Religion, Ethics, and Corporate Behavior

by

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Abstract

We provide evidence that cultural norms affect the likelihood of unethical corporate behavior. Firms headquartered in highly religious counties are less likely to backdate options, grant excessive compensation packages to their managers, practice aggressive earnings management, and be the target of class action securities lawsuits. Our results are strongest for locations with greater concentrations of Protestants, and especially of Mainline Protestants. Finally, we find that a regulatory change designed to curb option backdating has had a much larger effect in less religious counties, suggesting that regulation and religion are substitute mechanisms for monitoring and control.

1. Introduction

Recurring public scandals highlight behavior by corporate executives that could be characterized as self-serving, unethical or even illegal. For example, many managers have been involved in transactions apparently designed to artificially inflate stock prices (e.g., earnings manipulation, misreporting) or to expropriate resources from shareholders (e.g., option backdating, or excessive compensation). Fear of disclosure and/or legal action serves to mitigate, in part, this type of behavior. However, another potential mechanism for control may be the moral/ethical environment in which economic agents act. In this paper we test the hypothesis that cultural controls affect the likelihood of such ethically questionable corporate behavior.

Executives (and other employees) at corporate headquarters presumably live in or near the community and are exposed to its cultural values and norms. If many of them bring this ethical system inside the firm, it would presumably help create a corporate culture that either tolerates, or does not, "bad" behavior by the firm's employees and executives. Our empirical strategy is to use a measure of religious activity, or religiosity, as a proxy for the strength of ethical norms within the community in which a firm is headquartered, and test whether such norms mitigate unethical corporate behavior.

Until recently, economists have not paid much attention to the importance of societal cultural factors in explaining economic institutions and behavior. This neglect occurs despite an emphasis by classical economists such as Adam Smith (1790) on culture's importance in understanding economic outcomes. However, a recently renewed appreciation for the role of culture in economic activity is highlighted by Guiso, Sapienza, and Zingales (2006), who argue that improved techniques and data availability are uncovering cultural-based explanations to important economic questions.

Other social scientists have also emphasized the influence of a society's culture, viewing its ethical system in particular, as an important determinant of economic growth, prosperity, and development (see, for example, Weber (1905), Banfield (1958), and Harrison (1985)). For example, a well-known (and controversial) view is that of Weber (1905), who distinguishes between the ethical codes of Protestants and Catholics, and argues that a primary cause of the North/South economic growth gap is that Protestantism motivates greater economic development than Catholicism.[1]

Economists' recent focus on culture has provided some theoretical support and empirical evidence of its importance for economic outcomes (Grier (1997), Landes (1998), Treisman (2000), Guiso, Sapienza and Zingales (2003, 2004, 2006), Barro and McCleary (2003), and Stulz and Williamson (2003)). This literature has largely focused on macro implications for growth and development, and for institutions such as private property rights. In contrast, our interest is in the effects of culture on an individual's behavior, and by extension, on corporate behavior. More specifically, we are interested in the aspect of culture that seeks to promote socially acceptable behavior – namely, a society's ethical or moral code as embodied in its religion – and its contribution in understanding corporate behavior.[2]

Adam Smith (1790) emphasized the influence of morality in engendering feelings of guilt or pride as a motivator of proper behavior.[3] This religious inculcation of moral sentiments relates to the concept of a sense of self, or identity, as in Akerlof and Kranton (2000) who study its importance in economic decision-making. While most (organized) religions have common elements to their ethical or moral codes, there are distinctive differences among religions ---

[1] See Woessmann and Becker (2009) and the references therein for a recent critical treatment of Weber's argument.
[2] We will use the terms ethics and morality interchangeably, meaning that a society's ethical system is based on its moral code.
[3] See Kaplow and Shavell (2007) for a theoretical study, based on this aspect, of the optimal moral system.

e.g., in how they conceive heaven and hell, salvation, God, and an after-life --- and these differences in beliefs have implications for the strength of the cultural identities of their members. This view is also consistent with the observation (Weber (1905), Harrison (1985)) that some cultural identities, reflecting a particular ethical system — such as Protestantism — emphasize feelings of pride in one who engages in moral behavior, while others — such as Catholicism — emphasize feelings of guilt from engaging in immoral behavior. Thus, individuals who view themselves as Protestants may experience different utilities from those who view themselves as Catholics, despite taking identical actions, whether these actions are ethical or unethical.[4]

We study behavior within corporations that would likely be viewed by the public as unethical, undesirable, or at least unfair. Of course this is an ambiguous definition, but it seems reasonable that the measures we employ are actions corporate executives might not want to have publicized. Here we might mention that the notion of "fairness" is part of the moral code of most organized religions – behaving "fairly" is a requirement of such ethical systems.[5] We use different data samples of such inappropriate managerial behavior--- rather than focusing on one particular type of behavior --- thereby enabling our study to provide a more robust link between religiosity and ethical behavior promoted by corporate culture. With this aim in mind, we use the following corporate actions or events as proxies for inappropriate or unethical behavior: (1) federal class action lawsuits against corporate executives and/or corporations, (2) option back-dating, (3) seemingly excessive executive compensation and, finally, (4) earnings manipulation

[4] Kanatas and Stefanadis (2008) provide a formal analysis showing that societies with pride-based ethical systems exhibit greater economic prosperity than societies with guilt-based systems.
[5] Behaving fairly is a value that spans virtually all moral codes and which some social and evolutionary scientists have argued may be "hard wired" in our species (see for example, Heidt (2006)).

as indicated by the extent of abnormal accruals. While most of these behaviors are not *per se* illegal, they would certainly not be viewed favorably from an ethical or moral perspective.

To test our main hypothesis, we link the occurrence of these corporate events or actions to the religious composition of the county in which a firm is headquartered, focusing on the major religious denominations in the U.S. – e.g., Catholics and Protestants.[6] If greater religiosity indeed means a stronger sense of morality throughout the county, then we should find that the probability of undesirable corporate behavior decreases with higher levels of religiosity.

We also disaggregate our measure of moral culture to test for differences between religious denominations. According to Weber (1905), different religions entail different degrees of ethical rigor with Protestantism requiring a more strict moral code than Catholicism (see also Banfield [1958], Harrison [1985], and Guiso, Sapienza and Zingales [2006]). In fact, there is empirical evidence that religious differences can affect economic growth (e.g., Barro and McCleary (2003)). Therefore, in our context, we predict that communities with greater concentrations of Protestants are less likely to exhibit unethical corporate behavior.

Measuring county religiosity by the per capita number of members of an organized denomination as well as by the per capita number of churches, we find that both measures independently have a negative effect on the likelihood of inappropriate behavior. Specifically, we find that 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 grant large compensation packages to their managers. Distinguishing between Protestants and Catholics, we find that Protestantism has a strong deterrent effect on unethical behavior; the evidence for firms headquartered in Catholic counties is somewhat weaker. When we further

[6] Other major world religions are too small to consider separately in the US. According to the 2001 National Survey of Religious Identification (NSRI), over 76% of the US population self-identify as Christian. After self-identification as Nonreligious/Secular (13%), the next largest religion is Judaism with just 1.3% of the population.

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.[7] This denomination has a greater mitigating effect on corporate (mis)behavior than any other Protestant denomination, or of Catholicism. It seems that the cultural beliefs of mainline Protestants either represent more effective monitoring and control, and/or are the ones most likely to form the foundation for corporate culture.

Finally, we test our hypothesis 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 the change. Thus, if religion is effective at monitoring and control, then the SEC rule should have a stronger effect on firms headquartered in less religious counties. And indeed, we find that the regulatory change has a larger deterrent effect on firms headquartered in low-religious counties. Further, the effect is stronger for Protestantism than Catholicism.

Our study complements recent work by Hilary and Hui (2009) who link religiosity to corporate risk exposure and investment decisions. The link between religion and corporate executive behavior in our paper is through religion's moral code, rather than attitudes towards risk. And not only do we show that community religiosity has an effect on (unethical) corporate behavior, but our analysis also emphasizes the potential differences across religious denominations in the strength of the moral codes inculcated in their members and therefore the potentially different effects on behavior.

[7] For example, large mainline denominations are Methodist, Presbyterian, and Episcopal churches. Denominations categorized as Evangelical are more disperse but notable examples would include most Baptist and Pentecostal /Charismatic denominations and the Churches of Christ. Appendix A describes the categorization we use in detail

Overall, our evidence highlights the importance of cultural norms and values 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 Hilary and Hui (2008), among others). We show that religiosity has a significant deterrent effect on inappropriate – i.e., illegal and/or unethical --- behavior by managers of locally headquartered firms. This finding suggests that firms may be adopting the values of their local communities as an important part of their own corporate culture.

Finally, we should emphasize a point that was perhaps only implied above regarding the interpretation of our results. We view our results as showing that the community's social culture – specifically, its sense of morality that comes from religious teachings – imparts feelings of guilt (or of pride) for behaving unethically (or ethically), as in Smith (1790). Therefore, morality becomes a motivator of behavior, as part of the structure of incentives facing any decision-maker; it is not some unknown factor that influences decision-making apart from incentives.

The paper is organized as follows. Section 2 describes the sample selection procedure, defines the variables, and provides summary statistics. Section 3 investigates the empirical relation between several measures of religiosity and our proxies for inappropriate or unethical managerial behavior. Section 4 provides robustness tests, and Section 5 concludes the paper.

2. 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 our logic behind our measures of inappropriate or ethically questionable behavior. Finally, we briefly discuss the control variables used in our empirical tests and provide some summary statistics of our samples.

2.A Proxies for Religious Activity

As in Hilary and Hui (2009), 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 use data from the 1990 and 2000 surveys, thereby enabling us to measure changes over the decade.

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.[8]

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.[9] 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, which is consistent with a broad demographic trend towards secularism.[10] Finally, there is large variation in our measures of total religious activity across counties and for Catholic, Protestant, and Evangelical denominations separately.

2.B Proxies for "Inappropriate" Behavior

B.1. Class Action Lawsuits

A primary function of federal securities laws 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

[8] See Hout and Greely (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.
[9] 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.
[10] One exception to this is the number of Catholic adherents, although these numbers may be less reliable, as noted.

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.

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.[11]

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).

[11]The 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).

However, prior to 2002, firms could wait several weeks to report to investors and regulators the stock options granted. Such a delay allows managers or boards to set the grant date on option grants retroactively to take advantage of the 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.

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 of ethically questionable behavior is the granting of excessive 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 *perception of fairness*, a concept embedded in most religious moral codes. Thus, while a CEO may have earned his compensation in the eyes of the corporate board, it may not be viewed as being *fair* in the eyes of the community. To the extent the corporate board (and possibly the CEO) is influenced by the community's concept of *fairness*, we predict a negative relation between measures of the strength of local religiosity and the size of executive compensation.

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 to the county median income would be viewed as being less fair. 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 empirically 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 --- total accruals, Jones (1991), modified Jones (1991), Dechow and Dichev (2002) and modified Dechow and Dichev (2002) --- although, 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.

3. Empirical Relation Between Religiosity and Unethical 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 past studies on fraud, backdating, compensation, and accrual management. We first present results from a simple univariate test of the hypothesis that county-level culture affects corporate behavior, and then report the results from regression-based tests.

3.A Univariate results

Our initial test of the hypothesis that community based religiosity mitigates unethical corporate behavior is presented in Figure 1. In this univariate test, 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 positive correlation between religiosity and ethical behavior.

3.B Class Action Lawsuits

To test the hypothesis that community-level measures of cultural norms affect 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 of our coefficients and standard errors are estimated using year-by-year Fama-Macbeth logit regressions.

Table 3 presents the results of the multivariate logit regressions. Using the number of churches as a measure of community religiosity, we find that total, Protestant, and Catholic religiosity all 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 columns 6 and 7 of Table 3, the coefficient estimates on religiosity suggest that there is little evidence that either the total number of adherents or Catholic adherents affect the probability of a lawsuit. However, the number of Protestant adherents does have a statistical and economically significant effect. For example, the coefficient estimate of -0.961 (Table 3, column 8) suggests that a ten percent change in the number of Protestant adherents decreases the probability of fraud by 1.4 percent. Columns 9 and 10 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.

3.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).

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. 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 3.A, we sequentially include our measures of religiosity in columns 1 through 10. 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. It should be noted that the somewhat weak results for aggregate religiosity appear to be driven by Catholic adherents and churches, which are insignificant.

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 25^{th} percentile (roughly 11%) to the 75^{th} percentile (roughly 30%). 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 8), 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.

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. Our hypothesis is that 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. In general, these results support the idea that religion is a substitute for regulation in mitigating undesirable corporate behavior.

3.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 and the county median income to control for systematic differences in salaries across counties (e.g., adjustment for cost of living, urban vs. rural areas, etc.).

Table 6 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. While the effect of number of Catholic churches is not significant, results are strong for the Protestant denominations. For the number of adherents, we find similar results with the exception that Catholic adherents (again) stand out as having no substantial effect.

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 Table 5, Panel B 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. Once again, we find mixed results for Catholics.

3.E Earnings Management

Table 6 presents our regression results for earnings management and discretionary accruals. The results presented in this table are for our comprehensive measure of discretionary accruals but the results are similar if we use any of the various measures proposed in section 2.4 above.

Overall, our regression results support the univariate analysis presented above. While the total number of churches per capita is not a significant determinant of the abnormal accruals, this result again appears to be driven by the number of Catholic adherents --- total Protestant, Mainline, and Evangelical adherents are all negative and significant determinants of abnormal accruals. Results are similar for the number of adherents, though somewhat weaker.

Again, these results are economically meaningful. For example, consider an increase in the number of Mainline churches per capita from the 25th percentile (about 0.12) to the 75th percentile (0.24). Based on the coefficient estimate of 0.046 (Table 6, column 3), such a change would imply a decrease in abnormal accruals of roughly 6 percent – an effect similar in economic magnitude to the book-to-market. Overall, the results suggest that community level religiosity is a meaningful mitigating factor on decisions to smooth earnings, with the effects being strongest for Protestant denominations.

4. 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 with the following changes:

1. *Methodology*. While all of our reported results are based on Fama-Macbeth regressions, we also estimate coefficients using panel data methods with clustered standard errors.

Panel data estimation yields similar results. The advantage of the Fama-Macbeth is that it allows dynamic specification of the coefficients on the control variables.

2. *Alternative 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, 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.
3. *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.
4. *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.

5. Conclusion

We study the effect of social culture on economic decisions and outcomes. In particular, we examine whether the strength of a community's moral code has a mitigating effect on

unethical behavior by locally headquartered firms. To capture a broad interpretation of "unethical", 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 back-dating, and seemingly excessive executive compensation. Across all four samples, we find a strongly significant and consistent set of results --- greater religiosity in the community reduces the likelihood of such behavior in locally headquartered firms. Separating religiosity into Protestant and Catholic measures, we find the strongest results for Protestants and for Mainline Protestants in particular.[12] It seems that either the latter have a more stringent moral code, or it is for some reason the moral code most readily transferrable into corporate culture.

With regard to executive compensation, our paper shows that a non-economic factor --- cultural norms --- 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)). Our paper also makes a significant contribution to the literature on corporate fraud by providing evidence that executives bring their communities' moral values to their workplace, and that these values are important predictors of the likelihood of unethical managerial behavior.

[12] These results provide some support, albeit indirect, to studies that have interpreted the evidence linking Protestantism to higher economic growth and development, due to its incorporation of the "Protestant work ethic" into its moral code.

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Appendix A

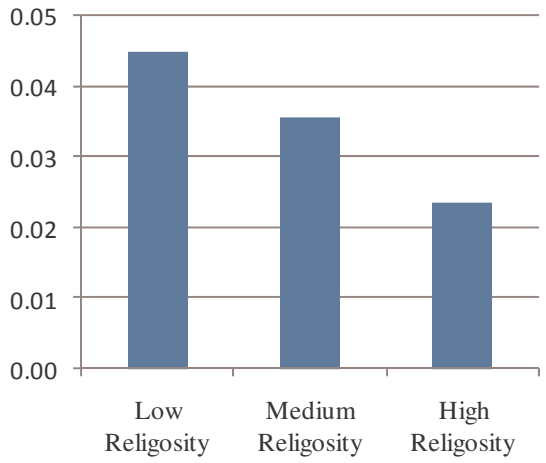
This appendix provides a list of the denominations included in each of the major religious groups used in this study.

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)	

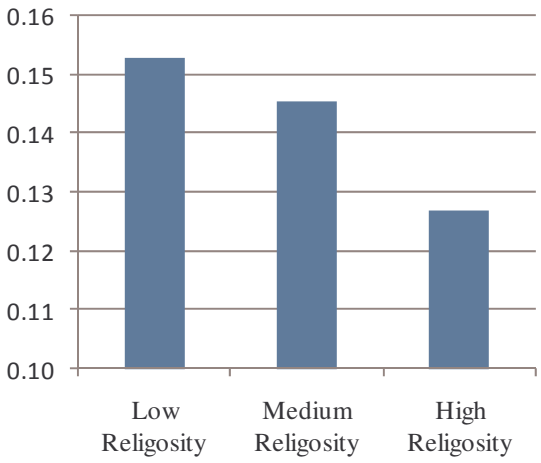
Figure 1
The Effect of Religion on Inappropriate Behavior

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).

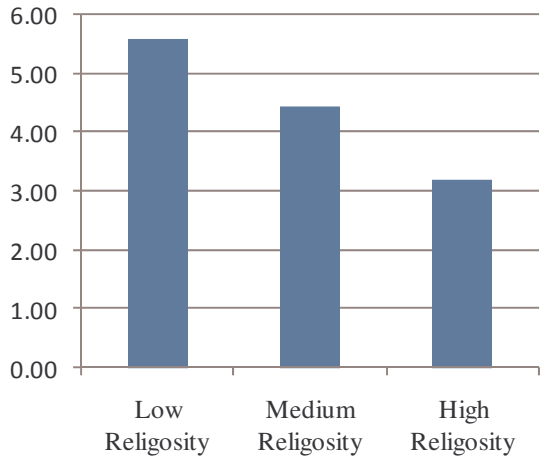
Panel A: Incidence of Fed. Class-Action Lawsuits



Panel B: Incidence of Option Backdating



Panel C: Total CEO Compensation



Panel D: Abnormal Accruals

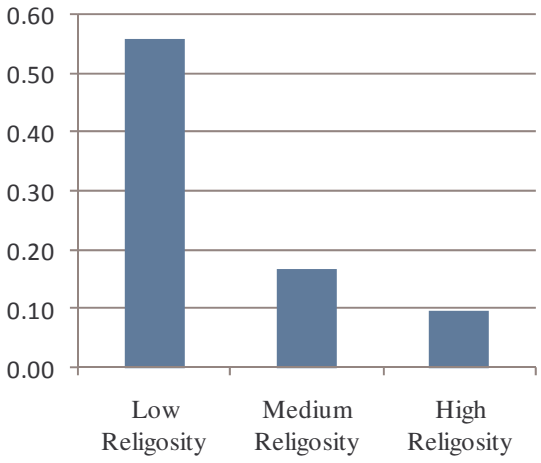
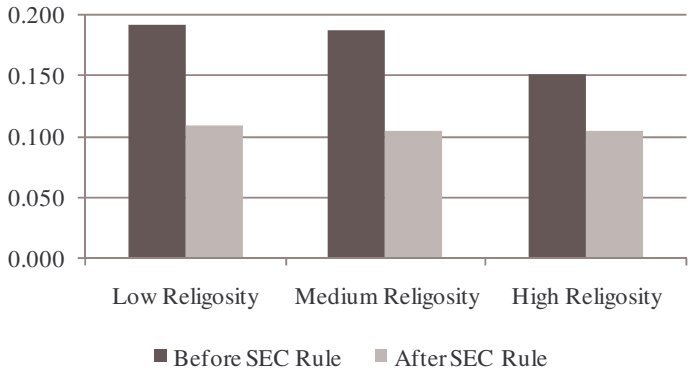


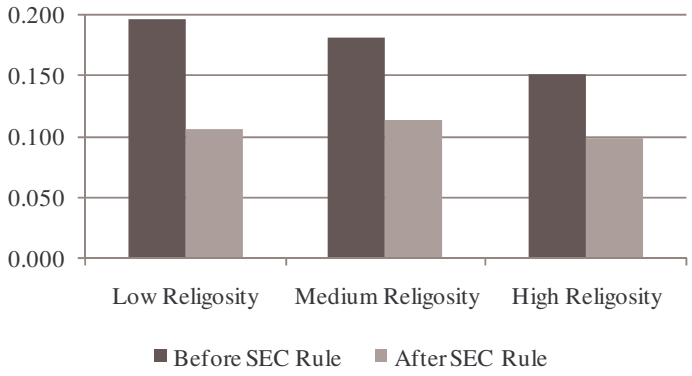
Figure 2
The Effect of Religion on the Incidence of Backdating Options: Before and After SEC Rule

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

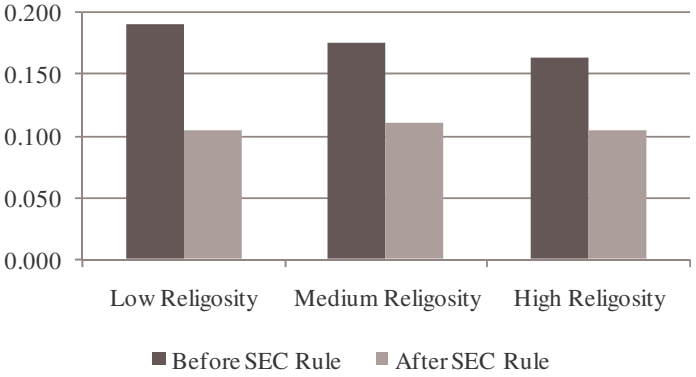


Table 1
Summary Statistics

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	75th
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	75th
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

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 plaintiff 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). SIZE is equal to the logarithm of 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.

Panel A: Federal Class-Action Lawsuits	Mean	Std. Dev.	25th	Median	75th
LAWSUIT	0.035	0.183	0.000	0.000	0.000
SIZE	2.329	7.535	0.055	0.241	1.019
B/M	1.957	1.724	1.047	1.324	2.102
RETVOL	0.150	0.102	0.078	0.122	0.190
ROA	0.046	0.229	0.020	0.086	0.153
Panel B: Option Backdating	Mean	Std. Dev.	25th	Median	75th
BACKDATING	0.142	0.349	0.000	0.000	0.000
SIZE	3.182	10.615	0.089	0.363	1.460
B/M	2.126	1.743	1.106	1.491	2.395
RETVOL	0.160	0.105	0.086	0.131	0.203
ROA	0.049	0.212	0.022	0.095	0.160
Panel C: CEO Compensation	Mean	Std. Dev.	25th	Median	75th
COMPENSATION	4.424	10.622	1.024	2.081	4.596
SIZE	7.647	22.157	0.404	1.223	4.513
B/M	2.007	1.415	1.159	1.507	2.244
RETVOL	0.112	0.065	0.067	0.096	0.139
ROA	0.131	0.112	0.079	0.130	0.187
Panel D: Abnormal Accruals	Mean	Std. Dev.	25th	Median	75th
ACCRUALS	0.022	0.905	-0.31	0.078	0.403
SIZE	1.688	5.23	0.041	0.162	0.757
B/M	2.033	1.716	1.084	1.435	2.234
RETVOL	0.153	0.099	0.085	0.128	0.192
ROA	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. 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)	(9)	(10)
Total number	-1.568[a]					-0.689				
	[0.23]					[0.48]				
Catholic		-3.540[a]					0.340			
		[0.79]					[0.23]			
Protestant			-1.016[a]					-0.961[b]		
			[0.22]					[0.40]		
Mainline				-2.064[a]					-2.232[a]	
				[0.32]					[0.69]	
Evangelical					-0.890[a]					-0.854[c]
					[0.26]					[0.47]
POPULATION	0.125[a]	0.187[a]	0.116[a]	0.145[a]	0.136[a]	0.193[a]	0.169[a]	0.154[a]	0.168[a]	0.159[a]
	[0.03]	[0.03]	[0.02]	[0.03]	[0.03]	[0.04]	[0.03]	[0.03]	[0.03]	[0.03]
SIZE	0.469[a]	0.474[a]	0.471[a]	0.471[a]	0.474[a]	0.475[a]	0.477[a]	0.475[a]	0.475[a]	0.476[a]
	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]
MOMENTUM	0.584	0.423	0.552	0.511	0.464	0.400	0.365	0.470	0.431	0.436
	[0.66]	[0.67]	[0.66]	[0.67]	[0.66]	[0.67]	[0.68]	[0.66]	[0.67]	[0.66]
B/M	0.985[a]	1.021[a]	0.992[a]	0.998[a]	1.012[a]	1.024[a]	1.027[a]	1.013[a]	1.015[a]	1.022[a]
	[0.02]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]
RETVOL	0.749[a]	0.788[a]	0.762[a]	0.752[a]	0.797[a]	0.811[a]	0.819[a]	0.798[a]	0.789[a]	0.812[a]
	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]
ROA	0.254	0.222	0.252	0.226	0.256	0.248	0.238	0.258	0.243	0.255
	[0.15]	[0.15]	[0.15]	[0.15]	[0.15]	[0.15]	[0.15]	[0.14]	[0.15]	[0.15]
LITINDEX	-0.022[a]	-0.011	-0.020[b]	-0.018[b]	-0.017[b]	-0.011	-0.016[b]	-0.016[b]	-0.016[b]	-0.015[b]
	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]
Constant	-5.153[a]	-6.368[a]	-5.445[a]	-5.794[a]	-5.808[a]	-6.286[a]	-6.355[a]	-6.013[a]	-6.127[a]	-6.152[a]
	[0.22]	[0.21]	[0.20]	[0.18]	[0.22]	[0.22]	[0.21]	[0.23]	[0.20]	[0.22]
Observations	54642	54747	54747	54747	54747	54642	54747	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. Superscripts a, b, and c denote significantly different from zero at the 1%, 5%, and 10% level, respectively.

Panel A: Sample Period 1996-2001 (Before SEC Rule)

	Churches					Adherents				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Total number	-0.615[b]					-0.501				
	[0.19]					[0.31]				
Catholic		-1.623					0.252			
		[1.23]					[0.18]			
Protestant			-0.475[b]					-0.899[a]		
			[0.15]					[0.23]		
Mainline				-1.358[b]					-3.070[a]	
				[0.52]					[0.70]	
Evangelical					-0.208					-0.427
					[0.19]					[0.36]
POPULATION	-0.005	0.048	-0.011	0.002	0.022	0.056	0.025	0.001	0.010	0.025
	[0.04]	[0.04]	[0.05]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]
SIZE	-0.129[b]	-0.132[b]	-0.128[b]	-0.130[b]	-0.129[b]	-0.130[b]	-0.128[b]	-0.127[b]	-0.130[b]	-0.129[b]
	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]
MOMENTUM	-0.606	-0.620	-0.625	-0.559	-0.685	-0.619	-0.681	-0.646	-0.556	-0.686
	[0.70]	[0.76]	[0.69]	[0.66]	[0.73]	[0.69]	[0.75]	[0.73]	[0.68]	[0.74]
B/M	-0.001	0.009	-0.003	0.000	0.006	0.010	0.011	-0.004	-0.004	0.007
	[0.08]	[0.08]	[0.08]	[0.08]	[0.09]	[0.08]	[0.08]	[0.09]	[0.08]	[0.09]
RETVOL	0.275[c]	0.290[b]	0.280[b]	0.259[c]	0.301[b]	0.301[b]	0.305[b]	0.288[b]	0.265b	0.301[b]
	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]
ROA	0.276[b]	0.279[b]	0.283[b]	0.270[b]	0.284[b]	0.282[b]	0.279[b]	0.299[b]	0.288[b]	0.288[b]
	[0.10]	[0.10]	[0.10]	[0.10]	[0.10]	[0.10]	[0.10]	[0.10]	[0.10]	[0.10]
Constant	-0.044	-0.612[b]	-0.090	-0.185	-0.452	-0.551[b]	-0.582[b]	-0.212	-0.217	-0.489
	[0.21]	[0.19]	[0.23]	[0.21]	[0.26]	[0.18]	[0.23]	[0.24]	[0.21]	[0.26]
Observations	6577	6585	6585	6585	6585	6585	6585	6585	6585	6585

Table 4
(continued)

Panel B: Sample Period 2002-2006 (After SEC Rule)

	Churches					Adherents				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Total number	-0.434					-0.880				
	[0.34]					[0.54]				
Catholic		-0.744					-0.081			
		[2.32]					[0.42]			
Protestant			-0.027					0.053		
			[0.22]					[0.54]		
Mainline				-0.314					-0.406	
				[0.92]					[1.73]	
Evangelical					0.104					0.297
					[0.34]					[0.53]
POPULATION	0.030	0.063[a]	0.057[c]	0.055	0.066[b]	0.089[a]	0.062[a]	0.061[b]	0.056[b]	0.067[a]
	[0.02]	[0.01]	[0.02]	[0.03]	[0.02]	[0.02]	[0.01]	[0.02]	[0.02]	[0.01]
SIZE	-0.082[a]	-0.083[a]	-0.081[a]	-0.081[a]	-0.082[a]	-0.084[a]	-0.082[a]	-0.081[a]	-0.080[a]	-0.082[a]
	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.00]	[0.01]
MOMENTUM	-0.391	-0.538	-0.473	-0.469	-0.493	-0.453	-0.518	-0.546	-0.508	-0.526
	[1.37]	[1.39]	[1.35]	[1.33]	[1.37]	[1.40]	[1.38]	[1.31]	[1.28]	[1.35]
B/M	0.093[c]	0.100[c]	0.102[b]	0.099[c]	0.104[b]	0.097[c]	0.104[b]	0.106[b]	0.104[b]	0.105[b]
	[0.04]	[0.04]	[0.03]	[0.04]	[0.03]	[0.04]	[0.03]	[0.03]	[0.04]	[0.03]
RETVOL	0.143	0.158	0.162	0.158[c]	0.165	0.151	0.163	0.165[c]	0.160[c]	0.165
	[0.08]	[0.09]	[0.08]	[0.07]	[0.08]	[0.09]	[0.09]	[0.08]	[0.06]	[0.09]
ROA	0.193	0.180	0.189	0.182	0.181	0.194	0.189	0.196	0.196	0.180
	[0.34]	[0.34]	[0.34]	[0.33]	[0.34]	[0.34]	[0.34]	[0.35]	[0.35]	[0.34]
Constant	-1.415[b]	-1.800[a]	-1.784[b]	-1.736[b]	-1.886[a]	-1.685[a]	-1.815[a]	-1.831[a]	-1.765[b]	-1.896[a]
	[0.49]	[0.24]	[0.42]	[0.49]	[0.31]	[0.27]	[0.24]	[0.39]	[0.41]	[0.25]
Observations	5989	5989	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. Superscripts a, b, and c denote significantly different from zero at the 1%, 5%, and 10% level, respectively.

Panel A: CEO Total Compensation

	Churches					Adherents				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Total number	-0.380[a]					0.131				
	[0.03]					[0.08]				
Catholic		-0.233					0.351[a]			
		[0.14]					[0.04]			
Protestant			-0.227[a]					-0.237[a]		
			[0.02]					[0.06]		
Mainline				-0.336[a]					-0.430[a]	
				[0.06]					[0.13]	
Evangelical					-0.287[a]					-0.246[a]
					[0.02]					[0.07]
POPULATION	0.040[a]	0.059[a]	0.040[a]	0.048[a]	0.044[a]	0.056[a]	0.048[a]	0.051[a]	0.052[a]	0.053[a]
	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]
INCOME	0.010[a]	0.013[a]	0.011[a]	0.012[a]	0.011[a]	0.012[a]	0.011[a]	0.012[a]	0.013[a]	0.012[a]
	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]
SIZE	0.403[a]	0.403[a]	0.403[a]	0.404[a]	0.403[a]	0.404[a]	0.404[a]	0.404[a]	0.404[a]	0.404[a]
	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]
MOMENTUM	1.423[a]	1.419[a]	1.423[a]	1.420[a]	1.424[a]	1.416[a]	1.433[a]	1.427[a]	1.430[a]	1.423[a]
	[0.29]	[0.29]	[0.29]	[0.29]	[0.29]	[0.29]	[0.29]	[0.29]	[0.29]	[0.29]
B/M	0.391[a]	0.399[a]	0.393[a]	0.396[a]	0.394[a]	0.399[a]	0.395[a]	0.394[a]	0.396[a]	0.395[a]
	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]	[0.03]
RETVOL	0.244[a]	0.254[a]	0.247[a]	0.246[a]	0.253[a]	0.258[a]	0.257[a]	0.253[a]	0.249[a]	0.256[a]
	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]
ROA	0.629[a]	0.601[a]	0.626[a]	0.612[a]	0.625[a]	0.598[a]	0.620[a]	0.626[a]	0.616[a]	0.619[a]
	[0.08]	[0.08]	[0.09]	[0.08]	[0.09]	[0.08]	[0.09]	[0.09]	[0.08]	[0.09]
Constant	4.701[a]	4.327[a]	4.596[a]	4.455[a]	4.559[a]	4.301[a]	4.363[a]	4.441[a]	4.388[a]	4.411[a]
	[0.07]	[0.07]	[0.07]	[0.08]	[0.06]	[0.07]	[0.07]	[0.06]	[0.07]	[0.06]
Observations	21082	21149	21149	21149	21149	21082	21149	21149	21149	21149
R-squared	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37

Table 5
(continued)

Panel B: Top-5 Executives Total Compensation

	Churches					Adherents				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Total number	-0.350[a]					-0.121				
	[0.03]					[0.09]				
Catholic		-0.424[a]					0.187[a]			
		[0.11]					[0.03]			
Protestant			-0.205[a]					-0.195[a]		
			[0.02]					[0.05]		
Mainline				-0.392[a]					-0.582[a]	
				[0.04]					[0.11]	
Evangelical					-0.209[a]					-0.112[c]
					[0.02]					[0.05]
POPULATION	0.042[a]	0.060[a]	0.042[a]	0.047[a]	0.048[a]	0.062[a]	0.053[a]	0.052[a]	0.050[a]	0.056[a]
	[0.01]	[0.00]	[0.01]	[0.01]	[0.00]	[0.01]	[0.00]	[0.00]	[0.01]	[0.00]
INCOME	0.009[a]	0.012[a]	0.010[a]	0.011[a]	0.010[a]	0.012[a]	0.011[a]	0.011[a]	0.012[a]	0.011[a]
	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]
SIZE	0.398[a]	0.398[a]	0.399[a]	0.399[a]	0.399[a]	0.399[a]	0.399[a]	0.399[a]	0.399[a]	0.399[a]
	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]
MOMENTUM	0.847[a]	0.833[a]	0.841[a]	0.836[a]	0.840[a]	0.836[a]	0.845[a]	0.846[a]	0.853[a]	0.834[a]
	[0.24]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]	[0.25]
B/M	0.522[a]	0.530[a]	0.524[a]	0.526[a]	0.526[a]	0.527[a]	0.527[a]	0.525[a]	0.525[a]	0.528[a]
	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]
RETVOL	0.306[a]	0.314[a]	0.310[a]	0.307[a]	0.316[a]	0.317[a]	0.319[a]	0.315[a]	0.309[a]	0.318[a]
	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]
ROA	0.415[a]	0.388[a]	0.414[a]	0.403[a]	0.410[a]	0.393[a]	0.402[a]	0.414[a]	0.414[a]	0.402[a]
	[0.08]	[0.08]	[0.08]	[0.08]	[0.08]	[0.07]	[0.08]	[0.07]	[0.07]	[0.07]
Constant	4.308[a]	3.973[a]	4.211[a]	4.118[a]	4.136[a]	3.988[a]	3.989[a]	4.063[a]	4.056[a]	4.007[a]
	[0.06]	[0.06]	[0.06]	[0.06]	[0.05]	[0.06]	[0.06]	[0.05]	[0.06]	[0.05]
Observations	19712	19776	19776	19776	19776	19712	19776	19776	19776	19776
R-squared	0.56	0.56	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. 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)	(9)	(10)
Total number	-0.052[a]					0.028				
	[0.01]					[0.04]				
Catholic		0.051					0.124[a]			
		[0.05]					[0.02]			
Protestant			-0.046[b]					-0.147[a]		
			[0.02]					[0.03]		
Mainline				-0.060[b]					-0.286[a]	
				[0.03]					[0.07]	
Evangelical					-0.064[a]					-0.145[a]
					[0.02]					[0.04]
POPULATION	0.020[a]	0.028[a]	0.021[a]	0.025[a]	0.021[a]	0.026[a]	0.021[a]	0.021[a]	0.024[a]	0.023[a]
	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]
SIZE	-0.022[a]	-0.022[a]	-0.022[a]	-0.022[a]	-0.022[a]	-0.022[a]	-0.021[a]	-0.022[a]	-0.022[a]	-0.022[a]
	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]
MOMENTUM	1.190[a]	1.181[a]	1.190[a]	1.187[a]	1.188[a]	1.180[a]	1.183[a]	1.186[a]	1.189[a]	1.183[a]
	[0.17]	[0.17]	[0.17]	[0.17]	[0.17]	[0.18]	[0.17]	[0.17]	[0.17]	[0.17]
B/M	-0.055[a]	-0.054[a]	-0.055[a]	-0.055[a]	-0.055[a]	-0.054[a]	-0.055[a]	-0.056[a]	-0.055[a]	-0.055[a]
	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]
RETVOL	-0.076[a]	-0.072[a]	-0.075[a]	-0.075[a]	-0.074[a]	-0.073[a]	-0.073[a]	-0.075[a]	-0.076[a]	-0.073[a]
	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]
ROA	1.004[a]	1.000[a]	1.002[a]	1.000[a]	1.002[a]	1.000[a]	1.001[a]	1.004[a]	1.002[a]	1.002[a]
	[0.07]	[0.07]	[0.07]	[0.07]	[0.07]	[0.07]	[0.07]	[0.07]	[0.07]	[0.07]
Constant	-0.143[b]	-0.239[a]	-0.158[b]	-0.204[a]	-0.164[b]	-0.241[a]	-0.214[a]	-0.156[b]	-0.190[a]	-0.183[a]
	[0.06]	[0.06]	[0.06]	[0.06]	[0.06]	[0.06]	[0.06]	[0.06]	[0.06]	[0.06]
Observations	47219	47334	47334	47334	47334	47219	47334	47334	47334	47334
R-squared	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10