table 2, 1,666 observations fall into the low religious category, 1,580 observations fall into the middle religious category, and 1,641 observations fall into the high religious category. By percentage of industry, the low religious category leads with 34.09 percent. The high religious category follows the low religious category at 33.58 percent of the industries. The middle religious group trails the high religious category with 32.33 percent of the industries represented.

With the highest possible composite score of 300, the real estate industry ranks as the most religious industry with a score of 266.67. It should be noted that this may not be a clear indication of the real estate industry's religiosity level because there are only three observations from the real estate industry in my sample years. The top ten most religious industries starting at the most religious industry are real estate, textiles, fabricated products, aircraft, steel works, communication, apparel, business supplies, healthcare, and printing/publishing.

With the lowest possible composite score of 100, the precious metals industry ranks as the least religious industry with a score of 154.55. Similar to the real estate industry, the precious metals industry only has eleven observations from the sample years so there is a chance that this ranking is not an indicator of the precious metals industry's
true religiosity level. Industries scoring as the bottom ten least religious industries, in descending order from more religious to less religious are recreation, other, defense, transportation, electronic equipment, mining, computers, candy/soda, agriculture, and precious metals.

It is interesting to view industries by religiosity rank. Some of the industry ranks seem appropriate, but some can be a bit surprising. For example, it is no surprise to me that the precious metals industry receives the least religious ranking because of all of the news of corruption and manipulation in the industry. However, I was surprised to see the agriculture industry score as the second-most least religious industry. Intuitively, one might believe that farmers tend to be religious individuals who have deep faith in God to bring crops from the earth each year, but my results show otherwise. The examination of religiosity by industry is interesting because there is a possibility that religious managers may gravitate toward certain religious industries. According to prior research, this is a possibility because of the selection via preference matching theory that occurs when managers seek employment in an area where the religious social norms align with the managers’ preferences. This examination is also interesting because it may have implications for investors choosing investment vehicles. When making investment decisions, religious investors may gravitate away from the least religious industries in favor of the more religious industries.
### Table 2: Religiosity by Industry

<table>
<thead>
<tr>
<th>Religiosity Level</th>
<th>Low</th>
<th>Mid</th>
<th>High</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of Observations</td>
<td>Percent of Industry</td>
<td>Number of Observations</td>
<td>Percent of Industry</td>
</tr>
<tr>
<td>1 Real Estate</td>
<td>0</td>
<td>0.00%</td>
<td>1</td>
<td>33.33%</td>
</tr>
<tr>
<td>2 Textiles</td>
<td>5</td>
<td>15.15</td>
<td>11</td>
<td>33.33</td>
</tr>
<tr>
<td>3 Fabricated Products</td>
<td>2</td>
<td>9.52</td>
<td>10</td>
<td>47.62</td>
</tr>
<tr>
<td>4 Aircraft</td>
<td>5</td>
<td>13.51</td>
<td>17</td>
<td>45.95</td>
</tr>
<tr>
<td>5 Steel Works</td>
<td>17</td>
<td>18.68</td>
<td>33</td>
<td>36.26</td>
</tr>
<tr>
<td>6 Communication</td>
<td>21</td>
<td>19.44</td>
<td>38</td>
<td>35.19</td>
</tr>
<tr>
<td>7 Apparel</td>
<td>24</td>
<td>23.08</td>
<td>33</td>
<td>31.73</td>
</tr>
<tr>
<td>8 Business Supplies</td>
<td>20</td>
<td>24.10</td>
<td>25</td>
<td>30.12</td>
</tr>
<tr>
<td>9 Healthcare</td>
<td>18</td>
<td>21.43</td>
<td>31</td>
<td>36.90</td>
</tr>
<tr>
<td>10 Printing/Publishing</td>
<td>11</td>
<td>22.45</td>
<td>18</td>
<td>36.73</td>
</tr>
<tr>
<td>11 Shipbuilding/Railroads</td>
<td>3</td>
<td>25.00</td>
<td>4</td>
<td>33.33</td>
</tr>
<tr>
<td>12 Consumer Goods</td>
<td>34</td>
<td>26.98</td>
<td>41</td>
<td>32.54</td>
</tr>
<tr>
<td>13 Chemicals</td>
<td>33</td>
<td>23.91</td>
<td>56</td>
<td>40.58</td>
</tr>
<tr>
<td>14 Pharmaceuticals</td>
<td>96</td>
<td>31.07</td>
<td>86</td>
<td>27.83</td>
</tr>
<tr>
<td>15 Shipping Containers</td>
<td>6</td>
<td>30.00</td>
<td>6</td>
<td>30.00</td>
</tr>
<tr>
<td>16 Machinery</td>
<td>79</td>
<td>29.70</td>
<td>83</td>
<td>31.20</td>
</tr>
<tr>
<td>17 Retail</td>
<td>91</td>
<td>29.55</td>
<td>103</td>
<td>33.44</td>
</tr>
<tr>
<td>18 Electrical Equipment</td>
<td>32</td>
<td>27.83</td>
<td>43</td>
<td>37.39</td>
</tr>
<tr>
<td>19 Construction Materials</td>
<td>31</td>
<td>24.22</td>
<td>58</td>
<td>45.31</td>
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</table>

Composite Score calculated as the sum of the number of observations in each religiosity level.
<table>
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<tr>
<th>Industry</th>
<th>Religiosity Level</th>
<th>Number of Observations</th>
<th>Percent of Industry</th>
<th>Number of Observations</th>
<th>Percent of Industry</th>
<th>Number of Observations</th>
<th>Percent of Industry</th>
<th>Number of Observations</th>
<th>Percent of Industry</th>
<th>Number of Observations</th>
<th>Composite Score</th>
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<tr>
<td>20 Wholesale</td>
<td>Low</td>
<td>67</td>
<td>26.59%</td>
<td>103</td>
<td>40.87%</td>
<td>82</td>
<td>32.54%</td>
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<td>205.95</td>
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<tr>
<td>21 Business Services</td>
<td>Mid</td>
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<td>104</td>
<td>28.81%</td>
<td>134</td>
<td>37.12%</td>
<td>361</td>
<td>203.05</td>
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<tr>
<td>22 Rubber &amp; Plastics</td>
<td>High</td>
<td>19</td>
<td>27.54%</td>
<td>29</td>
<td>42.03%</td>
<td>21</td>
<td>30.43%</td>
<td>69</td>
<td>202.89</td>
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<tr>
<td>23 Coal</td>
<td>Total</td>
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<td>37.50%</td>
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<td>25.00%</td>
<td>3</td>
<td>37.50%</td>
<td>8</td>
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<td>56</td>
<td>50.00%</td>
<td>28</td>
<td>25.00%</td>
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<td>33.33%</td>
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<td>25.46%</td>
<td>93</td>
<td>34.32%</td>
<td>271</td>
<td>194</td>
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<tr>
<td>30 Beer/Liquor</td>
<td></td>
<td>12</td>
<td>37.50%</td>
<td>10</td>
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<td>193.75</td>
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<td>31 Lab Equipment</td>
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<td>82</td>
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<td>23.71%</td>
<td>66</td>
<td>34.02%</td>
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<td>32 Restaurants/Hotels/Motels</td>
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<td>39.10%</td>
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<td>25.56%</td>
<td>133</td>
<td>190.22</td>
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<td>33 Petroleum/Natural Gas</td>
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<td>46.96%</td>
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<td>21.55%</td>
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<td>190.06</td>
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<td>38.89%</td>
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<td>25.00%</td>
<td>36</td>
<td>188.89</td>
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</tr>
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<td>35 Entertainment</td>
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<td>31</td>
<td>43.66%</td>
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<td>28.17%</td>
<td>20</td>
<td>28.17%</td>
<td>71</td>
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<td>36 Recreation</td>
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<td>26</td>
<td>41.27%</td>
<td>22</td>
<td>34.92%</td>
<td>15</td>
<td>23.81%</td>
<td>63</td>
<td>182.54</td>
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</tr>
<tr>
<td>37 Other</td>
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<td>53.57%</td>
<td>3</td>
<td>10.71%</td>
<td>10</td>
<td>35.71%</td>
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<td>182.12</td>
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<td>38 Defense</td>
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<td>26.67%</td>
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<td>26.67%</td>
<td>15</td>
<td>180.02</td>
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<td>27</td>
<td>23.28%</td>
<td>116</td>
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<td>20.76%</td>
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<td>27.90%</td>
<td>448</td>
<td>176.56</td>
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<td>41 Mining</td>
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<td>15.00%</td>
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<td>Percent of Industry</td>
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<td>Percent of Industry</td>
<td>Number of Observations</td>
<td>Composite Score</td>
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<tr>
<td>-------------------</td>
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<td>---------------------</td>
<td>------------------------</td>
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<td></td>
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</tr>
<tr>
<td>42 Computers</td>
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<td>24.26%</td>
<td>61</td>
<td>22.43%</td>
<td>272</td>
<td>169.12</td>
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<tr>
<td>43 Candy/Soda</td>
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<td>53.33</td>
<td>4</td>
<td>26.67</td>
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<td>20.00</td>
<td>15</td>
<td>166.67</td>
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<td>44 Agriculture</td>
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<td>9.09</td>
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<td>27.27</td>
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<td>0</td>
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<td>48 Tobacco Products</td>
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<tr>
<td>Total Percent</td>
<td>34.09%</td>
<td></td>
<td>32.33%</td>
<td></td>
<td>33.58%</td>
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<td>100%</td>
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</table>

**Notes:**
This table ranks Fama and French’s 48 industries from the most religious industry to least religious industry according to a composite score calculated by multiplying the percentage of the industry in the low religious category by 1, adding that total to the percentage of the industry in the mid religious by 2, adding that total to the percentage of the industry in the high religious category by 3, and multiplying the final total by 100 for each industry. For example, the Apparel industry’s composite score is calculated as ((23.08%*1)+(31.73*2)+(45.19%*3))*100 = 222.11.
Table 3 shows data pertaining to the religiosity of auditor client bases from the combined sample years - 1999 and 2006. Similar to Table 2, at each religiosity level, the number of observations in each auditor client portfolio and the percentage of the client portfolios in each religiosity category is listed. Using the composite score described in the model specifications section, I ranked the auditors based on the religiosity of their client base from most religious to least religious.

Of the auditors with at least 100 client observations and disregarding Other, Deloitte & Touche appears to be the auditor of the least religious clients with a composite score of 193 in a range of 100-300. The bottom three auditors, in descending order, with at least 100 client observations that have the least religious client bases are PricewaterhouseCoopers, Ernst & Young, and Deloitte & Touche.

Notable frauds and accounting manipulations were committed by these auditors' clients. For example, in 2000 and 2001, Adelphia, the sixth largest cable company in the U.S. at the time and Deloitte audit client, manipulated their subscriber counts. They began combining subscriber accounts of unconsolidated affiliates and including subscribers from other product lines to their basic subscriber total, increasing their total by over 100,000 users. Thus, Adelphia used a misleading subscriber metric that overstated actual performance and misled users (Schilit and Perler 2010). AOL, Ernst & Young's audit client, incorrectly capitalized and recorded $314.2 million of "deferred subscriber acquisition costs" on its Balance Sheet instead of recording its solicitation costs for new subscribers on its Income Statement as an expense. Thus, AOL was improperly capitalizing normal operating expenses to shift current expenses to a later period (Schilit and Perler 2010). As a final example, Merck & Co., pharmaceutical
company and Pricewaterhouse Coopers audit client, began reporting some of its inventory as "other assets," a long-term asset on the Balance Sheet in 2003. This accounting manipulation caused the long-term portion of Merck's inventory to increase from 13 percent to 25 percent. It is apparent that Merck & Co. were distorting their inventory metrics in an attempt to hide profitability issues (Schilit and Perler 2010).

Interestingly enough, of the auditors with at least 100 client observations, Arthur Anderson appears to be the auditor of the most religious clients with a composite score of 208.34 in a range of 100-300. The top three auditors with at least 100 client observations that have the most religious client bases are Arthur Andersen, BDO Seidman, and KPMG. Clearly, this does not mean that these auditors' clients did not commit fraud or manipulate investors. Enron and WorldCom are prime examples to show that one or two large frauds can destroy an accounting firm. In two of the largest accounting scandals in history, Enron used nonconsolidated joint ventures and accounting loopholes to hide billions of dollars in debt and losses, and WorldCom improperly boosted income by capitalizing billions of dollars instead of expensing them as normal operating costs. Even though Enron and WorldCom auditor, Arthur Andersen, ranks near the top of the Religiosity by Auditor Client Base table, their reputation was destroyed after they faced criminal charges related to the Enron audit.
Table 3: Religiosity by Auditor Client Base

<table>
<thead>
<tr>
<th>Religiosity Level</th>
<th>Low</th>
<th>Mid</th>
<th>High</th>
<th>Total</th>
<th>Composite Score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of Observations</td>
<td>Percent of Client Base</td>
<td>Number of Observations</td>
<td>Percent of Client Base</td>
<td>Number of Observations</td>
</tr>
<tr>
<td>Auditor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Barid, Kurtz and Dobson</td>
<td>0</td>
<td>0.00%</td>
<td>0</td>
<td>0.00%</td>
<td>1</td>
</tr>
<tr>
<td>2 J H Cohn</td>
<td>1</td>
<td>11.11</td>
<td>2</td>
<td>22.22</td>
<td>6</td>
</tr>
<tr>
<td>3 Moore Stephens</td>
<td>2</td>
<td>25.00</td>
<td>1</td>
<td>12.50</td>
<td>5</td>
</tr>
<tr>
<td>4 Pannell Kerr Foster</td>
<td>0</td>
<td>0.00</td>
<td>2</td>
<td>66.67</td>
<td>1</td>
</tr>
<tr>
<td>5 Richard A. Eisner</td>
<td>1</td>
<td>12.50</td>
<td>4</td>
<td>50.00</td>
<td>3</td>
</tr>
<tr>
<td>6 Arthur Anderson</td>
<td>153</td>
<td>28.33</td>
<td>189</td>
<td>35.00</td>
<td>198</td>
</tr>
<tr>
<td>7 McGladrey and Pullen</td>
<td>11</td>
<td>22.92</td>
<td>22</td>
<td>45.83</td>
<td>15</td>
</tr>
<tr>
<td>8 Binder, Dijker, Otte (BDO Seidman)</td>
<td>57</td>
<td>36.31</td>
<td>43</td>
<td>27.39</td>
<td>57</td>
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<tr>
<td>9 Altschuler, Melvoin, and Glasser</td>
<td>0</td>
<td>0.00</td>
<td>1</td>
<td>100.00</td>
<td>0</td>
</tr>
<tr>
<td>10 Plante &amp; Moran</td>
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<td>25.00</td>
<td>2</td>
<td>50.00</td>
<td>1</td>
</tr>
<tr>
<td>11 KPMG</td>
<td>215</td>
<td>32.77</td>
<td>228</td>
<td>34.76</td>
<td>213</td>
</tr>
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<td>27.63</td>
<td>70</td>
<td>46.05</td>
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<td>13 PricewaterhouseCoopers</td>
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<td>295</td>
<td>29.56</td>
<td>337</td>
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<td>350</td>
<td>33.75</td>
<td>324</td>
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<tr>
<td>15 Deloitte &amp; Touche</td>
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<td>38.54</td>
<td>222</td>
<td>29.92</td>
<td>234</td>
</tr>
<tr>
<td>Religiosity Level</td>
<td>Low</td>
<td>Mid</td>
<td>High</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number of Observations</td>
<td>Percent of Client Base</td>
<td>Number of Observations</td>
<td>Percent of Client Base</td>
<td>Number of Observations</td>
</tr>
<tr>
<td>Auditor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16 Other</td>
<td>151</td>
<td>30.20%</td>
<td>146</td>
<td>29.20%</td>
<td>203</td>
</tr>
<tr>
<td>17 Crowe Chizek</td>
<td>3</td>
<td>75.00</td>
<td>1</td>
<td>25.00</td>
<td>0</td>
</tr>
<tr>
<td>18 Moss Adams</td>
<td>9</td>
<td>90.00</td>
<td>0</td>
<td>0.00</td>
<td>1</td>
</tr>
<tr>
<td>19 Cherry, Bekaert and Holland</td>
<td>1</td>
<td>100.00</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
</tr>
<tr>
<td>20 Unaudited</td>
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<td>100.00</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total Observations</strong></td>
<td>1663</td>
<td>1578</td>
<td>1639</td>
<td><strong>4880</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
This table ranks auditors by their client bases from the most religious client bases to least religious client bases according to a composite score calculated by multiplying the percentage of the client base in the low religious category by 1, adding that total to the percentage of the client base in the mid religious by 2, adding that total to the percentage of the client base in the high religious category by 3, and multiplying the final total by 100 for each auditor. For example, the Ernst & Young’s composite score is calculated as ((35%*1)+(33.75%*2)+(31.24%*3))*100 = 196.22.
Tables 4 and 5 show the percentage of observations distributed among IAROA and religiosity levels. Level 1 of IAROA indicates low operating efficiency. Level 2 indicates average operating efficiency. Level 3 indicates high operating efficiency. In a similar fashion, as the religiosity level increases from 1 to 3, the religiosity of companies increases. There is not a substantial difference in the percentage of observations between the least religious and most religious corporations for 1999 or 2006 because the data was separated into thirds at the beginning of the test, but it does allow one to see where more of the observations lie. In 1999, most observations are in the category of the least religious and least operationally efficient companies, and the least amount of observations are in the category of the least religious and average operationally efficient companies. In 2006, most observations are in the category of the most religious and most operationally efficient companies, and the least amount of observations is in the category with the moderately religious and most operationally efficient companies.
### Table 4: 1999 Percentage of Observations by Level of Religiosity and Operating Efficiency

<table>
<thead>
<tr>
<th>1999</th>
<th>IAROA</th>
<th>REL</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>12.42%</td>
<td>9.76%</td>
<td>11.14%</td>
<td>33.32%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>10.51%</td>
<td>13</td>
<td>10.13</td>
<td>33.64</td>
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<tr>
<td></td>
<td></td>
<td>3</td>
<td>10.4%</td>
<td>10.57</td>
<td>12.05</td>
<td>33.02</td>
</tr>
</tbody>
</table>

### Table 5: 2006 Percentage of Observations by Level of Religiosity and Operating Efficiency

<table>
<thead>
<tr>
<th>2006</th>
<th>IAROA</th>
<th>REL</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Total</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>12.1%</td>
<td>11.53%</td>
<td>11.63%</td>
<td>35.26%</td>
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<tr>
<td></td>
<td></td>
<td>2</td>
<td>10.59%</td>
<td>10.17</td>
<td>9.55</td>
<td>30.31</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td>10.64%</td>
<td>11.63</td>
<td>12.15</td>
<td>34.42</td>
</tr>
</tbody>
</table>
Figure 1 shows a side by side comparison of the percentage of observations from sample years 1999 and 2006 of the least religious and least operationally efficient companies (from IAROA 1 and REL 1), the moderately religious and average operationally efficient companies (from IAROA 2 and REL 2), and the most religious and most operationally efficient companies (from IAROA 3 and REL 3). A noteworthy observation can be made from Figure 1. The side by side comparison of 1999 and 2006 data allows one to see that the percentage of observations for the least religious and least operationally efficient companies decreases from 1999 to 2006, and the percentage of observations for the most religious and most operationally efficient companies slightly increases from 1999 to 2006.

![Comparison of the Percentages of Observations for the Least, Moderately, and Highly Religious and Operationally Efficient Companies](image)

**Figure 1**: Comparison of the Percentages of Observations for the Least, Moderately, and Highly Religious and Operationally Efficient Companies
Tables 6 and 7 show the percentage of observations distributed among IAACC and religiosity levels. Level 1 of IAACC indicates the least amount of accruals earnings management. Level 2 indicates an average amount of accruals earnings management. Level 3 indicates the highest amount of accruals earnings management. As in Tables 4 and 5 and Figure 1, religiosity level 1 indicates the least religious companies, level 2 indicates the moderately religious companies, and level 3 indicates the highly religious companies. In 1999, the highest percentage of observations lies with the moderately religious companies with average accruals earnings management, and the least percentage of observations lies with the moderately religious companies with high accruals management. The same is true for the least percentage of observations in 2006, but the highest percentage of observations moves to the highly religious companies with an average amount of accruals earnings management.
### Table 6: 1999 Percentage of Observations by Level of Religiosity and Accruals Earnings Management

<table>
<thead>
<tr>
<th>REL</th>
<th>IAACC</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>11.89%</td>
<td>10.3%</td>
<td>11.14%</td>
<td></td>
<td>33.33%</td>
</tr>
<tr>
<td>2</td>
<td>11.08%</td>
<td>12.69%</td>
<td>9.87%</td>
<td></td>
<td>33.64%</td>
</tr>
<tr>
<td>3</td>
<td>10.37%</td>
<td>10.34%</td>
<td>12.32%</td>
<td></td>
<td>33.03%</td>
</tr>
</tbody>
</table>

### Table 7: 2006 Percentage of Observations by Level of Religiosity and Accruals Earnings Management

<table>
<thead>
<tr>
<th>REL</th>
<th>IAACC</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12.31%</td>
<td>10.85%</td>
<td>12.1%</td>
<td></td>
<td>35.26%</td>
</tr>
<tr>
<td>2</td>
<td>10.75%</td>
<td>10.12%</td>
<td>9.44%</td>
<td></td>
<td>30.31%</td>
</tr>
<tr>
<td>3</td>
<td>10.28%</td>
<td>12.36%</td>
<td>11.79%</td>
<td></td>
<td>34.43%</td>
</tr>
</tbody>
</table>
Figure 2 shows a side by side comparison of the percentage of observations from sample years 1999 and 2006 of the least religious companies with the most accruals earnings management (from IAACC 3 and REL 1), the moderately religious companies with average accruals earnings management (from IAACC 2 and REL 2), and the most religious companies with the least accruals earnings management (from IAACC 1 and REL 3). The results from this test differ from the results in Figure 1. Here, in the side by side comparison of 1999 and 2006 data, one can see that the percentage of observations for the least religious companies with the greatest accruals earnings management increases from 1999 to 2006, and the percentage of observations for the most religious companies with the least amount of accruals earnings management slightly decreases from 1999 to 2006.

**Figure 2:** Comparison of the Percentages of Observations for the Least, Moderately, and Highly Religious Companies with Low, Average, and High Accruals Earnings Management
Table 8 and correlating Figure 3 and Table 9 and correlating Figure 4 show the mean stock returns by religiosity and operational efficiency for 1999 and 2006, respectively. The measures of IAROA and REL are the same here as they are in Tables 4 and 5. In 1999, the least religious companies earn the highest stock returns across all levels of operational efficiency. As seen in Table 8, the highest stock return comes from the least religious companies with the highest level of operational efficiency. This is not the case in 2006. As seen in Table 9, the highest stock return comes from the most religious and most operationally efficient companies. In comparing Tables 8 and 9, it does not appear that the stock return increased much for the most religious companies, but rather, it appears that the stock return decreased significantly for the least religious companies.

Figures 3 and 4 show graphs of the stock returns on surface diagrams for the years 1999 and 2006, respectively. By viewing the graphs, one can get a better visual picture of stock returns across religiosity and operating efficiency levels. Figure 3 clearly shows higher stock returns for the least religious companies. Figure 4 shows decreased stock returns for the least religious companies and the highest return for the most religious and most operationally efficient companies.
Table 8: 1999 Mean Stock Return by Level of Religiosity and Operational Efficiency

<table>
<thead>
<tr>
<th>1999</th>
<th>IAROA</th>
</tr>
</thead>
<tbody>
<tr>
<td>REL</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>0.4610635</td>
</tr>
<tr>
<td>2</td>
<td>0.0727162</td>
</tr>
<tr>
<td>3</td>
<td>0.1150861</td>
</tr>
</tbody>
</table>

Figure 3: 1999 Mean Stock Return by Degree of Religiosity and Level of Operational Efficiency
Table 9: 2006 Mean Stock Return by Level of Religiosity and Operational Efficiency

<table>
<thead>
<tr>
<th>2006</th>
<th>IAROA</th>
</tr>
</thead>
<tbody>
<tr>
<td>REL</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>-0.0596514</td>
</tr>
<tr>
<td>2</td>
<td>-0.0770432</td>
</tr>
<tr>
<td>3</td>
<td>-0.0857495</td>
</tr>
</tbody>
</table>

Figure 4: 2006 Mean Stock Return by Degree of Religiosity and Level of Operational Efficiency
Table 10 and correlating Figure 5 and Table 11 and correlating Figure 6 show the mean stock returns by religiosity and level of accruals earnings management for 1999 and 2006, respectively. The measures of IAACC and REL are the same here as they are in Tables 6 and 7. As seen in Table 10, the least religious companies again earn the highest returns in 1999. In 1999, the least religious companies with the highest level of accruals earnings management earn the highest mean stock returns. As seen in Table 11, the highest mean stock return is still with the least religious companies with the highest level of accruals earnings management in 2006. However, in 2006 the most religious companies with average accruals earnings management earn almost as much.

As with Figures 3 and 4, Figures 5 and 6 show graphs of the stock returns on surface diagrams for the years 1999 and 2006, respectably. The purpose of the graphs is to give users a visual representation of stock returns across increasing levels of religiosity and accruals earnings management. The figures support the conclusions drawn from Tables 10 and 11.
Table 10: 1999 Mean Stock Return by Level of Religiosity and Accruals Earnings Management

<table>
<thead>
<tr>
<th>REL</th>
<th>IAACC</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.2962767</td>
<td>0.2032379</td>
<td>0.7865188</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>-0.0437762</td>
<td>-0.1311510</td>
<td>0.2429146</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>0.0441618</td>
<td>-0.0425132</td>
<td>0.1201147</td>
<td></td>
</tr>
</tbody>
</table>

Figure 5: 1999 Mean Stock Return by Degree of Religiosity and Level of Accruals Earnings Management
Table 11: 2006 Mean Stock Return by Level of Religiosity and Accruals Earnings Management

<table>
<thead>
<tr>
<th>REL</th>
<th>IAACC</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-0.0140364</td>
<td>0.000529216</td>
<td>0.0616936</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>-0.0234663</td>
<td>0.0039644</td>
<td>0.0299223</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>-0.0067259</td>
<td>0.0510440</td>
<td>0.0206767</td>
<td></td>
</tr>
</tbody>
</table>

Figure 6: 2006 Mean Stock Return by Degree of Religiosity and Level of Accruals Earnings Management
Chapter VI: Discussion

Summary of Study

This study was performed in order to better understand the effects of corporate religiosity on the corporations. Companies like Chick-fil-A, Tyson Foods, and Forever 21, incorporate religion into their businesses through purpose statements, the employment of chaplains, public display of Bible verses, and other religious avenues. Historically, society’s response to corporate religiosity have been both positive and negative. The opposing views people hold regarding corporate religiosity create a dilemma. This dilemma of corporate religiosity led me to question if corporate religiosity is beneficial to a company or if it hurts it. I began to question whether stockholders take note of a company’s religiosity and reward or punish the company accordingly.

To gain an understanding of religion theory, I studied prior research at the individual and business level. At the individual level, I noted the importance of religion in daily decisions, personal morals, role expectations, ethics, and risk aversion. At the managerial level, I noted that religion can affect managerial decisions because managers are influenced to act in accordance with their peers’ beliefs and norms. Even if managers are not religious, I learned that the religious environment surrounding the firm can influence management decisions. I noted that religious individuals are more likely to expect companies to be responsive to a broader set of responsibilities and groups. Thus, I hypothesized that investors reward religious companies with a higher degree of
operational quality with higher stock returns than non-religious companies with a lower degree of operational quality. From my research, I concluded that religion does have implications at the individual and business level, and I wanted to extend that examination to the behavior of the stock market, specifically to ask the question if religious implications at the corporate level are rewarded by stockholders.

I also examined prior research on earnings management theory to understand some of the different forms of manipulation, learn about management incentives to manipulate earnings, and note how religion affects managers’ decisions regarding accruals and financial reporting decisions. Through my research, I learned that religious social norms act as a monitoring mechanism over financial reporting and that companies in highly religious communities tend to have less aggressive financial reporting. I noted some of the different ways managers can manipulate accruals to meet earnings expectations and receive handsome awards from compensation packages. Due to religious reminders and religious risk aversion, I learned that companies in highly religious areas tend to favor real earnings management to accruals earnings management. Thus, I hypothesized that stockholders reward highly religious companies that have less accruals earnings management with higher stock returns than non-religious companies with a high level of accruals earnings management.

In order to test my hypotheses, I used religiosity data provided by Dr. William Mayew from the years 1999 and 2006. I noted how stockholders respond to the operational quality of religious companies by examining the mean stockholder returns by varying levels of religiosity and IAROA. In a similar fashion, I noted how stockholders respond to the financial reporting quality of religious companies by examining the mean
stockholder returns by varying levels of religiosity and IAACC. I also examined industries and auditors by their client bases using the corporate religiosity data for the purpose of gaining a better understanding of the effects of religiosity in the world and on the auditing profession. The results of the industry and auditor examination are in the Item Analysis section in Chapter V.

Conclusion

In my test examining the stockholder response to religiosity and operational quality, I viewed the mean stock returns by religiosity and operational efficiency for 1999 and 2006 as discussed in the item analysis section in Chapter V. In 1999, the results were not as I expected. From prior research, it seemed reasonable to conclude that the highest stock return would come from the most religious and most operationally efficient companies. However, that hypothesis is not correct for 1999. In 1999, the least religious companies boasted the highest stock returns across all levels of operating efficiency, and the highest stock return came from the least religious and most operationally efficient companies. In 2006, my hypothesis is correct and is the same as the results from my test; the highest stock returns came from the most religious and most operationally efficient companies. As noted in the Item Analysis, it appears that the stock return did not increase significantly for the religious companies but that the stock return decreased significantly for the least religious companies.

The reason why stockholders favored the least religious companies in 1999 is not clear to me. However, I pose a couple possible explanations for the change in 1999 – from stockholders favoring the least religious companies – to 2006 – where stockholders
favored the most religious and most operationally efficient companies and significantly decreased their favor toward the least religious companies. One possibility is that the Sarbanes-Oxley Act of 2002 (SOX) and frauds leading to the need for SOX changed the perception of corporate responsibility to investors and changed the way corporate management operates. It raised the standards for public companies. It also created more oversight for investors. More so than explaining why stockholders began favoring the religious company with high operational efficiency, SOX may help explain why investors began to shy away from the least religious companies with low levels of operational efficiency. Another possibility for the unexpected mean stock return switch from 1999 to 2006 may involve the changing mindset of individuals about corporate responsibility and accountability to shareholders and the environment. If there was a dramatic change in shareholder CSR support between 1999 and 2006, religious management may have made different decisions in 2006 than in 1999 to increase their ROA. If management decisions were in line with shareholder expectations, we could expect to see the stock return favoring the religious companies who made better decisions to increase their operational efficiency.

In my test examining the stockholder response to religiosity and financial reporting quality, I viewed the mean stock returns by religiosity and level of accruals earnings management for 1999 and 2006 as discussed in the item analysis section in Chapter V. Again, the results were not as I expected in 1999. Based on prior research, it seems reasonable that stockholders would reward the most religious companies with the least amount of accruals earnings management. However, in 1999, the least religious companies with the highest amount of accruals earnings management have the highest
mean stock returns. In 2006, the highest mean stock return is still with the least religious companies with the highest amount of accruals earnings management. However, as noted in the Item Analysis for 2006, the most religious companies with average accruals management have a stock return that is almost as high as the least religious companies with the highest amount of accruals earnings management.

I can draw no clear conclusion as to why my hypothesis that stockholders would favor the most religious companies with the least amount of accruals earnings management was not supported in either 1999 or 2006. Even though the most religious companies with average accruals management in 2006 have a stock return that is almost as high as the least religious companies with the highest amount of accruals earnings management, the mean stock return is greater for the companies with the most accruals earnings management than for the companies with the least accruals earnings management across all religiosity levels in 1999 and 2006. It should be noted that even though the mean stock return is greater for the companies with the most accruals earnings management across all religiosity levels in 1999 and 2006, the stock returns decreased significantly from 1999 to 2006.

There are some possible explanations I pose for the results of my test examining stockholder response to religiosity and financial reporting quality. First, companies with greater accruals earnings management are likely to have better financial results. If stockholders base their investment decisions purely on these improved financials without investigating company accruals and areas where management may have manipulated earnings, it is not surprising to see the mean stock returns favoring the least religious
companies with a high level of accruals earnings management. Second, as mentioned as a possible reason for my results involving religiosity and operational quality, SOX may also play a role in my results involving religiosity and financial reporting quality. SOX may help explain the decrease in mean stock return from 1999 to 2006 for the companies with the most accruals earnings management. The SOX legislation requires top management to certify that their financial reports are accurate and requires independent auditors to review the accuracy of the financials. This increased focus on financial accuracy has the potential to decrease the mean stock return for the least religious companies’ poor accruals earnings management. Although comparable pre-SOX and post-SOX years were selected for my corporate religiosity tests, there is always a possibility that a change in the economy could have skewed my results.

**Recommendations**

Since the results of my tests are not as I expected, I suggest that more tests need to be performed to draw more accurate conclusions regarding stockholders’ response to corporate religiosity. Specifically, I suggest testing a few more pre-SOX and post-SOX years to see if there is a true trend towards higher stockholder returns for highly religious companies with high operational efficiency and to see if SOX has any implication for the trend toward lower mean stock returns for the companies with the most accruals earnings management. By comparing more pre-SOX and post-SOX years using the same tests I performed with IROA and IAACC, one may be able to determine if the SOX legislation is actually a factor in the changing mean stock returns and if the legislation creates a
higher degree of stockholder appreciation for more religious companies with better operational and financial reporting quality.

I also suggest that more extensive tests should be performed using the religiosity data I used in my tests. One possibility when examining the stockholder response to corporate religiosity and operational efficiency is replace ROA with Return on Net Operating Assets (RNOA). Prior research shows that RNOA is a better indicator of future profitability than ROA (Fairfield et al. 1996; Nissim and Penman 2001; Dickinson and Sommers 2012). A suggestion to improve my examination of the stockholder response to corporate religiosity and financial reporting quality is to replace accruals with discretionary accruals. If one could use a regression model to separate accruals into nondiscretionary and discretionary accruals, a better picture of the stockholder response to religiosity and accruals earnings management could be examined. This is true because removing nondiscretionary accruals, accruals that reflect normal business conditions, and leaving discretionary accruals, accruals that reflect management decisions, allows one to evaluate the stockholder response to management’s choices alone without the noise of normal operating accruals (Keefe 2012).

Although no completely new revelations were made in this study concerning stockholders’ response to corporate religiosity, I believe this study reminds the reader of religion’s impact in many areas of life. Religion is not exclusively in the church or in the home. This research and prior research reveals that religion is also in the workplace and has the potential to affect many areas of business. By examining operational and financial reporting quality, I was able to see two areas where religion affects management
decisions. It is my hope that further research is done on this topic to see how religion manifests itself in corporate America and how stockholders respond to this manifestation.
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