

Religion and Corporate (Mis)Behavior

by

Gustavo Grullon
Rice University
grullon@rice.edu
(713) 348-6138

George Kanatas
Rice University
kanatas@rice.edu
(713) 348-5383

James Weston
Rice University
westonj@rice.edu
(713) 348-4480

We thank Ambrus Kecskés, Shane Underwood and seminar participants at the University of Alabama, the University of Houston, Rice University and Virginia Tech for useful comments and suggestions. We also thank Yaniv Grinstein for providing us the option backdating data.

Religion and Corporate (Mis)Behavior

Abstract

We provide evidence that religiosity deters undesirable corporate behavior. Firms headquartered in more religious counties are less likely to backdate options, practice aggressive earnings management, and be the target of class action securities lawsuits. In addition, we find that our measures of religiosity are negatively correlated with the size of managers' compensation packages. Finally, we find that a regulatory change designed to curb option backdating has a much larger effect in less religious counties, suggesting that in this case regulation and religion are substitute mechanisms. Our results are strongest for locations with greater concentrations of Protestants.

Introduction

"I had a strong sense of entitlement at that time, and I had a sense of greed, and in doing so I stole money from Tyco." This admission from Tyco's Dennis Kozlowski is one of the more publicized recent examples of CEO misbehavior. Kozlowski's actions were deemed illegal but there are many other examples characterized as self-serving and unethical, even if not illegal. For example, there are cases of manipulation of earnings, the backdating of options and the consumption of lavish perquisites, all providing support to a public perception that corporate misbehavior is not rare.

But many firms do not have managers that behave this way. Some firms create a corporate culture reinforced by incentives and controls that discourages such behavior. In this paper, we test whether the social culture in which a firm is located has an effect on the likelihood of misbehavior by its executives. Since executives (and other employees) at corporate headquarters presumably live nearby, the degree to which undesirable management behavior is tolerated by a firm may be a reflection of its community values.

Social scientists have a variety of definitions for culture, reflecting its multiple dimensions. In our paper, we follow Guiso, Sapienza and Zingales (2006) who define culture as *"those customary beliefs and values that ethnic, religious, and social groups transmit fairly unchanged from generation to generation."* In keeping with this meaning, we focus on *religious groups* and test whether their *"customary beliefs and values"* affect the likelihood of misbehavior by managers of local firms.¹ Thus, the channels through which religiosity is hypothesized to impact economic decision-making are in the formation of beliefs (or prior expectations) and in values (or preferences).

¹ Clearly, using religion as our proxy is limited. However, any attenuation bias created by measurement error in our proxy of corporate culture should only bias our analysis to find no effect.

Until recently, economists have not paid much attention to the importance of cultural factors in explaining institutions and behavior, despite the emphasis by classical economists such as Adam Smith (1790) of the importance of culture in understanding economic outcomes. More recently, as emphasized by Guiso, Sapienza, and Zingales (2006), the development of improved techniques along with newly-available data has uncovered cultural-based explanations to important economic questions and resulted in a renewed appreciation for the role of culture in economic activity. The recent literature provides empirical evidence of culture's importance for national growth and development, and for institutions such as private property rights (Grier (1997), Landes (1998), Treisman (2000), Guiso, Sapienza and Zingales (2003, 2004, 2006), Barro and McCleary (2003), and Stulz and Williamson (2003)). In particular, Guiso, Sapienza and Zingales (2003) and Barro and McCleary (2003) show that countries in which individuals have stronger religious beliefs are associated with less rent seeking and higher rates of economic growth. In addition, focusing on corporate decisions, Hilary and Hui (2009) examine religion's effect on corporate investment and find that a firm's level of investment and the volatility of its equity returns are both negatively related to the level of religiosity in its community.

Our study adds to this literature by focusing on the effect of religiosity on behavior of corporate executives that would likely be viewed by most people as unethical or undesirable. By undesirable behavior, we mean actions the firm would not want to have publicized --- actions that would, at the minimum, have a negative impact on the firm's image. In this study, we use the following measures: (1) federal class action lawsuits against corporate executives and/or corporations, (2) option back-dating, and (3) earnings manipulation as indicated by the extent of abnormal accruals. While the latter two of these behaviors are not *per se* illegal, and the first one is not about the outcomes of the lawsuits, none of the three would likely be viewed favorably by

the stakeholders of the firm or by the public. In addition, we examine a fourth measure: the relation between executive compensation and community religiosity. While we cannot conclude anything about the appropriateness of any particular level of compensation, it is reasonable to hypothesize that the same factors that might affect the likelihood of undesirable executive behavior would also tend to impact the relative level of executive compensation. Thus, exceptionally high compensation is consistent with our broad interpretation of “undesirable” behavior as being any action that the firm would not want to be the object of public attention.

We link the occurrence of these corporate events or actions to the religiosity level of the county in which a firm is headquartered. We measure local religiosity by the per capita number of adherents of an organized denomination as well as by the per capita number of churches. There are many measures of religiosity in the literature, ranging from the one we use to measures of “religious commitment”. Clearly, in using our measures, we are omitting individuals with strong religious faith who might not be attending church and including adherents that might have little or no true religious faith – both should work against us finding any effect.²

Adam Smith (1790) emphasizes the influence of religious morality in engendering moral sentiments, i.e. feelings of guilt or of pride, as a motivator of proper behavior.^{3,4} It is a community’s moral sentiments, or cultural preferences, that extend beyond narrow self-interest that are viewed as driving within a local firm the monitoring and control of undesirable behaviors. As a result, we expect that a greater participation in religious activities within a community should increase the amount of monitoring and control within a firm and consequently there should be less undesirable managerial behavior.

² Our proxies for religion are standard in the literature.

³ See Kaplow and Shavell (2007) for a theoretical study, based on this aspect, of the optimal moral system.

⁴ This religious inculcation of moral sentiments relates to the concept of a sense of self, or identity, as in Akerlof and Kranton (2000).

While most religions philosophies have common elements to their teachings, there are also distinct differences that have implications for the strength of cultural identity. For example, Weber (1905) and Harrison (1985) posit strong differences between Protestants and Catholics. This is consistent with religiosity having an (economic) effect through its impact on individuals' *values* and/or *beliefs*. Thus, Protestants may experience different utilities from Catholics, despite taking identical actions. While the hypothesis is controversial, past studies have found Protestant denominations to have a stronger influence on behavior.⁵ Therefore, while our tests generally involve total religiosity, we also test whether Protestant specific effects are stronger.⁶

We find that all our measures of religiosity have a negative effect on the likelihood of inappropriate behavior, including the level of executive compensation. Specifically, firms headquartered in more religious counties are less likely to be the target of class action securities lawsuits, manipulate earnings through the use of accruals, backdate options, and to grant large compensation packages to their managers. Also, we find that Protestantism has a stronger deterrent effect on our samples of undesirable behavior.⁷ When we further disaggregate Protestant adherents into the different denominations (Mainline Protestants, and Evangelicals), we obtain our strongest results, with Mainline Protestants standing out with the most consistent, strong, and highly significant effect across all samples.⁸

Finally, we test our main hypothesis by using a quasi-natural experiment. In 2002, the SEC imposed a regulatory change aimed at curbing the practice of option backdating. Evidence presented in Heron and Lie (2007) suggests that backdating declined substantially after this

⁵ See also see also Banfield (1958) and Guiso, Sapienza and Zingales (2006).

⁶ For example, see McCleary and Barro (2006a) and McCleary (2007) for an explanation of how differences among religions in *beliefs* about salvation result in different behavior. See also Weber (1905) and Becker and Woessmann (2009).

⁷ Since Christians represent a large fraction of our sample, we do not test separate Catholic specific effects since they are essentially (1-Protestant) specific effects. Also, see Hout and Greely (1998) on the possible bias in the data on Catholic religiosity.

⁸ For example, large mainline denominations are Methodist, Presbyterian, and Episcopal churches. Denominations categorized as Evangelical are more dispersed but notable examples would include most Baptist and Pentecostal/Charismatic denominations and the Church of Christ. The appendix describes in detail the categorization we use in this paper.

regulatory change. Thus, if religiosity does serve to mitigate inappropriate behavior, then the SEC rule should have a stronger effect on firms headquartered in less religious counties. And indeed, we find evidence consistent with this prediction.

Overall, our evidence highlights the importance of religion in explaining economic decisions and outcomes, supporting the related work of La Porta et. al., (1999), Stulz and Williamson (2003), Guiso, Sapienza, and Zingales (2003), and McCleary and Barro (2006a,b). Our paper also complements the recent work of Dyreng, Mayew, and Williams (2009), who examine the effect of religion on financial reporting choices and tax avoidance.

Our work is also related to the theoretical work of Carlin and Gervais (2009) whose model helps address the need pointed out by Brennan (1994) for an integration of ethics into the standard agency framework. Carlin and Gervais (2009) show that being able to hire from a general labor pool of employees who are immune to the typical agency problem, i.e. who can be viewed as being pathologically ethical, has a significant effect on firm investment, risk-taking, and wage contracting. A complementary study by Noe and Rebello (1994) also incorporates ethical agents into an agency framework and analyzes the dynamic interaction of agents' ethical dispositions and business activity.

Finally, our work is directly related to Hilary and Hui (2009) who find that a firm's level of investment and the volatility of its asset and equity returns are negatively related to the level of local religiosity. Here, the effect of religiosity is interpreted as acting through individuals' preferences --- more risk-averse individuals are more likely to be religious. Thus, if managers come from a more risk-averse community, then they may help create a more risk-averse culture within the firm. However, regardless of why people become religious adherents, the choice is also an acceptance of an ethical or moral code of behavior --- a set of *beliefs*. It is difficult to

identify the specific channel through which religiosity matters, but we control for firm risk-taking, and find that our results are robust to measures of firm risk. More importantly, however, regardless of which interpretation one prefers, our analysis shows that at least one aspect of community social culture -- religiosity -- affects the likelihood of undesirable corporate behavior. A strong aspect of our analysis is the robustness of our results using very different and complementary measures of executive misbehavior.

The paper is organized as follows. Section 1 describes the sample selection procedure, defines the variables, and provides summary statistics. Section 2 investigates the empirical relation between several measures of religiosity and our proxies for inappropriate or unethical managerial behavior. Section 3 provides robustness tests, and Section 4 concludes the paper.

1. Samples and Variable Definitions

This section describes the samples and variables used in our study. We first discuss our proxies for religious participation and then explain the logic behind our measures of inappropriate or ethically questionable behavior. Finally, we briefly discuss the control variables used in our tests and provide some summary statistics of our samples.

1.A Proxies for Religious Activity

We use data from the *Religious Congregations Membership Study* to create our proxies for the level of religious participation in a county. Every 10 years the *Association of Statisticians of American Religious Bodies* (ASARB) compiles data from national surveys on religious affiliation in the United States. Based on the results from these surveys, the ASARB prepares the *Religious Congregations Membership Study*, which reports county-by-county data on the number of churches and total adherents by religious affiliation. This report is made publicly available through the *Association of Religion Data Archives* (ARDA) website. In this study we

primarily focus on the 1990 and 2000 surveys, enabling us to measure changes over the decade. In the robustness section, we also consider lagged measures from the 1980 survey as well.

Following the guidelines used by ARDA, we aggregate Christian denominations into three main groups: (a) Catholics, (b) Evangelical Protestants, and (c) Mainline Protestants. ARDA uses the classification scheme developed by Steensland et al (2000). However, when a denomination does not appear in Steensland et al (2000), ARDA classifies the denomination using the definitions in Melton (1998) and Mead and Hill (1995). According to the 2000 survey, over 90% of the religious adherents in the United States belong to one of these three main groups. The appendix provides a full listing of the denominations included in each group.

We measure the strength of religious activity in a county using the number of churches per capita. We also use the total number of adherents per capita. The two measures are highly correlated and we generally find similar results using both measures. However, since the number of adherents is more difficult to verify, the statistics may be biased upward and the bias may be larger for measures of Catholic adherents.⁹

Table 1 reports summary statistics for the 1990 and 2000 surveys on religious participation. For the typical county in the U.S., the total number of adherents as a fraction of county population was approximately 60% in 1990 and 53% in 2000. Consistent with the results in recent surveys, these figures show a declining trend in religiosity among the U.S. public.¹⁰ Table 1 also reports that the typical county had approximately 2 churches per 1,000 people in 1990 and 2000. While our analysis focuses on cross sectional variation, it is interesting to note that there is a substantial decline in most measures of religiosity from 1990 to 2000,

⁹ See Hout and Greeley (1998) and the references therein. Overall, survey responses and self-reported numbers suggest that people may systematically overstate their degree of religiosity. Further, there appears to be more variation in the discrepancy across Catholic dioceses.

¹⁰ The 2008 American Religious Identification Survey reports a significant decline over the period 1990-2008 in the number of people who identify themselves as religious.

which is consistent with a broad demographic trend towards secularism.¹¹ Finally, there is large variation in our measures of total religious activity across counties and for Catholic, Protestant, and Evangelical denominations separately.

In panel C of Table 1, we report average firm characteristics (across the entire Compustat sample) by tercile of county religiosity. Firms headquartered in highly religious counties (top third) tend to be a little larger (more assets), to exhibit slightly less growth (lower market to book) and to be less risky (lower return variance). The most notable result may be that these differences are very small and non-monotonic (counties in the middle tercile are the largest, etc.). Differences in profitability and market returns are also small.

1.B Proxies for “Inappropriate” Behavior

B.1. Class Action Lawsuits

A primary function of federal securities law is to protect investors from corporate fraud. When violations of these laws are identified by various stakeholders (e.g. investors, regulators, employees, etc.), the result is typically a federal class action lawsuit. Although defendants in such lawsuits are only accused of violating federal securities regulation, these lawsuits appear to signal a broader and more negative view of management behavior. For example, Pritchard and Ferris (2001) find that while investors react negatively to both the revelation of potential fraud and the filing of a lawsuit, they do not react to the court’s ultimate decision on the merits of the case. Further, Karpoff et al (2005) provide evidence that most of the value destruction during a class action lawsuit comes from damaged reputation to the firm and not from the direct penalties and settlements from the case. Therefore, these findings suggest that class action lawsuits are a reasonable method of identifying corporate behavior that, at the minimum, is generally viewed as inappropriate.

¹¹ One exception to this is the number of Catholic adherents, although these numbers may be less reliable, as previously noted.

Of course, a limitation of using class action lawsuits in our context is that these events capture both the incidence and disclosure of potential fraud. Thus, empirical results based on this measure might be interpreted as evidence of religion affecting either the likelihood of a firm committing fraud or of stakeholders' incentives to reveal fraud. However, the revelation of wrong-doing and filing of a class action-lawsuit may be done by individuals that are not at the location of corporate headquarters and therefore not exposed to the local culture. Thus, the latter interpretation seems less likely. Nevertheless, we address this possible issue in two ways. First, we include a measure of litigation risk at the state level to control for cross-sectional differences in the propensity to report or reveal fraud. Second, our study uses alternative data in which the detection of inappropriate behavior is based on statistical procedures (e.g., option backdating, accruals management, excessive compensation), and not on someone detecting fraud and filing a class action lawsuit. Indeed, a strong point of our analysis is that it does not rely on one particular sample of inappropriate corporate behavior.

We collect data on federal class action securities fraud lawsuits from the Stanford Law School's *Securities Class Action Clearinghouse*. This clearinghouse maintains a database of all class action lawsuits since the adoption of the Private Securities Litigation Reform Act (PSLRA) of 1995. We exclude cases in which the company is not directly involved in the alleged fraud (e.g., mutual fund, IPO allocation cases, analyst recommendations). We then use the class action lawsuit sample and the Compustat database to identify the targeted firms. We create a dummy variable equal to 1 if the firm is accused of committing fraud in year t , 0 otherwise. The final sample used in this analysis consists of roughly 55,000 observations over the period 1996-2006.

As in previous studies, we start our sample after the approval of the PSLRA of 1995 to eliminate frivolous cases which were allegedly common before this legislation.¹²

B.2. Option Backdating

Over the past three decades, stock options have become a prominent component of managers' compensation packages. While these instruments may be effective in helping align the interests of managers and shareholders, they also can be abused, resulting in practices that could be considered as inappropriate or unethical, and in some cases, even as illegal. One of these practices is option backdating.

In general, firms that grant stock options to their executives and employees set the strike price so that the options are at-the-money at the time of the grant. One reason for this practice is that if a firm grants in-the-money options, then it must record the difference between the current stock price and the strike price as a compensation expense (Accounting Principles Board Opinion No. 25). In addition, both the manager and the firm receive better tax treatment when the options are at-the-money than when they are in-the-money (see Heron and Lie (2007) for a detailed explanation of this issue).

However, prior to 2002, firms could wait several weeks to report to investors and regulators the stock options granted. Such a delay allowed managers or boards to set grant dates retroactively to take advantage of accounting and tax rules while at the same time allowing their managers to generate immediate capital gains on their stock options. And indeed, Lie (2005) finds that many firms systematically reported granting stock options when stock prices were near or at their lowest point in the recent past.

¹²The PSLRA of 1995 significantly increased the requirements needed to initiate a federal class action lawsuit. Under this legislation, plaintiffs claiming fraud need to "[s]pecify each statement alleged to have been misleading, the reason or reasons why the statement is misleading, and if an allegation regarding the statement or omission is made on information and belief, the complaint shall state with particularity all facts on which that belief is formed" 15 U.S.C. § 78u-4(b)(1).

Backdating options is not illegal unless the firm fails to publicly disclose this practice to investors, and make the proper accounting and tax adjustments. However, many firms were indeed not complying with these requirements and a large-scale investigation by the Securities and Exchange Commission (SEC) resulted in hundreds of firms being accused of illegal backdating. Not only were several executives indicted, but many investors also filed federal class action suits against their firms. Regardless of how many of these cases reflected illegal behavior, option backdating has been one of the largest corporate scandals in recent years.

As in the case of class-action lawsuits, firms accused of backdating options incur large losses in shareholder value from the destruction of reputation (Bernile et al (2008)). This evidence suggests that the market views such practices as a symptom of a more fundamental problem in managers' ethical behavior and possibly of their corporate culture, thereby making option-backdating a reasonable proxy for inappropriate corporate behavior. In addition, as part of the Sarbanes-Oxley Act (SOX), the federal government amended Section 16 of the Securities and Exchange Act of 1934 to try to curtail option backdating by requiring firms to report stock option grants within two days of the grant date. This regulatory change provides an excellent setting to test our main hypothesis because if religion has a mitigating effect on unethical behavior, then religion and regulation may act as substitutes in monitoring and motivating ethical behavior. We test this prediction by examining whether the effect of this regulatory change is stronger on firms headquartered in less religious counties.

We collect data on option grants from Thomson Financial's insider trading database. We use the methodology in Heron and Lie (2006, 2007) and Narayanan and Seyhun (2006) to create our sample. Specifically, we require observations to have a cleanse indicator equal to R ("data verified through the cleansing process"), H ("cleansed with a very high level of confidence"), or C

(“a record added to nonderivative table or derivative table in order to correspond with a record on the opposing table”). Following Bebchuk, Grinstein, and Peyer (2009), we define option backdating as occurring if the CEO receives an option grant on a day when the stock price was at the lowest level of the month in which the option was granted. The final sample consists of 12,574 observations over the period 1996-2005.

B.3. Executive Compensation

Our third measure relates to the granting of compensation packages to senior corporate executives. This is obviously a controversial measure. Whether an executive *earned* his or her compensation is not directly observable. Superstar CEOs may deserve very large compensation packages if they generate commensurate shareholder value, much like professional all-star athletes. However, our interest is not in whether large compensation packages are in the best interests of shareholders, but rather in the public perception of their appropriateness. To the extent the corporate board (and possibly the CEO) believes the firm’s reputation would be hurt by the disclosure of relatively large compensation packages, we expect that community religiosity has the same mitigating effect on compensation as on other inappropriate actions.¹³

We collect compensation data from Execucomp on a firm’s CEO and Top 5 Executives. Our measure of total compensation comprises salary and bonus, other annual compensation, total value of restricted stock granted, total value of stock options granted (using Black-Scholes), long-term incentive payouts, and all other total compensation. We also create a measure of relative compensation by scaling the above total compensation by the median income in the county in which the firm is headquartered. Clearly, we expect that greater executive pay relative

¹³ Of course, this prediction is conditional on other important determinants of executive compensation like earnings performance, stock price behavior, risk taking, growth opportunities, etc. Our empirical specification (described below) considers a wide range of control variables that are standard in analyses of executive pay.

to the county median income would be viewed as being less appropriate. Our final sample consists of approximately 21,000 observations over the period 1993-2006.

B.4. Earnings Management

The term earnings management refers to a broad array of both legitimate and illegitimate decisions that can affect a firm's reported earnings. Although it is difficult to distinguish between valid and questionable earnings management, it is clear that the more aggressive the management of earnings, the more room there is for misleading investors about the underlying economic condition of the firm. Further, by aggressively manipulating reported earnings, firms can potentially alter the outcomes of contractual obligations (e.g., debt covenants and executive compensation) that rely on reported earnings. For these reasons, aggressive earnings management has been viewed by many as being opportunistic and inappropriate behavior.

There are a variety of ways to estimate abnormal earnings management; consistent with previous studies, we use the level of accruals. We follow the approach in Jones, Krishnan, and Melendrez (2008) and estimate several proxies for abnormal accruals. In total we use five measures. Our first measure is simply total accruals (earnings before extraordinary items less cash from operations scaled by lagged assets). The other four measures are based on the regression residuals from estimates of "abnormal" accruals following Jones (1991), modified Jones (1991), Dechow and Dichev (2002) and modified Dechow and Dichev (2002). We follow Jones, Krishnan, and Melendrez (2008) in constructing the regression-based measures. Overall, our results are not sensitive to how we measure abnormal accruals.

In our main tests, we present results from a combined measure of the various methods that creates a proxy for abnormal accruals by using the first principal component of the five

techniques. We use Compustat to create these proxies for earnings management and the final sample consists of roughly 47,000 observations over the period 1996-2005.

In our tests, we include a battery of control variables that have previously been shown to affect abnormal earnings smoothing. For example, it may be that firms with a risky investment policy, high growth, or high profitability, may naturally increase accounts receivable. If such firm level effects are correlated with religiosity, then they may confound tests of our hypothesis. Of course, all of our tests below are conditional on standard proxies for growth, investment opportunities, risk, profitability, industry affiliation, etc.

2. Empirical Relation Between Religiosity and Corporate Behavior

Table 2 presents some brief summary statistics for the four samples used in our study. The samples are broadly representative of the Compustat database. There is no considerable difference in the sizes of firms or in the distribution of firms across the four samples, though firms in the compensation sample do reflect the larger size distribution of Execucomp coverage. Overall, our sample statistics are qualitatively similar to the ones in past studies on fraud, option backdating, compensation, and accrual management. We first present results from simple univariate tests of the hypothesis that county-level culture affects corporate behavior, and then report the results from regression-based tests.

2.A *Univariate results*

In the univariate test presented in Figure 1, we partition each of our four samples into terciles based on our main county-level religiosity metric (total number of churches per capita). We then compute the unconditional incidences of class action lawsuits and option backdating, and the unconditional mean levels of executive compensation and abnormal accruals.

Figure 1 shows a clear pattern. Firms that are headquartered in counties with a low level of religiosity demonstrate behavior that would more likely be considered unethical by most members of their community. For each of our four measures, we find a monotonic increase in unethical behavior as community-level religiosity declines. Of course, these are only univariate tests, but they are indicative of a general pattern in the data that suggests at least a strong unconditional negative correlation between religiosity and inappropriate behavior.

2.B Class Action Lawsuits

To test the hypothesis that community-level culture affects the probability of class action lawsuits, we estimate a series of multivariate logit regressions where the dichotomous dependent variable is whether or not a firm was the target of a class action lawsuit. Since factors such as firm size, profitability, past stock returns, volatility of stock returns, and investment opportunities have been shown to affect the likelihood of class action lawsuits (see, for example, Field, Lowry, and Shu (2005)), we include these variables in our regressions. Further, we use the Pacific Research Institute's litigation risk score to control for differences across states in the propensity to report or reveal fraud. The litigation risk score ranks states from least litigious to most litigious based on the structure of the state legal system and on the incidence of lawsuits. All our regression specifications also include industry dummies. Coefficients and standard errors are estimated using year-by-year Fama-Macbeth logit regressions. We use the Fama-Macbeth approach because it allows dynamic specification of the coefficients on the control variables. However, we also estimate all of our regressions with alternative techniques described in the robustness section below, and find similar results.

Table 3 presents the results of the multivariate logit regressions. Using the number of churches as a measure of community religiosity, we find that both total and Protestant specific

religiosity lead to a lower probability of a lawsuit. These results are also economically meaningful. For example, consider a one unit change in the log of the number of churches (roughly a doubling of the number of churches per capita around the mean). The large negative coefficient estimate of -1.568 (Table 3, Column 1) translates to an odds ratio of about 0.20 which implies a five-fold reduction in the probability of a class action lawsuit. While a doubling of per capita churches would certainly be a large increase in religiosity, the magnitude of the impact shows that even more modest changes in religiosity are associated with economically meaningful effects.

In column 5 of Table 3, the coefficient estimate for the total number of adherents is negative, but not statistically significant. However, the number of Protestant adherents does have a statistical and economically significant effect. For example, the coefficient of -0.961 (Table 3, column 6) suggests that a ten percent change in the number of Protestant adherents decreases the probability of fraud by 1.4 percent. Columns 7 and 8 present similar results for both Mainline and Evangelical Protestants separately.

Apart from the religiosity measures, the regressions are generally well-specified and stable. Control variables that have been used in past studies are generally significant with the predicted sign. For example, the probability of a class action lawsuit increases with county population, firm size, past returns, book-to-market, return variance, and profitability.

2.C Option Backdating

In this subsection we present regression-based tests of the hypothesis that community religiosity affects the incidence of option backdating. For this analysis we split the sample into two time periods surrounding the 2002 amendment to Section 16 of the Securities and Exchange Act of 1934 requiring firms to report stock option grants within two days of the grant date. Table

4 presents two sets of multivariate logit regressions where the dependent variable represents a dummy for whether or not the firm backdated executive stock options over periods 1996-2001 (Table 4, Panel A) and 2002-2006 (Table 4, Panel B). All our regression specifications also include industry dummies. Coefficients and standard errors are time series averages estimated using year-by-year Fama-Macbeth cross-section logit regressions.

To control for potential confounding effects, we also include in our regressions firm size, return-on-assets, past stock returns, volatility of stock returns, market-to-book ratio, and county population. We also include industry dummy variables. The results in Table 4 indicate that the probability of option backdating increases with county population, book-to-market, past profitability (ROA), and return variance. The probability decreases with firm size while past stock market performance is negative but generally not significant. These effects are generally consistent across both sub-samples, although there is stronger statistical significance in the earlier sub-sample when backdating was more prevalent.

As in section 2B, we sequentially include our measures of religiosity in columns 1 through 8. Overall, there is strong evidence that county-level religiosity affects the probability of option backdating in the pre-SEC rule change period. The total number of both adherents and churches per capita has a negative effect on backdating, although only churches per capita are statistically significant. Protestant (and especially Mainline Protestant) adherents and churches have a large effect on the probability of option backdating. For example, consider a change in the number of Protestant adherents per capita from the 25th percentile to the 75th percentile. This change would translate into roughly a one unit change in the log of Protestant adherents per capita ($\ln(0.30)-\ln(0.11)=1$). The coefficient estimate of -0.899 (Table 4, Column 6), translates

into an odds ratio of 0.40 which implies that a unit increase in religiosity would make the probability of option backdating roughly 2.5 times less likely.

However, Table 4, Panel B presents a different story for the post-SEC rule change period. The very strong effect of county level religiosity on backdating does not appear at all. In fact, none of the religiosity proxy variables are significant. This change does not stem solely from a lack of statistical power. While the standard errors do not change much in the post-SEC rule change period, the coefficient estimates are all closer to zero. It appears that the effect of religiosity is substantially mitigated by the increased government regulation.

It is possible that a firm is more likely to be considered a backdater simply because it issues more option grants and thus is more likely to choose an issue date that occurs at a stock price low (“lucky grants”). Thus, if firms in less religious counties are more likely to grant stock options because their managers are less risk averse (Hillary and Hui (2009)), then the negative relation between religiosity and option backdating documented in this paper could be endogenous. To address this issue, we also investigate in this sub-section whether religiosity affects firms’ reaction to the 2002 regulatory change aimed at curbing the practice of option backdating. Since this regulatory change affects the incidence of real backdating but not the incidence of lucky grants, it allows us to examine the effect of religion on the component of our backdating measure that is directly related to inappropriate behavior. If religion has a mitigating effect on unethical behavior, then this regulatory change should have mainly affected firms headquartered in non-religious counties. To investigate this issue, we examine the incidence of option backdating before and after the regulatory change across portfolios based on proxies for religiosity. The results from this analysis are depicted in Figure 2. Consistent with our hypothesis, we find that firms headquartered in non-religious counties (low religiosity)

experience a larger decline in the incidence of option backdating than firms headquartered in religious counties (high religiosity). This effect is significant not only statistically, but also economically. While the propensity to backdate options declined after 2002 from approximately 15% to 10% among firms headquartered in religious counties, the incidence of backdating options declined from approximately 19% to 10% among firms headquartered in non-religious counties.

These results are not driven simply by differences in the initial level of backdating. That is, one could argue that if option backdating were more prevalent in less religious counties pre-SOX, then one might expect a larger decline if SOX reduced backdating to zero in all counties. To test this, we separately analyze counties with a low and high level of Pre-SOX backdating (below/above the median county average). For both groups, there is a larger decline in backdating for firms in highly religious counties. However, for the low-pre-SOX backdating group, there is little difference in backdating across low vs. high religiosity. In other words, the results in Figure 2 do not seem to be driven by differences in the initial level of backdating. Overall, these results suggest that religion is a substitute for regulation in mitigating undesirable corporate behavior.

2.D Executive Compensation

In this sub-section we present regression-based tests of the hypothesis that community religiosity affects executive compensation. Our approach is similar to past studies on the cross-sectional determinants of executive pay. For example, following Bebchuk and Grinstein (2005), among others, we control for firm size, profitability, stock returns, investment opportunities, and volatility. Further, we also include in the regressions the total county population, county median income to control for systematic differences in salaries across counties (e.g., adjustment for cost

of living, urban vs. rural areas, etc.) and industry dummy variables. Coefficients and standard errors are time series averages estimated using year-by-year Fama-Macbeth cross-section regressions.

Panel B of Table 5 presents our results for CEO total compensation. Consistent with our results on securities fraud lawsuits and option backdating, we again find that community-level religiosity has a significant effect. For all denominations, we find that the number of churches has a strong negative association with executive pay and, again, the results are strong for the Protestant denominations. For the number of adherents, we find similar results. Taken together, the results seem to indicate that the effect of religion is significant, with a stronger effect for Protestant denominations.

The economic size of the effect is large; for example, consider a change in the total number of churches per capita. Since both the dependent and independent variables are in logs, the coefficient estimates can be directly interpreted as elasticities. For instance, the coefficient of -0.38 on the total number of churches per capita suggests that a one percent increase in the total number of churches per capita would drop CEO pay by 0.38 percent. A larger one-standard deviation change in the total number of churches per capita would decrease CEO pay by 3 percent.

The effect of community religiosity on executive pay is not limited to the CEO. In Panel B of Table 5, we show results for the top-5 management team that are very similar to the findings for CEO pay. We again find that religiosity has a strong negative effect on executive compensation, with a stronger effect coming from the Protestants.

2.E Earnings Management

Table 6 presents our regression results for earnings management and discretionary accruals. Our estimation procedure is similar to the previous sub-sections. We include a standard set of control variables along with industry dummy variables. Coefficients and standard errors are time series averages estimated using year-by-year Fama-Macbeth cross-section regressions. The results presented in Table 6 are for our comprehensive measure of discretionary accruals but the results are similar if we use any of the various measures proposed in sub-section 1.B.4.

Overall, our regression results support the univariate analysis presented above. The total number of churches per capita is a significant determinant of abnormal accruals, this result again appears to be driven by the number of Protestant adherents --- total Protestant, Mainline, and Evangelical adherents all have a significant negative effect on abnormal accruals. Results are similar for the number of adherents, though somewhat weaker. Similar to the compensation results, it appears that the results are especially strong for Protestant-specific effects.

Again, these results are economically meaningful. For example, consider an increase in the number of Mainline churches per capita from the 25th percentile to the 75th percentile. Based on the coefficient estimate of -0.046 (Table 6, column 2), such a change would imply a decrease in abnormal accruals of roughly 6 percent – an effect similar in economic magnitude to the effect of book-to-market on abnormal accruals. Overall, the results suggest that community level religiosity is a meaningful mitigating factor on the decision to smooth earnings, with the effects being strongest for Protestant denominations.

3. *Robustness*

Overall our results are not sensitive to the particular tests we use. In unreported analysis, we have confirmed that the basic results remain qualitatively unchanged after performing the following robustness tests:

3.A *Alternative specifications*

- A. *Methodology.* While all of our reported results are based on Fama-Macbeth regressions, we also estimate coefficients using panel data methods with standard errors clustered at the state, county, or firm level.
- B. *Different control variables.* In addition to the control variables included in all four samples, we also include census-level demographic information such as age of the county population, number of firms in a county, urban dummy variables, average level of education, percentage of minorities, etc. Inclusion or exclusion of various sets of these controls does not alter our results or conclusions in any meaningful way.
- C. *Subsamples.* We also conduct sensitivity analysis by splitting our samples by median firm size and county population. Overall, our results hold for large and small firms and for rural and urban counties.
- D. *Alternative denomination definitions.* While we follow the general denomination definitions outlined in the ARDA guidelines, we also test whether small changes to the definitions make any difference. For example, whether or not we include Judaism to either Catholic or Protestant definition (a Judeo-Christian group) does not change our results. Similarly inclusion or exclusion of Latter Day Saints does not alter our results. This is perhaps not surprising because adherents of Judaism or Latter Day Saints are not generally large enough to make a statistical difference overall (both are less than 2.5% of

total population). However, because both denominations are geographically concentrated, it is important to verify that our results are not sensitive to these definitions.

3.B Causation

The analysis presented in Section 2 shows a strong correlation between our measures of local culture and corporate behavior. In this sub-section we explore the extent to which we can identify a causal link. There are two potential sources of reverse causality. The first is that firms may attract people with *values* and *beliefs* that match the corporate culture of the local firm. As a result, the culture of the firm may drive the culture of the local population. The second potential source is that firms strategically choose their corporate headquarters location to match corporate culture.

To address these concerns, we use two approaches. First, we replicate our regression analysis using a two-stage least squares approach (2SLS). Our instrument is the religiosity of a county computed from the 1980 ARDA data. Our strategy is similar to Hilary and Hui (2009) who also use lagged religiosity as an instrument. This approach has a number of advantages in that it is unlikely that people choose their residencies based on their expectations of the corporate culture of a local firm ten years in the future.¹⁴ Also, to the extent that our measures have any bias or are correlated with unobserved variables, a ten-year lag should at least mitigate such confounding effects. In general, the estimates from our 2SLS regressions (not reported in a table) closely match the results in section 2. The point estimates are generally a little smaller, but the statistical significance on our lagged measures of local religiosity remains. As a result, we conclude that the corporate behavior we measure is unlikely to drive endogenous movements in the population demographics of religiosity.

¹⁴ Of course, it could be that some firm established a persistent corporate culture prior to 1980, and the endogenous movements in the labor market pre-date our observation of corporate behavior. To address this potential concern, we replicated the analysis using only firms that were incorporated after 1980 and found similar results.

Our second approach to the endogeneity issue is to analyze a sample of firms that switch headquarters. To test whether firms locate their headquarters in communities that match their corporate culture, we collect a sample of firms that switch corporate headquarters at some point between 1990 and 1997. We then determine whether each switching firm moved to a more or less religious community and test whether there was any abnormal change in corporate behavior from five years before to five years after the switch.

In total, we have a small sample of only 112 firms that switched headquarters. For each firm in our sample, we measure the average level of fraud, backdating, etc. up to five year before and after the switch, depending on data availability. We also measure abnormal fraud, backdating, etc. by averaging the regression residuals for each firm from the cross section regressions estimated in Section 3. With the pre- and post-switch measures of religiosity and corporate behavior, we test whether corporate behavior predicts where firms will chose to headquarter. We find no relationship between changes in the incidence of corporate fraud or earnings smoothing and changes in the religiosity of the local community. Further, we also estimate Heckman selection models and find no evidence that local religiosity has any bearing on a firm's decision to switch corporate headquarters. For the backdating and compensation tests, we also find no evidence of endogenous headquarters matching for the firms that switch, though it is important to note that we have less than 50 observations in these tests. Overall we find no evidence that suggests that reverse causality is a strong pattern in the data and conclude that the more likely explanation of the correlations presented in Section 2 is that the religiosity of the local community has a causal effect on corporate behavior.

4. Conclusion

We study the effect of social culture on economic decisions and outcomes. In particular, we examine whether the religiosity of a community has a mitigating effect on undesirable behavior by locally headquartered firms. To capture a broad interpretation of “undesirable”, we use four different samples of behavior that, at the minimum, firms would not want made public -- securities fraud lawsuits filed against the firm, aggressive earnings manipulation, option backdating, and seemingly excessive executive compensation. Across all four samples, we find a strongly significant and consistent set of results --- greater community religiosity reduces the likelihood of such behavior in locally headquartered firms. Separating religiosity into denominations, we find the strongest results for Protestants and for Mainline Protestants in particular.

With regard to executive compensation, our paper shows that local religiosity plays a significant role in how managers are compensated. This result is important because it may be a factor in explaining why cross-sectional differences in managerial compensation cannot be completely explained by firms’ fundamentals (Bebchuk and Grinstein (2005)).

Culture, and religion in particular, may be relevant for economic decisions because of its effect on the beliefs (i.e. priors) of decision-makers or their values (i.e. preferences) or both. Religion may attract adherents having particular values and beliefs, but it also may inculcate particular values and beliefs. For example, there is evidence that more religious individuals tend to be more risk-averse. In the context of our study, a more risk-averse social culture motivates the local firm to generally take less risk, and that applies to all four of our samples of inappropriate behavior. In this case, religiosity is simply a proxy for risk-aversion and local social culture impacts local firms through their decision-makers’ preferences for risk. However,

regardless of why people become religious adherents, the choice is also an acceptance of a particular set of *beliefs*. It is therefore difficult to identify the channel through which religiosity matters, but even after controlling for firm risk-taking, we find that our results are unchanged.. More important, however, is that our analysis shows that at least one aspect of community social culture -- religiosity -- affects the likelihood of undesirable corporate behavior.

REFERENCES

- Akerlof, George, and Rachel E. Kranton, 2000, "Economics and Identity," *Quarterly Journal of Economics* 115, 715-733.
- Banfield, Edward C., 1958, *The Moral Basis of a Backward Society*, New York: The Free Press.
- Barro, Robert J., and Rachel M. McCleary, 2003, "Religion and Economic Growth Across Countries", *American Sociological Review* 68, 760-781.
- Bebchuk, Lucian A., and Yaniv Grinstein, 2005, "The Growth of Executive Pay," *Oxford Review of Economic Policy* 21, 283-303.
- Bebchuk, Lucian A., Yaniv Grinstein, and Urs Peyer, 2009, "Lucky CEOs and Lucky Directors," *Journal of Finance*, forthcoming.
- Becker, Sascha O. and Ludger Woessmann, 2009, "Was Weber Wrong? A Human Capital Theory of Protestant Economic History," *Quarterly Journal of Economics*, Vol. 124, No. 2, 531-596.
- Bernile, Gennaro, and Gregg A. Jarrell, 2009, "The Impact of the Options Backdating Scandal on Shareholders," *Journal of Accounting and Economics* 47, 2-26.
- Brennan, Michael J., 1994, "Incentives, Rationality, and Society," *Journal of Applied Corporate Finance*, 7, 31-39.
- Carlin, Bruce I. and Simon Gervais, 2009, "Work Ethic, Employment Contracts, and Firm Value", *Journal of Finance*, Vol. LXIV, No.2, 785-821.
- Dechow, Patricia M. and Ilia D. Dichev, 2002, "The Quality of Accruals and Earnings: The Role of Accrual Estimation Errors," *The Accounting Review* 77, 35-59.
- Dyreng, Scott, William J. Mayew, and Christopher D. Williams, 2009, "Religious Social Norms and Corporate Financial Reporting," Working Paper, Duke University.
- Field, Laura, Michelle Lowry, and Susan Shu, 2005, "Does Disclosure Deter or Trigger Litigation?" *Journal of Accounting and Economics* 29, 487-507.
- Grier, Robin, 1997, "The Effects of Religion on Economic Development: A Cross National Study of 63 Former Colonies," *Kyklos* 50, 47-62.
- Guiso, Luigi, Paola Sapienza, and Luigi Zingales, 2003, "People's Opium? Religion and Economic Attitudes," *Journal of Monetary Economics* 50, 225-282.
- Guiso, Luigi, Paola Sapienza, and Luigi Zingales, 2004, "The Role of Social Capital in Financial Development," *American Economic Review* 94, 526-556.

- Guiso, Luigi, Paola Sapienza, and Luigi Zingales, 2006, "Does Culture Affect Economic Outcomes?" *Journal of Economic Perspectives* 20, 23-48.
- Harrison, Lawrence E., 1985, *Underdevelopment is a State of Mind*, Lanham: Madison Books.
- Hausman, Daniel M. and Michael S. McPherson, 1993, "Taking Ethics Seriously: Economics and Contemporary Moral Philosophy" *Journal of Economic Literature*, 31, 671-731.
- Heron, Randall A., and Erik Lie, 2006, "What Fraction of Stock Option Grants to Top Executives Have Been Backdated or Manipulated?", Working Paper, Indiana University.
- Heron, Randall A., and Erik Lie 2007, "Does Backdating Explain the Stock Price Pattern around Executive Stock Option Grants?" *Journal of Financial Economics* 83, 271-295.
- Hilary, Gilles, and Kai Wai Hui, 2009, "Does religion matter in corporate decision making in America?" *Journal of Financial Economics* 93, 455-473.
- Hout, Michael, and Andrew Greeley, 1998, "What Church Officials' Reports Don't Show: Another Look at Church Attendance," *American Sociological Review* 63, 113-119.
- Jones, Jennifer, 1991, "Earnings Management during Import Relief Investigations," *Journal of Accounting Research* 29, 193-228.
- Jones, Keith L., Gopal V. Krishnan, and Kevin Melendrez, 2008, "Do Models of Discretionary Accruals Detect Actual Cases of Fraudulent and Restated Earnings? An Empirical Evaluation," *Contemporary Accounting Research*, forthcoming.
- Kaplow, Louis, and Steven Shavell, 2007, "Moral Rules, the Moral Sentiments, and Behavior: Toward a Theory of an Optimal Moral System," *Journal of Political Economy* 115, 494-514.
- Karpoff, Jonathan M., John R. Lott, Jr., and Eric W. Wehrly, 2005, "The Reputational Penalties for Environmental Violations: Empirical Evidence," *Journal of Law and Economics* 48, 653-675.
- Landes, David, 1998, *The Wealth and Poverty of Nations*, New York : Norton & Company.
- La Porta, Rafael, Florencio López-de-Silanes, Andrei Shleifer, and Robert Vishny, 1999, "The Quality of Government," *Journal of Law, Economics and Organization* 1999, 222-279.
- Lie, Erik, 2005, "On the Timing of CEO Stock Option Awards," *Management Science* 51, 802-812.
- McCleary, Rachel M. 2007, "Salvation, Damnation, and Economic Incentives" *Journal of Contemporary Religion*, Vol. 22, No. 1, 49-74.

- McCleary, Rachel M. and Robert J. Barro, 2006a, "Religion and Economy", *Journal of Economic Perspectives*, Volume 20, No. 2, 49-72.
- McCleary, Rachel M. and Robert J. Barro, 2006b, "Religion and Political Economy in an International Panel", *Journal for the Scientific Study of Religion*", 45(2), 149-175.
- Mead, Frank S., and Samuel S. Hill, 1995, *Handbook of Denominations in the United States*, Nashville, Abingdon Press, 10th edition.
- Melton, Gordon, 1998, *Encyclopedia of American Religions*, Detroit: Gale Group, 6th edition.
- Narayanan, M. P., and Hasan N. Seyhun, 2006, "Effect of Sarbanes-Oxley on the Influencing of Executive Compensation," Working Paper, University of Michigan.
- Noe, T. H. and Michael J. Rebello (1994), "The Dynamics of Business Ethics and Economic Activity", *The American Economic Review*, 84 No. 3, 531-547.
- Pritchard, Adam C., and Stephen P. Ferris, 2001, "Stock Price Reactions to Securities Fraud Class Actions under the Private Securities Litigation Reform Act," *Michigan Law and Economics Research Paper*, No. 01-009.
- Smith, Adam, 1790, *The Theory of Moral Sentiments*, New York: August M. Kelly Publishers (originally published 1759).
- Steensland, Brian, Jerry Z. Park, Mark D. Regnerus, Lynn D. Robinson, W. Bradford Wilcox, and Robert D. Woodberry, 2000, "The Measure of American Religion: Toward Improving the State of the Art," *Social Forces* 79, 291-318.
- Stulz, Rene M., and Rohan Williamson, 2003, "Culture, Openness, and Finance," *Journal of Financial Economics* 70, 313-349.
- Tawney, Richard H., 1936, *Religion and the Rise of Capitalism: A Historical Study*. London: John Murray.
- Treisman, Daniel, 2000, "The Causes of Corruption: A Cross-National Study," *Journal of Public Economics* 76, 399-457.
- Weber, Max, 1905, *The Protestant Ethic and The Spirit of Capitalism*. London, Unwin.

Appendix

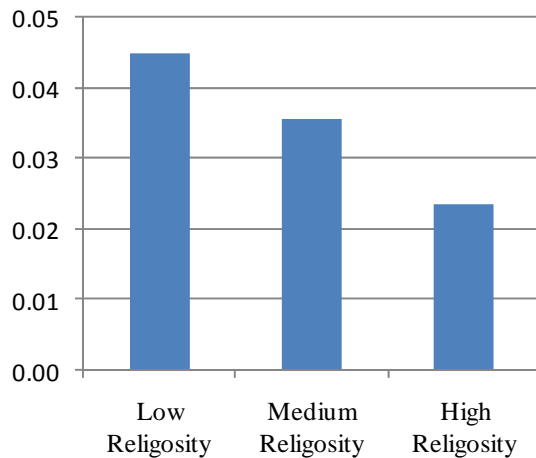
This appendix provides a list of the denominations included in each of the major religious groups used in this study.

Catholics	Catholic Church	
Mainline Protestant	Evangelical Lutheran in America (various)	Reformed Church in America
American Baptist Churches in the USA	Friends (Quakers)	United Church of Christ
Christian Church (Disciples of Christ)	Intl. Council of Community Churches	United Methodist Church
Congregational Christian (various)	Moravian Church (various)	Universal Fellow. of Metro. Community
Episcopal Church	Presbyterian Church	
Evangelical Protestant	Church of the Lutheran Brethren	Lutheran Church--Missouri Synod
Advent Christian Church	Church of the Lutheran Confession	Mennonite Church (various)
Baptist churches (expect under mainline)	Church of the Nazarene	Midwest Congregational Christian Fellow.
African Methodist Episcopal Zion Church	Church of the United Brethren in Christ	Missionary Church
Allegheny Wesleyan Methodist Connection	Churches of Christ	Netherlands Reformed Congregations
American Assoc. of Lutheran Churches	Churches of God, Gen. Conference	Old Order River Brethren
Amish	Community of Christ	Open Bible Standard Churches
Apostolic Christian Church (various)	Conservative Congregational	Orthodox Presbyterian Church
Assemblies of God	Cumberland Presbyterian Church	Pentecostal Church of God
Assoc. of Free Lutheran Congregations	Evangelical Congregational Church, The	Presbyterian Church in America
Associate Reformed Presbyterian Church	Evangelical Covenant Church, The	Primitive Advent Christian Church
Berean Fundamental Church	Evangelical Free Church of America	Primitive Methodist Church in the USA
Bible Church of Christ, Inc.	Evangelical Lutheran Synod	Protestant Reformed Churches in America
Brethren Church, The (Ashland, Ohio)	Evangelical Methodist Church	Reformed Church in the United States
Brethren In Christ Church	Evangelical Presbyterian Church	Reformed Episcopal Church
Bruderhof Communities, Inc.	Fellowship of Evangelical Bible Churches	Salvation Army
Calvary Chapel Fellowship Churches	Fire Baptized Holiness Church	Schwenkfelder Church
Christ Catholic Church	Free Methodist Church of North America	Seventh-day Adventist Church
Christian and Missionary Alliance	Fundamental Methodist Conference, Inc.	The Protestant Conference (Lutheran)
Christian Brethren	Hutterian Brethren	United Christian Church
Churches of Christ	Independent Fundamental Churches	United Reformed Churches in N. America
Christian Reformed Church in N. Am.	Independent, Charismatic Churches	Vineyard USA
Christian Union	Independent, Non-Charismatic	Wesleyan Church, The
Church of God (various)	Intl. Church of the Foursquare Gospel	Wisconsin Evangelical Lutheran Synod
Church of the Brethren	International Pentecostal (various)	

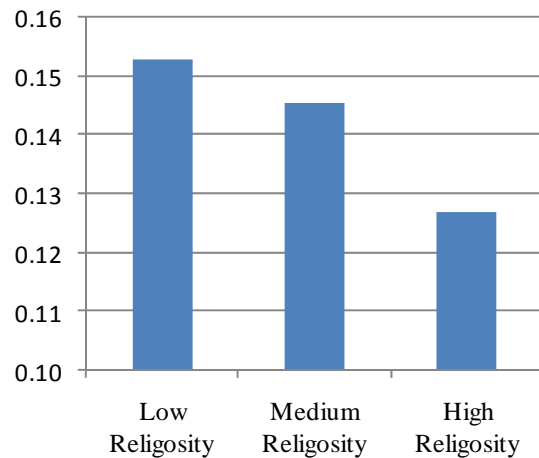
Figure 1
The Effect of Religion on Inappropriate Behavior

This figure depicts several proxies of inappropriate behavior across terciles based on the total number of churches per capita in counties in which our sample firms' headquarters are located. Data on the number of churches comes from the *Religious Congregations Membership Study*. Data on federal class action securities fraud lawsuits comes from the Stanford Law School's *Securities Class Action Clearinghouse*. We use the federal class action lawsuit database to identify all the firms on the Compustat database that have been the target of a class action lawsuit. Data on option grants comes from Thomson Financial's insider trading database. Option backdating is defined as an instance in which a CEO receives an option grant on a day where the stock price was at the lowest level of the month. Data on CEO compensation comes from Execucomp. Total compensation comprises salary and bonus, other annual compensation, total value of restricted stock granted, total value of stock options granted (using Black-Scholes), long-term incentive payouts, and all other total compensation. The level of abnormal accruals is estimated using the first principal component from the following estimation approaches: total accruals, Jones (1991), modified Jones (1991), Dechow and Dichev (2002) and modified Dechow and Dichev (2002).

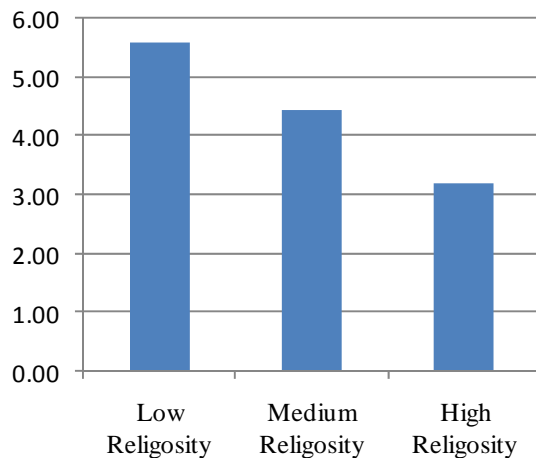
Panel A: Incidence of Fed. Class-Action Lawsuits



Panel B: Incidence of Option Backdating



Panel C: Total CEO Compensation



Panel D: Abnormal Accruals

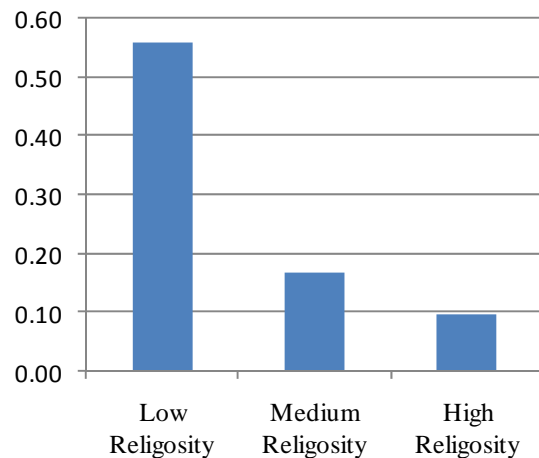
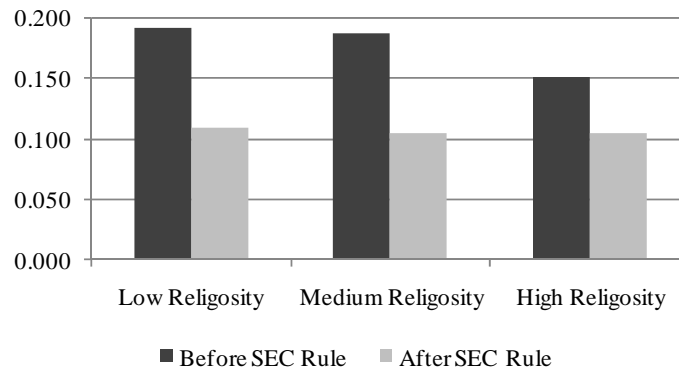


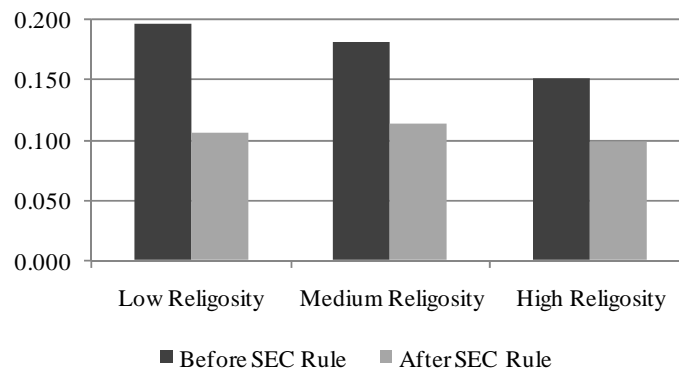
Figure 2
The Effect of Religion on the Incidence of Backdating Options: Before and After SEC Rule

This figure depicts the incidence of option backdating, before and after the approval of the SEC rule in 2002 requiring firms to report stock option grants within two days of the grant date, across terciles based on the number of churches per capita in counties in which our sample firms' headquarters are located. Data on the number of churches comes from the *Religious Congregations Membership Study*. Data on option grants comes from Thomson Financial's insider trading database. Option backdating is defined as instances in which a CEO receives an option grant on a day where the stock price was at the lowest level of the month.

Panel A: Religiosity is measured by total churches per capita



Panel B: Religiosity is measured by total Protestant churches per capita



Panel C: Religiosity is measured by total Catholic churches per capita

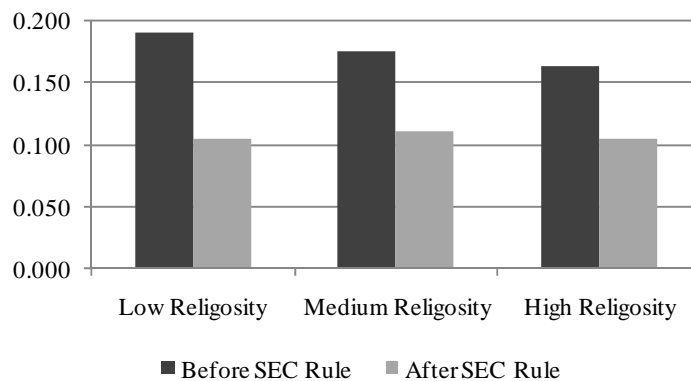


Table 1
Summary Statistics

This table reports summary statistics for the 1990 and 2000 surveys performed by the *Association of Statisticians of American Religious Bodies* (ASARB) on religious participation in the United States. We gather the data from the *Religious Congregations Membership Study*, which reports county-by-county data on the number of churches and total adherents by religious affiliation. This report is made available to the public through the *Association of Religion Data Archives* (ARDA) website. The appendix provides a list of the denominations included in each of the main religious groups.

Panel A: Summary Statistics for the 1990 Survey					
	Mean	Std. Dev.	25th	Median	75 th
Adherents as a % of County Population	59.5%	20.0%	44.8%	59.5%	73.0%
Evangelical Protestants as a % of County Population	27.2%	19.8%	10.1%	19.8%	43.2%
Mainline Protestants as a % of County Population	16.5%	12.4%	8.2%	12.8%	21.8%
Catholics as a % of County Population	12.9%	15.2%	1.7%	7.7%	18.0%
Churches per 1,000 people	2.39	1.41	1.37	2.16	3.11
Evangelical Protestant Churches per 1,000 people	1.24	0.96	0.55	1.00	1.75
Mainline Protestant Churches per 1,000 people	0.83	0.70	0.35	0.64	1.11
Catholic Churches per 1,000 people	0.21	0.35	0.05	0.11	0.26

Panel B: Summary Statistics for the 2000 Survey					
	Mean	Std. Dev.	25th	Median	75 th
Adherents as a % of County Population	53.0%	18.6%	39.4%	51.1%	64.7%
Evangelical Protestants as a % of County Population	22.7%	16.9%	9.5%	17.7%	34.1%
Mainline Protestants as a % of County Population	14.2%	11.4%	6.8%	10.8%	18.4%
Catholics as a % of County Population	13.7%	14.9%	2.1%	8.9%	20.4%
Churches per 1,000 people	2.20	1.31	1.22	1.95	2.87
Evangelical Protestant Churches per 1,000 people	1.17	0.85	0.53	0.94	1.65
Mainline Protestant Churches per 1,000 people	0.75	0.68	0.30	0.55	0.98
Catholic Churches per 1,000 people	0.19	0.31	0.04	0.10	0.21

Panel C: Firm characteristics by County Religiosity (Adherents as a % of County Population)			
	Low Religiosity	Medium	High Religiosity
Total assets (Billions \$)	0.96	1.24	1.10
Market value/ Book value of equity	1.69	1.55	1.60
Return on Assets (%)	7.40	9.05	7.67
Average Monthly Return (%)	1.40	1.39	1.37
Standard Deviation of Monthly Returns	14.97	13.21	13.88

Table 2
Summary Statistics for the Samples on Inappropriate Behavior

This table reports summary statistics for our different samples on inappropriate behavior. Data on federal class action securities fraud lawsuits comes from the Stanford Law School's *Securities Class Action Clearinghouse*. Data on option grants comes from Thomson Financial's insider trading database. Data on CEO compensation comes from Execucomp. LAWSUIT is a dummy variable equal to 1 if the firm is a defendant in a federal class-class action lawsuit in year t, zero otherwise. BACKDATING is a dummy variable equal to 1 if the CEO receives an option grant on a day where the stock price was at the lowest level of the month, zero otherwise. COMPENSATION is total CEO compensation, which comprises salary and bonus, other annual compensation, total value of restricted stock granted, total value of stock options granted (using Black-Scholes), long-term incentive payouts, and all other total compensation. ACCRUALS is a measure of abnormal accruals, which is estimated using the first principal component from the following estimation approaches: total accruals, Jones (1991), modified Jones (1991), Dechow and Dichev (2002) and modified Dechow and Dichev (2002).

Panel A: Federal Class-Action Lawsuits	Mean	Std. Dev.	25th	Median	75 th
LAWSUIT	0.035	0.183	0.000	0.000	0.000
SIZE (log of total assets M\$)	2.329	7.535	0.055	0.241	1.019
B/M (Book value /Market value of equity)	1.957	1.724	1.047	1.324	2.102
RETVOL (std.dev. monthly returns)	0.150	0.102	0.078	0.122	0.190
ROA (Return on assets)	0.046	0.229	0.020	0.086	0.153
Panel B: Option Backdating	Mean	Std. Dev.	25th	Median	75 th
BACKDATING	0.142	0.349	0.000	0.000	0.000
SIZE (log of total assets M\$)	3.182	10.615	0.089	0.363	1.460
B/M (Book value /Market value of equity)	2.126	1.743	1.106	1.491	2.395
RETVOL (std.dev. monthly returns)	0.160	0.105	0.086	0.131	0.203
ROA (Return on assets)	0.049	0.212	0.022	0.095	0.160
Panel C: CEO Compensation	Mean	Std. Dev.	25th	Median	75 th
COMPENSATION (M\$)	4.424	10.622	1.024	2.081	4.596
SIZE (log of total assets M\$)	7.647	22.157	0.404	1.223	4.513
B/M (Book value /Market value of equity)	2.007	1.415	1.159	1.507	2.244
RETVOL (std.dev. monthly returns)	0.112	0.065	0.067	0.096	0.139
ROA (Return on assets)	0.131	0.112	0.079	0.130	0.187
Panel D: Abnormal Accruals	Mean	Std. Dev.	25th	Median	75 th
ACCRUALS	0.022	0.905	-0.31	0.078	0.403
SIZE (log of total assets M\$)	1.688	5.23	0.041	0.162	0.757
B/M (Book value /Market value of equity)	2.033	1.716	1.084	1.435	2.234
RETVOL (std.dev. monthly returns)	0.153	0.099	0.085	0.128	0.192
ROA (Return on assets)	0.065	0.225	0.039	0.109	0.168

Table 3
The Effect of Religion on the Likelihood of Triggering a Federal Class-Action Lawsuit

This table reports estimates of Logit regressions relating the likelihood of triggering a federal class-action lawsuit to several proxies of religiosity and other control variables. Data on the number of adherents and churches comes from the *Religious Congregations Membership Study*. Data on federal class action securities fraud lawsuits comes from the Stanford Law School's *Securities Class Action Clearinghouse*. We use the federal class action lawsuit database to identify all the firms on the Compustat database that have been the target of a class action lawsuit. Our dependent variable is a dummy variable equal to 1 if the firm is accused of committing fraud in year t , 0 otherwise. POPULATION is the total county population. SIZE is equal to the total book value of assets. MOMENTUM is the average stock return over the previous year. B/M is the book-to-market ratio. RETVOL is the annual standard deviation of monthly stock returns. ROA is the operating income before depreciation scaled by total assets. LITINDEX is the litigation risk score at the state level published by the Pacific Research Institute. Industry dummy variables are included in all specifications. Superscripts a, b, and c denote significantly different from zero at the 1%, 5%, and 10% level, respectively.

	Churches				Adherents			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total number	-1.568 ^a [0.23]				-0.689 [0.48]			
Protestant		-1.016 ^a [0.22]				-0.961 ^b [0.40]		
Mainline			-2.064 ^a [0.32]				-2.232 ^a [0.69]	
Evangelical				-0.890 ^a [0.26]				-0.854 ^c [0.47]
POPULATION	0.125 ^a [0.03]	0.116 ^a [0.02]	0.145 ^a [0.03]	0.136 ^a [0.03]	0.193 ^a [0.04]	0.154 ^a [0.03]	0.168 ^a [0.03]	0.159 ^a [0.03]
SIZE	0.469 ^a [0.02]	0.471 ^a [0.02]	0.471 ^a [0.02]	0.474 ^a [0.02]	0.475 ^a [0.02]	0.475 ^a [0.02]	0.475 ^a [0.02]	0.476 ^a [0.02]
MOMENTUM	0.584 [0.66]	0.552 [0.66]	0.511 [0.67]	0.464 [0.66]	0.400 [0.67]	0.470 [0.66]	0.431 [0.67]	0.436 [0.66]
B/M	0.985 ^a [0.02]	0.992 ^a [0.03]	0.998 ^a [0.03]	1.012 ^a [0.03]	1.024 ^a [0.03]	1.013 ^a [0.03]	1.015 ^a [0.03]	1.022 ^a [0.03]
RETVOL	0.749 ^a [0.03]	0.762 ^a [0.03]	0.752 ^a [0.03]	0.797 ^a [0.03]	0.811 ^a [0.03]	0.798 ^a [0.03]	0.789 ^a [0.03]	0.812 ^a [0.03]
ROA	0.254 [0.15]	0.252 [0.15]	0.226 [0.15]	0.256 [0.15]	0.248 [0.15]	0.258 [0.14]	0.243 [0.15]	0.255 [0.15]
LITINDEX	-0.022 ^a [0.01]	-0.020 ^b [0.01]	-0.018 ^b [0.01]	-0.017 ^b [0.01]	-0.011 [0.01]	-0.016 ^b [0.01]	-0.016 ^b [0.01]	-0.015 ^b [0.01]
Constant	-5.153 ^a [0.22]	-5.445 ^a [0.20]	-5.794 ^a [0.18]	-5.808 ^a [0.22]	-6.286 ^a [0.22]	-6.013 ^a [0.23]	-6.127 ^a [0.20]	-6.152 ^a [0.22]
Observations	54642	54747	54747	54747	54642	54747	54747	54747

Table 4
The Effect of Religion on the Likelihood of Backdating Options

This table reports estimates of Logit regressions relating the likelihood of backdating options to several proxies of religiosity and other control variables. Data on the number of adherents and churches comes from the *Religious Congregations Membership Study*. Data on option grants comes from Thomson Financial's insider trading database. Our dependent variable is a dummy variable equal to 1 if the CEO receives an option grant on a day where the stock price was at the lowest level of the month that the option was granted, zero otherwise. POPULATION is the total county population. SIZE is equal to the total book value of assets. MOMENTUM is the average stock return over the previous year. B/M is the book-to-market ratio. RETVOL is the annual standard deviation of monthly stock returns. ROA is the operating income before depreciation scaled by total assets. Industry dummy variables are included in all specifications. Superscripts a, b, and c denote significantly different from zero at the 1%, 5%, and 10% level, respectively.

Panel A: Period 1996-2001								
	Churches					Adherents		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total number	-0.615 ^b [0.19]				-0.501 [0.31]			
Protestant		-0.475 ^b [0.15]				-0.899 ^a [0.23]		
Mainline			-1.358 ^b [0.52]				-3.070 ^a [0.70]	
Evangelical				-0.208 [0.19]				-0.427 [0.36]
POPULATION	-0.005 [0.04]	-0.011 [0.05]	0.002 [0.04]	0.022 [0.04]	0.056 [0.04]	0.001 [0.04]	0.010 [0.04]	0.025 [0.04]
SIZE	-0.129 ^b [0.04]	-0.128 ^b [0.04]	-0.130 ^b [0.04]	-0.129 ^b [0.04]	-0.130 ^b [0.04]	-0.127 ^b [0.04]	-0.130 ^b [0.04]	-0.129 ^b [0.04]
MOMENTUM	-0.606 [0.70]	-0.625 [0.69]	-0.559 [0.66]	-0.685 [0.73]	-0.619 [0.69]	-0.646 [0.73]	-0.556 [0.68]	-0.686 [0.74]
B/M	-0.001 [0.08]	-0.003 [0.08]	0.000 [0.08]	0.006 [0.09]	0.010 [0.08]	-0.004 [0.09]	-0.004 [0.08]	0.007 [0.09]
RETVOL	0.275 ^c [0.11]	0.280 ^b [0.11]	0.259 ^c [0.11]	0.301 ^b [0.11]	0.301 ^b [0.11]	0.288 ^b [0.11]	0.265 ^b [0.11]	0.301 ^b [0.11]
ROA	0.276 ^b [0.10]	0.283 ^b [0.10]	0.270 ^b [0.10]	0.284 ^b [0.10]	0.282 ^b [0.10]	0.299 ^b [0.10]	0.288 ^b [0.10]	0.288 ^b [0.10]
Constant	-0.044 [0.21]	-0.090 [0.23]	-0.185 [0.21]	-0.452 [0.26]	-0.551 ^b [0.18]	-0.212 [0.24]	-0.217 [0.21]	-0.489 [0.26]
Observations	6577	6585	6585	6585	6585	6585	6585	6585

Table 4
(continued)

Panel B: Period 2002-2006								
	Churches				Adherents			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total number	-0.434 [0.34]				-0.880 [0.54]			
Protestant		-0.027 [0.22]				0.053 [0.54]		
Mainline			-0.314 [0.92]				-0.406 [1.73]	
Evangelical				0.104 [0.34]				0.297 [0.53]
POPULATION	0.030 [0.02]	0.057 ^c [0.02]	0.055 [0.03]	0.066 ^b [0.02]	0.089 ^a [0.02]	0.061 ^b [0.02]	0.056 ^b [0.02]	0.067 ^a [0.01]
SIZE	-0.082 ^a [0.01]	-0.081 ^a [0.01]	-0.081 ^a [0.01]	-0.082 ^a [0.01]	-0.084 ^a [0.01]	-0.081 ^a [0.01]	-0.080 ^a [0.00]	-0.082 ^a [0.01]
MOMENTUM	-0.391 [1.37]	-0.473 [1.35]	-0.469 [1.33]	-0.493 [1.37]	-0.453 [1.40]	-0.546 [1.31]	-0.508 [1.28]	-0.526 [1.35]
B/M	0.093 ^c [0.04]	0.102 ^b [0.03]	0.099 ^c [0.04]	0.104 ^b [0.03]	0.097 ^c [0.04]	0.106 ^b [0.03]	0.104 ^b [0.04]	0.105 ^b [0.03]
RETVOL	0.143 [0.08]	0.162 [0.08]	0.158 ^c [0.07]	0.165 [0.08]	0.151 [0.09]	0.165 ^c [0.08]	0.160 ^c [0.06]	0.165 [0.09]
ROA	0.193 [0.34]	0.189 [0.34]	0.182 [0.33]	0.181 [0.34]	0.194 [0.34]	0.196 [0.35]	0.196 [0.35]	0.180 [0.34]
Constant	-1.415 ^b [0.49]	-1.784 ^b [0.42]	-1.736 ^b [0.49]	-1.886 ^a [0.31]	-1.685 ^a [0.27]	-1.831 ^a [0.39]	-1.765 ^b [0.41]	-1.896 ^a [0.25]
Observations	5989	5989	5989	5989	5989	5989	5989	5989

Table 5
The Effect of Religion on the Executive Compensation

This table reports estimates of regressions relating CEO compensation and the average compensation of the top 5 executives to several proxies of religiosity and other control variables. Data on the number of adherents and churches comes from the *Religious Congregations Membership Study*. Data on executive compensation comes from Execucomp. Total compensation comprises salary and bonus, other annual compensation, total value of restricted stock granted, total value of stock options granted (using Black-Scholes), long-term incentive payouts, and all other total compensation. POPULATION is the total county population. INCOME is the median income per capita in the county. SIZE is equal to the total book value of assets. MOMENTUM is the average stock return over the previous year. B/M is the book-to-market ratio. RETVOL is the annual standard deviation of monthly stock returns. ROA is the operating income before depreciation scaled by total assets. Industry dummy variables are included in all specifications. Superscripts a, b, and c denote significantly different from zero at the 1%, 5%, and 10% level, respectively.

Panel A: CEO Compensation								
	Churches				Adherents			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total number	-0.380 ^a [0.03]				0.131 [0.08]			
Protestant		-0.227 ^a [0.02]				-0.237 ^a [0.06]		
Mainline			-0.336 ^a [0.06]				-0.430 ^a [0.13]	
Evangelical				-0.287 ^a [0.02]				-0.246 ^a [0.07]
POPULATION	0.040 ^a [0.01]	0.040 ^a [0.01]	0.048 ^a [0.01]	0.044 ^a [0.01]	0.056 ^a [0.01]	0.051 ^a [0.01]	0.052 ^a [0.01]	0.053 ^a [0.01]
INCOME	0.010 ^a [0.00]	0.011 ^a [0.00]	0.012 ^a [0.00]	0.011 ^a [0.00]	0.012 ^a [0.00]	0.012 ^a [0.00]	0.013 ^a [0.00]	0.012 ^a [0.00]
SIZE	0.403 ^a [0.01]	0.403 ^a [0.01]	0.404 ^a [0.01]	0.403 ^a [0.01]	0.404 ^a [0.01]	0.404 ^a [0.01]	0.404 ^a [0.01]	0.404 ^a [0.01]
MOMENTUM	1.423 ^a [0.29]	1.423 ^a [0.29]	1.420 ^a [0.29]	1.424 ^a [0.29]	1.416 ^a [0.29]	1.427 ^a [0.29]	1.430 ^a [0.29]	1.423 ^a [0.29]
B/M	0.391 ^a [0.03]	0.393 ^a [0.03]	0.396 ^a [0.03]	0.394 ^a [0.03]	0.399 ^a [0.03]	0.394 ^a [0.03]	0.396 ^a [0.03]	0.395 ^a [0.03]
RETVOL	0.244 ^a [0.02]	0.247 ^a [0.02]	0.246 ^a [0.02]	0.253 ^a [0.02]	0.258 ^a [0.02]	0.253 ^a [0.02]	0.249 ^a [0.02]	0.256 ^a [0.02]
ROA	0.629 ^a [0.08]	0.626 ^a [0.09]	0.612 ^a [0.08]	0.625 ^a [0.09]	0.598 ^a [0.08]	0.626 ^a [0.09]	0.616 ^a [0.08]	0.619 ^a [0.09]
Constant	4.701 ^a [0.07]	4.596 ^a [0.07]	4.455 ^a [0.08]	4.559 ^a [0.06]	4.301 ^a [0.07]	4.441 ^a [0.06]	4.388 ^a [0.07]	4.411 ^a [0.06]
Observations	21082	21149	21149	21149	21082	21149	21149	21149
R-squared	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37

Table 5
(continued)

Panel B: Top 5 Executives Compensation								
	Churches				Adherents			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total number	-0.350 ^a [0.03]				-0.121 [0.09]			
Protestant		-0.205 ^a [0.02]				-0.195 ^a [0.05]		
Mainline			-0.392 ^a [0.04]				-0.582 ^a [0.11]	
Evangelical				-0.209 ^a [0.02]				-0.112 ^c [0.05]
POPULATION	0.042 ^a [0.01]	0.042 ^a [0.01]	0.047 ^a [0.01]	0.048 ^a [0.00]	0.062 ^a [0.01]	0.052 ^a [0.00]	0.050 ^a [0.01]	0.056 ^a [0.00]
INCOME	0.009 ^a [0.00]	0.010 ^a [0.00]	0.011 ^a [0.00]	0.010 ^a [0.00]	0.012 ^a [0.00]	0.011 ^a [0.00]	0.012 ^a [0.00]	0.011 ^a [0.00]
SIZE	0.398 ^a [0.01]	0.399 ^a [0.01]	0.399 ^a [0.01]	0.399 ^a [0.01]	0.399 ^a [0.01]	0.399 ^a [0.01]	0.399 ^a [0.01]	0.399 ^a [0.01]
MOMENTUM	0.847 ^a [0.24]	0.841 ^a [0.25]	0.836 ^a [0.25]	0.840 ^a [0.25]	0.836 ^a [0.25]	0.846 ^a [0.25]	0.853 ^a [0.25]	0.834 ^a [0.25]
B/M	0.522 ^a [0.02]	0.524 ^a [0.02]	0.526 ^a [0.02]	0.526 ^a [0.02]	0.527 ^a [0.02]	0.525 ^a [0.02]	0.525 ^a [0.02]	0.528 ^a [0.02]
RETVOL	0.306 ^a [0.02]	0.310 ^a [0.02]	0.307 ^a [0.02]	0.316 ^a [0.02]	0.317 ^a [0.02]	0.315 ^a [0.02]	0.309 ^a [0.02]	0.318 ^a [0.02]
ROA	0.415 ^a [0.08]	0.414 ^a [0.08]	0.403 ^a [0.08]	0.410 ^a [0.08]	0.393 ^a [0.07]	0.414 ^a [0.07]	0.414 ^a [0.07]	0.402 ^a [0.07]
Constant	4.308 ^a [0.06]	4.211 ^a [0.06]	4.118 ^a [0.06]	4.136 ^a [0.05]	3.988 ^a [0.06]	4.063 ^a [0.05]	4.056 ^a [0.06]	4.007 ^a [0.05]
Observations	19712	19776	19776	19776	19712	19776	19776	19776
R-squared	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56

Table 6
The Effect of Religion on Accruals Management

This table reports estimates of regressions relating the level of abnormal accruals to several proxies of religiosity and other control variables. Data on the number of adherents and churches comes from the *Religious Congregations Membership Study*. The level of abnormal" accruals is estimated using the first principal component from the following estimation approaches: total accruals, Jones (1991), modified Jones (1991), Dechow and Dichev (2002) and modified Dechow and Dichev (2002). POPULATION is the total county population. INCOME is the median income per capita in the county. SIZE is equal to the total book value of assets. MOMENTUM is the average stock return over the previous year. B/M is the book-to-market ratio. RETVOL is the annual standard deviation of monthly stock returns. ROA is the operating income before depreciation scaled by total assets. Industry dummy variables are included in all specifications. Superscripts a, b, and c denote significantly different from zero at the 1%, 5%, and 10% level, respectively.

	Churches					Adherents		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total number	-0.052 ^a [0.01]				0.028 [0.04]			
Protestant		-0.046 ^b [0.02]				-0.147 ^a [0.03]		
Mainline			-0.060 ^b [0.03]				-0.286 ^a [0.07]	
Evangelical				-0.064 ^a [0.02]				-0.145 ^a [0.04]
POPULATION	0.020 ^a [0.00]	0.021 ^a [0.00]	0.025 ^a [0.00]	0.021 ^a [0.00]	0.026 ^a [0.00]	0.021 ^a [0.00]	0.024 ^a [0.00]	0.023 ^a [0.00]
SIZE	-0.022 ^a [0.00]	-0.022 ^a [0.00]	-0.022 ^a [0.00]	-0.022 ^a [0.00]	-0.022 ^a [0.00]	-0.022 ^a [0.00]	-0.022 ^a [0.00]	-0.022 ^a [0.00]
MOMENTUM	1.190 ^a [0.17]	1.190 ^a [0.17]	1.187 ^a [0.17]	1.188 ^a [0.17]	1.180 ^a [0.18]	1.186 ^a [0.17]	1.189 ^a [0.17]	1.183 ^a [0.17]
B/M	-0.055 ^a [0.01]	-0.055 ^a [0.01]	-0.055 ^a [0.01]	-0.055 ^a [0.01]	-0.054 ^a [0.01]	-0.056 ^a [0.01]	-0.055 ^a [0.01]	-0.055 ^a [0.01]
RETVOL	-0.076 ^a [0.01]	-0.075 ^a [0.01]	-0.075 ^a [0.01]	-0.074 ^a [0.01]	-0.073 ^a [0.01]	-0.075 ^a [0.01]	-0.076 ^a [0.01]	-0.073 ^a [0.01]
ROA	1.004 ^a [0.07]	1.002 ^a [0.07]	1.000 ^a [0.07]	1.002 ^a [0.07]	1.000 ^a [0.07]	1.004 ^a [0.07]	1.002 ^a [0.07]	1.002 ^a [0.07]
Constant	-0.143 ^b [0.06]	-0.158 ^b [0.06]	-0.204 ^a [0.06]	-0.164 ^b [0.06]	-0.241 ^a [0.06]	-0.156 ^b [0.06]	-0.190 ^a [0.06]	-0.183 ^a [0.06]
Observations	47219	47334	47334	47334	47219	47334	47334	47334
R-squared	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10